KeyView

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Viewing SDK Programming Guide

MICRO FOCUS

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Contents

Part I: Overview of Viewing SDK

This section provides a general overview of Micro Focus KeyView Viewing SDK and a description of the sample programs, and includes the following chapters:

- Introduction to Viewing SDK
- Getting Started

Chapter 1: Introduction to Viewing SDK

This guide is for developers who incorporate Micro Focus KeyView Viewing SDK components into their own applications. It is intended for readers who are familiar with Windows programming.

Overview

The Viewing SDK is part of the Micro Focus KeyView suite of products. KeyView provides high-speed text extraction, conversion to web-ready HTML and well-formed XML, and high-fidelity document viewing.

The Viewing SDK enables you to build high-fidelity document viewing capabilities into your own applications. You can incorporate Viewing technology into your document management, web server, Internet or Intranet, groupware, information retrieval, email, or imaging applications. It enables your users to open, view, and print virtually any document, spreadsheet, presentation, graphic, or compression file, without having the native application or plug-in available.

Viewing SDK uses a standard Windows interface which integrates effectively using popular languages such as C++ (including Microsoft Foundation Classes), J#, and Visual Basic.

The SDK includes the following components:

- Viewing API (VAPI) – Windows messaging-based API
- Viewing ActiveX control (OCX) and .NET interface
- Sample programs

Features

With Viewing SDK, you can create an application by using the Viewing API or the Viewing ActiveX control to:

- View and print documents.
- Convert popular word processing and spreadsheet formats to text, Microsoft Rich Text Format (RTF), and HTML.

- Annotate, highlight, and filter documents.
- Generate thumbnail views of documents.
- Automatically recognize document types.

Viewing SDK and Visual Basic

The Viewing ActiveX control is ideally suited for developing Visual Basic® applications with viewing, conversion, and printing capabilities. The control provides most of the functionality of the Viewing Windows messaging API, but in the form of an ActiveX control that can be dropped onto your Visual Basic form.

Platforms, Compilers, and Dependencies

This section lists the supported platforms, supported compilers, and software dependencies for the KeyView software.

Supported Platforms

- Microsoft Windows 8 x86 and x64
- Microsoft Windows 7 x86 and x64
- Microsoft Windows Vista Business Edition x86 and x64
- Microsoft Windows 2003 Server x86 and x64
- Microsoft Windows 2008 Server x86 and x64
- Microsoft Windows XP x86 (Service Pack 1 and 2) and x64

Supported Compilers

Microsoft 32-bit C/C++ Optimizing Compiler Version 12.00.8804 for 80x86

Software Dependencies

Some KeyView components require that you have installed specific third-party software:

- Outlook 2002 or later is required to process Microsoft Outlook Personal Folders (PST) files using the MAPI-based reader (`pstsr`). The native PST reader (`pstxsr`) does not require Outlook.

> **NOTE:**
> You must install an edition of Microsoft Outlook (32-bit or 64-bit) that matches the KeyView software. For example, if you use 32-bit KeyView, install 32-bit Outlook. If you use 64-bit KeyView, install 64-bit Outlook.

> If the editions do not match, KeyView returns `Error 32: KVError_PSTAccessFailed` and an error message from Microsoft Office Outlook is displayed: `Either there is a no default mail client or the current mail client cannot fulfill the messaging request. Please run Microsoft Outlook and set it as the default mail client.`

- Lotus Notes or Lotus Domino (the minimum requirement is 6.5.1, but version 8.5 is recommended)—for Lotus Notes database (NSF) file viewing.
- Microsoft .NET Framework Version 2.0 Redistributable Package (if programming in .NET environment).
- Microsoft Visual J# .NET Version 2.0 Redistributable Package (if developing J# program in .NET environment).

Windows Installation

To install the SDK on Windows, use the following procedure.

To install the SDK

1. Run the installation program, `KeyView`*`ProductName`*`SDK_`*`VersionNumber_OS`*`.exe`, where *`ProductName`* is the name of the product, *`VersionNumber`* is the product version number, and *`OS`* is the operating system.

   For example:

   `KeyViewViewingSDK_12.3_Windows_X86_64.exe`

   The installation wizard opens.

2. Read the instructions and click **Next**.

   The License Agreement page opens.

3. Read the agreement. If you agree to the terms, click **I accept the agreement**, and then click **Next**.

   The Installation Directory page opens.

4. Select the directory in which to install the SDK. To specify a directory other than the default, click  , and then specify another directory. After choosing where to install the SDK, click **Next**.

   The License Key page opens.

5. Type the company name and license key that were provided when you purchased KeyView, and then click **Next**.

   - The company name is case sensitive.
   - The license key is a string that contains 31 characters.

> **NOTE:**
> The installation program validates the company name and license key and generates the file *install**OS*\bin\kv.lic (where *install* is your chosen installation folder and *OS* is the name of the operating system platform). The license information is validated when the KeyView API is used. If you do not enter a license key at this step, or if you enter invalid information, the KeyView SDK is installed, but the API does not function. When you obtain a valid license key, you can either re-install the KeyView SDK, or manually update the license key file (kv.lic) with the new information. For more information, see License Information, below.

The Pre-Installation Summary dialog box opens.

6. Review the settings, and then click **Next**.

   The SDK is installed.

7. Click **Finish**.

Package Contents

The Viewing SDK installation contains:

- Dynamic Link Library files and executable files necessary for viewing text from a wide variety of formats.
- Several sample programs that demonstrate Viewing SDK functionality. See Viewing API Sample Programs, on page 57 and Control Sample Programs, on page 191.
- The following files define the functions and structures used by your application to establish an interface with Viewing SDK:

```
adAPI.h         kwautdef.h
adinfo.h        kwcmfio.h
kvl0obj.h       kwcnvmgr.h
kverrorcodes.h  kwkpif.h
kvoem.h         kwoption.h
kvtypes.h       language.h
kvvapi.h
```

License Information

During installation, the installation program validates the organization name and license key that you enter, and generates the *install*/*OS*/bin/kv.lic file, where *install* is the directory in which you installed KeyView, and *OS* is the operating system. This file is opened and validated when the KeyView API is used.

The `kv.lic` file contains the organization name and the 31-digit license key you specified during installation. The contents of a `kv.lic` file looks similar to the following:

```
Company Name
XXXXXXX-XXXXXXX-XXXXXXX-XXXXXXX
```

The license key controls whether the following are enabled:

- the full version of the KeyView SDK
- the trial version of the KeyView SDK
- language detection and advanced document readers—The following components are considered advanced features, and are licensed separately:
  - Microsoft Outlook Personal Folders (PST) readers (`pstsr`, `pstnsr`, and `pstxsr`)
  - Lotus Notes database (NSF) reader (`nsfsr`)
  - Mailbox (MBX) reader (`mbxsr`)
  - Character set detection library (`kvlangdetect`)

If you change the license key at any time, you must update the licensing information in the `kv.lic` file. See Update License Information.

Enable Advanced Document Readers

To enable advanced readers in one of the KeyView SDKs, you must obtain an appropriate license key from Micro Focus and update the installed license key with the new information as described in Update License Information.

If you are enabling the MBX reader in an existing installation of Viewing SDK, in addition to updating the license key, you must also follow these steps:

If you are using the registry file:

1. Open the `install.reg.txt`in a text editor. The file is installed in the *`install`*`\redist` directory, where *`install`* is the directory in which you installed Viewing SDK.
2. Under the key `[HKEY_LOCAL_MACHINE\Software\Verity\Viewing SDK\KVMAILVE]`, change the parameter `"208="emlsr.dll"` to `"208="`**`mbx`**`sr.dll"`.
3. Save the file as `install.reg` and import the file into your Windows system registry.

If you are using the `kvsdk.ini` file:

1. Open the `kvsdk.ini` file with a text editor. The file is installed in the root of the Windows directory.
2. In the `[KVMAILVE]` section of the `kvsdk.ini` file, change the parameter `208=emlsr.dll` to `208=`**`mbx`**`sr.dll`.

Update License Information

If you currently have an evaluation version of KeyView and have purchased a full version of the SDK, or you are adding a document reader (for example, the PST reader), you must update the license information that was installed with the original version of the KeyView SDK.

If you installed a full version of KeyView, but did not enter licensing information at the time of installation, you must also update the license information.

To update the information, do one of the following:

- Manually update the license information that is stored in the text file named `kv.lic`.
- Re-install the product and enter the new license information when prompted.

To update the KeyView license information

1. Open the license key file, `kv.lic`, in a text editor. The file is in the *`install`*`\`*`OS`*`\bin` directory, where *`install`* is the directory in which you installed KeyView, and *`OS`* is the operating system. The file contains the following text:

   ```
   COMPANY NAME
   XXXXXXX-XXXXXXX-XXXXXXX-XXXXXXX
   ```

2. Replace the text *`COMPANY NAME`* with the company name that appears at the top of the License Key Sheet provided by Micro Focus. Enter the text exactly as it appears in the document.
3. Replace the characters *`XXXXXX-XXXXXXX-XXXXXXX-XXXXXXX`* with the appropriate license key from the License Key Sheet provided by Micro Focus. The license key is listed in the **Key** column in the **Standalone Products** table. The key is a string that contains 31 characters, for example, `2TQD22D-2M6FV66-2KPF23S-2GEM5AB`. Enter the characters exactly as they appear in the document, including the dashes, but do not include a leading or trailing space.
4. The finished `kv.lic` file looks similar to the following:

   ```
   Autonomy
   24QD22D-2M6FV66-2KPF23S-2G8M59B
   ```

5. Save the `kv.lic` file.

Directory Structure

Viewing SDK creates the following directory structure during installation. The variable *`install`* refers to the installation directory. By default, the installation directory is `C:\Program Files\Autonomy\KeyViewViewingSDK`.

The variable *`OS`* is the operating system for which the SDK is installed. For example, the `bin` directory on a standard 32-bit Windows installation would be located at `C:\Program Files\Autonomy\KeyViewViewingSDK\WINDOWS\bin`.

Viewing Installed Directory Structure

Directory	Description
`install``\`*`OS`*`\bin`	Libraries, the `formats.ini` file, the `kv.lic` file, and a number of other supporting files.
`install``\`*`OS`*`\bin\system`	Shared libraries used by Viewing SDK components.

Viewing Installed Directory Structure, continued

Directory	Description
install `\dotnetview`	A .NET workspace for Visual Studio.This is a J# sample program demonstrating basic Viewing functionality.
install `\drawdemo`	The Viewing API thumbnail sample program (draw into supplied DC).
install `\filetype`	The Viewing API sample program used to determine file type.
install `\fileview`	A Viewing OCX sample program.
install `\guide`	Contains the *KeyView Viewing SDK Programming Guide* in HTML and PDF format.
install `\hellovapi`	Sample code for a simple program that demonstrates how to use the Viewing API to display documents in a window. Micro Focus recommends that you review this sample first.
install `\ihademo`	A Viewing API sample program featuring indexing (filtering), highlighting, and annotating.
install `\include`	The header files required for Viewing SDK.
install `\mfckv`	A simple MFC (Microsoft Foundation Class) SDI application using Viewing API.
install `\prntdemo`	A sample program that uses the Viewing API to print documents.
install `\redist`	Contains the `install.reg` file, which contains initialization information used by Viewing SDK. See View Initialization Information, on page 23.
install `\rel_notes`	Contains the *KeyViewViewing SDK Release Notes* in HTML and PDF format.
install `\rtfdemo`	A sample program that demonstrates the use of the Viewing API to convert documents to RTF.
install `\uzipdemo`	A sample program for unzipping source files to a selected directory.
install `\vapidemo`	A sample program that demonstrates most of the Viewing API functionality.
Windows system directory	Contains the `kvsdk.ini` file which contains initialization information used by Viewing SDK. See View Initialization Information, on page 23.

Chapter 2: Getting Started

This section provides information on developing and deploying Viewing applications. It includes the following topics:

Before You Begin

Before you use Viewing SDK to build your own programs, review and run the sample programs provided with the product. Micro Focus recommends that you review the `hellovapi` sample program first. It is a simple program that demonstrates how to use the Viewing API to display documents within your application.

For information on the sample programs, see Viewing API Sample Programs, on page 57 and Control Sample Programs, on page 191.

View Initialization Information

Viewing uses initialization information for its internal operations, for example, to determine which components to load. You can store this information either in an initialization file or in the Windows registry.

The initialization file is called `kvsdk.ini` and is stored in the Windows system directory.

The file used to define registry settings is called `install.reg.txt` and is stored in the *`install`*`\redist` directory, where *`install`* is the directory in which you installed Viewing SDK.

You must customize the information in one of these files and specify in your application where the information is located.

Use an Initialization File

If you are using the initialization file (`kvsdk.ini`) to set initialization information, you must modify the file to reflect your company name and application name. The sample programs demonstrate how to use an initialization file.

> **NOTE:** A copy of the original `kvsdk.ini` file (`install.ini`) is stored in the *`install`*`\redist` directory, where *`install`* is the directory in which you installed Viewing SDK. This file is not required for redistribution and is for reference only.

Viewing API

To specify an initialization file using the Viewing API

1. Create the TPVAPICreateParams structure. Set `uProfileType` to **`PROFILEDF_USE_INI`**, and `lpszIniFileName` to the location of the initialization file.

   For example:

   ```
   memset (&CreateParams, 0, sizeof(TPVAPICreateParams));
   if (bUseIni)
     {
         CreateParams.uProfileType    = PROFILEDF_USE_INI;
         CreateParams.lpszIniFileName = szIniFileName;
     }
   else
     {
         CreateParams.uProfileType     = PROFILEDF_USE_REG;
         CreateParams.lpszRegistryName = REGISTRY_NAME_ASCII;
     }
   ```

2. Create the VAPI window by using the standard Windows API functions `CreateWindow()` or `CreateWindowEx()`.

ActiveX Control

To specify an initialization file by using the ActiveX control

1. Set the RegIniMode property to **`1`**.
2. Set the RegIniName property to the path and name of the initialization file. For example, `kvsdk.ini` or `c:\myprogram\myini.ini`. By default, Viewing looks for the initialization file in the Windows system directory.

   For example:

   ```
   Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
   System.EventArgs) Handles Button1.Click
       AxKEYview1.RegIniMode = 1
       AxKEYview1.RegIniName = "c:\windows\kvsdk.ini"
       AxKEYview1.Open("c:\test.doc")
   End Sub
   ```

Use the Windows Registry File

If you are using the Windows registry to set initialization information, you must modify the registry file (`install.reg.txt`) to reflect your company name and application name. The file has a `.txt` extension for easy editing and viewing. After you have finished editing the file, remove the `.txt` extension. When your application is installed, import the `install.reg` file into the Windows Registry.

Viewing API

To specify the Windows registry by using the Viewing API

1. Create the TPVAPICreateParams structure. Set `uProfileType` to **`PROFILEDF_USE_REG`**, and `lpszRegistryName` to the location of the initialization file.

   For example:

   ```
   memset (&CreateParams, 0, sizeof(TPVAPICreateParams));
   if (bUseRegistry)
     {
         CreateParams.uProfileType     = PROFILEDF_USE_REG;
         CreateParams.lpszRegistryName = REGISTRY_NAME_ASCII;
     }
   else
     {
         CreateParams.uProfileType    = PROFILEDF_USE_INI;
         CreateParams.lpszIniFileName = szIniFileName;
     }
   ```

2. Create the VAPI window by using the standard Windows API functions `CreateWindow()` or `CreateWindowEx()`.

ActiveX Control

To specify the Windows registry by using the ActiveX control

1. Set the RegIniMode property to **`2`**.
2. Set the RegIniName property to the registry key under `HKEY_LOCAL_MACHINE\Software` where the Viewing initialization information resides. For example, *`YourCompany\YourProduct`*.

   For example:

   ```
   Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
   System.EventArgs) Handles Button1.Click
       AxKEYview1.RegIniMode = 2
       AxKEYview1.RegIniName = "Autonomy\keyview"
       AxKEYview1.Open("c:\test.doc")
   End Sub
   ```

Remove Functionality from an Application

To remove Viewing functionality from your application

1. Do not redistribute the Dynamic Link Library (DLL) associated with the component you want to remove.

   lists the files that you can redistribute with your application. It also shows the Dynamic Link Library (DLL) associated with each component.

2. In the `kvsdk.ini` file or the `install.reg.txt` file, remove references to the component that you want to remove.

For example, to remove support for Windows Animated Cursor, remove the line that references "Windows Animated Cursor" from the registry or initialization file, and do not redistribute the Windows Animated Cursor reader (`kpanirdr.dll`).

> **NOTE:** If you remove Viewing functionality for a graphic format, and you view a document that has an embedded graphic of that format, the graphic is not displayed.

The following is a summary of files required based on functionality:

- **Copy to clipboard**—The following files are required for copy to clipboard functionality:

  `rtfcnv.dll`, `txtcnv.dll` (for word processor formats)

  `rtfss.dll` (for spreadsheet formats)

  `kpifutil.dll` (for picture formats)

- **SaveAs to RTF**—The following files are required for SaveAs to RTF functionality:

  `kvcnv.dll`

  `rtfcnv.dll` (for word processor formats)

  `rtfss.dll` (for spreadsheet formats)

  `kpifutil.dll` (for picture formats)

Deploy Viewing API Applications

After you have built an application with the Viewing API, you must do the following:

1. Install all required files to the `\bin` directory of your application's installation directory. List of Files Required for Redistribution, on page 365 lists the components that must be redistributed with your application. It also shows the Dynamic Link Library (DLL) associated with each component.
2. Review the `kvsdk.ini` file or the `install.reg.txt` file to make sure that the appropriate files are referenced.
3. Update the `HOME` entry in the initialization file or registry file with the complete path to where you are installing Viewing components.

4. Specify whether you are using an initialization file or registry settings. See View Initialization Information, on page 23.
5. If you are using an initialization file, install the file to the location specified by `lpszIniFileName` when the application is installed. See TPVAPICreateParams , on page 170.
6. If you are using the registry file, import the `install.reg` file into the Windows Registry when the application is installed.

Deploy ActiveX Control Applications

After you have built an application with Viewing ActiveX control, you must do the following:

1. Install all required files to the `\bin` directory of your application's installation directory. List of Files Required for Redistribution, on page 365 lists the components that must be redistributed with your application. It also shows the Dynamic Link Library (DLL) associated with each component.
2. Review the `kvsdk.ini` file or the `install.reg.txt` file to make sure that the appropriate files are referenced.
3. Update the `HOME` entry in the initialization file or registry file with the complete path to where you are installing Viewing components.
4. Specify whether you are using an initialization file or registry settings. See View Initialization Information, on page 23.
5. If you are using an initialization file, install the file to the location specified by RegIniName when the application is installed.
6. If you are using the registry file, import the `install.reg` file into the Windows Registry when the application is installed.
7. Install the Viewing ActiveX control (`kvocx.ocx`) to the `\bin` directory of your application's installation directory and register the control in the system registry by running the following command:

   ```
   regsvr32 C:\MyApp\bin\kvocx.ocx
   ```

   Add `-s` to suppress any dialog boxes when registering the OCX.

   To unregister the ActiveX control, run the command:

   ```
   regsvr32 -u C:\MyApp\kvocx.ocx
   ```

Develop .NET Applications

This section describes how to create and deploy a .NET application by using the KeyView ActiveX Control. Although you can develop .NET applications in many different development environments, the instructions in this section refer to Microsoft Visual Studio 2005.

To create and deploy a .NET application

1. Install the KeyView Viewing SDK.

   The installation automatically registers the Viewing ActiveX control, "KeyView OLE Control module (v1.0)" and installs the COM dynamic library (`kvocx.ocx`) to the Viewing `\bin` directory. You can also use the `regsvr32` command to register the ActiveX COM module. For example:

   `regsvr32.exe install\bin\kvocx.ocx`

2. In Visual Studio 2005, select **Tools** from the main menu, and click **Choose Toolbox Items…**.
3. In the **Choose Toolbox Items** dialog box, click the **COM Components** tab.
4. From the list of available COM components, select the **KeyView Control** check box, and then click **OK**.

   A Windows control named **KeyView Control** appears in the Toolbox. You can use this KeyView control in the same way as other controls in the Toolbox.

When the .NET application is built, Visual Studio creates the following dynamic libraries:

- `Interop.KEYVIEWLib.dll`
- `AxInterop.KEYVIEWLib.dll`

These libraries are wrappers for the KeyView ActiveX control, and are required to use the control in a .NET environment.

Method and Property Naming Conventions

The .NET control class name for KeyView ActiveX control is `AxKEYVIEWLib.AxKEYview`, where the namespace `AxKEYVIEWLib` is the library name.

In J#, C#, and C++, all ActiveX control method names in the .NET class are the same as their COM counterparts. However, individual properties in .NET are defined using get and set methods of the following format:

`get_property_name`

`set_property name`

For example, `RegIniName` in COM has `get_RegIniName` and `set_RegIniName` methods in the .NET class.

> **NOTE: Important**: In a Visual Basic .NET application, all properties and methods are used in the same way as in a Visual Basic COM application.

Sample Code

The following code demonstrates how to use the .NET class in a J# Windows Form program:

```
private void button1_Click(Object sender, System.EventArgs e)
{
```

```
    this.axKEYview1.set_RegIniMode((short)1);
    this.axKEYview1.set_RegIniName("c:\windows\kvsdk.ini");
    this.axKEYview1.Open("c:\test.doc");
}
```

The following code demonstrates how to use the .NET class in a Visual Basic Windows Form program:

```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click
    AxKEYview1.RegIniMode = 1
    AxKEYview1.RegIniName = "c:\windows\kvsdk.ini"
    AxKEYview1.Open("c:\test.doc")
End Sub
```

Deploy .NET Applications

After you have built a .NET application using Viewing ActiveX control, follow these steps to deploy the application:

1. Install all required files to the `\bin` directory of your application's installation directory. List of Files Required for Redistribution, on page 365 lists the components that must be redistributed with your application. It also shows the Dynamic Link Library (DLL) associated with each component.
2. Review the `kvsdk.ini` file or the `install.reg.txt` file to make sure that the appropriate files are referenced.
3. Update the `HOME` entry in the initialization file or registry file with the complete path to where you are installing Viewing components.
4. Specify whether you are using an initialization file or registry settings. See View Initialization Information, on page 23.
5. If you are using an initialization file, install the file to the location specified by `RegIniName` when the application is installed. See RegIniName, on page 245.
6. If you are using the registry file, import the `install.reg` file into the Windows Registry when the application is installed.
7. Install the Viewing ActiveX control (`kvocx.ocx`) to the `\bin` directory of your application's installation directory. Register the control in the system registry by running the following command:

   ```
   regsvr32 C:\MyApp\bin\kvocx.ocx
   ```

   Add `-s` to suppress any dialog boxes when registering the OCX.
8. Install the wrapper files `Interop.KEYVIEWLib.dll` and `AxInterop.KEYVIEWLib.dll` to the `\bin` directory of your application's installation directory.
9. Install the Microsoft .NET Framework Version 2.0 Redistributable Package, which is available at

   http://msdn.microsoft.com/netframework/downloads/updates/default.aspx.
10. If the application is developed using J#, install the Microsoft Visual J# .NET Version 2.0

Redistributable Package, which is available at

http://msdn.microsoft.com/netframework/downloads/updates/default.aspx.

Part II: Viewing API

This section describes the Viewing API and provides detailed reference information and includes the following chapters:

- Use the Viewing API
- Viewing API Sample Programs
- Message Parameters
- Notification Message Parameters
- Structures

Chapter 3: Use the Viewing API

This section describes how to use the Viewing API to perform some basic viewing tasks.

Overview of the Viewing API

The Viewing API (VAPI) enables you to build a Windows program that uses Viewing components to manage many types of document, including word processing, spreadsheet, presentation, and graphics. See Supported Formats, on page 259 for more information on supported formats.

You can use the Viewing API to create an application to:

- Open and view a document.
- Draw a page of a word processing document, spreadsheet, or a picture into a supplied Device Context (HDC). This is useful for generating *thumbnail* views of documents.
- Print a document (including the ability to print a document without viewing it) to a specified printer or to the default printer.

- Allow viewed word processing and spreadsheet documents to be saved as RTF, HTML, or text. Also, you can save image formats to other supported image formats.
- Convert word processing and spreadsheet documents to text, RTF, or HTML without viewing them.
- View or extract subfiles from a container file, such as ZIP, TAR, or PST.
- View and manipulate a graphic (including rotate and magnify).
- Annotate documents with a bitmap or selected text. The Viewing API includes annotation event notification for actions such as clicking and double-clicking, allowing for implementation of hyperlink and pop-up text.
- Highlight all occurrences of a word in a document.
- Filter spreadsheets, presentation graphics, and documents to text. A cross-platform C API that provides text filtering is also available. Contact Micro Focus for information on KeyView Filter SDK.
- Determine a document's format based on its contents, not its file extension.
- Obtain document metadata, such as a document's author or title.

Create a Viewing API Window

You must create a new VAPI window for each document that you open; each VAPI window manages only *one* document at a time.

You can create multiple VAPI windows to handle multiple documents simultaneously. After you create a VAPI window, you can use the Viewing API to manage the document by sending messages to the window and receiving notification messages from the window. When you are finished with the document, you destroy its VAPI window.

To create the VAPI window, use the standard Windows API functions `CreateWindow()` or `CreateWindowEx()`, with the following parameter values:

Parameter	Value/Description
`LPCTSTR lpClassName`	`VAPIDF_VAPI_WINDOW_CLASS_NAME` (defined in `kvvapi.h`).
`LPCTSTR lpWindowName`	`NULL`.
`DWORD dwStyle`	`WS_CHILD` or `WS_DISABLED`
`int x, y`	`0, 0`
`int nWidth`	The width of the application (parent) window.
`int nHeight`	The height of the application (parent) window.
`HWND hWndParent`	The handle of the application window. (See note below.)
`HMENU hMenu`	`NULL`.

Parameter	Value/Description
`HINSTANCE hInstance`	The handle of the VAPI library.
`LPVOID lpParam`	A pointer to a TPVAPICreateParams structure that specifies optional parameters. Through this structure, you specify whether you are using an initialization file or registry settings.

For example:

```
hWndVAPI = CreateWindow (VAPIDF_VAPI_WINDOW_CLASS_NAME,
                    NULL,
                    WS_CHILD | WS_DISABLED,
                    rc.left, rc.top, rc.right, rc.bottom,
                    hWnd,
                    NULL,
                    hLibVAPI,
                    &CreateParams);
```

Get the Viewer Window of the Document

The Viewer window is a document-specific window that the VAPI window creates when you open a document. Because the Viewer window is controlled by the VAPI window, normally you should not need the handle of the Viewer window.

The Viewer window is subclassed by the VAPI window. That is, when the VAPI window creates the Viewer window, it subclasses the Viewer window so that the VAPI window intercepts all messages sent to the Viewer window. This allows the VAPI window to control the Viewer window and to handle the right-mouse context menu and common operations such as **SaveAs**.

Depending on the document type, the Viewer window might also create several child windows in order to handle the document. For example, when you open a spreadsheet document, the VAPI window creates a `[WorkBook]` Viewer window, which in turn creates a `[SpreadSheet]` Viewer window for each spreadsheet page when it is accessed. All VAPI child windows are destroyed when the VAPI window is destroyed.

- To get the Viewer window handle of a document, use the VAPIMWP_INIT_GETHWNDVIEWER message.
- To disable the Viewer user interface for a document (that is, when the Viewer asks if the user interface is disabled before creating a dialog box), respond to the VAPINMWP_INIT_DISABLEUI notification message.

Open and View a Document

Because a document must be opened before it can be viewed, printed, saved, or can have any other operation performed on it, viewing a document in the Viewing API means to open *and* view a document. It is possible, however, to open a document without viewing it, or in other words, to open a document with view mode disabled. In this mode, you can print or save the document without viewing it.

To open a document

1. Create a TPVAPIOpenDocumentInfo structure.

   To open a document without viewing it (view mode disabled), set the `VAPIDF_FLAGS_OPEN_WITHOUT_VIEW` flag in the `nFlags` member of the `TPVAPIOpenDocumentInfo` structure.

2. Send VAPI a `VAPIM_INIT` message with the `wParam` set to **`VAPIMWP_INIT_OPEN_DOCUMENT`**, and the `lParam` set to the address of the `TPVAPIOpenDocumentInfo` structure. See VAPIMWP_INIT_OPEN_DOCUMENT, on page 105.

   For example:

```
memset (&OpenDocInfo, 0, sizeof(TPVAPIOpenDocumentInfo));
OpenDocInfo.lpszFilePath = szFileName;
lResult = SendMessage (hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_OPEN_DOCUMENT,
(LPARAM)OpenDocInfo);
```

Notification Messages

- To receive the status of the open document expressed as the percent done, wait for the VAPINMWP_INIT_OPENDOCDONE , on page 160 notification message.
- To receive the current page number of the document, wait for the VAPINMWP_INIT_PAGENUMBER notification message.
- To receive the name of the current object of the document, wait for the VAPINMWP_MULTIOBJ_OBJNAME notification message.

Save a Document

To save a document

1. Open the document. See Open and View a Document, on the previous page.

   To make sure that the entire document is opened before the document is saved, open the document with the `bWait` member in the TPVAPIOpenDocumentInfo structure set to **`TRUE`**.

   To save a document without viewing it, open the document with view mode disabled.

2. Use the VAPIMWP_FILE_CANSAVEAS message to determine whether the document is completely processed and can be saved.

3. Use the VAPIMWP_FILE_SAVEAS message to save the document through a **Save As** dialog box.

   To override the file path that VAPI uses to convert an I/O object to a temporary file when saving an I/O object document, respond to the VAPINMWP_INIT_GETTEMPFILEPATH notification message.

Convert a Document

To convert a document to text, RTF, or HTML

1. Open the document. See Open and View a Document, on page 34.

   To make sure that the entire document is opened before the document is saved, open the document with the `bWait` member in the TPVAPIOpenDocumentInfo structure set to `TRUE`.

   To save a document without viewing it, open the document with view mode disabled.

2. Use the VAPIMWP_CANCONVERT message to determine whether the document is completely processed and can be converted.

3. Use either the VAPIMWP_FILE_SAVEAS message to convert the document through a **Save As** dialog box or the VAPIM_CONVERT message to convert the document without requiring the user to respond to the **Save As** dialog box.

   To override the file path that VAPI uses to convert an I/O object to a temporary file when converting an I/O object document, respond to the VAPINMWP_INIT_GETTEMPFILEPATH notification message.

   > **NOTE:** Viewing SDK does not convert PDFs, presentations, container files, or graphics files to text, RTF, or HTML.

Print a Document

The prntdemo sample program demonstrates how to print by using the Viewing API.

To print a document

1. Open the document. See Open and View a Document, on page 34.

   To make sure that the entire document is opened before the document is printed, open the document with the `bWait` member in the TPVAPIOpenDocumentInfo structure set to `TRUE`.

   To print a document without viewing it, open the document with view mode disabled.

2. Use the VAPIMWP_PRINT_CANPRINT message to determine whether a document is completely processed and ready for printing.

3. Optionally, use the VAPIMWP_PRINT_PRINTHEADER message to print the file name, page number, and page length at the top of each page of a printed output.

   Used in conjunction with `VAPIMWP_PRINT_PRINTHEADER`, the VAPIMWP_PRINT_SETPRINTNAME message replaces the default file name field of the header with another string.

4. Optionally, use the VAPIMWP_PRINT_PRINTTOPD message to set the standard Windows print options.

5. Optionally, use the VAPIMWP_PRINT_PAGESETUP message to set print page scaling for a

spreadsheet.

6. Use either the VAPIMWP_PRINT_PRINT message to print by using a common **Print** dialog box or the VAPIMWP_PRINT_PRINTTOPRINTER message to print to a specific printer without a **Print** dialog box.

Change the Print Job Name

You can change the print job name in the `kvsdk.ini` file. The printer uses the print job name for all documents printed from KeyView Viewing SDK.

To change the print job name

1. Open the `kvsdk.ini` file with a text editor. The file is installed in the root of the Windows directory.
2. In the `[Settings]` section, set the `PrintJobName` parameter to the desired print job name. For example:

   ```
   [Settings]

   PrintJobName=MyPrintJob
   ```

3. Save the file.

Determine the Document Format

To determine a document format

1. Open the document. See Open and View a Document, on page 34.

   To get format information without viewing the document, set the `VAPIDF_FLAGS_OPEN_VAPI_ONLY` flag in the `nFlags` member of the `TPVAPIOpenDocumentInfo` structure.

   To quickly determine a document's format, regardless of whether the document is supported for viewing, set the `VAPIDF_FLAGS_OPEN_FORMAT_ONLY` flag in the `nFlags` member of the `TPVAPIOpenDocumentInfo` structure. Only the `VAPIM_INIT` message with the `VAPIMWP_INIT_GETDOCFORMAT` parameter is supported when opening a document with the `VAPIDF_OPEN_FORMAT_ONLY` flag enabled.

2. Use the VAPIMWP_INIT_GETDOCFORMAT parameter of the `VAPIM_INIT` message to get the document format of the currently opened document.
3. Use the VAPIMWP_INIT_GETDOCCLASS parameter of the `VAPIM_INIT` message to get the general class to which the currently opened document belongs.

Extract Document Metadata

To extract metadata from a document, use the VAPIM_GETSUMMARYINFO message.

Change Document Options

Document options control display elements such as window size, zoom settings, margin size, and scaling. Options are defined for each file type category (for example, spreadsheets, multimedia, and word processing). The document options only apply to the current document and document type. In other words, it initializes the in-memory options of the current Viewer. The options are defined in `kwoption.h`.

To set options for a document

1. Create an ALL_OPTIONS_EX structure.
2. If you are using the `VAPIMWP_INIT_OPEN_DOCUMENT` message to set options, create a TPVAPIOpenDocumentInfo structure.
3. Use either the VAPIMWP_OPTIONS_SETOPTIONS_EX or VAPIMWP_INIT_OPEN_DOCUMENT message.

To get the options of a document, use the VAPIMWP_OPTIONS_GETOPTIONS_EX message.

Annotate, Highlight, or Index a Document

- Use the VAPIM_ENABLEINDEX message to enable index-only mode. This generates text buffer (`VAPINM_TEXTBUFFER`) notification messages with document viewing disabled.
- To specify the character set for the returned text buffer, use VAPIM_SETINDEXBUFCHARSET.
- To add and delete annotations, use the VAPIM_ANNOTATE message. The annotation is placed at a logical address.
- To add a highlight to a document, use the VAPIM_SETHILITE message.
- See the following messages and notification messages for more functionality related to annotating, highlighting, or indexing documents:
  - VAPIM_GETNEXTTEXTBUFFER, on page 73
  - VAPIM_GETPAGEFROMLOGICAL , on page 74
  - VAPIM_GETTEXT , on page 75
  - VAPIM_GOTO_PAGE , on page 76
  - VAPIM_POSITION , on page 77
  - VAPIM_SETCURSOR , on page 79
  - VAPIM_SHOWHITS , on page 82
  - VAPINM_ANNOTATION_HIT , on page 153
  - VAPINM_EXTENT , on page 154
  - VAPINM_SELECTION , on page 155

- VAPINM_USERCLICK, on page 157
- The VAPIMWP_PRINT_ANNOTATIONS, on page 117 parameter of `VAPIM_PRINT`

Draw a Page

Draw a Page into a Supplied Device Context

- Use the VAPIMWP_DRAW_INIT parameter of the `VAPIM_DRAW` message to initialize the drawing routine in VAPI. You must send this parameter before you open the document by using the `VAPIMWP_INIT_OPEN_DOCUMENT` message.
- To get the number of pages in a document, open the document with the `bWait` parameter in the `TPVAPIOpenDocumentInfo` structure set to **`TRUE`**, and use the VAPIMWP_DRAW_GETPAGECOUNT parameter of the `VAPIM_DRAW` message. See VAPIMWP_INIT_OPEN_DOCUMENT for more information. You can set `bWait` to **`FALSE`** if you do not want to wait for the whole file to be processed and just want to get the size of the first few pages and draw the first few pages, or if you want to draw pages in any order.

  For spreadsheets, you must use the `VAPIMWP_DRAW_GETPAGECOUNT` parameter to draw the worksheet pages successfully. To change the worksheet, use the `VAPIM_MULTIOBJ` message. See VAPIMWP_MULTIOBJ_CANMULTIOBJ, on page 109 for more information.
- To get the size of the specified page, use the VAPIMWP_DRAW_GETPAGESIZE parameter of the `VAPIM_DRAW` message.
- To draw the specified page into the supplied device context, use the VAPIMWP_DRAW_DRAWPAGE parameter of the `VAPIM_DRAW` message.
- To create a thumbnail image file of a document page, use the VAPIMWP_DRAW_DRAWTOFILE parameter of the `VAPIM_DRAW` message.

Edit a Document

Search for Text

- To determine whether a document can be searched, use the `VAPIMWP_EDIT_CANFIND` message. See VAPIMWP_EDIT_CANFIND , on page 91.
- To search a document for the specified text, use the `VAPIMWP_EDIT_FIND` message. See VAPIMWP_EDIT_FIND , on page 93.
- To get the currently selected text in a document, use the `VAPIMWP_EDIT_GETFINDTEXT` message. See VAPIMWP_EDIT_GETFINDTEXT , on page 94.

Copy Text

- To determine whether the selected text in a document can be copied, use the `VAPIMWP_EDIT_CANCOPY` message. See VAPIMWP_EDIT_CANCOPY , on page 90.
- To copy the selected text in a document, use the `VAPIMWP_EDIT_COPY` message. See VAPIMWP_EDIT_COPY , on page 92.
- To determine whether all the items in a document can be selected, use the `VAPIMWP_EDIT_CANSELECTALL` message. SeeVAPIMWP_EDIT_CANSELECTALL , on page 92.
- To select all the items in a document, use the `VAPIMWP_EDIT_SELECTALL` message. See VAPIMWP_EDIT_SELECTALL, on page 95.

Modify the Document View

Change the Layout of a Document

- To determine whether the layout of a document can be changed, use the VAPIMWP_VIEW_CANLAYOUT message.
- To get the current layout of a document, use the VAPIMWP_VIEW_GETLAYOUT message.
- To set the layout of a document, use the VAPIMWP_VIEW_SETLAYOUT message.

Change the Aspect Ratio of a Document

- To determine whether the aspect ratio of a document can be changed, use the VAPIMWP_VIEW_CANASPECTRATIO message.
- To get the current aspect ratio of a document, use the VAPIMWP_VIEW_GETASPECTRATIO message.
- To set the aspect ratio of a document, use the VAPIMWP_VIEW_SETASPECTRATIO message.

Invert, Rotate, or Magnify a Document

- To determine whether a document can be inverted, use the VAPIMWP_VIEW_CANINVERT message.
- To get the current invert state of a document, use the VAPIMWP_VIEW_GETINVERT message.
- To set the invert state of a document, use the VAPIMWP_VIEW_SETINVERT message.
- To determine whether a document can be rotated, use the VAPIMWP_VIEW_CANROTATE message.
- To get the current rotation of a document, use the VAPIMWP_VIEW_GETROTATE message.
- To set the rotation of a document, use the VAPIMWP_VIEW_SETROTATE message.

- To determine whether a document can be magnified, use the VAPIMWP_VIEW_CANMAGNIFY message.
- To determine whether a document can be magnified to fit the document selection to the window, use the VAPIMWP_VIEW_CANFITTOWINDOW message.
- To get the current magnification of a document, use the VAPIMWP_VIEW_GETMAGNIFY message.
- To set the magnification of a document, use the VAPIMWP_VIEW_SETMAGNIFY message.

Display or Hide Gridlines in a Document

- To determine whether a document supports gridlines, use the VAPIMWP_VIEW_CANGRIDLINES message.
- To get the current gridline state of a document, use the VAPIMWP_VIEW_GETGRIDLINES message.
- To set the gridline state of a document, use the VAPIMWP_VIEW_SETGRIDLINES message.

Play a Multimedia Document

- To determine whether a multimedia document can be played, use the VAPIMWP_VIEW_CANPLAY message.
- To play a multimedia document, use the VAPIMWP_VIEW_PLAY message.
- To determine whether the playing of a multimedia document can be paused, use the VAPIMWP_VIEW_CANPAUSE message.
- To pause the playing of a multimedia document, use VAPIMWP_VIEW_PAUSE .
- To determine whether the playing of a multimedia document can be stopped, use the VAPIMWP_VIEW_CANSTOP message.
- To stop the playing of a multimedia document, use the VAPIMWP_VIEW_STOP message.
- To get the play mode (that is, to stop or loop at the end of a multimedia document after playing it), use the VAPIMWP_VIEW_GETPLAYMODE message.
- To set the play mode of a multimedia document to stop at the end after playing it, use the VAPIMWP_VIEW_END message.
- To set the play mode of a multimedia document to loop at the end after playing it, use the VAPIMWP_VIEW_LOOP message.

Change the Current Object in a Document

There are many Viewing parameters that control the objects in a multiple-object document. Examples of a multiple-object document include a Microsoft Excel spreadsheet with multiple worksheets, and a Microsoft PowerPoint presentation with multiple slides.

- To determine whether a document contains multiple objects, use the VAPIMWP_MULTIOBJ_CANMULTIOBJ message.
- To determine the number of objects in a multiple-object document, use the VAPIMWP_MULTIOBJ_GETOBJCOUNT message.
- To change the current object to the next object in a document, use the VAPIMWP_MULTIOBJ_NEXTOBJ message.
- To change the current object to the previous object in a document, use the VAPIMWP_MULTIOBJ_PREVOBJ message.
- To get the name of the current object in a document, use the VAPIMWP_MULTIOBJ_OBJNAME message.
- To change the current object to a target object in a document, use the VAPIMWP_MULTIOBJ_SETCURRENTOBJ message.
- To receive the name of the current object, which VAPI sends when the document is first opened or whenever the object changes, wait for the VAPINMWP_MULTIOBJ_OBJNAME notification message.

View Deleted Items and Document Revision Marks

The revision tracking feature in applications—such as Microsoft Word's **Track Changes**—marks changes to a document (typically, strikethrough for deleted text and underline for inserted text) and tracks each change by reviewer name and date.

If revision tracking was enabled when changes were made to a document, you can configure Viewing to display the deleted content, revision marks, and revision tracking information in the document. Content that was added to the document is underlined. Content that was deleted from the document is displayed with strikethrough formatting. The name of the reviewer who made the change and the date on which the change was made is displayed in a tooltip when you hover the cursor over the revised text.

To display revision tracking information

1. Create a TPVAPIOpenDocumentInfo structure.
2. Set the `VAPIDF_FLAGS_INCL_REVISION_MARK` flag in the `nFlags` member of the `TPVAPIOpenDocumentInfo` structure.
3. Send VAPI a `VAPIM_INIT` message with the `wParam` set to **`VAPIMWP_INIT_OPEN_DOCUMENT`**, and the `lParam` set to the address of the `TPVAPIOpenDocumentInfo` structure. See VAPIMWP_INIT_OPEN_DOCUMENT, on page 105 for more information.

The View API Demo program demonstrates how to implement the revision mark feature.

View Container Files

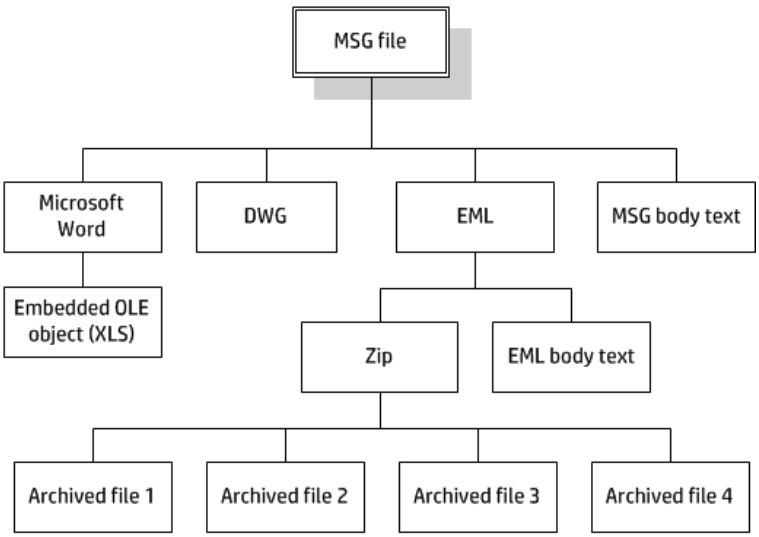
A *container* file has a main file (parent) and subfiles (children) embedded in the main file. The following are examples of container files:

- Compressed files such as ZIP, TAR, and RAR
- Mail messages such as Outlook (MSG) and Outlook Express (EML)
- Mail stores such as Microsoft Outlook Personal Folders (PST), Mailbox (MBX), and Lotus Notes database (NSF)

The subfiles might also be container files, creating a file hierarchy of multiple levels. For example, an MSG file (the root parent) might contain three attachments:

- a Microsoft Word document containing an embedded Microsoft Excel spreadsheet.
- an AutoCAD drawing file (DWG).
- an EML file with an attached ZIP file, which in turn contains four archived files.

Example Container File Tree Structure



> **NOTE:** The parent MSG file contains four first-level children. The body text of a message file, although not a standalone file within the container, is considered a child of the parent file.

Microsoft Outlook Personal Folders (PST) Files

> **NOTE:** The Microsoft Outlook Personal Folders (PST) readers are an advanced feature and are sold and licensed separately. To enable these readers in a KeyView SDK, you must obtain an appropriate license key from Micro Focus. For information about adding a new license key to an existing installation, see Update License Information, on page 20.

Choose the Reader to use for PST Files

KeyView provides the following ways of processing PST files:

- Indirectly, using the Microsoft Messaging Application Programming Interface (MAPI). MAPI is a Microsoft interface that enables different applications to exchange messages and attachments with each other. MAPI allows KeyView to open a PST file, traverse the folders and extract items. The `pstsr` reader uses MAPI, but requires that Microsoft Outlook is installed.
- Directly, without relying on the Microsoft interface to the PST format. Accessing the file directly does not require Microsoft Outlook. The `pstxsr` reader uses this approach.

The MAPI-based reader is used by default but you can choose `pstxsr` if you prefer.

The differences between the readers are summarized in the following table.

Feature	Native Reader (pstxsr)	MAPI-based Reader (pstsr)
Outlook required	No	Yes
MAPI properties supported	Yes. All properties defined in `mapitags.h`. Object properties are not supported.	
Password protection supported	Yes	Yes (using `KVCredential` structure)
Compressible encryption supported	Yes	Yes
High encryption supported	No	Yes

To use the native reader for PST files, change the PST entry in either the registry file or the initialization file as follows:

In the `kvsdk.ini` file

1. Open the `kvsdk.ini` file with a text editor. The file is installed in the root of the Windows directory.
2. In the `[KVMAILVE]` section of the `kvsdk.ini` file, change the parameter `297=pstsr.dll` to `297=pstxsr.dll`.

In the registry file

1. Open `install.reg.txt` in a text editor. The file is installed in the *`install`*`\redist` directory, where *`install`* is the directory in which you installed Viewing SDK.
2. Under the `[HKEY_LOCAL_MACHINE\Software\Autonomy\KeyviewViewingSDK\KVMAILVE` key, change the parameter `"297"="pstsr.dll"` to `"297"="pstxsr.dll"`.
3. Save the file as `install.reg`.
4. Import the file into your Windows system registry.

System Requirements

MAPI is supported on Windows platforms only and relies on functionality in Outlook. If you want to use the MAPI-based reader, `pstsr`, Microsoft Outlook must be installed on the same machine as your application. Outlook must also be the default email application. KeyView supports the following PST formats and Outlook clients:

- Outlook 97 or later PST files

> **NOTE:** The Outlook client must be the same version as, or newer than, the version of Outlook that generated the PST file.

- Outlook 2002 or later clients

> **NOTE:**
> You must install an edition of Microsoft Outlook (32-bit or 64-bit) that matches the KeyView software. For example, if you use 32-bit KeyView, install 32-bit Outlook. If you use 64-bit KeyView, install 64-bit Outlook.
>
> If the editions do not match, KeyView returns `Error 32: KVError_PSTAccessFailed` and an error message from Microsoft Office Outlook is displayed: `Either there is a no default mail client or the current mail client cannot fulfill the messaging request. Please run Microsoft Outlook and set it as the default mail client.`

Lotus Notes Database (NSF)

The NSF reader is an advanced feature and is sold and licensed separately. To enable this reader in a KeyView SDK, you must obtain the appropriate license key from Micro Focus. See License Information, on page 19 for information on adding a new license key to an existing installation.

A Lotus Notes database is a single file that contains multiple documents called *notes*. Notes include design notes (such as forms, views, folders, navigators, outlines, pages, framesets, agents, and resources), data document notes, profile document notes, access control list notes, and collection (index) notes. KeyView can display text items, attachments, and OLE objects from data document notes only. Data document notes include emails, journal entries, discussion threads, documents (Microsoft Office and Lotus SmartSuite), and so on.

System Requirements

The NSF format is proprietary. Therefore, KeyView accesses NSF files indirectly by using the Lotus Notes API. Because the NSF reader relies on functionality in Lotus Notes, a Lotus Notes client or Lotus Domino server must be installed and configured on the same machine as the application that displays the NSF files.

KeyView supports Lotus Notes client version 6.5.1, Lotus Domino 6.5.1, and NSF files on the same platforms supported by Lotus Notes and Lotus Domino:

- Windows XP x86 (Service Pack 1 and 2)
- Windows 2000 x86 (Service Pack 2)

Installation and Configuration

Before KeyView can display NSF files, you must set up the Lotus Notes client or Lotus Domino server. Full configuration is not required. The following steps outline the minimal setup for NSF viewing:

1. Install the Lotus Notes client or Lotus Domino server. You do not need to configure the client or server.
2. Make sure that the file `notes.ini` is in the *`install`*`\lotus\notes` directory, where *`install`* is the directory where Lotus Notes is installed. If the file does not exist, create an ASCII file named `notes.ini`, and add the following text:

   ```
   [Notes]
   ```

3. Add the *`install`*`\lotus\notes` and KeyView `bin` directories to the `PATH` environment variable. Micro Focus recommends that you add the KeyView `bin` directory because the Lotus Notes installation might contain older KeyView OEM libraries.

Format Notes

The KeyView NSF reader uses XML templates to format Lotus notes. You can customize the templates as required to approximate the look and feel of the original notes as closely as possible. For more information, see Extract and Format Lotus Notes Subfiles, on page 352.

View Mail Messages and Mail Stores

You can display mail messages and mail stores in one of two ways:

- The Viewing window displays the file's hierarchy—showing all the children of the parent file—by using the archive format viewing engine, `kvarve.dll`. See View Archive Files, on page 48 for more information.
- The Viewing windows displays the file as it would appear in a Microsoft Outlook Client. This display uses the mail format viewing engine, `kvmailve.dll`.

By default, mail messages and mail stores are displayed with the mail format viewing engine. To use the archive format viewing engine to display the complete file hierarchy, follow these steps:

In the `kvsdk.ini` file

1. Open the `kvsdk.ini` file with a text editor. The file is installed in the root of the Windows directory.
2. Remove the comments from the beginning of the following lines:

   ```
   297=zip 0 kvarcve.dll; PST
   295=zip 0 kvarcve.dll; MSG MS Outlook
   208=zip 0 kvarcve.dll; EML
   299=zip 0 kvarcve.dll; Lotus Notes NSF
   ```

3. In the `[VAPI]` section of the `kvsdk.ini` file, insert comments at the beginning of the following lines:

```
; Mail formats
;kvmailve.dll=kvMAILVIEW;
;297=mail 0 kvmailve.dll;    PST
;295=mail 0 kvmailve.dll;    MSG MS Outlook
;208=mail 0 kvmailve.dll;    EML
;299=mail 0 kvmailve.dll;    Lotus Notes NSF
```

In the registry file

1. Open the `install.reg.txt` in a text editor. The file is installed in the *`install`*`\redist` directory, where *`install`* is the directory in which you installed Viewing SDK.
2. Remove the comments from the beginning of the following lines:

   ```
   297=zip 0 kvarcve.dll; PST
   295=zip 0 kvarcve.dll; MSG MS Outlook
   208=zip 0 kvarcve.dll; EML
   299=zip 0 kvarcve.dll; Lotus Notes NSF
   ```

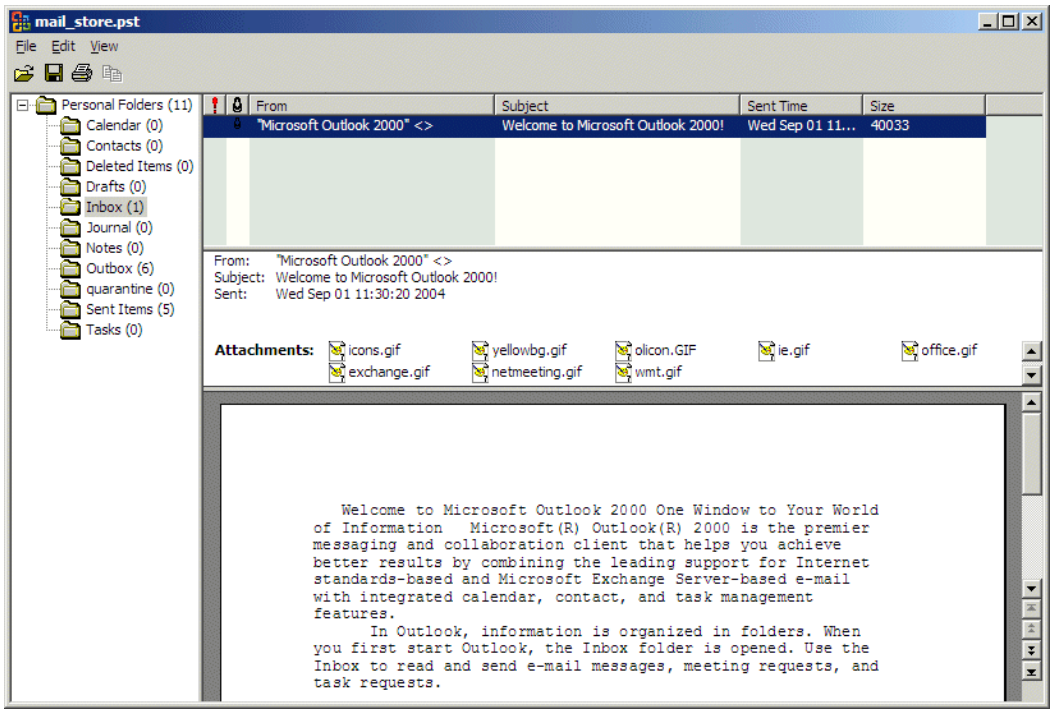
3. Under the `[HKEY_LOCAL_MACHINE\Software\Autonomy\Viewing SDK\VAPI]` key, insert comments at the beginning of the following lines:; Mail formats

   ```
   ; Mail formats
   ;kvmailve.dll=kvMAILVIEW;
   ;297=mail 0 kvmailve.dll;    PST
   ;295=mail 0 kvmailve.dll;    MSG MS Outlook
   ;208=mail 0 kvmailve.dll;    EML
   ;299=mail 0 kvmailve.dll;    Lotus Notes NSF
   ```

4. Save the file as `install.reg`.
5. Import the file into your Windows system registry.

The following figure shows a PST file displayed in the Viewing API sample program with the mail format viewing engine:

Display mail files with the mail format viewing engine



To extract the main message and its attachments to disk, select the main message and send an Unzip message or method (`VAPIMWP_FILE_UNZIP` or `UnZip`). See the implementation of the **Extract** menu in the View API Demo program (`vapidemo`).

To view an attachment, double-click the file in the **Attachments** field. The file is displayed in a separate window that can be closed.

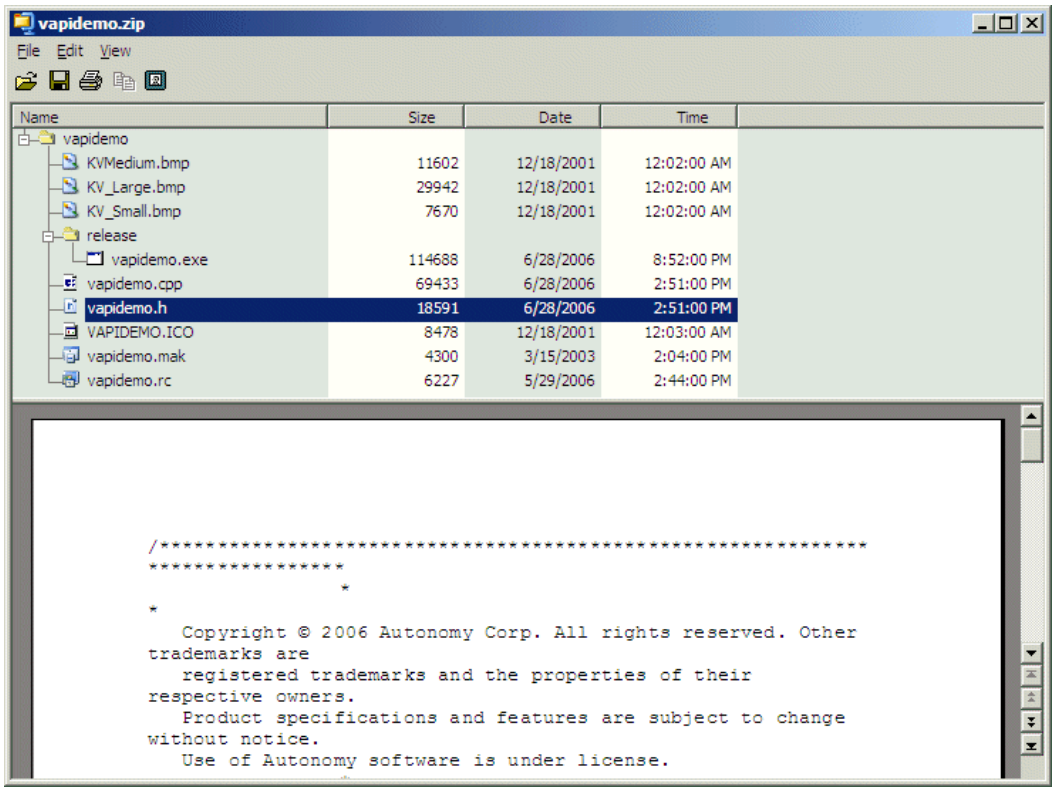
View Archive Files

The Viewing window displays an archive file's hierarchy—showing all the children of the parent file—by using the archive format viewing engine `kvarve.dll`. (You can also display mail files by using the archive format viewing engine. This is optional, and must be configured in the initialization file or registry file. See View Mail Messages and Mail Stores, on page 46.)

When an archive file is opened for viewing, the archive's folders and subfiles are listed in one pane (the file list pane). When a user selects a subfile, the subfile is displayed in another pane (the preview pane). When a user double-clicks a selected subfile, the file's text is displayed in the entire application window. When a subfile is extracted to disk, the user is prompted for a target directory. If the file already exists on disk, a dialog box asks the user whether the file can be overwritten.

The following figure shows a ZIP file displayed in the Viewing API sample program.

Display an archive file with the archive viewing engine



Extract Subfiles to a Viewing Window or Disk

To extract a subfile or files from a container file to a Viewing window or disk

1. Open the container file. See Open and View a Document, on page 34.
2. Use the VAPIMWP_FILE_CANUNZIP message to determine whether the selected subfile or files can be extracted.
3. Use the following VAPIMWP_FILE_UNZIP message to extract the selected subfile or files to a Viewing window or to disk. If you extract the files to disk, Viewing prompts you for the target directory and overwrite permission.

   See the implementation of the **Extract** menu in the View API Demo program (`vapidemo`).

Display Subfiles in the Preview Pane

> **NOTE:** The preview pane messages apply to the Archive Viewing Engine (`kvarcve`) only. The Mail Viewing Engine (`mailve`) does not use these settings.

To display a subfile in the preview pane

1. Use the VAPIMWP_VIEW_CANPREVIEWPANE message to determine whether a subfile can be displayed in a preview pane.
2. Use the VAPIMWP_VIEW_GETPREVIEWPANE message to determine whether the preview pane is currently being used.
3. If required, set the size and location of the preview pane using the `ARCHIVE_OPTIONS` structure. This structure is described in `kwoption.h`. See Change Document Options, on page 38.
4. Use the VAPIMWP_VIEW_SETPREVIEWPANE message to specify the subfile is displayed in the preview pane.

The View API Demo program (`vapidemo`) demonstrates this functionality.

Set a Password for a Container File

For password-protected ZIP, PST, or NSF files, use the VAPIMWP_INIT_SETPASSWORD message to set the password before the file is opened.

View PDF Documents

You can view PDF files with Viewing SDK in one of three ways:

- View the PDF by using the Adobe Acrobat ActiveX control.
- View the PDF by using the Microsoft WebBrowser ActiveX control.
- View an image of each page of the PDF by using a graphic-based PDF reader (`kppdfrdr` or `kppdf2rdr`).

By default, Viewing SDK uses the Acrobat ActiveX control to view PDF documents. If you do not want to redistribute the Acrobat Reader with your application, you can use a graphic-based reader instead.

Use the Acrobat ActiveX Control

The Acrobat control is automatically installed with Adobe® Reader® 4.0 or later. To download the Adobe Reader, go to www.adobe.com.

Use the Microsoft WebBrowser ActiveX Control

You can use the Microsoft WebBrowser ActiveX control to view PDF documents. The Microsoft WebBrowser ActiveX control is installed automatically with Microsoft Internet Explorer 3.0 or later. To use the WebBrowser ActiveX control to view PDF documents, follow one of these procedures:

In the `kvsdk.ini` file

1. Open the `kvsdk.ini` file with a text editor. The file is installed in the root of the Windows directory.
2. In the `[General]` section of the `kvsdk.ini` file, set the `UseHTMLPluginForPDF` parameter to **`True`**.
3. Pass the highlight or search term in by using `VAPIMWP_INIT_OPENDOCEX` (the extended version of `VAPIMWP_INIT_OPEN_DOCUMENT`. Refer to `ihademo.cpp` for details) with the `OpenDocInfo.lpszHighlight` structure. For example:

   `OpenDocInfo.lpszHighLight="`*`search_term`*`";`

   where *`search_term`* is the highlight or search term.

In the registry file

1. Open `install.reg.txt` in a text editor. The file is installed in the *`install`*`\redist` directory, where *`install`* is the directory in which you installed Viewing SDK.
2. Under the `[HKEY_LOCAL_MACHINE\Software\Autonomy\Viewing SDK\General]` key, set the following parameter:

   `"UseHTMLPluginForPDF"=`**`"true"`**
3. Save the file as `install.reg`.
4. Import the file into your Windows system registry.

Use a Graphic-Based PDF Reader

There are two graphic-based PDF readers available. The readers display PDFs by converting each page of the PDF to an image. If you do not want to redistribute the Acrobat Reader with your application, you can use a graphic-based reader instead.

The two readers support different features. Choose the appropriate reader depending on your requirements:

- The `kppdfrdr` reader supports highlighting, annotation, and several other features, but also has several graphical limitations.
- The `kppdf2rdr` reader produces high-fidelity raster images but is a viewer only, and does not support highlighting or other features.

Use the kppdfrdr Reader

The `kppdfrdr` graphic-based reader has the following features:

- supports vector images
- supports rotation and scaling
- supports multibyte and bidirectional text

The `kppdfrdr`reader has the following limitations:

- Embedded fonts in a PDF file are not translated correctly. They are usually displayed using the question mark (?) replacement character.
- If an unsupported font is encountered during conversion, the default font, Times New Roman, is substituted.
- Supports 180-degree rotation only for raster images.
- Supports the following color spaces: DeviceRGB, DeviceGray, DeviceCMYK, CalGray, and CalRGB color spaces. Indexed color spaces are supported as long as they are used with a supported basic color space.
- Does not support hyperlinks.
- Does not extract summary information (metadata).

Use the kppdf2rdr Reader

The `kppdf2rdr` graphic-based reader produces high-fidelity raster images. However, it has the following limitations:

- Does not support anything beyond viewing, such as highlighting or annotation.
- Does not support PDFs containing XFA forms content.

Specify the Graphic-based Reader

By default, the Acrobat control is used to view PDF documents. To use one of the graphic-based readers to view PDF documents, follow one of these procedures:

In the `kvsdk.ini` file

1. Open the `kvsdk.ini` file with a text editor. The file is installed in the root of the Windows directory.
2. In the `[VAPI]` section of the `kvsdk.ini` file, change the `200=doc 0 kvaxcc.dll` parameter to `200=pic 0 kvpicve.dll`.
3. In the `[KVPICVE]` section, set the following parameter to the graphic-based reader you want to use. Set one of the following values:
   - For the `kppdfrdr` reader:

     ```
     200=kppdfrdr.dll
     ```

     This is the default setting.
   - For the `kppdf2rdr` reader:

     ```
     200=kppdf2rdr.dll
     ```

In the registry file

1. Open `install.reg.txt` in a text editor. The file is installed in the *`install`*`\redist` directory, where *`install`* is the directory in which you installed Viewing SDK.

2. Under the `[HKEY_LOCAL_MACHINE\Software\Autonomy\Viewing SDK\VAPI]` key, change the `"200"="doc 0 kvaxcc.dll"` parameter to `"200"="pic 0 kvpicve.dll"`.
3. Under the `[HKEY_LOCAL_MACHINE\Software\Autonomy\Viewing SDK\KPICVE]` key, set the following parameter to the graphic-based reader you want to use. Set one of the following values:
   - For the `kppdfrdr` reader:

     ```
     "200"="kppdfrdr.dll"
     ```

     This is the default setting.
   - For the `kppdf2rdr` reader:

     ```
     "200"="kppdf2rdr.dll"
     ```
4. Save the file as `install.reg`.
5. Import the file into your Windows system registry.

View or Extract PDF Portfolio Documents

A PDF Portfolio is a PDF file that contains multiple documents and an Adobe Flash interface that can provide information about them and allows you to navigate to them. The subfiles are not necessarily in PDF format; the portfolio might contain a PowerPoint presentation or a word processor file.

By default, the KeyView Viewing SDK opens PDF Portfolio files using the Adobe Acrobat ActiveX control. This requires that your users have Adobe Reader and Adobe Flash installed. Alternatively, you can configure KeyView to use the archive format viewing engine. This allows you to open the sub-files of the portfolio PDF without needing to have Adobe Acrobat or Adobe Flash installed, but does not allow you to view the Flash interface.

To choose how to view PDF Portfolio files

1. Open the `kvsdk.ini` file with a text editor. The file is installed in the root of the Windows directory.
2. In the `[VAPI]` section, change the value for the file category `1048`:
   - To use the Adobe ActiveX control:

     ```
     1048=doc 0 kvaxcc.dll
     ```
   - To use the archive format viewing engine:

     ```
     1048=zip 0 kvarcve.dll
     ```
3. Save and close the file.

View Microsoft Visio Files

Microsoft Visio files are supported by different readers or components depending on the file version:

- Version 2013 files are supported with ActiveX components included with the free Visio 2013 viewer provided by Microsoft. Image fidelity is supported, but additional features such as highlighting are

not. Additional configuration steps are required.

- Version 2003–2010 files are supported with the `kpVSDrdr` reader by default. Image fidelity is supported. If desired, you can use the ActiveX components for these files instead of `kpVSDrdr`; this produces higher quality images but, as with 2013 files, does not support other Viewing features.
- Version 2002 and lower files are supported with the `vsdsr` reader. Image fidelity is not supported.

To enable support for Microsoft Visio 2013 files

1. Download and install the free Microsoft Visio 2013 Viewer from the following website:

   http://www.microsoft.com/en-us/download/details.aspx?id=35811

2. Update the following entry in the `kvsdk.ini` file:

   ```
   415=doc 0 kvaxcc.dll ; MS Visio 2013
   ```

To enable the ActiveX solution for Microsoft 2003–2010 files

1. Download and install the free Microsoft Visio 2013 Viewer from the following website:

   http://www.microsoft.com/en-us/download/details.aspx?id=35811

2. Update the following entries in the `kvsdk.ini` file:

   ```
   ;294.6.0.11=prsgfx 0 kvpicve.dll ; MS Visio 2003/2007 (11.0)
   294.6.0.11=doc 0 kvaxcc.dll ; MS Visio 2003/2007 (11.0)
   ```

   To disable the ActiveX functionality for 2003–2010 files and revert to the `kpVSDrdr` reader, update the entries as follows:

   ```
   294.6.0.11=prsgfx 0 kvpicve.dll ; MS Visio 2003/2007 (11.0)
   ;294.6.0.11=doc 0 kvaxcc.dll ; MS Visio 2003/2007 (11.0)
   ```

Extract Microsoft Excel Formulas

Normally, the actual value of a formula is extracted from an Excel spreadsheet; the formula from which the value is derived is not included in the output. However, KeyView enables you to include the value as well as the formula in the output. For example, if you configure Filter to extract the formula and the formula value, the output might look like this:

```
245 = SUM(B21:B26)
```

The calculated value from the cell is `245` and the formula from which the value is derived is `SUM (B21:B26)`.

> **NOTE:** Depending on the complexity of the formulas, enabling formula extraction might result in slightly slower performance.

To set the extraction option for formulas, add the following lines to the `formats.ini` file:

```
[Options]
getformulastring=option
```

where *option* is one of the following:

Option	Description
0	Extract the formula value only. This is the default. If formula extraction is enabled, and you want to return to the default, set this option.
1	Extract the formula only.
2	Extract the formula and the formula value.

If a function in a formula is not supported or is invalid, and option 1 or 2 is specified, only the calculated value is extracted. See the following table for a list of supported functions.

When you enable formula extraction, Filter can extract Microsoft Excel formulas containing the functions listed in the following table:

Supported Microsoft Excel functions

=ABS()	=ACOS()	=AND()	=AREAS()
=ASIN()	=ATAN2()	=ATAN2()	=AVERAGE()
=CELL()	=CHAR()	=CHOOSE()	=CLEAN()
=CODE()	=COLUMN()	=COLUMNS()	=CONCATENATE()
=COS()	=COUNT()	=COUNTA()	=DATE()
=DATEVALUE()	=DAVERAGE()	=DAY()	=DCOUNT()
=DDB()	=DMAX()	=DMIN()	=DOLLAR()
=DSTDEV()	=DSUM()	=DVAR()	=EXACT()
=EXP()	=FACT()	=FALSE()	=FIND()
=FIXED()	=FV()	=GROWTH()	=HLOOKUP()
=HOUR()	=ISBLANK()	=IF()	=INDEX()
=INDIRECT()	=INT()	=IPMT()	=IRR()
=ISERR()	=ISERROR()	=ISNA()	=ISNUMBER()
=ISREF()	=ISTEXT()	=LEFT()	=LEN()
=LINEST()	=LN()	=LOG()	=LOG10()
=LOGEST()	=LOOKUP()	=LOWER()	=MATCH()
=MAX()	=MDETERM()	=MID()	=MIN()
=MINUTE()	=MINVERSE()	=MIRR()	=MMULT()
=MOD()	=MONTH()	=N()	=NA()
=NOT()	=NOW()	=NPER()	=NPV()
=OFFSET()	=OR()	=PI()	=PMT()

=PPMT()	=PRODUCT()	=PROPER()	=PV()
=RATE()	=REPLACE()	=REPT()	=RIGHT()
=ROUND()	=ROUND()	=ROW()	=ROWS()
=SEARCH()	=SECOND()	=SIGN()	=SIN()
=SLN()	=SQRT()	=STDEV()	=SUBSTITUTE()
=SUM()	=SYD()	=T()	=TAN()
=TEXT()	=TIME()	=TIMEVALUE()	=TODAY()
=TRANSPOSE()	=TREND()	=TRIM()	=TRUE()
=TYPE()	=UPPER()	=VALUE()	=VAR()
=VLOOKUP()	=WEEKDAY()	=YEAR()	

Chapter 4: Viewing API Sample Programs

This section describes the sample programs that demonstrate how to use the API.

Overview

The following sample programs are provided for the Viewing API:

Micro Focus recommends that you review the `hellovapi` program first to help you get started. It is a simple program that demonstrates the basic functions of the Viewing API.

> **NOTE:** The sample programs are Windows applications, not console applications. In other words, they contain a `WinMain` procedure instead of a main procedure.

Compile the Sample Programs

To compile the sample programs, use the makefile provided in each sample program directory. Make sure that the Viewing `include` directory is specified in the include path of the project.

After the executables are compiled and built, you must place them in the `release` subdirectory of each program.

Run the Sample Programs

To run a sample program

1. Install Viewing SDK.
2. Run the sample program from the `release` subdirectory of each sample program.

Viewing SDK Initialization Information

Viewing SDK uses initialization information for its internal operations; for example, to determine which components to load. You can store this information either in the Windows registry or in an initialization

file. When you use Viewing SDK you must tell it where to find this information and what form it is in. See View Initialization Information, on page 23 for more information.

`hellovapi` demonstrates how to use the registry and the `kvsdk.ini` file.

hellovapi

`hellovapi` is a simple program that demonstrates how to use Viewing SDK to display documents in your application. The program creates a Windows application window, and then creates a child window that the Viewing SDK uses to display documents. The Viewing SDK is controlled by sending Windows-style messages to the child window. The set of messages that you send to the child window form the Viewing API (VAPI). The child window is known as a VAPI window. The VAPI messages are described in Message Parameters, on page 68.

Load kvvapi.dll

Before you can create a VAPI window, you must load the VAPI library (`kvvapi.dll`) by using the `LoadLibrary` function. In `hellovapi`, the library is loaded in the `InitializeVAPI` function which is called during the processing of the `WM_CREATE` message.

The library is loaded in the following way:

1. `InitializeVAPI` calls either the `GetPrivateProfileString` Windows function or `RegQueryValueEx` to get the value of `HOME` in the `General` section of the `kvsdk.ini` file or Windows registry.

   `GetPrivateProfileString` gets the value from `kvsdk.ini`, and `RegQueryValueEx` gets the value from the registry. The `HOME` setting specifies the location of the Viewing SDK `bin` directory. `InitializeVAPI` demonstrates how to get this setting from both the registry and `kvsdk.ini` file. By default, `InitializeVAPI` gets the value from `kvsdk.ini`.

2. `InitializeVAPI` then creates the path to the VAPI library and loads it:

   ```
   wsprintf (szDLLPath, TEXT("%s\\%s"), szHome, VAPIDF_VAPI_DLL_NAME);
   hLibVAPI = LoadLibrary (szDLLPath);
   ```

Create the VAPI Window

After the VAPI library is loaded, the program creates the VAPI window by calling `CreateWindow` with a class name of `VAPIDF_VAPI_WINDOW_CLASS_NAME`:

```
hWndVAPI = CreateWindow (VAPIDF_VAPI_WINDOW_CLASS_NAME,
                    NULL,
                    WS_CHILD | WS_DISABLED,
                    rc.left, rc.top, rc.right, rc.bottom,
                    hWnd,
                    NULL,
                    hLibVAPI,
                    &CreateParams);
```

The last parameter passes in a pointer to VAPI creation information. This creation information is in the structure of type `TPVAPICreateParams`, and tells VAPI where to locate the initialization settings, and whether they are in the registry or in `kvsdk.ini`. The `hellovapi` program uses the `bUseRegistry` global variable to specify whether to get the settings from the registry or `kvsdk.ini`.

By default, `hellovapi` tells VAPI to use the `kvsdk.ini` file that was located with the call to `InitializeVAPI`. The path to the `kvsdk.ini` file is stored in the `szIniFileName` global variable.

To specify the registry

1. Set `uProfileType` to **`PROFILEDF_USE_REG`**.
2. Set `lpszRegistryName` to the registry name of the Viewing SDK key under the main branch `HKEY_LOCAL_MACHINE\SOFTWARE`. The default is `Autonomy\Viewing SDK`.

To specify an initialization file

1. Set `uProfileType` to **`PROFILEDF_USE_INI`**.
2. Set `lpszIniFileName` to the location of the initialization file.

> **NOTE:** The strings that you pass in for initialization information must be ASCII strings. If your application is in Unicode, you must convert the strings to ASCII before you pass them in.

```
// Initialize the parameters for the creation of the VAPIwindow.//
memset (&CreateParams, 0, sizeof(TPVAPICreateParams));
if (bUseRegistry)
  {
      CreateParams.uProfileType     = PROFILEDF_USE_REG;
      CreateParams.lpszRegistryName = REGISTRY_NAME_ASCII;
  }
else
  {
      CreateParams.uProfileType    = PROFILEDF_USE_INI;
      CreateParams.lpszIniFileName = szIniFileName;
  }
```

Open a Document

To tell VAPI to open a document

1. Create a `TPVAPIOpenDocInfoEx` structure.
2. Send VAPI a `VAPIM_INIT` message with the `wParam` set to `VAPIMWP_INIT_OPENDOCEX`, and the `lParam` set to the address of the `TPVAPIOpenDocInfoEx` structure.

This is demonstrated in the `OpenDoc` function. It uses a Windows Open dialog box to get the name of a file, and sets the `lpszFilePath` parameter of the `TPVAPIOpenDocInfoEx` structure to this file name. If it is successful, the `VAPIM_INIT` message returns `VAPI_RETURN_SUCCESS`.

> **NOTE:** The file name must be an ASCII string. If your application is in Unicode, you must convert the string to ASCII before passing it in.

```
// Open the document.//

memset (&OpenDocInfo, 0, sizeof(TPVAPIOpenDocInfoEx));

OpenDocInfo.lpszFilePath = szFileName;

lResult = SendMessage (hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_OPENDOCEX,

                       (LPARAM)&OpenDocInfo);
```

hellovapi.c

```
// hellovapi.c
This program demonstrates how to use the Viewing API (VAPI) to display documents.//
#ifdef UNICODE
#ifndef _UNICODE
#define _UNICODE
#endif
#endif
#include <windows.h>
#include "kvoem.h"
#include "hellovapi.h"
#define REGISTRY_NAME  TEXT("Autonomy\\Viewing SDK")
#define REGISTRY_NAME_ASCII "Autonomy\\Viewing SDK"
HWND      hWndVAPI    = NULL;   //VAPI window
HINSTANCE hLibVAPI    = NULL;   //VAPI library instance
BOOL      bUseRegistry = FALSE; //Profile type (Set to FALSE for initialization
file)
TCHAR   szIniFileName[MAX_PATH];
LRESULT CALLBACK WndProc (HWND, UINT, WPARAM, LPARAM);
void OpenDoc (HWND);
BOOL InitializeVAPI (void);
int WINAPI WinMain (HINSTANCE hInstance, HINSTANCE hPrevInstance, PSTR szCmdLine,
int nCmdShow)
{
  static TCHAR szAppName[] = TEXT("Hello VAPI demo program");
  HWND        hWnd;
  MSG         msg;
  WNDCLASSEX  wc;
  wc.cbSize        = sizeof (wc);
  wc.style         = 0;
  wc.lpfnWndProc   = WndProc;
  wc.cbClsExtra    = 0;
  wc.cbWndExtra    = 0;
  wc.hInstance     = hInstance;
  wc.hIcon         = LoadIcon (NULL, IDI_APPLICATION);
  wc.hCursor       = LoadCursor (NULL, IDC_ARROW);
  wc.hbrBackground = (HBRUSH) (COLOR_WINDOW + 1);
```

```
  wc.lpszMenuName  = MAKEINTRESOURCE(IDR_MENU);
  wc.lpszClassName = szAppName;
  wc.hIconSm       = LoadIcon (NULL, IDI_APPLICATION);
   RegisterClassEx (&wc);
   hWnd = CreateWindow (szAppName, TEXT("Hello VAPI"),
         WS_OVERLAPPEDWINDOW,
         CW_USEDEFAULT, CW_USEDEFAULT,
         CW_USEDEFAULT, CW_USEDEFAULT,
         NULL, NULL, hInstance, NULL);
   ShowWindow (hWnd, nCmdShow);
   UpdateWindow (hWnd);
   while (GetMessage (&msg, NULL, 0, 0))
   {
      TranslateMessage (&msg);
      DispatchMessage (&msg);
   }
   return msg.wParam;
}
LRESULT CALLBACK WndProc (HWND hWnd, UINT uMsg, WPARAM wParam, LPARAM lParam)
{
   switch (uMsg)
   {
      case WM_CREATE:
      {
       TPVAPICreateParams CreateParams;
       RECT rc;
#ifdef UNICODE
         char szName[MAX_PATH];
#endif
         if (!InitializeVAPI())
         {
            return -1;
         }
         // Initialize parameters for creation of the VAPI window.//
         memset (&CreateParams, 0, sizeof(TPVAPICreateParams));
         if (bUseRegistry)
         {
            CreateParams.uProfileType     = PROFILEDF_USE_REG;
            CreateParams.lpszRegistryName = REGISTRY_NAME_ASCII;
         }
          else
         {
            CreateParams.uProfileType   = PROFILEDF_USE_INI;
#ifdef UNICODE
            WideCharToMultiByte (CP_ACP, 0, szIniFileName, -1, szName,
            MAX_PATH, NULL, NULL);
            CreateParams.lpszIniFileName = szName;
#else
            CreateParams.lpszIniFileName = szIniFileName;
```

```
#endif
         }
         // Create the VAPI window. //
         GetClientRect (hWnd, &rc);
         hWndVAPI = CreateWindow (VAPIDF_VAPI_WINDOW_CLASS_NAME,
                  NULL,
                  WS_CHILD | WS_DISABLED,
                  rc.left, rc.top, rc.right, rc.bottom,
                  hWnd,
                  NULL,
                  hLibVAPI,
                  &CreateParams);
         return 0;
         }
         case WM_DESTROY:
         // Destroy the VAPI window. //
         if (hWndVAPI != NULL)
         {
            DestroyWindow (hWndVAPI);
         }
         // Free the VAPI library. //
         if (hLibVAPI != NULL)
         {
            FreeLibrary (hLibVAPI);
         }
         PostQuitMessage (0);
         return 0;
         case WM_CLOSE:
         DestroyWindow (hWnd);
         return 0;
         case WM_SIZE:
         MoveWindow (hWndVAPI, 0, 0, LOWORD(lParam), HIWORD(lParam),
         TRUE);
         break;
         case WM_COMMAND:
         switch (LOWORD(wParam))
         {
         case IDM_OPEN:
         OpenDoc (hWnd);
         return 0;
         case IDM_CLOSE:
         SendMessage (hWnd, WM_CLOSE, 0, 0);
         return 0;
        }
         break;
   }
   return DefWindowProc (hWnd, uMsg, wParam, lParam);
}
void OpenDoc (HWND hWnd)
```

```
{
   LRESULT           lResult;
   OPENFILENAME      ofn;
   TCHAR             szFileName[MAX_PATH];
   TPVAPIOpenDocInfoEx OpenDocInfo;
#ifdef UNICODE
   char szName[MAX_PATH];
#endif
   // Get a document name. //
   szFileName[0] = TEXT('\0');
   memset (&ofn, 0, sizeof(ofn));
   ofn.lStructSize = sizeof(OPENFILENAME);
   ofn.hwndOwner   = hWnd;
   ofn.lpstrFile   = szFileName;
   ofn.nMaxFile    = MAX_PATH;
   ofn.Flags       = OFN_PATHMUSTEXIST | OFN_HIDEREADONLY |
                     OFN_FILEMUSTEXIST;
   if (GetOpenFileName (&ofn) == 0)
   {
      return;
   }
   // Open the document. //
   memset (&OpenDocInfo, 0, sizeof(TPVAPIOpenDocInfoEx));
#ifdef UNICODE
   WideCharToMultiByte (CP_ACP, 0, szFileName, -1, szName, MAX_PATH,
   NULL, NULL);
   OpenDocInfo.lpszFilePath = szName;
#else
   OpenDocInfo.lpszFilePath = szFileName;
#endif
   lResult = SendMessage (hWndVAPI, VAPIM_INIT,
   VAPIMWP_INIT_OPENDOCEX, (LPARAM)&OpenDocInfo);
   if (lResult != VAPI_RETURN_SUCCESS)
   {
      MessageBox (hWnd, TEXT("Unable to view document."),
            TEXT("Hello VAPI"), MB_OK);
      return;
   }
   return;
}
// Function:InitializeVAPI() //
// Summary: Load and initialize KVVAPI.dll for use with hellovapi. //
BOOL InitializeVAPI (void)
{
   long  lResult;
   TCHAR szDLLPath[MAX_PATH];
   TCHAR szHome[MAX_PATH];
   // Get the location of the VAPI DLL.//
   if (bUseRegistry)
```

```
    {
       HKEY  hKey;
       TCHAR szSubKey[256];
       DWORD dwType;
       DWORD dwcbData;
    // Open the registry key. //
    wsprintf (szSubKey, TEXT("SOFTWARE\\%s\\General"), REGISTRY_NAME);
    lResult = RegOpenKeyEx (HKEY_LOCAL_MACHINE, szSubKey, 0, KEY_READ, &hKey);
       if (lResult != ERROR_SUCCESS)
       {
          return FALSE;
       }
       dwcbData = sizeof(szHome);
       lResult = RegQueryValueEx (hKey, TEXT("HOME"), NULL, &dwType,
                   (PBYTE)szHome, &dwcbData);
       RegCloseKey (hKey);
       if (lResult != ERROR_SUCCESS)
       {
          return FALSE;
       }
    }
    else
    {
       int   nSize;
       // Get the location of the initialization file. //
       GetWindowsDirectory (szIniFileName, MAX_PATH);
       _tcscat (szIniFileName, TEXT("\\kvsdk.ini"));
       if (GetFileAttributes (szIniFileName) == 0xffffffff)
       {
          return FALSE;
       }
       nSize = GetPrivateProfileString (TEXT("General"), TEXT("HOME"),
       NULL, szHome, MAX_PATH, szIniFileName);
       if (nSize <= 0)
       {
          return FALSE;
       }
    }
    // Load the VAPI DLL. //
    wsprintf (szDLLPath, TEXT("%s\\%s"), szHome, VAPIDF_VAPI_DLL_NAME);
    hLibVAPI = LoadLibrary (szDLLPath);
    if (hLibVAPI == NULL)
    {
       return FALSE;
    }
    return TRUE;
 }
```

hellovapi.h

```
// hellovapi.h
// This file is the main header file for hellovapi.exe
// Resource definitions
#define IDR_MENU         100
#define IDM_OPEN         100
#define IDM_CLOSE        101
```

hellovapi.rc

```
// hellovapi.rc resource script
#include "hellovapi.h"
// Menu
IDR_MENU MENU DISCARDABLE
BEGIN
   POPUP "&File"
      BEGIN
         MENUITEM "&Open",              IDM_OPEN
         MENUITEM "&Exit",              IDM_CLOSE
      END
END
```

vapidemo

The `vapidemo` sample program is a Windows application that demonstrates most of the functionality of the Viewing API. To start the `vapidemo` program, double-click the `vapidemo.exe` file, or type `vapidemo` at a DOS prompt or in the Run dialog box.

> **NOTE:** Menu options in `vapidemo` do not adjust according to the format of the document you view; however, they appear shaded if they do not apply to the format. This is a limitation of the sample program only, not the Viewing SDK.

mfckv

The `mfckv` sample program is a Single Document Interface (SDI) application written with Microsoft Foundation Classes (MFC). To start the `mfckv` program, double-click the `mfckv.exe` file or enter the following command at a DOS prompt or in the Run dialog box:

```
mfckv
```

To open (view) a document, select **Open** from the **File** menu.

rtfdemo

The `rtfdemo` sample program demonstrates how to use the Viewing API to perform conversions of documents to RTF. To start the `rtfdemo` program, enter the following command at a DOS prompt or in the Run dialog box:

`rtfdemo` *`sourcefile targetfile`*

where *`sourcefile`* and *`targetfile`* include the complete path and file name.

prntdemo

The `prntdemo` sample program demonstrates how to use the Viewing API to print documents to a specified printer. To start the `prntdemo` program, enter the following command at a DOS prompt or in the Run dialog box:

`prntdemo` *`printername,printerdevice,printerport`*

For example:

```
prntdemo \\Calculus\HP Laserjet IIIsi,winspool,NE00:
```

The program displays the **Open** dialog box for you to select the file to print.

filetype

The `filetype` sample program demonstrates how to use the Viewing API to obtain a document's type.

To start the `filetype` program, enter the following command at a DOS prompt or in the Run dialog box:

`filetype` *`file`*

where *`file`* includes the complete path and file name.

ihademo

The `ihademo` sample program is a simple Windows application that demonstrates how to index (filter), highlight, and annotate documents.

> **NOTE:** The `ihademo` sample program is intended for word processing documents only. You might encounter limitations if you use it with other formats.

To start the `ihademo` program, double-click the `ihademo.exe` file, or enter the following command at a DOS prompt or in the Run dialog box:

`ihademo` *`optional_word_to_index`*

To open and view a document, select **Open** from the **File** menu. If you specified a word to index at the command line (the *`optional_word_to_index`* parameter), all occurrences of the indexed word in the

document (index hits) are highlighted when you open a document. To show or hide the index hits, select **Show Hits** from the **View** menu.

To index a document without viewing it, select **Index Only** before you select **Open**. In "Index Only" mode, the document is not displayed; rather, text buffers are returned. The first text buffer returns automatically. To get more text buffers, select **Drive Next Buffer**. The `baseAddress` returned in the text buffer is the starting logical address of the returned text.

To insert an annotation at the cursor position, select **Annotate** from the **View** menu. If no text is selected, the **Annotate** command inserts a bitmap. If any text is selected, the **Annotate** command turns green and the selected text is underlined. You can also annotate by using a double-click. This method annotates (with a green underline) five characters, starting at the cursor position. If you click the annotation, the annotation text returns in a message box.

To get the current view position (that is, the first and last logical address displayed), select **Get View Position** from the **View** menu.

To get the logical address and page number at the cursor position, select **Current Page Number** from the **View** menu.

To get the text at the cursor position, select **Get Text** from the **View** menu.

drawdemo

The `drawdemo` sample program demonstrates how to draw a page of a word processing, spreadsheet, presentation, or picture file into a supplied Device Context (thumbnail view). The program captures the first few pages (up to `MAX_PAGES_TO_DISPLAY`) of the document in metafiles and later uses these metafiles to draw the pages on the screen.

To start the `drawdemo` program, double-click the `drawdemo.exe` file, or enter the following command at a DOS prompt or in the Run dialog box:

```
drawdemo
```

To draw the first page of a document into a supplied Device Context, select **Open** from the `File` menu.

uzipdemo

The `uzipdemo` sample program demonstrates how to use the Viewing API to extract subfiles from a container file such as a ZIP archive.

To start the `uzipdemo` program, enter the following command at a DOS prompt or in the Run dialog box:

```
uzipdemo sourcefile targetdirectory
```

where *`sourcefile`* and *`targetdirectory`* includes the complete path and file name.

Chapter 5: Message Parameters

This section provides information on the message parameters in the Viewing API. It includes the following topics:

VAPIM_ANNOTATE

Description

Adds and deletes annotations, and determines whether annotations exist.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI,
            VAPIM_ANNOTATE,
           (WPARAM) wControl,
           (LPARAM) (TPVAPIAnnotation*) lpAnnotation );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`wControl`	`KV_DEL_ANNOTATION` (0) – delete annotation `KV_ADD_ANNOTATION` (1) – add annotation `KV_ANNOTATION_EXISTS` (2) – query annotation
`lpAnnotation`	A pointer to a TPVAPIAnnotation structure that defines the annotation.

Returns

- For `KV_DEL_ANNOTATION`, `SendMessage()` returns `TRUE` if successful; `FALSE` if the annotation did not exist.
- For `KV_ADD_ANNOTATION`, `SendMessage()` returns `0` if successful; `1` if out of memory; `2` if the annotation could not be added because it would cause an overlap with an existing annotation; and `3` if the logical address was invalid.
- For `KV_ANNOTATION_EXISTS`, `SendMessage()` returns `TRUE` if the annotation exists; `FALSE` otherwise.

Discussion

The size of the bitmap is not relevant.

VAPIM_ENABLEINDEX

Description

Enables index-only mode, also called document filtering. This generates text buffer (`VAPINM_TEXTBUFFER`) notification messages with document viewing disabled. The first text buffer notification message is generated after a `VAPIMWP_INIT_OPEN_DOCUMENT` message is sent. To get additional text buffer notification messages in this mode, call the VAPIM_GETNEXTTEXTBUFFER message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI,
            VAPIM_ENABLEINDEX,
           (WPARAM) n_IndexMode,
           (LPARAM) (TPVAPIHiLiteColor*) lpHiLiteColor );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`n_IndexMode`	0 – Combined mode (document view and text buffers) 1 – Text buffers only 2 – Disable index (document view only)
`lpHiLiteColor`	A pointer to a TPVAPIHiLiteColor structure that defines the highlight color used to signify an index hit.

Returns

`SendMessage()` returns `TRUE` if successful; `FALSE` otherwise.

Discussion

- This message is passed to the VAPI control window to notify the Viewing display engine that a document index is under way. This message *must* be sent before the VAPIMWP_INIT_OPEN_DOCUMENT message. Check the return value from `VAPIMWP_INIT_OPEN_DOCUMENT` to make sure that indexing was really supported.
- Calling this message produces a sequence of `VAPINM_TEXTBUFFER` notification messages to the calling window—that is, the parent of the VAPI window—as well as enabling the viewing engine to

handle highlight and annotation requests. If you are using index-only mode, the VAPI window should be hidden and destroyed when the index is complete. No GDI output is generated and no information is stored to render the document. This results in a faster initial index of the document.

When Viewing is in index-only mode, `VAPIM_GETNEXTTEXTBUFFER` messages must be used to drive Viewing to obtain `VAPINM_TEXTBUFFER` notification messages, with the exception of the very first buffer. In other words, after you send a `VAPIMWP_INIT_OPEN_DOCUMENT` message, you either get back one `VAPINM_TEXTBUFFER` notification message automatically, or two when there is only one buffer in the file. When you need more, request it.

- When text buffers are no longer necessary, send `VAPIM_ENABLEINDEX` with `n_IndexMode` set to **2** and reopen the same document.

VAPIM_GETNEXTTEXTBUFFER

Description

Gets text buffers in index-only mode.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_GETNEXTTEXTBUFFER, 0, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if a text buffer was returned, and `FALSE` if there are no more text buffers in the document, that is, the end of document is reached.

Discussion

This message is used to generate `VAPINM_TEXTBUFFER` notification messages when Viewing is in index-only mode (except for the very first text buffer, which comes automatically after a `VAPIMWP_INIT_OPEN_DOCUMENT` message is sent). The `VAPINM_TEXTBUFFER` notification messages is received before this message returns.

There might be two notification messages generated, one for the text buffer and one to indicate the end of the document.

VAPIM_GETPAGEFROMLOGICAL

Description

Gets the page number for a logical address.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_GETPAGEFROMLOGICAL, 0L,
           (LPARAM) (long) lLogicalAddress );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lLogicalAddress`	A long integer that is the logical address for which to get the page number.

Returns

`SendMessage()` returns the page number the specified logical address resides on; or `-1` on error.

Discussion

For spreadsheets, this message fails if the page containing the specified logical address has not been completely indexed yet.

VAPIM_GETSUMMARYINFO

Description

Gets document metadata, also referred to as summary information.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, STAT wParam,
           (LPARAM) (*KVSummaryInfoEx) pSummaryInfo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`wParam`	0 – get summary information 1 – free summary information
`pSummaryInfo`	A pointer to a KVSummaryInfoEx structure that contains summary information about the document.

Returns

`SendMessage()` returns `TRUE` if successful (`pSummaryInfo` filled in with valid information, if `wParam` is 0), `FALSE` if it fails.

VAPIM_GETTEXT

Description

Gets a text buffer from a specified range.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_GETTEXT, 0L,
           (LPARAM) (TPVAPIGetText*) lpGetText );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpGetText`	A pointer to a TPVAPIGetText structure, which defines the text to get.

Returns

`SendMessage()` returns the number of `BYTES` it stored in the buffer; or `-1` on error.

Discussion

- Send this message to obtain a buffer of text from a specified range. It is assumed that the text buffer is large enough to hold the required number of bytes. The data is not null terminated.
- This message does not wait for a logical address to become valid in the same way as `VAPIM_POSITION` (for non-spreadsheets). This message does not retrieve text across buffer boundaries.
- For spreadsheets, this message also fails if the page containing the entire text buffer—that is, containing the last address in the text buffer—is not completely indexed.

VAPIM_GOTO_PAGE

Description

If indexing is enabled on the document by using the VAPIM_ENABLEINDEX message, the document is displayed at the specified page.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_GOTO_PAGE,
           (WPARAM)(int) nPageNumber, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`nPageNumber`	The page to display.

Returns

`SendMessage()` returns `TRUE` if the call succeeds.

Discussion

- This message can be used only with word processing files. To use similar functionality with PPT files or the graphic-based PDF reader, seeVAPIMWP_VIEW_GOTOPAGE , on page 143.

VAPIM_HAVEHILITE

Description

Determines whether there is a Previous or Next highlight relative to the current position.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_HAVEHILITE,
           (WPARAM) (BOOL) bPrevious, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`bPrevious`	`TRUE` checks for a previous highlight, `FALSE` checks for the next highlight.

Returns

Returns `TRUE` if there is a Previous or Next highlight (depending on the setting of `bPrevious`) relative to the current position.

VAPIM_POSITION

Description

Positions the document in the viewing window.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_POSITION, 0L,
           (LPARAM) (TPVAPIPosition*) lpPosition );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpPosition`	A pointer to a TPVAPIPosition structure that defines the position.

Returns

`SendMessage()` returns `TRUE` on success; or `FALSE` on error (for example, invalid position).

Discussion

- You can use this message at any time to position the document within the viewing window. If successful, `lpPosition->first` and `lpPosition->last` is set on return.
- If `lpPosition->position` is set to **`-1`**, this message fills in only the first and last values, without changing the current view position.
- If the specified position is not processed when this message is called, Viewing takes exclusive control until the position is encountered. In other words, this message does not return until the desired position is set.
- For spreadsheets, if the page containing the specified position has not been indexed at the time this message is called, this message returns `FALSE` immediately, and does not wait until the page containing the specified position is indexed.

VAPIM_POSITIONHILITE

Description

Changes focus from previous to next highlight.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_POSITIONHILITE,
           (LPARAM) (BOOL) bPrev, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`bPrev`	`TRUE` goes to previous highlight, `FALSE` goes to next highlight.

Returns

`SendMessage()` returns `TRUE` on success; or `FALSE` on error.

VAPIM_SETCURSOR

Description

Sets the viewing engine cursor.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_SETCURSOR, 0L,
           (LPARAM) (HCURSOR) hCursor );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`hCursor`	The handle of the new cursor.

Returns

`SendMessage()` returns the handle of the active cursor (`HCURSOR`); or `NULL` on error.

Discussion

After sending this message to change the cursor, it is assumed you will send another message to change the cursor back to its original shape.

VAPIM_SETHILITE

Description

Highlights a region of text.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_SETHILITE,
           (WPARAM) (int) cbTextToHilite,
           (LPARAM) (long) lLogicalAddress );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of VAPI window.
`cbTextToHilite`	An integer that is the number of bytes to highlight.
`lLogicalAddress`	A long integer that is the logical address from which to start highlighting.

Returns

`SendMessage()` returns non-zero on success; or zero on error.

Discussion

- This message should be sent to Viewing when a `VAPINM_TEXTBUFFER` is received, and before processing for that message has returned control to Viewing. When the `SendMessage( hWnd, VAPINM_TEXTBUFFER, ..)` returns, it is assumed that any highlights have been added to the buffer. There is no limit to the number of highlights that can be added.
- For spreadsheets, this message can also fail if the page containing the entire text region—that is, containing the last address in the text region—is not completely indexed.

VAPIM_SETHILITEOPTIONS

Description

Sets highlight options.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_SETHILITEOPTIONS,
           (LPARAM) (TPVAPIHiLiteOptions) pHiLiteOptions );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pHiLiteOptions`	A pointer to a TPVAPIHiLiteOptions structure that contains information for the highlight options.

Returns

`SendMessage()` returns `TRUE` on success; or `FALSE` on error.

VAPIM_SETINDEXBUFCHARSET

Description

Sets the character set for the returned indexed text buffer.

Syntax

```
#include <kvvapi.h>
SendMessage (g_hWndVAPI, VAPIM_SETINDEXBUFCHARSET, kvcharset, 0 );
```

Arguments

Argument	Description
`g_hWndVAPI`	The handle of the VAPI window.
`kvcharset`	A value from the `KVCharSet` type in `kvtypes.h`.

Returns

`SendMessage()` returns `TRUE` if the call succeeds.

Discussion

If `kvcharset` is `KVCS_UNKNOWN`, the character set of the returned buffer is the Windows native character set (for example, `KVCS_1252` for an English machine). This is also the default character set on an English machine when `VAPIM_SETINDEXBUFCHARSET` message is not sent.

VAPIM_SHOWHITS

Description

Shows or hides index hits.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_SHOWHITS,
           (WPARAM) (BOOL) bShowHits, 0 );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of VAPI window.
`bShowHits`	`TRUE` shows hits, `FALSE` hides hits.

Returns

`SendMessage()` returns `TRUE` on success; or `FALSE` on error.

Discussion

You can send this message at any time to control whether hits are shown.

VAPIM_CONVERT

Description

Converts the currently open document to another format, without requiring the user to respond to the **SaveAs** dialog. To generate the **SaveAs** dialog box, use the `VAPIMWP_FILE_SAVEAS` message. The `TPVAPIConvert` structure includes two data members, one a target file and the other a format code, which you can set to RTF, text, or HTML.

Syntax

```
#include <kvvapi.h>
SendMessage( hWndVAPI, VAPIM_CONVERT, 0,
           (LPARAM) (TPVAPIConvert*) lpConvert );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpConvert`	A pointer to a TPVAPIConvert structure.

Returns

`SendMessage()` returns `TRUE` if the conversion succeeds.

Discussion

To make sure that the entire document is opened before the document is converted, open the document with the `bWait` member in the TPVAPIOpenDocumentInfo structure set to **`TRUE`**. Use the VAPIMWP_CANCONVERT message to determine whether the document has been completely processed and is ready to be converted.

VAPIMWP_CANCONVERT

Description

Determines whether a file can be converted to another format. This is a parameter of the `VAPIM_CONVERT` message.

Syntax

```
#include <kvvapi.h>
BOOL bSupported = FALSE;
SendMessage(hWndVAPI, VAPIM_CONVERT, VAPIMWP_CANCONVERT,
           (LPARAM)&bSupported);
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`bSupported`	A pointer to a Boolean variable.

Returns

If `bSupported` is `TRUE`, the file can be converted. If `bSupported` is `FALSE`, the file cannot be converted.

Discussion

Some file formats, such as PDF, presentation graphics files, and graphics, cannot be converted to RTF. In these cases, use `VAPIMWP_CANCONVERT` to check whether conversion is possible.

VAPIMWP_DRAW_DRAWPAGE

Description

Draws a page in an area on a device context. This is a parameter of the `VAPIM_DRAW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI,VAPIM_DRAW, VAPIMWP_DRAW_DRAWPAGE,
           (LPARAM) (TPVAPIDrawPageInfo*) pDrawInfo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pDrawInfo`	A pointer to a TPVAPIDrawPageInfo structure that contains information used for drawing. To draw pages in any order, set the `bWait` parameter in the TPVAPIOpenDocumentInfo structure to **`FALSE`**.

Returns

`SendMessage()` returns:

- `VAPI_RETURN_SUCCESS` if the call succeeds.
- `VAPI_RETURN_NOT_INITIALIZED` if the drawing routines have not been initialized.
- `VAPI_RETURN_NO_PAGE` if the requested page does not exist, or is being displayed before all previous pages have been displayed.
- `VAPI_RETURN_NOT_AVAILABLE` if the document does not support this feature (for example, ZIP files, video, audio).
- `VAPI_RETURN_ERROR` if an error has occurred.

Discussion

- Before you send this message, initialize VAPI by sending the VAPIMWP_DRAW_INIT message, and then open the document by sending the VAPIMWP_INIT_OPEN_DOCUMENT message.
- Page numbers start at 0. For example, set `uPage` to **`0`** to draw page 1, and to **`1`** to draw page 2.
- By default, you must draw pages sequentially: to draw page 3, you must first draw pages 1 and 2. To draw pages in any order, set the `bWait` parameter in the TPVAPIOpenDocumentInfo structure to **`FALSE`**.

VAPIMWP_DRAW_DRAWTOFILE

Description

Draws a page of a document to a graphic file (thumbnail). This is a parameter of the `VAPIM_DRAW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI,VAPIM_DRAW, VAPIMWP_DRAW_DRAWTOFILE,
           (LPARAM) (TPVAPIDrawFileInfo*) pDrawInfo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pDrawInfo`	A pointer to a TPVAPIDrawFileInfo structure that contains information used for drawing a page to a file. To draw pages in any order, set the `bWait` parameter in the TPVAPIOpenDocumentInfo structure to **`FALSE`**.

Returns

`SendMessage()` returns:

- `VAPI_RETURN_SUCCESS` if the call succeeds.
- `VAPI_RETURN_NOT_INITIALIZED` if the drawing routines have not been initialized.
- `VAPI_RETURN_NO_PAGE` if the requested page does not exist, or is being displayed before all previous pages have been displayed.
- `VAPI_RETURN_NOT_AVAILABLE` if the document does not support this feature (for example, ZIP files, video, audio).
- `VAPI_RETURN_ERROR` if an error has occurred.

Discussion

- Before you send this message, initialize VAPI by sending the VAPIMWP_DRAW_INIT message, and then open the document by sending the VAPIMWP_INIT_OPEN_DOCUMENT message.
- Page numbers start at 0. For example, set `uPageNumbers` to **`0`** to draw page 1, and to **`1`** to draw page 2. For word processing documents, pages must be drawn sequentially. For example, to draw page 3, you must first draw pages 0 and 1.

  To draw pages in any order, set the `bWait` parameter in the TPVAPIOpenDocumentInfo structure to **`FALSE`**.

VAPIMWP_DRAW_GETPAGECOUNT

Description

Gets the number of pages in a document. This is a parameter of the `VAPIM_DRAW` message.

Syntax

```
#include <kvvapi.h>
SendMessage( hWndVAPI, VAPIM_DRAW, VAPIMWP_DRAW_GETPAGECOUNT,
           (LPARAM) (unsigned int*) pPageCount );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pPageCount`	A pointer to an `unsigned int` that returns the number of pages in the document.

Returns

`SendMessage()` returns `TRUE` if the call succeeds, in which case `pPageCount` returns the number of pages in the document. `SendMessage()` returns `FALSE` if the call fails.

Discussion

- Before you send this message, initialize VAPI by sending the VAPIMWP_DRAW_INIT message, and then open the document by sending the VAPIMWP_INIT_OPEN_DOCUMENT message.
- To make sure that the entire document is opened before the page count is retrieved, open the document with the `bWait` member in the TPVAPIOpenDocumentInfo structure set to **`TRUE`**. If you do not set `bWait` to **`TRUE`**, the returned page count might not be accurate.

VAPIMWP_DRAW_GETPAGESIZE

Description

Gets the default size of a page. This is a parameter of the `VAPIM_DRAW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_DRAW, VAPIMWP_DRAW_GETPAGESIZE,
           (LPARAM) (TPVAPIPageSize*) pPageSize );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pPageSize`	A pointer to a TPVAPIPageSize structure which contains information on the page size.

Returns

SendMessage() returns:

- `VAPI_RETURN_SUCCESS` if the call succeeds.
- `VAPI_RETURN_NOT_INITIALIZED` if the drawing routines have not been initialized.
- `VAPI_RETURN_NO_PAGE` if the requested page does not exist or is being displayed before all previous pages have been displayed.

- `VAPI_RETURN_NOT_AVAILABLE` if the document does not support this feature (for example, ZIP files, video, audio).
- `VAPI_RETURN_ERROR` if an error has occurred.

Discussion

Before you send this message:

- Initialize VAPI by sending the VAPIMWP_DRAW_INIT message.
- Open the document by sending the VAPIMWP_INIT_OPEN_DOCUMENT message.
- Send the VAPIMWP_DRAW_DRAWPAGE message to draw the page.

VAPIMWP_DRAW_GETWORKBOOKPAGECOUNT

Description

Gets the number of workbook pages in a spreadsheet document. This is a parameter of the `VAPIM_DRAW` message.

Syntax

```
#include <kvvapi.h>;
SendMessage( hWndVAPI, VAPIM_DRAW,
            VAPIMWP_DRAW_GETWORKBOOKPAGECOUNT,
           (LPARAM) (unsigned int*) pPageCount );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pPageCount`	A pointer to an `unsigned int` that returns the number of workbook pages in the spreadsheet document.

Returns

`SendMessage()` returns `TRUE` if the call succeeds, in which case `pPageCount` returns the number of workbook pages in the document. `SendMessage()` returns `FALSE` if the call fails.

Discussion

Before you send this message, initialize VAPI by sending the VAPIMWP_DRAW_INIT message and then open the document by sending the VAPIMWP_INIT_OPEN_DOCUMENT message.

VAPIMWP_DRAW_INIT

Description

Initializes the drawing routines in VAPI. This is a parameter of the `VAPIM_DRAW` message.

Syntax

```
#include <kvvapi.h>
SendMessage( hWndVAPI, VAPIM_DRAW, VAPIMWP_DRAW_INIT, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds and `FALSE` if the call fails.

Discussion

You must send this message prior to opening the document, that is, prior to sending the VAPIMWP_INIT_OPEN_DOCUMENT message.

VAPIMWP_DRAW_SHUTDOWN

Description

Before a new document is opened, this frees up any data from a previously opened document. This is a parameter of the `VAPIM_DRAW` message.

Syntax

```
SendMessage(g_hWndVAPI, VAPIM_DRAW, DRAW_SHUTDOWN, 0L );
```

Arguments

Argument	Description
`g_hWndVapi`	The handle of the VAPI window
`uMsg`	`VAPIM_DRAW`
`wParam`	`VAPIMWP_DRAW_SHUTDOWN`
`lParam`	Not used, set to `0`

Returns

`SendMessage()` returns:

- `VAPI_RETURN_SUCCESS` (or `TRUE`, value `1`) if the call succeeds.
- `VAPI_RETURN_NOT_INITIALIZED` (value `5`) if the drawing routines have not been initialized.
- `VAPI_RETURN_ERROR` (or `FALSE`, value `0`) if the call fails.

Discussion

`VAPIM_DRAW` messages are used in the sample `drawdemo` program.

VAPIMWP_EDIT_CANCOPY

Description

Determines whether content is selected in the currently opened document and can be copied to the clipboard. This is a parameter of the `VAPIM_EDIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage( hWndVAPI, VAPIM_EDIT, VAPIMWP_EDIT_CANCOPY,
           (LPARAM) (BOOL*) lpbCanCopy );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanCopy`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document contains a selection that you can copy.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanCopy` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanCopy` is undefined.

Discussion

Use this message to control the state of a **Copy** menu item or toolbar button.

VAPIMWP_EDIT_CANFIND

Description

Determines whether the document contents can be searched. This is a parameter of the `VAPIM_EDIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_EDIT, VAPIMWP_EDIT_CANFIND,
           (LPARAM) (BOOL*) lpbCanFind );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanFind`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether you can search the document.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanFind` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanFind` is undefined.

Discussion

Use this message to control the state of a **Find** menu item or toolbar button.

VAPIMWP_EDIT_CANSELECTALL

Description

Determines whether you can select all items in the document. If `lpbCanSelectAll` is `TRUE`, you can select all items in the document by using the VAPIMWP_EDIT_SELECTALL message. This is a parameter of the `VAPIM_EDIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_EDIT, VAPIMWP_EDIT_CANSELECTALL,
           (LPARAM) (BOOL*) lpbCanSelectAll );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanSelectAll`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether you can select all items in the document.

Returns

`SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanSelectAll` returns `TRUE` or `FALSE`.

`SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanSelectAll` is undefined.

Discussion

Use this message to control the state of a **Select All** menu item or toolbar button.

VAPIMWP_EDIT_COPY

Description

Copies the current selection in the document to the clipboard. Use the VAPIMWP_EDIT_CANCOPY message to determine whether content is selected and can be copied to the clipboard.. This is a parameter of the `VAPIM_EDIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_EDIT, VAPIMWP_EDIT_COPY, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the copy succeeded; `FALSE` otherwise.

Discussion

Use this message to implement a **Copy** menu item or toolbar button.

VAPIMWP_EDIT_FIND

Description

Searches the document for the specified text. This is a parameter of the `VAPIM_EDIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_EDIT, VAPIMWP_EDIT_FIND,
           (LPARAM) (TPVAPIFindInfo*) lpFindInfo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpFindInfo`	A pointer to a TPVAPIFindInfo structure that contains information about the search text.

Returns

`SendMessage()` returns `TRUE` if the find succeeded; `FALSE` otherwise.

Discussion

Use this message to implement a **Find** menu item or toolbar button.

VAPIMWP_EDIT_FIND_UNICODE

Description

Searches the document for the specified UNICODE text. This is a parameter of the `VAPIM_EDIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_EDIT, VAPIMWP_EDIT_FIND_UNICODE,
           (LPARAM) (TPVAPIFindInfo*) lpFindInfo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpFindInfo`	A pointer to a TPVAPIFindInfo structure that contains information about the text to search for.

Returns

`SendMessage()` returns `TRUE` if the find succeeded; `FALSE` otherwise.

Discussion

Use this message to implement a **Find** UNICODE menu item or toolbar button.

VAPIMWP_EDIT_GETFINDTEXT

Description

Gets the currently selected text in the document. This is a parameter of the `VAPIM_EDIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_EDIT, VAPIMWP_EDIT_GETFINDTEXT,
           (LPARAM) (HGLOBAL*) lphgFindText );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lphgFindText`	A pointer to an `HGLOBAL` handle, which returns the currently selected text if any text is selected. You must `GlobalLock()` this handle before using it, and must `GlobalFree()` it afterwards. However, you should not `GlobalAlloc()` this handle, because the Viewer does this.

Returns

`SendMessage()` returns `TRUE` if the find text was returned successfully; `FALSE` otherwise.

Discussion

Use this message to set the default text in the **Find** dialog box for a **Find** menu item or toolbar button.

VAPIMWP_EDIT_SELECTALL

Description

Selects all content in the currently opened document. Use theVAPIMWP_EDIT_CANSELECTALL message to determine whether you can select all content in the document. This is a parameter of the `VAPIM_EDIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(g_hWndFocus, VAPIM_EDIT, VAPIMWP_EDIT_SELECTALL, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`uMsg`	`VAPIM_EDIT`
`wParam`	`VAPIMWP_EDIT_SELECTALL`
`lParam`	Not used, set to `0`

Returns

`SendMessage()` returns `TRUE` if the selection succeeded; `FALSE` otherwise.

Discussion

Use this message to implement a **Select All** menu item or toolbar button.

VAPIMWP_FILE_CANSAVEAS

Description

Determines whether the document can be saved and converted. This is a parameter of the `VAPIM_FILE` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_FILE, VAPIMWP_FILE_CANSAVEAS,
           (LPARAM) (BOOL*) lpbCanSaveAs );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanSaveAs`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether you can save and convert the document.

Returns

`SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanSaveAs` returns `TRUE` or `FALSE`.

`SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanSaveAs` is undefined.

Discussion

Use this message to control the state of a **Save As** menu item or toolbar button.

VAPIMWP_FILE_CANUNZIP

Description

If a container file is open and there are subfiles selected in the file, this parameter determines whether the subfile or files can be extracted. This is a parameter of the `VAPIM_FILE` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_FILE, VAPIMWP_FILE_CANUNZIP,
           (LPARAM) (BOOL*) lpbCanUnZip );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanUnZip`	A pointer to a flag that returns `TRUE` or `FALSE` depending on whether you can extract the subfiles.

Returns

`SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanUnZip` returns `TRUE` or `FALSE`.

`SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanUnZip` is undefined.

Discussion

Use this message to control the state of an **Extract** menu item or toolbar button.

VAPIMWP_FILE_CLOSE

Description

Closes the currently opened document. It is not necessary to use this message, because issuing a second `VAPIMWP_INIT_OPEN_DOCUMENT` message automatically closes the currently opened document. This is a parameter of the `VAPIM_FILE` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_FILE, VAPIMWP_FILE_CLOSE, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` on success; `FALSE` otherwise.

VAPIMWP_FILE_SAVEAS

Description

Saves the current document in another format through a **Save As** dialog box. This is a parameter of the `VAPIM_FILE` message. See Save a Document, on page 35 and Convert a Document, on page 36.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_FILE, VAPIMWP_FILE_SAVEAS, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` on success; `FALSE` otherwise.

Discussion

Use this message to implement a **Save As** menu item or toolbar button. You can save the document in its current format, or use Viewing conversions to convert it.

VAPIMWP_FILE_UNZIP

Description

Use this message to extract selected subfiles in a container file either to disk or to a Viewing window. Container file types include ZIP, TAR, or PST. This prompts the user to specify a target directory and password (if required).

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_FILE, VAPIMWP_FILE_UNZIP,
           (LPARAM) (BOOL) bUnzipToDisk );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`bUnZipToDisk`	A flag that is `TRUE` to extract to disk, `FALSE` (the default) to extract and view.

Returns

`SendMessage()` returns `TRUE` on success; `FALSE` otherwise.

Discussion

Use this message to implement an **Extract** menu or toolbar button. You can extract the selected file to disk, or extract and view it.

VAPIMWP_INIT_GETCHARSET

Description

Gets the character set of the VAPI window. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
SendMessage(g_hWndFocus, VAPIM_INIT, VAPIMWP_INIT_GETCHARSET, 0)
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`uMsg`	`VAPIM_INIT`
`wParam`	`VAPIMWP_INIT_GETCHARSET`
`lParam`	Not used, set to `0`

Returns

This message returns a value from the `KVCharSet` type (see the `kvtypes.h` file for a description) corresponding to the character set that VAPI is using for viewing the document. You can use this message to control the state of a menu item or toolbar button that allows a user to select a character encoding for viewing.

Discussion

- `vapidemo.cpp` demonstrates how to use the message.
- A relevant message is `VAPIMWP_INIT_GETAUTOSELECT`.

VAPIMWP_INIT_GETDESCRIP

Description

Gets a description of the format of the currently opened document. You must send this *after* the `VAPIM_INIT_OPEN_DOCUMENT` message returns. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_GETDESCRIP,
           (LPARAM) (char*) lpszDescription );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpszDescription`	A pointer to a Pascal string that returns a description of the format of the currently opened document.

Returns

`SendMessage()` returns `TRUE` on success; `FALSE` otherwise.

VAPIMWP_INIT_GETDOCCLASS

Description

Indicates the general class to which the currently opened document belongs. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_GETDOCCLASS,
           (LPARAM) (int*) lpnClass );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpnClass`	A pointer to an integer that returns the document class: • `1` - Text document (ASCII) • `2` - Word processor document (WP)

Argument	Description
	• 3 - Spreadsheet document (SS) • 4 - Image (Image) • 5 - Multimedia document (MM) • 6 - Fax document (FAX) • 7 - Presentation (PG) • 8 - Archive • 9 - Other

Returns

`SendMessage()` returns `TRUE` if successful (that is, if `lpnClass` contains valid information); otherwise it returns `FALSE`.

VAPIMWP_INIT_GETDOCFORMAT

Description

Gets document format information. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_GETDOCFORMAT,
           (LPARAM) (*ADDOCINFO) pDocInfo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pDocInfo`	A pointer to the ADDOCINFO structure that contains information about the document format.

Returns

`SendMessage()` returns `TRUE` if successful (`pDocInfo` is filled in with valid information); otherwise it returns `FALSE`.

Discussion

If you want to get format information without viewing the document, set the `VAPIDF_FLAGS_OPEN_VAPI_ONLY` flag in the `nFlags` member of the TPVAPIOpenDocumentInfo structure. This structure is supplied when you open the document by using the `VAPIMWP_INIT_OPEN_DOCUMENT` message parameter.

VAPIMWP_INIT_GETFILENAME

Description

Gets the file name of the current document. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_GETFILENAME,
           (LPARAM) (char*) lpstzFileName );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpstzFileName`	A pointer to a Pascal string that returns the file name string.

Returns

`SendMessage()` returns `TRUE` on success; otherwise it returns `FALSE`.

Discussion

This message returns the file name (not the full path), so the file name can be used in the window title. This message must be sent after the document is opened, otherwise the file name does not exist yet. If the file is a container file, such as a ZIP, TAR, or PST file, this file name is the name of an extracted subfile.

VAPIMWP_INIT_GETHWNDVIEWER

Description

Gets the handle of the Viewer window. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_GETHWNDVIEWER,
           (LPARAM) (HWND*) lphWndViewer );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lphWndViewer`	A pointer to a handle that returns the Viewer window handle.

Returns

`SendMessage()` returns `TRUE` if the Viewer window exists; otherwise it returns `FALSE`.

Discussion

You must send this message *after* you send the `VAPIMWP_INIT_OPEN_DOCUMENT` message to open the document, otherwise the Viewer window does not exist yet.

VAPIMWP_INIT_JUMPTOFIRSTHILIITE

Description

Jumps to the first highlight. You must send this message before you send the `VAPIM_INIT_OPEN_DOCUMENT` message. This applies only when you use XML documents created with the Verity Developer's Kit (VDK) to specify highlights. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_JUMPTOFIRSTHILITE,
            0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` on success, or `FALSE` on error.

VAPIMWP_INIT_OPEN_DOCUMENT

Description

Opens a document for one of the following operations:

- viewing
- determining a document format without viewing
- printing/converting/saving without viewing

This is a parameter of the `VAPIM_INIT` message. See Open and View a Document, on page 34.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_OPEN_DOCUMENT,
           (LPARAM) (TPVAPIOpenDocumentInfo*) pOpenDocumentInfo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pOpenDocumentInfo`	A pointer to a TPVAPIOpenDocumentInfo structure that contains information about the document to be opened.

Returns

- `SendMessage()` returns `VAPI_RETURN_SUCCESS` if the document opening is successfully initiated.
- If there is no viewer for the specified document, `SendMessage()` returns `VAPI_RETURN_NO_VIEWER`.

- If the format of the document could not be determined, `SendMessage()` returns `VAPI_RETURN_UNKNOWN_FORMAT`.
- If the document is password protected, `SendMessage()` returns `VAPI_RETURN_PASSWORD_PROTECTED`.
- If the drawing routines have not been initialized, `SendMessage()` returns `VAPI_RETURN_NOT_INITIALIZED`.
- If the requested page does not exist, or is being displayed before all previous pages have been displayed, `SendMessage()` returns `VAPI_RETURN_NO_PAGE`.
- If the document does not support this feature (for example, ZIP files, video, audio), `SendMessage()` returns `VAPI_RETURN_NOT_AVAILABLE`.
- If the KeyView license is invalid, `SendMessage()` returns `VAPI_RETURN_INVALID_LICENSE_KEY`.
- If the KeyView license is expired, `SendMessage()` returns `VAPI_RETURN_EXPIRED_LICENSE_KEY`.
- If the input file or stream is invalid or corrupt, `SendMessage()` returns `VAPI_RETURN_BAD_INPUT`.
- Any other error condition causes `VAPI_RETURN_ERROR` to be returned.

Discussion

- This message initiates the document opening and returns before the document opening is complete unless you set the `bWait` parameter in the `TPVAPIOpenDocumentInfo` structure to **`TRUE`**.
- This message produces several notification messages:
  - One or more `VAPINMWP_INIT_OPENDOCDONE` notification messages are received to report the status of the document opening.
  - In addition, if the document to be opened contains pages, a `VAPINMWP_INIT_PAGENUMBER` notification message is received to report the current page number.
  - Finally, if the document to be opened contains objects (for example, a spreadsheet document containing pages), a `VAPINMWP_MULTIOBJ_OBJNAME` notification message is received to report the current object name (for example, the name of the current spreadsheet page).
- To open a document to view as text, set the `bViewAsText` parameter in the `TPVAPIOpenDocumentInfo` structure to **`TRUE`**.
- To open and process a document (print, convert, and so on) without viewing, set the `nFlags` parameter in the `TPVAPIOpenDocumentInfo` structure to **`VAPIDF_FLAGS_OPEN_WITHOUT_VIEW`**. This flag tells VAPI to create a hidden Viewer window. You must also set the `bWait` parameter in the `TPVAPIOpenDocumentInfo` structure to **`TRUE`**, except when you use APIs to draw documents without viewing. See Draw a Page, on page 39 for more information.

  For example, to print a document without viewing, open the document with the `bWait` parameter set to **`TRUE`** and the `nFlags` parameter set to **`VAPIDF_FLAGS_OPEN_WITHOUT_VIEW`**, and then send the `VAPIMWP_PRINT_PRINT` message.
- To open a document and return format information without viewing, set the `nFlags` parameter in the `TPVAPIOpenDocumentInfo` structure to **`VAPIDF_FLAGS_OPEN_VAPI_ONLY`**. This flag does not create

a Viewer window.

- To make sure that a document is fully processed before an operation (such as printing, converting, or searching) is performed, set the `bWait` parameter in the `TPVAPIOpenDocumentInfo` structure to `TRUE`. This is useful when you want to use an operation immediately after opening the document.

VAPIMWP_INIT_SETPASSWORD

Description

Sets the password to use to open a password-protected file before the file is opened. Currently,you can use this to set a password for ZIP and PST files. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
SendMessage (hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_SETPASSWORD,
            (LPARAM) (LPCTSTR) pPasswordInfo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`pPasswordInfo`	A pointer to a password string.

Returns

`SendMessage()` returns `TRUE` if successful, or `FALSE` if it fails.

Discussion

- For password-protected PST files, you must call this message *before* the `VAPIMWP_INIT_OPEN_DOCUMENT` message.
- For password-protected ZIP files, you can call this message after the `VAPIMWP_INIT_OPEN_DOCUMENT`, but you must call it before the protected subfile is extracted or viewed.
- Unicode passwords are not supported.

VAPIMWP_INIT_SETSRCCHARSET

Description

Sets the source character set of a document. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_SETSRCCHARSET,
           (LPARAM) eCharset );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`eCharset`	A value from the enumerated type `KVCharSet`. See the `kvtypes.h` file for a description.

Returns

`SendMessage()` returns `TRUE` if successful, or `FALSE` if it fails.

Discussion

This message is used to specify the character set for documents when the character set cannot be determined by Viewing, such as in the case of plain text documents.

VAPIMWP_INIT_SETTRGCHARSET

Description

Sets the target character set of a document. This is a parameter of the `VAPIM_INIT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_INIT, VAPIMWP_INIT_SETTRGCHARSET,
           (LPARAM) eCharset );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`eCharset`	A value from the enumerated type `KVCharSet`. See the `kvtypes.h` file for a description.

Returns

`SendMessage()` returns `TRUE` if successful, or `FALSE` if it fails.

Discussion

This message forces the character set Viewing uses to display a document. For example, this allows Japanese documents to be accurately displayed on an English Windows machine if the Japanese fonts are available.

VAPIMWP_MULTIOBJ_CANMULTIOBJ

Description

Determines whether the document contains multiple objects. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ,
            VAPIMWP_MULTIOBJ_CANMULTIOBJ,
           (LPARAM) (BOOL*) lpbCanMultiObj );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanMultiObj`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document contains multiple objects.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanMultiObj` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanMultiObj` is undefined.

Discussion

Use this message to control the state of a **Next Object** or **Previous Object** menu item or toolbar button.

VAPIMWP_MULTIOBJ_CANNEXTOBJ

Description

Determines whether the next object can be selected in a multiple-object document. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ, VAPIMWP_MULTIOBJ_CANNEXTOBJ,
           (LPARAM) (BOOL*) &lpbCanNextObj );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanNextObj`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document can select the next objects.

Returns

`SendMessage()` returns `TRUE` if the current object can be changed to the next object; otherwise it returns `FALSE`.

Discussion

Use this message to control the state of a **Next Object** menu item or toolbar button.

VAPIMWP_MULTIOBJ_CANPREVOBJ

Description

Determines whether the previous object can be selected in a multiple-object document. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ, VAPIMWP_MULTIOBJ_CANPREVOBJ,
           (LPARAM) (BOOL*) &lpbCanPrevObj );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanPrevObj`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document can select the previous object.

Returns

`SendMessage()` returns `TRUE` if the current object can be changed to the previous object; otherwise it returns `FALSE`.

Discussion

Use this message to control the state of a **Previous Object** menu item or toolbar button.

VAPIMWP_MULTIOBJ_CANSETCURRENTOBJ

Description

Determines whether the target object can be selected in a multiple-object document. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ,
           VAPIMWP_MULTIOBJ_CANSETCURRENTOBJ,(LPARAM) (int)
           nTargetObj);
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`nTargetObj`	A zero-based integer that is the target object.

Returns

`SendMessage()` returns `TRUE` if the current object can be set to the target object; otherwise it returns `FALSE`.

Discussion

Use this message to control the state of a **Set Current Object** menu item or toolbar button.

VAPIMWP_MULTIOBJ_GETOBJCOUNT

Description

Get the total number of objects in a multiple-object document. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ,
           VAPIMWP_MULTIOBJ_GETOBJCOUNT,(LPARAM) (int)
           lpbTotalObj);
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbTotalObj`	A pointer to the total number of objects.

Returns

`SendMessage()` returns `TRUE`.

Discussion

You can use this message to implement an object count item.

VAPIMWP_MULTIOBJ_NEXTOBJ

Description

Changes the current object to the next object in a multiple-object document. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ, VAPIMWP_MULTIOBJ_NEXTOBJ, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the current object was changed to the next object; otherwise it returns `FALSE`.

Discussion

You can use this message to implement a **Next Object** menu item or toolbar button. This message generates a `VAPINMWP_MULTIOBJ_OBJNAME` notification message that reports the new object name.

When viewing spreadsheets or presentations in index mode, this message fails if the next page is not completely indexed yet, or if the current page is the last page. In other words, the program does not allow the last page to wrap around to the first page, as it does in non-index mode.

VAPIMWP_MULTIOBJ_OBJNAME

Description

Gets the current object name for a multiple-object document. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ, VAPIMWP_MULTIOBJ_OBJNAME,
           (LPARAM) (char*) lpstzObjectName );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpstzObjectName`	A pointer to a Pascal string that returns the object name string.

Returns

`SendMessage()` returns `TRUE` on success; otherwise it returns `FALSE`.

Discussion

You can use this message only with multiple-object documents.

VAPIMWP_MULTIOBJ_PREVOBJ

Description

Changes the current object to the previous object in a multiple-object document. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ, VAPIMWP_MULTIOBJ_PREVOBJ, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the current object was changed to the previous object; otherwise it returns `FALSE`.

Discussion

- You can use this message to implement a **Previous Object** menu item or toolbar button. This message generates a `VAPINMWP_MULTIOBJ_OBJNAME` notification message that reports the new object name.
- When viewing spreadsheets or presentations in index mode, this message fails if the next page has not been completely indexed yet, or if the current page is the first page. It does not allow the first page to wrap around to the last page, as it does in non-index mode.

VAPIMWP_MULTIOBJ_SETCURRENTOBJ

Description

Changes the current object to the target object in a multiple-object document. See Change the Current Object in a Document, on page 41. This is a parameter of the `VAPIM_MULTIOBJ` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_MULTIOBJ,
           VAPIMWP_MULTIOBJ_SETCURRENTOBJ, (LPARAM) (int)
           nTargetObj;)
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
nTargetObj	A zero-based integer that is the target object.

Returns

`SendMessage()` returns `TRUE` if the current object was changed to the target object; otherwise it returns `FALSE`.

Discussion

You can use this message to implement a **Set Current Object** menu item or toolbar button. This message generates a `VAPINMWP_MULTIOBJ_OBJNAME` notification message that reports the new object name.

VAPIMWP_OPTIONS_GETOPTIONS_EX

Description

Gets the document options. Document options control display elements such as window size, zoom settings, margin size, scaling, and revision tracking information. Options are defined for each file type category (for example, spreadsheets, multimedia, and word processing). This is a parameter of the `VAPIM_OPTIONS` message. See Change Document Options, on page 38.

Syntax

```
#include <kvvapi.h>
#include <kwoption.h>
SendMessage(hWndVAPI, VAPIM_OPTIONS,
            VAPIMWP_OPTIONS_GETOPTIONS_EX,
           (LPARAM) (ALL_OPTIONS_EX*) lpAllOptions );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpAllOptions`	A pointer to an ALL_OPTIONS_EX structure that returns the document options.

Returns

`SendMessage()` returns `TRUE` if the call succeeds, in which case `lpAllOptions` returns the options.

`SendMessage()` returns FALSE if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpAllOptions` is undefined.

Discussion

Use this message to get the options for the document. Only the options for the current document type are returned, not those for all document types.

VAPIMWP_OPTIONS_SETOPTIONS_EX

Description

Sets the current document options. Document options control display elements such as window size, zoom settings, margin size, and scaling. Options are defined for each file type category (for example, spreadsheets, multimedia, and word processing). This is a parameter of the `VAPIM_OPTIONS` message. See Change Document Options, on page 38.

Syntax

```
#include <kvvapi.h>
#include <kwoption.h>
SendMessage(hWndVAPI, VAPIM_OPTIONS,
            VAPIMWP_OPTIONS_SETOPTIONS_EX,
           (LPARAM) (ALL_OPTIONS_EX*) lpAllOptions );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpAllOptions`	A pointer to an ALL_OPTIONS_EX structure that shows the document options.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to set the options for the document. This message does not save the document options in the registry. In addition, this message sets the document options for the current document and document type only. In other words, it initializes the in-memory options of the current Viewer.

VAPIMWP_PRINT_ANNOTATIONS

Description

Specifies whether annotations are included in the printed output. To print a document, use either the VAPIMWP_PRINT_PRINT, or VAPIMWP_PRINT_PRINTTOPRINTER message. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_ANNNOTATIONS,
           (LPARAM) (BOOL) bPrintAnnotations );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`bPrintAnnotations`	If `TRUE`, the document is printed with annotations. If `FALSE`, the document is printed without annotations.

Returns

`SendMessage()` returns `TRUE` if the call succeeds.

VAPIMWP_PRINT_CANPRINT

Description

Determines whether the document can be printed. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_CANPRINT,
           (LPARAM) (BOOL*) lpbCanPrint );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanPrint`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document can be printed.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanPrint` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanPrint` is undefined.

Discussion

Use this message to control the state of a **Print** menu item or toolbar button.

VAPIMWP_PRINT_PAGESETUP

Description

Sets up the print page scaling for a spreadsheet. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_PAGESETUP, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Print Page Setup** menu item or toolbar button.

VAPIMWP_PRINT_PRINT

Description

Prints the current document by calling the common **Print** dialog box. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_PRINT, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

- This message prints the current document by calling the common **Print** dialog box to set the printer parameters. You can use this message to implement a **Print** menu item or toolbar button.
- When printing in an application that is a Windows service, a default printer must be installed for the user account using the application.
- To make sure that the entire document is opened before the document is printed, open the document with the `bWait` member in the TPVAPIOpenDocumentInfo structure set to **`TRUE`**. Use the VAPIMWP_PRINT_CANPRINT message to determine whether the document has been completely processed and is ready to be printed.

VAPIMWP_PRINT_PRINTHEADER

Description

Specifies whether a print header appears at the top of the printed output. The print header consists of a left-justified file name and a right-justified page number followed by the page-length on the next line.

You can change the file name value by using the VAPIMWP_PRINT_SETPRINTNAME message. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h&>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_PRINTHEADER,
            (LPARAM) (BOOL) bPrintHeaders );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`bPrintHeaders`	If `TRUE`, the document is printed with a header. If `FALSE`, the document is printed without a header.

Returns

`SendMessage()` returns `TRUE` if the call succeeds.

VAPIMWP_PRINT_PRINTSETUP

Description

Opens a standard **Print Setup** dialog box. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_PRINTSETUP, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Allows the user to select general printing options, including the printer, page size, and page orientation.

VAPIMWP_PRINT_PRINTTOPD

Description

Sets the standard Windows print options for printing files. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_PRINTTOPD,
           (LPARAM) (PRINTDLG*) lpPD );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpPD`	A pointer to a Windows `PRINTDLG` structure.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

VAPIMWP_PRINT_PRINTTOPRINTER

Description

Prints the document to the specified printer. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_PRINTTOPRINTER,
           (LPARAM) (LPCSTR*) lpszPrinterDriver );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpszPrinterDriver`	A string that is the name of the printer driver, or `NULL` for the default printer. This string must be of the form `printername, printerdevice, printerport`. For example: `\\Calculus\HP LaserJet IIISi,winspool,NE00:`.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

- This message prints to the specified printer without calling the common **Print** dialog box. You can use this message to implement a **Print** menu item or toolbar button.
- When printing in an application that is a Windows service, a default printer must be installed for the user account using the application.
- To make sure that the entire document is opened before the document is printed, open the document with the `bWait` member in the TPVAPIOpenDocumentInfo structure set to **`TRUE`**. Use the VAPIMWP_PRINT_CANPRINT message to determine whether the document has been completely processed and is ready to be printed.

VAPIMWP_PRINT_SETPRINTNAME

Description

Used in conjunction with VAPIMWP_PRINT_PRINTHEADER, this message replaces the default file name field of the print header with a specified string. This is a parameter of the `VAPIM_PRINT` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_PRINT, VAPIMWP_PRINT_SETPRINTNAME,
            (LPARAM) (char*) szPrintName );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`szPrintName`	A string used to replace the file name field of the print header.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

VAPIMWP_VIEW_CANASPECTRATIO

Description

Determines whether the document supports an aspect ratio. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANASPECTRATIO,
           (LPARAM) (BOOL*) lpbCanAspectRatio );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanAspectRatio`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document supports an aspect ratio.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanAspectRatio` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanAspectRatio` is undefined.

Discussion

Use this message to control the state of an **Aspect Ratio** menu item or toolbar button.

VAPIMWP_VIEW_CANDECREASEFONT

Description

Determines whether the document font can be decreased. If `lpbCanDecreaseFon` is `TRUE`, the font size can be decreased by using VAPIMWP_VIEW_DECREASEFONT . This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANDECREASEFONT,
           (LPARAM) (BOOL*) lpbCanDecreaseFont );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanDecreaseFont`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document font size can be decreased.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanDecreaseFont` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanDecreaseFont` is undefined.

Discussion

Use this message to control the state of a **Decrease Font** menu item or toolbar button.

VAPIMWP_VIEW_CANFITTOWINDOW

Description

Determines whether the document can be magnified to fit the document selection to the window. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANFITTOWINDOW,
           (LPARAM) (BOOL*) lpbCanFitToWindow );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanFitToWindow`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document has a selection, and whether the document can be magnified to fit the selection to the window.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanFitToWindow` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanFitToWindow` is undefined.

Discussion

Use this message to control the state of a **Magnify** menu item or toolbar button.

VAPIMWP_VIEW_CANGOTO

Description

Determines whether the document can go to a specified page or slide. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANGOTO,
           (LPARAM) (BOOL*) lpbCanGoTo );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanGoTo`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document can go to a specified page or slide.

Returns

`SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanGoTo` returns `TRUE` or `FALSE`.

Discussion

- Use this message to control the state of a **Go To Page** menu item or toolbar button.
- To implement a **Go To Page** menu item or toolbar button, use the VAPIMWP_VIEW_GOTOPAGE message.
- This message can be used only with word processing and presentation files.

VAPIMWP_VIEW_CANGRIDLINES

Description

Determines whether the document supports gridlines. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANGRIDLINES,
           (LPARAM) (BOOL*) lpbCanGridlines );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanGridlines`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document supports gridlines.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanGridlines` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanGridlines` is undefined.

Discussion

Use this message to control the state of a **Toggle Gridlines** menu item or toolbar button.

VAPIMWP_VIEW_CANINCREASEFONT

Description

Determines whether the document font can be increased. If `lpbCanIncreaseFont` is `TRUE`, the font size can be increased by using the VAPIMWP_VIEW_INCREASEFONT message. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW,VAPIMWP_VIEW_CANINCREASEFONT,
           (LPARAM) (BOOL*) lpbCanIncreaseFont );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanIncreaseFont`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document font size can be increased.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanIncreaseFont` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanIncreaseFont` is undefined.

Discussion

Use this message to control the state of an **Increase Font** menu item or toolbar button.

VAPIMWP_VIEW_CANINVERT

Description

Determines whether the document colors can be inverted. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANINVERT,
           (LPARAM) (BOOL*) lpbCanInvert );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanInvert`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document colors can be inverted (for example, from black to white and white to black).

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanInvert` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanInvert` is undefined.

Discussion

Use this message to control the state of an **Invert** menu item or toolbar button.

VAPIMWP_VIEW_CANLAYOUT

Description

Determines whether the document layout can be changed. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANLAYOUT,
           (LPARAM) (BOOL*) lpbCanLayout );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanLayout`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document layout can be changed.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanLayout` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanLayout` is undefined.

Discussion

Use this message to control the state of a **Wrap to Window**, **Page Layout**, or **Window Width** menu item or toolbar button.

VAPIMWP_VIEW_CANMAGNIFY

Description

Determines whether the document can be magnified. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANMAGNIFY,
            (LPARAM) (BOOL*) lpbCanMagnify );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanMagnify`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document can be magnified.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanMagnify` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call (for example, if there are invalid arguments or if no document is open), in which case `lpbCanMagnify` is undefined.

Discussion

Use this message to control the state of a **Magnify** menu item or toolbar button.

VAPIMWP_VIEW_CANPAUSE

Description

Determines whether the multimedia document can be paused. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANPAUSE,
           (LPARAM) (BOOL*) lpbCanPause );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanPause`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the multimedia document can be paused.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanPause` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanPause` is undefined.

Discussion

Use this message to control the state of a **Pause** menu item or toolbar button.

VAPIMWP_VIEW_CANPLAY

Description

Determines whether the multimedia document can be played. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANPLAY,
           (LPARAM) (BOOL*) lpbCanPlay );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanPlay`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the multimedia document can be played.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanPlay` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanPlay` is undefined.

Discussion

Use this message to control the state of a **Play** menu item or toolbar button.

VAPIMWP_VIEW_CANPREVIEWPANE

Description

Determines whether a file can be viewed in a preview pane. The message indicates `TRUE` only when container formats such as ZIP, TAR, or PST files are viewed.

To determine whether the preview pane is being used, use the `VAPIMWP_VIEW_GETPREVIEWPANE` message.

To specify if the preview pane should be used, use the `VAPIMWP_VIEW_SETPREVIEWPANE` message.

This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANPREVIEWPANE,
           (LPARAM) (BOOL*) lpbCanPreviewPane );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanPreviewPane`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document can be viewed in a preview pane. Only container files use the preview pane.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanPreviewPane` returns `TRUE` or `FALSE`.

- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanPreviewPane` is undefined.

VAPIMWP_VIEW_CANROTATE

Description

Determines whether the document can be rotated. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANROTATE,
           (LPARAM) (BOOL*) lpbCanRotate );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanRotate`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document can be rotated.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanRotate` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanRotate` is undefined.

Discussion

Use this message to control the state of a **Rotate** menu item or toolbar button.

VAPIMWP_VIEW_CANSTOP

Description

Determines whether the playing of the multimedia document can be stopped. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_CANSTOP,
           (LPARAM) (BOOL*) lpbCanStop );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbCanStop`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the multimedia document can be stopped.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbCanStop` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbCanStop` is undefined.

Discussion

Use this message to control the state of a **Stop** menu item or toolbar button.

VAPIMWP_VIEW_DECREASEFONT

Description

Decreases the document font size. Use the VAPIMWP_VIEW_CANDECREASEFONT message to determine whether the font size can be decreased. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_DECREASEFONT, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Decrease Font** menu item or toolbar button.

VAPIMWP_VIEW_END

Description

Sets the play mode of a multimedia document to stop at the end after playing. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_END, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Stop At End** menu item or toolbar button.

VAPIMWP_VIEW_GETASPECTRATIO

Description

Gets the aspect ratio of a document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GETASPECTRATIO,
           (LPARAM) (int*) lpnAspectRatio );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpnAspectRatio`	A pointer to an integer that returns the aspect ratio: `0` - None `1` - Based on document `2` - Normal (use scanlines) `3` - Letter (times 2)

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpnAspectRatio` returns the aspect ratio.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpnAspectRatio` is undefined.

Discussion

Use this message to set the state of an **Aspect Ratio** menu item or toolbar button.

VAPIMWP_VIEW_GETGRIDLINES

Description

Gets the gridlines state of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GETGRIDLINES,
           (LPARAM) (BOOL*) lpbGridlines );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbGridlines`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document has gridlines set.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbGridlines` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbGridlines` is undefined.

Discussion

Use this message to set the state of a **Toggle Gridlines** menu item or toolbar button.

VAPIMWP_VIEW_GETINVERT

Description

Gets the invert state of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GETINVERT,
           (LPARAM) (BOOL*) lpbInverted );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbInverted`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the document colors are inverted (for example, from black to white and white to black).

Returns

`SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbInverted` returns TRUE or FALSE.

`SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbInverted` is undefined.

Discussion

Use this message to set the state of an **Invert** menu item or toolbar button.

VAPIMWP_VIEW_GETLAYOUT

Description

Gets the layout of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GETLAYOUT,
           (LPARAM) (long*) lplLayout );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lplLayout`	A pointer to a long integer that returns the document layout: • `LOWORD(*lplLayout) 0` – Wrap to window. • `LOWORD(*lplLayout) 1` – Page layout. • `HIWORD(*lplLayout) 0` – Scale page to window width. • `HIWORD(*lplLayout) n` – Scale page to custom percentage.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to set the state of a **Wrap to Window**, **Page Layout**, or **Window Width** menu item or toolbar button.

VAPIMWP_VIEW_GETMAGNIFY

Description

Gets the magnification of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GETMAGNIFY,
           (LPARAM) (int*) lpnMagnify );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpnMagnify`	A pointer to an integer that returns the document magnification: • `0` – Custom • `-1` – Page width • `-2` – Page size • `-3` – Fit selection to window

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpnMagnify` returns the magnification.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpnMagnify` is undefined.

Discussion

Use this message to set the state of a **Magnify** menu item or toolbar button.

VAPIMWP_VIEW_GETPLAYMODE

Description

Gets the play mode of a multimedia document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GETPLAYMODE,
           (LPARAM) (int*) lpnPlayMode );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpnPlayMode`	A pointer to an integer that returns the play mode of the multimedia document: `0` for stop at end; `1` for loop at end.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpnPlayMode` returns the play mode.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpnPlayMode` is undefined.

Discussion

Use this message to check or press a **Stop At End** or **Loop At End** menu item or toolbar button.

VAPIMWP_VIEW_GETPREVIEWPANE

Description

Determines whether the preview pane is being used. The preview pane is only used to display a subfile in a container file. When it is enabled, the viewing area is divided into two panes: one pane displays the contents of the container file, the other displays the contents of the selected subfile. For more information, see VAPIMWP_VIEW_SETPREVIEWPANE , on page 150. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GETPREVIEWPANE,
           (LPARAM) (BOOL*) lpbPreviewPane );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpbPreviewPane`	A pointer to a flag that returns `TRUE` or `FALSE`, depending on whether the preview pane was returned. Only container files use the preview pane.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpbPreviewPane` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpbPreviewPane` is undefined.

VAPIMWP_VIEW_GETROTATE

Description

Gets the rotation of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GETROTATE,
           (LPARAM) (int*) lpnRotate );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lpnRotate`	A pointer to an integer that returns the rotation in degrees.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `lpnRotate` returns the rotation.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `lpnRotate` is undefined.

Discussion

Use this message to set the state of a **Rotate** menu item or toolbar button.

VAPIMWP_VIEW_GOTOPAGE

Description

Goes to a specified page or slide in a document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_GOTOPAGE,
           (LPARAM) (int) nPage );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`nPage`	A zero-based integer that is the page or slide number you want to go to.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

- Use this message to implement a **Go To Page** menu item or toolbar button.
- The VAPIMWP_VIEW_CANGOTO message determines whether you can go to specific pages or slides in a document.
- You can use this message only with PPT files or the graphic-based PDF reader (see Use the

kppdfrdr Reader, on page 51). To use similar functionality with word processing files, see VAPIM_GOTO_PAGE , on page 76.

VAPIMWP_VIEW_INCREASEFONT

Description

Increases the document font size. Use VAPIMWP_VIEW_CANINCREASEFONT to determine whether the font size can be increased.This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_INCREASEFONT, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement an **Increase Font** menu item or toolbar button.

VAPIMWP_VIEW_LOOP

Description

Sets the play mode of a multimedia document to loop at the end after playing. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_LOOP, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Loop At End** menu item or toolbar button.

VAPIMWP_VIEW_PAUSE

Description

Pauses the playing of a multimedia document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_PAUSE, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Pause** menu item or toolbar button.

VAPIMWP_VIEW_PLAY

Description

Plays a multimedia document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_PLAY, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

You can use this message to implement a **Play** menu item or toolbar button.

VAPIMWP_VIEW_SETASPECTRATIO

Description

Sets the aspect ratio of a document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_SETASPECTRATIO,
           (LPARAM) (int) nAspectRatio );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`nAspectRatio`	An integer that is the aspect ratio: • `0` - None • `1` - Based on document • `2` - Normal (use scanlines) • `3` - Letter (times 2)

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement an **Aspect Ratio** menu item or toolbar button.

VAPIMWP_VIEW_SETGRIDLINES

Description

Sets the gridlines state of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_SETGRIDLINES,
           (LPARAM) (BOOL) bGridlines );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`bGridlines`	A flag that is `TRUE` or `FALSE` to enable or disable the document gridlines.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Toggle Gridlines** menu item or toolbar button.

VAPIMWP_VIEW_SETINVERT

Description

Sets the invert state of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_SETINVERT, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

The message toggles the current invert state of the document. You can use this message to implement an **Invert** menu item or toolbar button.

VAPIMWP_VIEW_SETLAYOUT

Description

Sets the layout of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_SETLAYOUT,
           (LPARAM) (long) lLayout );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`lLayout`	A long integer that is the document layout: • `LOWORD(lLayout) 0` Wrap to window. • `LOWORD(lLayout) 1` Page layout. • `HIWORD(lLayout) 0` Scale page to window width. • `HIWORD(lLayout)` *n* Scale page to custom percentage.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Wrap to Window**, **Page Layout**, or **Window Width** menu item or toolbar button.

VAPIMWP_VIEW_SETMAGNIFY

Description

Sets the magnification of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_SETMAGNIFY,
           (LPARAM) (int) nMagnify );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`nMagnify`	An integer that is the document magnification: • *n* – Custom Percentage Value • `-1` – Page width • `-2` – Page size • `-3` – Fit selection to window

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Magnify** menu item or toolbar button.

The range of acceptable values is 10 to 400 percent.

VAPIMWP_VIEW_SETPREVIEWPANE

Description

Specifies whether the preview pane is used to display a subfile in a container file. When the preview pane is enabled, the viewing area is divided into two panes: one pane displays the contents of the container file, the other displays the contents of the selected subfile. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_SETPREVIEWPANE,
           (LPARAM) (BOOL) bNewValue );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`bNewValue`	A flag that returns `TRUE` or `FALSE`, depending on whether the preview pane was set. Only container files use the preview pane.

Returns

- `SendMessage()` returns `TRUE` if the call succeeds, in which case `bNewValue` returns `TRUE` or `FALSE`.
- `SendMessage()` returns `FALSE` if the call fails (for example, if there are invalid arguments or if no document is open), in which case `bNewValue` is undefined.

VAPIMWP_VIEW_SETROTATE

Description

Sets the rotation of the document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_SETROTATE,
           (LPARAM) (int) nRotate );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.
`nRotate`	An integer that is the rotation in degrees.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Rotate** menu item or toolbar button.

VAPIMWP_VIEW_STOP

Description

Stops the playing of a multimedia document. This is a parameter of the `VAPIM_VIEW` message.

Syntax

```
#include <kvvapi.h>
SendMessage(hWndVAPI, VAPIM_VIEW, VAPIMWP_VIEW_STOP, 0L );
```

Arguments

Argument	Description
`hWndVAPI`	The handle of the VAPI window.

Returns

`SendMessage()` returns `TRUE` if the call succeeds; otherwise it returns `FALSE`.

Discussion

Use this message to implement a **Stop** menu item or toolbar button.

Chapter 6: Notification Message Parameters

This section provides information on the notification message parameters in the Viewing API. It includes the following topics:

VAPINM_ANNOTATION_HIT

Description

Reports an annotation hit when the user clicks on an annotation.

Syntax

```
#include <kvvapi.h>
VAPINM_ANNOTATION_HIT = uMsg;
BOOL bDoubleClick = (BOOL) wParam;
long lLogicalAddress = (long) lParam;
```

Arguments

Argument	Description
`bDoubleClick`	A flag that is `TRUE` if the user double-clicked; `FALSE` if the user single-clicked.
`lLogicalAddress`	A long integer that is the logical address of the annotation.

Returns

None

Discussion

The logical address of the annotation is the same as that specified in the `VAPIM_ANNOTATE` message.

VAPINM_EXTENT

Description

Reports that the user changed the view extent.

Syntax

```
#include <kvvapi.h>
VAPINM_EXTENT = uMsg;
(wParam is not used)
TPVAPIFirstLast lpFirstLast = (TPVAPIFirstLast*) lParam;
```

Arguments

Argument	Description
`lpFirstLast`	A pointer to a TPVAPIFirstLast structure that defines the view extent.

Returns

None

Discussion

This message is received to report the first and last logical addresses that are currently displayed. This message is generated when the user scrolls the document or resizes the client area. This message is not generated until a `SB_ENDSCROLL` or `WM_KEYUP` message is received in the case of a scroll.

VAPINM_SELECTION

Description

Reports that the user changed the selection state.

Syntax

```
#include <kvvapi.h>
VAPINM_SELECTION = uMsg;
BOOL bHaveSelection = (BOOL) wParam;
TPVAPIFirstLast lpFirstLast = (TPVAPIFirstLast*) lParam;
```

Arguments

Argument	Description
`bHaveSelection`	A flag that is `TRUE` if a selection exists; `FALSE` if a selection does not exist.
`lpFirstLast`	A pointer to a TPVAPIFirstLast structure that defines the selection, if a selection exists. It is undefined if a selection does not exist.

Returns

None

Discussion

The `lpFirstLast` parameter is not valid if the `bHaveSelection` parameter is `FALSE`.

VAPINM_TEXTBUFFER

Description

Returns a text buffer.

Syntax

```
#include <kvvapi.h>
VAPINM_TEXTBUFFER = uMsg;
(wParam is unused).
TPVAPITextInfo lpTextInfo = (TPVAPITextInfo*) lParam;
```

Arguments

Argument	Description
`lpTextInfo`	Pointer to a TPVAPITextInfo structure that defines the text buffer.

Returns

None

Discussion

- The `lpTextInfo->cbText` parameter is the number of bytes of text in the buffer. Typically, the buffer is approximately 4 KB, but might be larger. It cannot exceed 10 KB.

  Text buffers are usually created at an even boundary, such as the end of a paragraph, table row, or page column. However, if a table row or page column contains a large amount of text, it might be split across text buffers to make sure that `lpTextInfo->cbText` does not exceed 10 K. Individual words are never split across buffers. If `lpTextInfo` is `NULL`, the end of the document is reached.

- The `lpTextInfo->lpText` parameter is a pointer to the buffer of characters. Typically, the buffer is in the Windows ANSI character set; however, the Viewing API allows the user to select either the OEM or ANSI character set for text files. Depending on your integration of Viewing, this might or might not be an issue.

  The buffer is zero-terminated. The terminator is not counted in the byte count. The text is an allocated buffer returned to the system upon return of this message. Therefore, you can write within this buffer if it is convenient.

  Embedded control codes exist as follows:

  `KV_EOP 0x01` End of paragraph.

  `KV_EOC 0x02` End of cell.

  `KV_PIC 0x03` Picture exists at this logical address.

- To form a logical address from a `TEXTBUFFER` message, take the base address and add to it the number of `BYTES` from the start of the text buffer (`lpText`) that the base address references.

  For example, the following `TEXTBUFFER` messages might occur in a document:

  ```
  { 0, 1000, xxxx } { 1000, 2300, yyyy } { 3300, 1000, zzzz }
  ```

  In this case, addresses 0 through 999 exist in the first `TEXTBUFFER`, addresses 1000 through 3299 in the second buffer, and 3300 through 4299 in the third buffer.

VAPINM_USERCLICK

Description

Reports that the user clicked the mouse on the document.

Syntax

```
#include <kvvapi.h>
VAPINM_USERCLICK = uMsg;
BOOL bDoubleClick = (BOOL) wParam;
long lLogicalAddress = (long) lParam;
```

Arguments

Argument	Description
`bDoubleClick`	A flag that is `TRUE` if the user double-clicked; `FALSE` if the user single-clicked.
`lLogicalAddress`	A long integer that is the logical address of the mouse click.

Returns

None

Discussion

You can use the positional information to insert an annotation. This message is generated by a `WM_LBUTTONDOWN` or `WM_LBUTTONDBLCLK`.

> **NOTE:** This message is not sent when the user has the Shift key depressed, because this indicates the selection is to be extended. In fact, this causes a `VAPINM_SELECTION` message to be sent.

VAPINM_VIEW_FILE

Description

Specifies a file that should be viewed. For example, this notification message is generated when the user double-clicks a subfile in a container file displayed in VAPI. This message is also generated when the user clicks a link to a local file from within an HTML file displayed in VAPI.

Syntax

```
#include <kvvapi.h>
VAPINM_VIEW_FILE = uMsg;
VAPINMWP_VIEW_KEEPFILE or VAPIMWP_VIEW_DELETEFILE = wParam;
char* lpszFileName = (char*) lParam;
```

Arguments

Argument	Description
`lpszFileName`	A pointer to the complete file specification, including the path, of a file that should be viewed. If the `wParam` is `VAPIMWP_VIEW_DELETEFILE`, the file should be deleted after it is viewed (the file is a temporary file).

Returns

Returns `TRUE` if the message is processed.

VAPINMWP_INIT_DISABLEUI

Description

Determines whether the user interface should be disabled. This is a parameter of the `VAPINM_INIT` notification message.

Syntax

```
#include <kvvapi.h>
VAPINM_INIT = uMsg;
VAPINMWP_INIT_DISABLEUI = wParam;
(lParam is not used)
```

Returns

Returns `TRUE` to disable the user interface; otherwise it returns `FALSE`. The default is `FALSE`.

Discussion

This message is received when a Viewer asks VAPI if the user interface is disabled. The Viewer does this before a user interface action, such as creating a dialog box.

VAPINMWP_INIT_DOCTYPE

Description

This notification message is received during the opening of a file that cannot be opened. It indicates the document's format. If the document is successfully opened, use `VAPIMWP_INIT_GETDESCRIP` to obtain a description of the document's format. This is a parameter of the `VAPINM_INIT` notification message.

Syntax

```
#include <kvvapi.h>
VAPINM_INIT = uMsg;
VAPINMWP_INIT_DOCTYPE = wParam;
char *lpszDescription = (char *) lParam;
```

Returns

The return value is ignored. The pointer to the `lpszDescription` becomes invalid after returning from this message.

VAPINMWP_INIT_GETTEMPFILEPATH

Description

Asks for a temporary file path for VAPI to use. This is a parameter of the `VAPINM_INIT` notification message.

Syntax

```
#include <kvvapi.h>
VAPINM_INIT = uMsg;
VAPINMWP_INIT_GETTEMPFILEPATH = wParam;
char* lpstzTempFilePath = (char*) lParam;
```

Arguments

Argument	Description
`lpstzTempFilePath`	A pointer to a Pascal string that returns the temporary file path string as a C string.

Returns

Returns `TRUE` if the `lpstzTempFilePath` string was set; otherwise it returns `FALSE`.

Discussion

This message is received when VAPI converts an I/O object to a file during a **Save As** operation. If the temporary file path is not set, VAPI creates one.

VAPINMWP_INIT_OPENDOCDONE

Description

Reports the status of the document open process. This is a parameter of the `VAPINM_INIT` notification message.

Syntax

```
#include <kvvapi.h>
VAPINM_INIT = uMsg;
VAPINMWP_INIT_OPENDOCDONE = wParam;
int nPercentDone = (int) lParam;
```

Arguments

Argument	Description
`nPercentDone`	The percentage done of the document open process.

Returns

None

Discussion

- This message is received during and after the processing of the `VAPIMWP_INIT_OPEN_DOCUMENT` message. Multiple messages might be received, with increasing values of percentage done. The document is open when the percentage done is >= 100%.
- A negative value of `nPercentDone` indicates that an error occurred during the processing of the document.

VAPINMWP_INIT_PAGENUMBER

Description

Reports the current page number of the document. This is a parameter of the `VAPINM_INIT` notification message.

Syntax

```
#include <kvvapi.h>
VAPINM_INIT = uMsg;
VAPINMWP_INIT_PAGENUMBER = wParam;
int nCurrentPage = (int) LOWORD(lParam);
int cTotalPages = (int) HIWORD(lParam);
```

Arguments

Argument	Description
`nCurrentPage`	The current page number of the document.
`cTotalPages`	The total number of pages in the document.

Returns

None

Discussion

This message is received after the document is opened and whenever the document page is changed.

VAPINMWP_MULTIOBJ_OBJNAME

Description

Reports the current object name of the document. This is a parameter of the `VAPINM_MULTIOBJ` notification message.

Syntax

```
#include <kvvapi.h>
VAPINM_MULTIOBJ = uMsg;
```

```
VAPINMWP_MULTIOBJ_OBJNAME = wParam;
LPCSTR lpszObjectName = (LPCSTR) lParam;
```

Arguments

Argument	Description
`lpszObjectName`	The current object name of the document.

Returns

None

Discussion

This message is received after the document is opened and whenever the document object is changed.

VAPINMWP_OPTIONS_GETOPTIONS_EX

Description

Asks for the options for the current document. This is a parameter of the `VAPINM_OPTIONS` notification message.

Syntax

```
#include <kvvapi.h>
VAPINM_OPTIONS = uMsg;
VAPINMWP_OPTIONS_GETOPTIONS_EX = wParam;
ALL_OPTIONS_EX* lpAllOptions = (ALL_OPTIONS_EX*) lParam;
```

Arguments

Argument	Description
`lpAllOptions`	A pointer to an ALL_OPTIONS_EX structure to get the document options.

Returns

Returns `TRUE` if the `lpAllOptions` structure was processed and initialized; otherwise it returns `FALSE`.

Discussion

This message is received during the document open process. VAPI initializes the Viewer before the Viewer opens the document. Therefore, this message is received before the `VAPIMWP_INIT_OPEN_DOCUMENT` or `VAPIMWP_INIT_OPENDOCWAIT` message returns.

VAPINMWP_PRINT_PRINTDONE

Description

Reports the status of a document that is being printed. This is a parameter of the `VAPINM_PRINT` notification message.

Syntax

```
#include <kvvapi.h>
VAPINM_PRINT = uMsg;
VAPINMWP_PRINT_PRINTDONE = wParam;
long lStatus = (long) lParam;
```

Arguments

Argument	Description
`lStatus`	• `1` - print successful • `2` - user cancelled operation

Returns

None

Chapter 7: Structures

This section describes the structures of the Viewing API. It includes the following topics:

ADDOCINFO

Description

This structure defines the parameters used by the VAPIMWP_INIT_GETDOCFORMAT message. It provides the format, file class, and version number of the source document. It is defined in `adinfo.h`.

Syntax

```
#include <adinfo.h>
typedef struct
{
    ENdocClass        eClass;
    ENdocFmt          eFormat;
```

```
    long              lVersion;
    unsigned long     ulAttributes;
}
ADDOCINFO, *ADDOCINFOPTR;
```

Members

`eClass`	The file class of the source document (for example, spreadsheet, word processor, or encapsulation format) as defined by the `ENDocClass` enumerated type.
`eFormat`	The major format of the source document (for example, Microsoft Word XML format, or Corel Presentation) as defined by the `ENdocFmt` enumerated type in `adinfo.h`. The `ENdocFmt` type provides a unique ID for each major format.
`lVersion`	The version number of the document format. The number is multiplied by 1,000, so, for example, 1.02 is represented by 1020.
`ulAttributes`	Other attributes of the document as defined by the `ENdocAttributes` enumerated type.

ALL_OPTIONS_EX

Description

This structure defines the document options. Document options control display elements such as window size, zoom settings, margin size, scaling, and revision tracking information. Options are defined for each file type category (for example, spreadsheets, multimedia, and word processing). See Change Document Options, on page 38.

Syntax

```
#include <kwoption.h>
typedef struct ALL_OPTIONS_EX_TAG
{
    int                size;
    MMD_OPTIONS        MMOptions;
    WPD_OPTIONS        WPOptions;
    SSD_OPTIONS        SSOptions;
    ASCII_OPTIONS      ASCIIOptions;
    IMAGE_OPTIONS      IMGOptions;
    GX_OPTIONS         GFXOptions;
    FX_OPTIONS         FAXOptions;
    GL_OPTIONS         GeneralOptions;
    ARCHIVE_OPTIONS    ArchiveOptions;
    BOOL               SaveOptions;
    char               szSectionName[ 16 ];
```

```
    char                szSectionTitle[ 16 ];
    HTML_OPTIONS        HTMLOptions;
    PG_OPTIONS          PGOptions;
}
ALL_OPTIONS_EX;
```

See the `kwoption.h` file for a description of this structure.

Members

`size`	The size of the structure.
`MMOptions`	A pointer to the document options for multimedia files.
`WPOptions`	A pointer to the document options for word processing files.
`SSOptions`	A pointer to the document options for spreadsheet files.
`ASCIIOptions`	A pointer to the document options for ASCII files.
`IMGOptions`	A pointer to the document options for graphic files.
`GFXOptions`	A pointer to the document options for GFX files
`FAXOptions`	A pointer to the document options for FAX files.
`GeneralOptions`	A pointer to general options.
`ArchiveOptions`	A pointer to options that affect archive files.
`SaveOptions`	Currently not used.
`szSectionName[16]`	Currently not used.
`szSectionTitle[16]`	Currently not used.
`HTMLOptions`	A pointer to options that affect HTML files.
`PGOptions`	A pointer to options affecting presentation files.

KPTPIOobj

Description

This structure defines the I/O object.

Syntax

```
#include <kwkpif.h>
```

See the `kvioobj.h` file for a description of this structure.

KVSumInfoElemEx

Description

This structure defines the individual metadata elements, and is defined in `kvtypes.h`.

Syntax

```
typedef struct tag_KVSumInfoElemEx
{
    int                     isValid;
    KVSumInfoType           type;
    void                   *data;
    char                   *pcType;
}
KVSumInfoElemEx;
```

Members

`isValid`	Specifies whether the data value is present in the document. The setting `1` specifies that the value is valid and exists.
`type`	The data type of the metadata element. The types are defined in `KVSumInfoType` in `kvtypes.h`.
`data`	The content of the metadata field. If the `type` member is `KV_Int4`, or `KV_Bool`, this member contains the actual value. Otherwise, this member is a pointer to the actual value. `KV_DateTime` and `KV_IEEE8` point to an 8-byte value. `KV_String` and `KV_Unicode` point to the beginning of the string containing the text. `KV_Unicode` is replaced with `KV_String` when the UNICODE value has been character mapped to the desired output character set.
`pcType`	A pointer to the name (text description) of the metadata field.

KVSummaryInfoEx

Description

This structure defines the parameters used by the VAPIM_GETSUMMARYINFO message. It provides a count of the number of metadata elements, and a pointer to the first element of the array of individual elements. (Metadata is also referred to as document summary information.)

Syntax

```
#include <kvtypes.h>
typedef struct tag_KVSummaryInfoEx
{
    int                 nElem;
    KVSumInfoElemEx    *pElem;
}
KVSummaryInfoEx;
```

Members

`nElem` The number of metadata elements contained in the array. This value is derived from the enumerated type `KVSumType`.

`pElem` Points to the first element of the array of document metadata elements defined by the KVSumInfoElemEx structure.

Discussion

- `nElem` might be zero. This indicates that the document did not contain metadata, such as an ASCII text document. If `nElem` is not zero, `nElem` is at least 42, and possibly more. This value is derived from the `KVSumType` enumerated type in `kvtypes.h`. The first 42 members of `pElem` are ordered according to the sort order of `KVSumType`. For example, `pElem[0]` is the code page of the document, and `pElem[10]` is the date the document was last printed.
- If `nElem` is equal or greater than 42, the returned value is a non-standard metadata field.

TPVAPIAnnotation

Description

This structure defines the parameters used by the VAPIM_ANNOTATE message.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIAnnotation
{
    long                    position;
    ENVAPIAnnotationType    type;
    HBITMAP                 hBitmap;
    Int                     cbText;
    COLORREF                color;
```

```
    HCURSOR                 hCursor;
}
TPVAPIAnnotation;
```

Members

Member	Description
`position`	A long integer. The position where the annotation applies. This is required.
`type`	The annotation type as defined in `ENVAPIAnnotationType` in `kvvapi.h`. This is required. The following options are available: • `kvBitMap` – use a bitmap for the annotation. • `kvUnderline` – use an underline for the annotation. • `kvDottedUnderline` – use a dotted underline for the annotation. Currently not implemented. • `kvStrikeout` – use strikethrough as the annotation. Currently not implemented.
`hBitmap`	If the annotation type is bitmap, this is the handle of the bitmap.
`cbText`	If the annotation type is underline, this is the length of the underlined text.
`color`	If the annotation type is underlined, this is the `COLORREF` value of the underlined text.
`hCursor`	The handle of the cursor when the mouse hovers over the annotation.

TPVAPIConvert

Description

This structure defines the parameters used by the VAPIM_CONVERT message.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIConvert
{
    LPSTR        lpszCode;
    LPSTR        lpszTarget;
}
TPVAPIConvert;
```

Members

`lpszCode` The format code of the format to which to convert the document. The following options are available:

- `txt` — conversion to text format
- `rtf` — conversion to RTF format
- `htm` — conversion to HTML format

`lpszTarget` The target path and file name for the converted file.

TPVAPICreateParams

Description

This structure defines the parameters used to create the VAPI window. A VAPI window is created using the standard Windows API functions `CreateWindow()` or `CreateWindowEx()`. See Create a Viewing API Window, on page 33.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPICreateParams
{
    UINT            uProfileType;
    LPSTR           lpszRegistryName;
    LPSTR           lpszIniFileName;
    LPVOID          lpvViewerCreateParams;
    BOOL            bSendErrorNM;
    BOOL            bToolBar;
    LPVOID*         lplpvKeyView;
}
TPVAPICreateParams;
```

Members

`uProfileType` Specifies whether initialization information is located in an initialization file or registry. This is optional. The following options are available:

`PROFILEDF_USE_UNDEFINED`	`0`	Use default (Registry)
`PROFILEDF_USE_INI`	`1`	Use initialization file
`PROFILEDF_USE_REG`	`2`	Use Registry

	The default is `PROFILEDF_USE_REG`. See View Initialization Information, on page 23.
`lpszRegistryName`	If you are using the registry file to specify initialization information, this is the registry name of key under `HKEY_LOCAL_MACHINE\SOFTWARE`. This is optional. The default is `VAPIDF_REGISTRY_NAME = [Autonomy\Keyview]`).
`lpszIniFileName`	If you are using an initialization file to specify initialization information, this is the file name (not the full path) of the initialization file. This is optional. The default is `VAPIDF_INI_FILE_NAME = [KeyView.ini]`.
`lpvViewerCreateParams`	Viewer window create. This is optional. Use for custom Viewer.
`bSendErrorNM`	A flag to tell VAPI to send `VAPINM_ERROR` notification messages. This is optional. The default is `TRUE`.
`bToolBar`	Reserved. This must be `FALSE`.
`lplpvKeyView`	Reserved. This must be `NULL`.

TPVAPIDrawFileInfo

Description

This structure defines the parameters used by the VAPIMWP_DRAW_DRAWTOFILE message to draw a page to a graphic file.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIDrawFileInfo
{
    LPSTR      lpszTarget;
    LPSTR      lpszGfxOutput;
    UINT       uPageNumber;
    int        iWidth;
    int        iHeight;
    int        iPicXRes;
    int        iPicYRes;
    int        iCompressionQuality;
}
TPVAPIDrawFileInfo;
```

Members

`lpszTarget`	The target path and file name to which the page is written. The file should

	use one of the following four extensions:
	`.bmp`
	`.jpg`
	`.png`
	`.tif`

`lpszGfxOutput`	The output graphics format. The following options are available:
	`KVGFX_OUTPUT_BMP`
	`KVGFX_OUTPUT_JPEG`
	`KVGFX_OUTPUT_PNG`
	`KVGFX_OUTPUT_TIFF` (uncompressed TIFFs)

`uPageNumber`	The number of the page to be rasterized into a thumbnail. Page numbers start at 0. For example, set `uPageNumber` to **`0`** to draw page 1, and to **`1`** to draw page 2. For word processing documents, pages must be drawn sequentially. For example, to draw page 3, you must first draw pages 0 and 1. If the `bWait` member of `TPVAPIOpenDocumentInfo` is set to **`FALSE`**, you can draw any page. See TPVAPIOpenDocumentInfo, on page 177. If the page you request is beyond the last page, a `VAPI_RETURN_NO_PAGE` error is returned.
`iWidth`	The maximum picture width (in TWIPS).
`iHeight`	The maximum picture height (in TWIPS).
`iPicXRes`	The desired horizontal resolution (`0` for default).
`iPicYRes`	The desired vertical resolution (`0` for default).
`iCompressionQuality`	This parameter controls the output quality of graphics that support compression quality (for example, JPEG). The valid range is `0` to `100`. A value of `0` means default quality (85 compression); `1` is the lowest quality (highest compression and therefore the smallest file size); `100` is the highest quality (no compression and therefore the largest file size). The default is `0`.

TPVAPIDrawPageInfo

Description

This structure defines the parameters used by the VAPIMWP_DRAW_DRAWPAGE message to draw a page into a device context.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIDrawPageInfo
{
    HDC                 hdc;
    unsigned int        nPage;
    RECT                Rect;
    RECT                RectUsed;
    BOOL                bCentre;
    HBRUSH              hBrush;
}
TPVAPIDrawPageInfo;
```

Members

`hdc`	The device context in which to draw the page.
`nPage`	The number of the page to draw. Page numbers start at 0. For example, set `uPage` to **`0`** to draw page 1, and to **`1`** to draw page 2. For word processing documents, pages must be drawn sequentially. For example, to draw page 3, you must first draw pages 0 and 1. If the `bWait` member of `TPVAPIOpenDocumentInfo` is set to **`FALSE`**, you can draw any page. See TPVAPIOpenDocumentInfo, on page 177. If the page you request is beyond the last page, a `VAPI_RETURN_NO_PAGE` error is returned.
`Rect`	A rectangle in the device coordinates specifying where to draw the page.
`RectUsed`	Returns the rectangle that the page was actually drawn in. `RectUsed` might be different than `Rect` because Viewing maintains the aspect ratio of the document.
`bCentre`	Because `RectUsed` might be different than `Rect`, this flag specifies whether the page should be centered in `Rect`.
`hBrush`	The handle of a brush used to paint the background when `RectUsed` is different than `Rect`. If this is `NULL`, the background is not filled.

TPVAPIExtract

Description

This structure defines the parameters used by the `VAPIMWP_FILE_EXTRACT` message to extract subfiles from a container file.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIExtract
{
    LPSTR     szTargetDirectory;
    LPSTR     szPassWord;
    BOOL      bPreserveDirStructure;
    BOOL      bFailIfExists;
}
TPVAPIExtract;
```

Members

`szTargetDirectory`	The target directory to which to extract the subfiles.
`szPassWord`	Password required to open a password-protected subfile. **NOTE:** This member is obsolete.
`bPreserveDirStructure`	Specifies whether to preserve the directory structure.
`bFailIfExists`	Specifies whether to fail if the file already exists.

TPVAPIFindInfo

Description

This structure defines the parameters used by VAPIMWP_EDIT_FIND for a text search request.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIFindInfo
{
    LPSTR   lpszFindText;
    BOOL    bFindDown;
    BOOL    bMatchCase;
    BOOL    bWholeWordOnly;
}
TPVAPIFindInfo;
```

Members

`lpszFindText`	A string containing the text to find.
`bFindDown`	Specifies whether to search from the selected point in the document to the beginning or to the end of the document.
`bMatchCase`	Specifies whether to match the case of the search term.
`bWholeWordOnly`	Specifies whether to search for whole words or partial words. Currently not implemented.

TPVAPIFirstLast

Description

This structure defines a text extent or selection.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIFirstLast
{
    long        first;
    long        last;
}
TPVAPIFirstLast;
```

Members

`first`	A long integer that is the first logical address of the text.
`last`	A long integer that is the last logical address of the text.

TPVAPIGetText

Description

This structure defines the parameters used by the VAPIM_GETTEXT message to get a text buffer from a specified range.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIGetText
{
    long         start;
    int          cbText;
    BYTE*        lpText;
}
TPVAPIGetText;
```

Members

`start`	A long integer that is the starting logical address of the text.
`cbText`	An integer that is the number of bytes of text to copy.
`lpText`	A pointer to the byte buffer in which to return the text.

TPVAPIHiLiteColor

Description

This structure defines the highlight color used by the VAPIM_ENABLEINDEX message to mark an index hit.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIHiLiteColor
{
    COLORREF    foreground;
    COLORREF    background;
}
TPVAPIHiLiteColor;
```

Members

`foreground`	The `COLORREF` value that is the highlight foreground color.
`background`	The `COLORREF` value that is the highlight background color.

TPVAPIHiLiteOptions

Description

This structure defines the highlight color options used by the VAPIM_SETHILITEOPTIONS message.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIHiLiteOptions
{
    TPVAPIHiliteColor    hlColorRec;
    int                  TextFontSize;
    char                 TextFontName[LF_FACESIZE];
}
TPVAPIHiLiteOptions;
```

Members

`HlColorRec`	The handle of a highlight color as described in the TPVAPIHiLiteColor structure.
`TextFontSize`	The font size in points.
`TextFontName`	The font name.

TPVAPIOpenDocumentInfo

Description

This structure defines the parameters used by the VAPIMWP_INIT_OPEN_DOCUMENT message to open a document.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIOpenDocumentInfo
{
    int                 size;
    LPSTR               lpszFilePath;
    KPTPIOobj*          lpIOobj;
    adDocDesc*          lpadDocDesc;
    BOOL                bADInstallViewer;
    int                 nViewAsMode;
```

```
    LPSTR               lpszOrigFilePath;
    Int                 nFlags;
    LPSTR               lpszResID;
    LPSTR               lpszVMLFilePath;
    Void*               lpOptions;
    HGLOBAL             hGlobalMem;
    DWORD               dwcbGlobalMem;
    BOOL                bWait;
    int                 nGeneralTab;
    BOOL                bAutoViewAsText;
    LPSTR               lpszHighLight;
    BOOL                bMatchHighLightCase;
}
TPVAPIOpenDocumentInfo;
```

Members

`size`	This parameter must be initialized to `sizeof(TPVAPIOpenDocumentInfo)` before calling `VAPIMWP_INIT_OPEN_DOCUMENT`.
`lpszFilePath`	A string containing the full file path of the document to open. This is not required if you are using `lpIOobj` or `hGlobalMem`.
`lpIOobj`	A pointer to a KPTPIOobj structure that contains the I/O object of the document to open. This is not required if you are using `lpszFilePath` or `hGlobalMem`.
`lpadDocDesc`	A pointer to an `adDocDesc` structure that contains the document format information. Set this to `NULL`.
`bADInstallViewer`	A flag to install Viewer if the document is not supported (optional).
`nViewAsMode`	A flag to display the document as formatted text, text, or hexadecimal (optional). The options are described in Options for nViewAsMode , on the next page.
`lpszOrigFilePath`	If `lpszFilePath` is not the original file path, this optional string contains the full path to the original file.
`nFlags`	A bit field that contains additional options for opening a document (optional). The options are described in Options for nFlags , on page 181.
`lpszResID`	A string that contains the resource ID to use (optional).
`lpszVMLFilePath`	Reserved. Set this to `NULL`.
`lpOptions`	A pointer to an ALL_OPTIONS_EX structure to change the default options for the document (optional). See Change Document Options, on page 38 for more information.
`hGlobalMem`	A block of memory that contains the input file data (optional). If you use this

	member, `lpIOobj` and `lpszFilePath` must be `NULL`.
`dwcbGlobalMem`	The size in bytes of the memory specified by `hGlobalMem`. This is ignored if `hGlobalMem` is not used.
`bWait`	Set to **`TRUE`** to make `SendMessage()` on open *not* return until the document is fully processed. This ensures that the document is fully processed before an operation (such as printing, converting, or searching) is performed, and is useful when you want to use an operation immediately after opening the document. If you are opening a document for viewing only, set this to **`FALSE`** so that the first page of the document can be viewed as soon as it is processed. If you are drawing a word processing document and only want to process it up to the specified page, set `bWait` to **`FALSE`**. When the specified page is reached, processing is paused. This setting minimizes delays.
`nGeneralTab`	This parameter must be set to **`0`**.
`bAutoViewAsText`	If you set this flag to **`TRUE`**, the document is automatically displayed as unformatted text when the document format cannot be determined or is not supported (optional). This member will be deprecated in a future release. To display an unknown or unsupported format as text or hexadecimal, set nViewAsMode, on the previous page to `VIEW_MODE_AUTO_TEXT` or `VIEW_MODE_AUTO_HEX`.
`lpszHighLight`	A string that contains text to be highlighted if it is found in the document (optional). You can either search for an intact string or for individual words that might or might not be adjacent. To search for individual words, separate each word with `\t`, which indicates a tab.
`bMatchHighLightCase`	A flag to indicate if the text in `lpszHighLight` is to be matched case-sensitively (`TRUE` if it is case sensitive).

Discussion

- If the `bWait` parameter is set to **`TRUE`**, you can determine whether the document has been completely processed and is ready for an operation by using the appropriate "`Can`" messages, such as `VAPIMWP_CANCONVERT`, `VAPIMWP_FILE_CANSAVEAS`, and `VAPIMWP_PRINT_CANPRINT`.
- The `nViewAsMode` member can be one of the following options:

Options for nViewAsMode

Option	Description
`VIEW_MODE_NORMAL`	Displays the document as formatted text when the format can be determined and is supported. This is the default.

Options for nViewAsMode , continued

Option	Description
VIEW_MODE_TEXT	Displays each byte as ASCII when the format can be determined.
VIEW_MODE_HEX	Displays each byte as hexadecimal when the format can be determined.
VIEW_MODE_AUTO_TEXT	Automatically displays each byte as ASCII when the format cannot be determined or is not supported. This option overrides the setting in bAutoViewAsText, on the previous page.
VIEW_MODE_AUTO_HEX	Automatically displays each byte as hexadecimal when the format cannot be determined or is not supported. This option overrides the setting in bAutoViewAsText, on the previous page.

- For the `nViewAsMode` member, the `VIEW_MODE_NORMAL`, `VIEW_MODE_TEXT`, and `VIEW_MODE_HEX` options are mutually exclusive; and the `VIEW_MODE_AUTO_TEXT` and `VIEW_MODE_AUTO_HEX` options are mutually exclusive. This means you can set a maximum of two options at one time. For example, you can set `nViewAsMode` as:

  ```
  nViewAsMode= VIEW_MODE_TEXT | VIEW_MODE_AUTO_HEX
  ```

  This configuration results in the following behavior:

File characteristic	Behavior
The file format cannot be determined	The `VAPI_RETURN_UNKNOWN_FORMAT` message is returned, and the file is displayed as hexadecimal.
The file format can be determined, but is not supported	The`VAPI_RETURN_NO_VIEWER` message is returned, and the file is displayed as ASCII text.
The file format can be determined and is supported	The `VAPI_RETURN_SUCCESS` message is returned, and the file is displayed as ASCII text.

- The `nFlags` member can be one of the following options:

Options for nFlags

Option	Description
`VAPIDF_FLAGS_OPEN_FORMAT_ONLY`	Opens a document to determine the document format, regardless of whether the document is supported for viewing. After the document is opened, you can then call the VAPIMWP_INIT_GETDOCFORMAT message to get the format information. This flag does not create a Viewer window.
`VAPIDF_FLAGS_OPEN_WITHOUT_VIEW`	Opens a document in a hidden viewer window. Use this flag to process a document (print, convert, and so on) without viewing. (You must also set the `bWait` member to **`TRUE`**.) For example, to print a document, set the `VAPIDF_FLAGS_OPEN_WITHOUT_VIEW` flag, and then send the `VAPIMWP_PRINT_PRINT` message.
`VAPIDF_FLAGS_OPEN_VAPI_ONLY`	Opens a document without viewing and returns format information with the notification message `VAPINMWP_INIT_DOCTYPE`. This flag does not create a Viewer window.
`VAPIDF_FLAGS_NO_UI`	Suppresses GUI elements that are not called explicitly. For example, if you set this flag and the document format is not supported, the "unsupported format" dialog box does **not** display. However, if you set this flag and send the VAPI message to request the **SaveAs** dialog box, the **SaveAs** dialog box displays.
`VAPIDF_FLAGS_INCL_REVISION_MARK`	Displays the deleted content, revision marks, and revision tracking information in a document. See View Deleted Items and Document Revision Marks, on page 42.

TPVAPIPageSize

Description

This structure defines the parameters used by the VAPIMWP_DRAW_GETPAGESIZE message to get the size of a page.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIPageSize
{
```

```
    unsigned int    nPage;
    unsigned int    nWidth;
    unsigned int    nHeight;
}
TPVAPIPageSize;
```

Members

nPage	The page number.
nWidth	The default width of the page.
nHeight	The default height of the page.

TPVAPIPosition

Description

This structure defines the position of the viewing window, and is used by the VAPIM_POSITION message to position the document within the viewing window.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPIPosition
{
    long    first;
    long    last;
    long    position;
}
TPVAPIPosition;
```

Members

first	A long integer that returns the first visible logical address.
last	A long integer that returns the last visible logical address.
position	A long integer that is the position (logical address) to make visible.

TPVAPITextInfo

Description

This structure defines a text buffer. See VAPINM_TEXTBUFFER, on page 155.

Syntax

```
#include <kvvapi.h>
typedef struct tag_TPVAPITextInfo
{
    long        lBaseAddress;
    int         cbText;
    BYTE*       lpText;
}
TPVAPITextInfo;
```

Members

`lBaseAddress`	A long integer that returns the base logical address at the start of the buffer.
`cbText`	An integer that returns the number of bytes in the buffer.
`lpText`	A pointer to the byte buffer, which returns the pointer to the text buffer. The text buffer can contain text or commands. Commands are ANSI strings with the following extensions (embedded control codes): • `KV_EOP` `0x01` End of paragraph. • `KV_EOC` `0x02` End of cell. • `KV_PIC` `0x03` Picture exists at this logical address.

Part III: Viewing ActiveX Control

This section provides procedural and reference information for the Viewing ActiveX control and includes the following chapters:

Chapter 8: Use the Viewing ActiveX Control

This section describes how to use the Viewing ActiveX control. It includes the following topics:

Overview of the Viewing ActiveX Control

Viewing includes an ActiveX control that provides the same functionality of the Viewing API. This control is ideally suited to Visual Basic developers, although it can be used in other development environments that support controls.

> **NOTE:** For information on using the Viewing ActiveX control in a .NET application, see Develop .NET Applications, on page 27.

You can use the Viewing controls to create an application (or HTML page) to:

- Open and view a document.
- Draw a page of a word processing document, spreadsheet, or a picture into a supplied Device Context (HDC). This is useful for generating *thumbnail* views of documents.
- Print a document (or print a document without viewing it) to a specified printer or to the default printer.
- Allow viewed word processing and spreadsheet documents to be saved as RTF, HTML, or text. Also, you can save image formats to other supported image formats.
- Convert word processing and spreadsheet documents to text, RTF, or HTML without viewing them.
- View or extract subfiles from a container file, such as ZIP, TAR, or PST.

- View and manipulate a graphic (including rotate and magnify).
- Annotate documents with a bitmap or selected text. The View API includes annotation event notification for actions such as clicking and double-clicking, allowing for implementation of hyperlinks and pop-up text.
- Highlight all occurrences of a word in a document.
- Filter spreadsheets, presentation graphics, and documents to text. A cross-platform C API that provides text filtering is also available. Contact Micro Focus for information on KeyView Filter SDK.
- Determine the format of a document based on its contents rather than its file extension.

Open and View a Document

Because you must open a document before you can view, print, or save it, or perform any other operation on it, viewing a document means to open *and* view a document. It is possible, however, to open a document without viewing it, or in other words, to open a document with view mode disabled. In this mode, you can print or save the document without viewing it.

To open and view a document, call the `Open` method. See Open, on page 207 for a description of the possible return codes.

For example:

```
nRet = KeyView1.Open("c:\docs\bigtree.jpg")
```

Using the default settings, this example results in a view of the specified document. However, a number of properties are available to change the default behavior of the `Open` method. See Control Properties, on page 221 for a list of relevant properties. The properties that begin with "`OPEN`" (for example, the `OPENMode` property and `OPENWaitOnOpen` property) apply to the `Open` method.

When a document is opened successfully, the `OpenDocDone` and `PageNumber` events are generated. These events indicate the progress of the document processing.

Save a Document

To save a document

1. Open the document. See Open, on page 207.

   Set the OPENWaitOnOpen property to **TRUE** to prevent the `Open` method from returning before the document is completely processed.

   To save a document without viewing it, set the OPENMode property to **2** (open without generating a view).

2. Use the CanSaveAs property to determine whether the document is completely processed and can be saved.

3. Call the SaveAs method. To display the **Save As** dialog box and allow the user to save to a target file name, set the `FileName` parameter to an empty string.

Convert a Document

To convert a document to text, RTF, or HTML

1. Open the document. See Open, on page 207 for more information.

   Set the OPENWaitOnOpenproperty to `TRUE` to prevent the `Open` method from returning before the document is completely processed.

   To convert a document without viewing it, set the OPENModeproperty to `2` (open without generating a view).

2. Use the CanSaveAs property to determine whether the document is completely processed and can be saved.

3. Call the Convert, on page 198 method.

   > **NOTE:** Viewing SDK does not convert PDF, presentations, container files, or graphics files to text, RTF, or HTML.

Print a Document

To print a document

1. Open the document. See Open, on page 207 for more information.

   Set the OPENWaitOnOpen property to `TRUE` to make sure that the entire document is opened before the document is printed.

   To print a document without viewing it, set the OPENMode property to `2` (open without generating a view). You can also set the `Visible` property of the Viewing control object to `FALSE`.

2. Use the CanPrint property to determine whether the document is completely processed and ready for printing.

3. Optionally, use the PrintHeaders property to specify whether the file name and page number header are printed at the top of each page of the printed output.

   Used in conjunction with the `PrintHeaders` property, the SetPrintName method replaces the default file name field of the print header with another string.

4. Use either the PrintDlg method to print using a common **Print** dialog box, or the PrintOut method to print to a specific printer without a **Print** dialog box.

   > **NOTE:** When printing in an application that is an NT service, a default printer must be installed for the user account using the application.

Determine the Document Format

To determine the document format

1. Open the document whose format you want to determine. See Open for more information.
2. Use the DocumentType or DocumentFormat property to determine the format.

   The `DocumentType` property returns the format as a text description, such as "Microsoft Word for Windows". The `DocumentFormat` property returns the format as a numeric value. These properties are set to the document format regardless of whether the document can be viewed.
3. To get the general class to which the currently opened document belongs, use the DocumentClass property.

Extract Document Metadata

To extract document metadata

1. Open the document whose metadata you want to extract. See Open for more information.
2. Set `nItem` to `0` (zero).
3. Use the GetSummaryInfo method to get the total number of summary information items available in the document (parameter `nTotalItem`).
4. Set `nItem` to a number between zero and `nTotalItem` (`0<= nItem < nTotalItem`).
5. Use the `GetSummaryInfo` method again to get the specific information for the `nItem` item. After the call, the other parameters (such as `nValid`, `nType`, `lVal`, `szVal`, and `szUserVal`) hold the values for the summary information item.

Search for Text in a Document

To search for specified text in a document

1. Open the document that you want to search. See Open for more information.
2. Use the CanFind property to determine whether the document is completely processed and can be searched.
3. Call the Find method without a search string specified to open a **Find** dialog box.
4. To perform a **Find Next**, call the `Find` method repeatedly with the original search term.

Copy a Selected Area of Text

To select and copy text

1. Open the document from which you want to copy the text. See Open for more information.
2. Hghlight a region of text to copy.
3. Use the CanCopy property to determine whether the selected text can be copied.
4. Use the GetSelectedText method to get the selected text.
5. Use the Copy method.
6. Paste the text in another document, such as a text file.

Copy all the Text in a Document

To copy all the text in a document

1. Open the document from which you want to copy all the text. See Open for more information.
2. Use the CanSelectAll method to determine whether all contents in the document can be selected.
3. Use the SelectAll method.
4. Use the CanCopy property to determine whether the text can be copied.
5. Use the Copy method.
6. Paste the text in another document, such as a text file.

Create a Thumbnail Image of a Document Page

To create thumbnails of a document page

1. Set the OPENMode property to 7 (drawing mode enabled).
2. Open the document for which you want to create a thumbnail image. See Openfor more information.
3. Use the DrawToFile method.

Filter a Document

To filter a document

1. Set the OPENMode property to 6 (index-only mode).
2. Open the document that you want to filter. See Openfor more information.
3. Use the GetNextTextBuffer method to get the text buffers.

Highlight Text in a Document

To highlight text in a document

1. Set the OPENMode property to 5 (enable index mode).
2. Open the document in which you want to place highlights. See Open for more information.
3. Use the SetHiLiteOptions method to set the highlight color and font.
4. Use the SetHiLite method to specify the text to be highlighted.

Annotate Text in a Document

To add annotations to or remove annotations from a document

1. Set the OPENMode property to 5(enable index mode).
2. Open the document you want to annotate. See Open for more information.
3. Use the Annotate method to add and delete annotations.

Chapter 9: Control Sample Programs

This section describes the sample programs that demonstrate how to use the ActiveX control.

Viewing SDK Initialization Information

Viewing SDK uses initialization information for its internal operations; for example, to determine which components to load. You can store this information either in the Windows registry or in an initialization file. When you use Viewing SDK you must tell it where to find this information and what form it is in. See View Initialization Information, on page 23 for more information.

fileview

`FILEVIEW` is a sample program that demonstrates how to insert the Viewing ActiveX control into a Visual Basic application and use it to display documents.

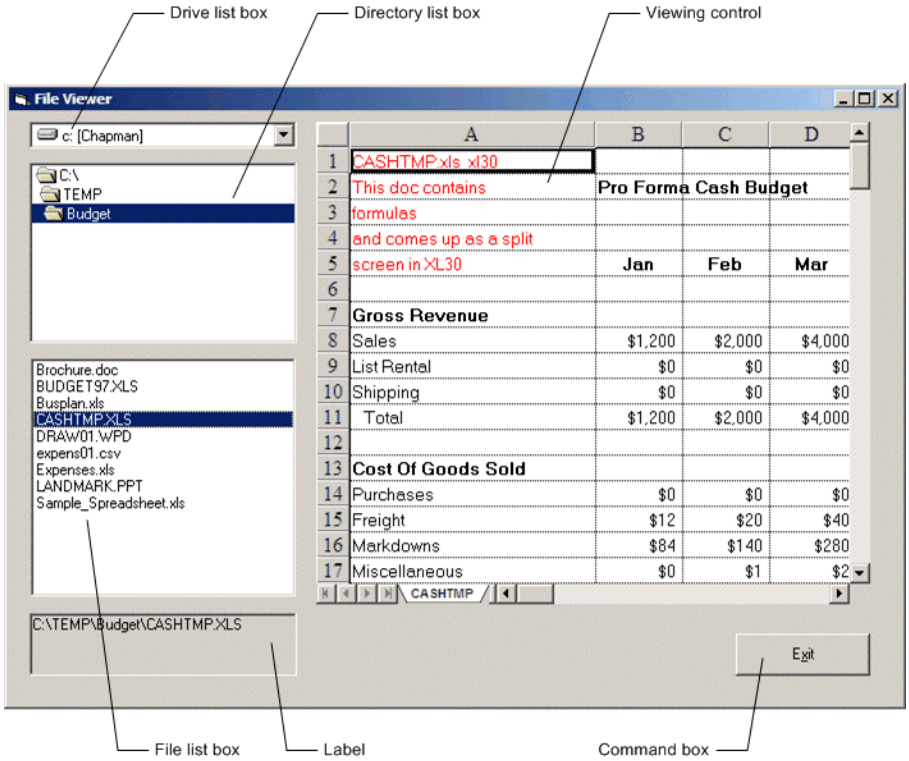
Create a New Visual Basic Project 6.0

1. Start a new project by choosing **New Project** from the **File** menu.
2. Add the Viewing Control to the project. From the **Project** menu, select **Components**.
3. In the **Components** dialog box, select **KeyView OLE Control module** from the **Controls** list box. Click **OK**.

   If the KeyView OLE Control module is not listed in the **Controls** list box, click **Browse** to locate and register the control.

   The Viewing icon  appears in the Toolbox.

Draw the Controls



Draw the controls on the form according to the diagram above. Use the following controls:

Button	Control
	Command button
	Label
	Drive list box
	Directory list box
	File list box
	Viewing control

Set Objects and Properties

After you design the form, you need to set the following properties:

Object	Property	Setting
Form	Caption	File Viewer
Label	BorderStyle Caption	1-Fixed Single (Empty)
Command button	Caption	Exit

> **NOTE:** Use the default settings for all other properties and objects.

Create Event Procedures

In the File Viewer application, create the following event procedures for five different controls. After you have completed these event procedures, you can compile and run the application.

Form Load event: The `Form_Load` event sets the drive and path to the drive and directory where the sample application is loaded, and specifies whether initialization information is stored in the registry or the `kvsdk.ini` file. Add the following code to the `Form_Load` event procedure:

```
Private Sub Form_Load()
    Drive1.Drive = App.Path
    Dir1.Path = App.Path
    KEYview1.RegIniMode = 1
    KEYview1.RegIniName = "kvsdk.ini"
End Sub
```

Command button Click event: The command button's Click event ends the application. Add the following code to the `Command1_Click` event procedure:

```
Private Sub Command1_Click ()
    Unload Me
    End                ' Ends the application.
End Sub
```

Drive list and directory list boxes Change events: To make the drive, directory, and file list boxes work together, add the following code to the `Drive1_Change` and `Dir1_Change` event procedures:

```
Private Sub Drive1_Change ()
    Dir1.Path = Drive1.Drive        ' Update directory path.
End Sub
Private Sub Dir1_Change ()
    File1.Path = Dir1.Path        ' Update files.
End Sub
```

File list box Double-click event: The `File1_DblClick` event procedure for the file list box displays the full path name of the selected file in the label control, and displays the picture itself in the image control. You need the following code:

```
Private Sub File1_DblClick ()
    If Right(File1.Path, 1) <> "\" Then
        Label1.Caption = File1.Path & "\" & File1.FileName
```

```
    Else            ' If root directory
        Label1.Caption = File1.Path & File1.FileName
    End If
    nRet = KEYview1.Open(Label1.Caption)
End Sub
```

Notice how the full path name is constructed:

- `File1.Path` returns the drive and directory path, `"\"` adds a backslash separator, and `File1.FileName` returns the file name.
- The `Right` function checks to see whether the path name is the root directory (`\`). If it is not, the full path name is assigned to the label's caption. If the path name is the root directory, the backslash is omitted.
- The `Open` method loads the file specified by the path name in the label caption.

dotnetview

Viewing SDK includes a .NET workspace for Visual Studio called `dotnetview`. This is a J# application that demonstrates basic Viewing functionality. To use the .NET sample, open the workspace file `dotnetview.snl` in Visual Studio 2005 and follow the instructions in Develop .NET Applications, on page 27. The source file is `form1.jsl`.

Chapter 10: Control Methods

This section describes the Viewing ActiveX control methods.

> **NOTE:** The Viewing control's methods in this chapter show the syntax in Visual Basic.

Annotate

Description

Adds and deletes annotations, and determines whether annotations exist. Use this method with the OPENMode property set to `5` (indexing enabled).

Syntax

```
bRet = KeyView.Annotate(action, position, type, bitmapFile, cbText, colorref,
cursorFile)
```

Parameters

Parameter	Type	Description
`action`	Integer	• `0` – delete annotation. • `1` – add annotation. • `2` – query annotation.
`position`	Long	Logical address to apply the annotation.
`type`	Integer	• `0` – use a bitmap for the annotation. • `1` – use an underline as the annotation. • `2` – use a dotted underline as the annotation. Currently not implemented. • `3` – use a strikethrough as the annotation. Currently not implemented.
`bitmapFile`	String	If the annotation type is bitmap, this is the bitmap file name (`*.bmp`).
`cbText`	Integer	If the annotation type is underline, this is the length of the underlined text.
`colorref`	Long	If the annotation type is underline, this is the color of the underlined text.
`cursorFile`	String	The cursor file (`*.cur`) to use when mouse hovers over the annotation.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

ChangeObject

Description

Changes the current object in a multiple-object document. Examples of a multiple-object document include:

- A Microsoft Excel spreadsheet with multiple worksheets where each worksheet is considered an object.
- A Microsoft PowerPoint presentation with multiple slides where each slide is considered an object.

Syntax

```
bRet = KeyView.ChangeObject(direction)
```

Parameters

Parameter	Type	Description
`direction`	Integer	`0` – select the next object. `1` – select the previous object.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

Close

Description

Closes the currently opened document. The `Close` method is not required because calling the `Open` method automatically closes the currently opened document.

Syntax

```
bRet = KeyView.Close
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

Convert

Description

Converts a document to text, RTF, or HTML format.

Before you convert a document, you must open it by using the Open method. To make sure that the entire document is opened before the document is converted, set the OPENWaitOnOpen property to `TRUE`. Use the CanSaveAs property to check whether the document is completely processed and is ready for conversion.

To convert a document without viewing it, set the OPENMode property to `2` (open without generating a view).

Syntax

```
bRet = KeyView.Convert(FormatCode, TargetFile)
```

Parameters

Parameter	Type	Description
`FormatCode`	String	The format code of the format to which to convert the document. The following options are available: `txt` — conversion to text format `rtf` — conversion to RTF format `htm` — conversion to HTML format
`TargetFile`	String	The target path and file name for the converted file.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

Example

The following code converts a file to RTF:

```
Function ConvertToRTF(FileName As String, TargetFile As String) As Boolean
KeyView.OPENMode = 2
    nRet = KeyView.Open(FileName)
    If (nRet = 1) Then
        bRet = KeyView.Convert("rtf",TargetFile)
    End If
    bRet2 = KeyView.Close
    ConvertToRTF = bRet
End Function
```

In this example, `OPENMode` is set to `2` to prevent a view of the document.

Copy

Description

Copies the current selection to the clipboard. Use the CanCopy property to determine whether the content is selected and can be copied by using the `Copy` method.

Syntax

```
bRet = KeyView.Copy
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

DecreaseFont

Description

Decreases the document font size. Use the CanDecreaseFont property to determine whether the font size can be decreased, and therefore, whether the `DecreaseFont` method succeeds.

Syntax

```
bRet = KeyView.DecreaseFont
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

DrawToFile

Description

Draws a page of a document to a graphic file (thumbnail). Use this method with the OPENMode property set to `7` (drawing mode enabled).

Syntax

```
bRet = KeyView.DrawToFile(szTargetFile, szGfxOutput, uPageNumber, nWidth, nHeight,
nPicXRes, nPicYRes, nQuality)
```

Parameters

Parameter	Type	Description
`szTargetFile`	String	The target path and file name to which the page is written. The file should use one of the following four extensions: • `.bmp` • `.jpg` • `.png` • `.tif`
`SzGfxOutput`	String	The output graphics format. The following options are available: • `bmp` • `jpg` • `png` • `tif` (uncompressed TIFFs) You must specify the parameter in lower case.
`uPageNumber`	UINT	The number of the page to be rasterized into a thumbnail.

Parameter	Type	Description
		Page numbers start at 0. For example, set `uPageNumber` to **`0`** to draw page 1, and to **`1`** to draw page 2. For word processing documents, pages must be drawn sequentially. For example, to draw page 3, you must first draw pages 0 and 1.
`nWidth`	Integer	The maximum picture width (in TWIPS).
`nHeight`	Integer	The maximum picture height (in TWIPS).
`nPicXRes`	Integer	The desired horizontal resolution (`0` for default).
`nPicYRes`	Integer	The desired vertical resolution (`0` for default).
`nQuality`	Integer	This parameter controls the output quality of graphics that support compression quality (for example, JPEG). The valid range is `0` to `100`. A value of `0` means default quality (85 compression); `1` is the lowest quality (highest compression and therefore the smallest file size); `100` is the highest quality (no compression and therefore the largest file size). The default is `0`.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

Find

Description

Searches the currently opened document for the specified text. To perform a **Find Next**, call this method repeatedly with the original search term. If you specify an empty string for the `FindText`, a **Find** dialog box appears.

Syntax

```
bRet = KeView.Find(FindText, FindDown, MatchCase)
```

Parameters

Parameter	Type	Description
`FindText`	String	A string that contains the text to find.

Parameter	Type	Description
`FindDown`	Boolean	Specifies whether to search from the selected point in the document to the beginning (`FALSE`) or to the end (`TRUE`) of the document.
`MatchCase`	Boolean	Specifies whether to match the case of the search term.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

GetNextTextBuffer

Description

Gets text buffers. Use this method with the OPENMode property set to `6` (index only mode).

Syntax

```
bRet = KeyView.GetNextTextBuffer
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

GetPageFromLogical

Description

Gets the page number for a logical address.

Syntax

```
lRet = KeyView.GetPageFromLogical(lLogicalAddress)
```

Parameters

Parameter	Type	Description
`lLogicalAddress`	Long	The logical address for which to get the page number.

Returns

Type	Description
Long	*n* – Page number the specified logical address resides on `-1` – Error

GetSelectedText

Description

Returns any currently selected text. The CanCopy property returns `TRUE` if any text is currently selected.

Syntax

```
SelectedText = KeyView.GetSelectedText
```

Parameters

None

Returns

Type	Description
String	A description of the specified format.

GetSummaryInfo

Description

Gets the document metadata, also referred to as summary information. See Extract Document Metadata, on page 188.

Syntax

```
bRet = KeyView.GetSummaryInfo(nItem, nTotalItem, nValid, nType, lVal, szVal,
szUserVal)
```

Parameters

Parameter	Type	Description
`nItem`	Integer	The summary information item number.
`nTotalItem`	Integer	The total number of summary information items available in the source document.
`nValid`	Integer	Specifies whether the data value is present in the document. `0` – The summary information field is not available. `1` – The summary information field is available.
`nType`	Integer	The data type of the metadata element. `1` – `szVal` contains the field contents. `2` – `lVal` contains the field contents. The types are defined in `KVSumInfoType` in `kvtypes.h`.
`lVal`	Integer	Contains the contents of the summary information field if the contents are numeric.
`szVal`	String	Contains the contents of the summary information field if the contents are non-numeric.
`szUserVal`	String	The summary information field name.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

GetText

Description

Gets a text buffer from a specified range. Use this method with the OPENMode property set to `5` (indexing enabled).

Syntax

```
bRet = KeyView.GetText(start, cbText, pszText)
```

Parameters

Parameter	Type	Description
`start`	Long	The starting logical address of the text.
`cbText`	Integer	The number of bytes of text to copy.
`pszText`	String	A pointer to the logical address where the text will be stored.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

GoToPage

Description

Displays the document at the specified page. Use this method with the OPENMode property set to `5` (indexing enabled).

Syntax

```
nRet = KeyView.GoToPage(nPageNumber)
```

Parameters

Parameter	Type	Description
`nPageNumber`	Integer	The page to display.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

IncreaseFont

Description

Increases the document font size. Use the CanIncreaseFont property to determine whether the font size can be increased, and therefore, whether the `IncreaseFont` method succeeds.

Syntax

```
bRet = KeyView.IncreaseFont
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

Open

Description

Opens a document.

The properties that begin with "`OPEN`" (for example, the `OPENMode` property and `OPENWaitOnOpen` property) apply to the `Open` method. However, they do not apply to the initial call to the `Open` method; that is, they do not affect the currently opened document and apply only to documents opened with subsequent calls to the `Open` method. See Control Properties, on page 221.

Syntax

```
nRet = KeyView.Open(FileName)
```

Parameters

Parameter	Type	Description
`Filename`	String	A string containing the file name of the document to open.

Returns

Type	Description
Short	`0` – if an error occurs during open. `1` – if the document opened successfully. `2` – if the document is of an unknown format. `3` – if no viewer is available for the document format. `4` – if the document is password-protected. `5` – if the drawing routines have not been initialized. `6` – if the requested page does not exist, or is being displayed before all previous pages have been displayed. `7` – if the document does not support this feature (for example, ZIP files, video, or audio). `8` – if the KeyView license is invalid. `9` – if the KeyView license is expired. `10` – if the input file or stream is invalid or corrupt.

Play

Description

Plays, pauses, or stops a multimedia (digital video or sound) document.

Syntax

```
bRet = KeyView.Play(Mode)
```

Parameters

Parameter	Type	Description
`Mode`	Integer	`0` – Play `1` – Pause `2` – Stop

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

Position

Description

Positions the document in the viewing window.

Syntax

```
bRet = KeView.Position(first, last, position)
```

Parameters

Parameter	Type	Description
`first`	Long	The first visible logical address.
`last`	Long	The last visible logical address.
`position`	Long	The position (logical address) to make visible.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

PositionHiLite

Description

Changes focus from the previous to next highlight. This only applies when using XML files with the Verity Developer's Kit (VDK) to specify highlights.

Syntax

```
bRet = KeyView.PositionHiLite(bPrev)
```

Parameters

Parameter	Type	Description
`bPrev`	Boolean	`TRUE` – go to previous highlight `FALSE` – go to next highlight.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

PrintDlg

Description

Prints a document by calling the common **Print** dialog box. Print a Document, on page 187.

Syntax

```
bRet = KeyView.PrintDlg
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

PrintOut

Description

Prints a document to a specified printer without calling the common **Print** dialog box, or to the default printer if none is specified. See Print a Document, on page 187.

Syntax

```
bRet = KeView.PrintOut(Printer)
```

Parameters

Parameter	Type	Description
`Printer`	String	The name of the printer to use. If the string is empty, the default printer is used. An example of a valid string value is `\\Calculus\HP LaserJet IIISi`

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

PrintOutEx

Description

Prints a document to a specified printer without calling the common **Print** dialog box, or to the default printer if none is specified. The method can specify the page range and number of copies to print. See Print a Document, on page 187.

Syntax

```
bRet = KeyView.PrintOutEx(Printer, FromPage, ToPage, Copies, Flags)
```

Parameters

Parameter	Type	Description
`Printer`	String	The name of the printer to use. If the string is empty, the default printer is used. An example of a valid string value is `\\Calculus\HP LaserJet IIISi`
`FromPage`	Integer	The number of the first page to print. For spreadsheet documents, this is the first sheet number.
`ToPage`	Integer	The number of the last page to print. For spreadsheet documents, this is the last sheet number.
`Copies`	Integer	The number of copies to print.
`Flags`	Integer	Reserved. This parameter should be set to `0`.

> **NOTE:**
> If `FromPage`, `ToPage`, and `Copies` are all set to `0`, this method behaves the same way as PrintOut
>
> If `FromPage` and `ToPage` are both set to `0`, all pages are printed.
>
> If `Copies` is set to `0`, one copy is printed.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

PrintPageSetup

Description

Displays a dialog box that allows the user to set up print page scaling for a spreadsheet.

Syntax

```
bRet = KeyView.PrintPageSetup
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

SaveAs

Description

Saves the current document in another format.

If the `FileName` parameter is an empty string, this method displays the **Save As** dialog box, which allows the user to specify conversion, compression, and encodings, as well as the target file name. Otherwise, the `FileName` parameter should be the complete path and file name of the desired target file. A copy operation from the currently opened file to the specified target file occurs. Use the CanSaveAs property to check whether the document has been completely processed and can be saved.

Syntax

```
bRet = KeyView.SaveAs(FileName)
```

Parameters

Parameter	Type	Description
`FileName`	String	The complete path and file name of the target file. This parameter can be an empty string that displays the **Save As** dialog box.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

SelectAll

Description

Selects all items in the currently opened document. Use the CanSelectAll method to determine whether all contents in the document can be selected.

Syntax

```
bRet = KeyView.SelectAll
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

SetCursor

Description

Sets the viewing engine cursor.

Syntax

```
bRet = KeyView.SetCursor(CursorFile, bRestore)
```

Parameters

Parameter	Type	Description
`CursorFile`	String	The cursor file (`*.cur`) to use.
`bRestore`	Boolean	`TRUE` restores the default cursor. `FALSE` uses the cursor file.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

SetFocusViewer

Description

Sets the current focus to the Viewer window.

Syntax

```
bRet = KeyView.SetFocusViewer
```

Parameters

None

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

SetHiLite

Description

Highlights a region of text. Use this method with the OPENMode property set to `5` (indexing enabled).

Syntax

```
bRet = KeyView.SetHiLite(cbTextToHiLite, lLogicalAddress)
```

Parameters

Parameter	Type	Description
`cbTextToHiLite`	Integer	The number of bytes to highlight.
`lLogicalAddress`	Long	The logical address from which to start highlighting.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

SetHiLiteOptions

Description

Set the highlight options. Use this method with the OPENMode property set to `5` (indexing enabled).

Syntax

```
bRet = KeyView.SetHiLiteOptions(BackColor, ForeColor, FontSize, FontName)
```

Parameters

Parameter	Type	Description
`BackColor`	Integer	The `COLORREF` value that is the highlight background color.
`ForeColor`	Integer	The `COLORREF` value that is the highlight foreground color.
`FontSize`	Integer	The font size in points.
`FontName`	String	The font name.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

SetPassword

Description

Sets a password to use to open a password-protected file before the file is opened. Currently, you can use this to set a password for ZIP, PST, and NSF files.

> **NOTE:** Unicode passwords are not supported.

Syntax

```
bRet = KeyView.SetPassword (szPassword);
```

Parameters

Parameter	Type	Description
`szPassword`	String	The password string.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

SetPrintName

Description

Used in conjunction with the `PrintHeaders` property, this method replaces the default file name field of the print header with a specified string.

Syntax

```
bRet = KeyView.SetPrintName(szPrintName)
```

Parameters

Parameter	Type	Description
`szPrintName`	String	A string used to replace the file name field of the `PrintHeader` property. For example, you could replace the file name with "Copyright 2003".

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

ShowHits

Description

Shows or hides index hits. Use this method with the OPENMode property set to `5` (indexing enabled).

Syntax

```
bRet = KeyView.ShowHits(bShow)
```

Parameters

Parameter	Type	Description
`bShow`	Boolean	`TRUE` shows hits. `FALSE` hides hits.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

UnZip

Description

Extracts selected subfiles in the currently opened container file to disk or to a Viewer window.

Syntax

```
bRet = KeyView.UnZip(UnZipToDisk)
```

Parameters

Parameter	Type	Description
`UnZipToDisk`	Boolean	If `TRUE`, a dialog box prompts the user to specify a path where the subfiles are extracted. If `FALSE`, the subfiles are extracted and displayed in the preview pane. This is the default.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

UnZipEx

Description

Extracts the subfiles in the currently opened container file to disk without requiring the user to respond to dialog boxes.

Syntax

```
bRet = KeyView.UnZipEx(TargetDirectory, Password, bFailIfExists,
bPreserveDirectory)
```

Parameters

Parameter	Type	Description
`TargetDirectory`	String	The directory to which to extract the subfiles.
`PassWord`	String	The password to use to open a password-protected container file.
`bFailIfExists`	Boolean	If `TRUE` and a subfile is extracted and a file of the same name already exists in the target directory, the existing file is not overwritten. If `FALSE`, the existing subfile is overwritten.
`bPreserveDirectory`	Boolean	If `TRUE`, the directory structure is preserved. If `FALSE`, the directory structure is not preserved.

Returns

Type	Description
Boolean	`TRUE` if the method succeeds. `FALSE` if the method fails.

Chapter 11: Control Properties

This section describes the Viewing ActiveX control properties.

Introduction

Persistent Properties

Persistent properties are those that can be set in the **Properties** page at design time. The selected value is stored as a part of your project and used at runtime.

Property Naming Conventions in .NET

In J#, C#, and C++, all ActiveX control method names in the .NET class are the same as their COM counterparts. However, individual properties in .NET are defined using `get` and `set` methods of the following format:

`get_`*`property_name`*

`set_`*`property name`*

For example:

```
private void button1_Click(Object sender, System.EventArgs e)
{
    this.axKEYview1.set_RegIniMode((short)1);
    this.axKEYview1.set_RegIniName("c:\\windows\\kvsdk.ini");
    this.axKEYview1.Open("c:\\test.doc");
}
```

> **NOTE: Important**: In a Visual Basic .NET application, all properties and methods are used in the same way as in a Visual Basic COM application.

See Develop .NET Applications, on page 27 for more information.

"OPEN" Properties

The "`Open`" properties (such as `OPENWaitUponOpen` and `OPENMode`) apply to the `Open` method. However, they do not apply to the initial call to the `Open` method; that is, they do not affect the currently opened document, and apply only to documents opened with subsequent calls to the `Open` method. These properties are persistent and are available through the **Properties** page.

ASCIICharSet

Description

Specifies the character set used to display an ASCII text file. The ANSI character set is the Microsoft Windows default. The DOS code page is useful if the text file was created with a DOS editor. This is a

persistent property.

Returns

Type	Description
Integer	`0` – Displays the document using the ANSI character set.
	`1` – Displays the document using the DOS code page.

ASCIIFilterNonPrintable

Description

Specifies whether non-printable characters can be viewed in an ASCII text file. This is a persistent property.

Returns

Type	Description
Boolean	`TRUE` – non-printable characters can be viewed.
	`FALSE` – non-printable characters cannot be viewed.

ASCIIFontName

Description

Specifies the font name to be used in an ASCII text file. This is a persistent property.

Returns

Type	Description
String	A description of the desired font name.

ASCIIFontSize

Description

Specifies the font size to be used in an ASCII text file. This is a persistent property.

Returns

Type	Description
Integer	*n* – The font size in points.

ASCIIFontStyle

Description

Specifies the font style used to display an ASCII text file.

Returns

Type	Description
Integer	`0` – Displays text in normal font.
	`1` – Displays text in bold font.
	`2` – Displays text in italic font.
	`3` – Displays text in bold and italic font.

ASCIIMarginBottom

Description

Specifies the bottom page margin of an ASCII text file (between 0 - 4 inches or 100 mm). This is a persistent property.

Returns

Type	Description
Integer	*n* – The bottom page margin in TWIPS (the default is 1440).

ASCIIMarginLeft

Description

Specifies the left page margin of an ASCII text file. This is between zero and 4 inches, or zero and 100 mm. This is a persistent property.

Returns

Type	Description
Integer	*n* – The left page margin in TWIPS (the default is 1440.

ASCIIMarginRight

Description

Specifies the right page margin of an ASCII text file. This is between zero and 4 inches, or zero and 100 mm. This is a persistent property.

Returns

Type	Description
Integer	*n* – The right page margin in TWIPS (the default is 1440).

ASCIIMarginTop

Description

Specifies the top page margin of an ASCII text file (between 0 and 4 inches or 100 mm). This is a persistent property.

Returns

Type	Description
Integer	*n* – The top page margin in TWIPS (the default is 1440).

ASCIIPrintLandscape

Description

Specifies whether the ASCII text file is printed in portrait or landscape mode. This is a persistent property.

Returns

Type	Description
Integer	`0` – Prints the document in portrait mode.
	`1` – Prints the document in landscape mode.

AspectRatio

Description

Specifies the current aspect ratio of the document (the pictures). **This property is read-only**.

Returns

Type	Description
Integer	`-1` – Not applicable.
	`0` – None.
	`1` – Based on the document.
	`2` – Normal (use scanlines).
	`3` – Letter (times 2).

CanCopy

Description

Specifies whether content is selected in the currently opened document. If this returns `TRUE`, the selection can be copied to the clipboard by using the Copy method. Any selected text can be obtained by using the GetSelectedText method. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the selected text can be copied. `FALSE` if the selected text cannot be copied.

CanDecreaseFont

Description

Specifies whether the document font size can be decreased. If this returns `TRUE`, the font size can be decreased by using the DecreaseFont method. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the font size can be decreased. `FALSE` if the font size cannot be decreased.

CanFind

Description

Specifies whether the currently opened document can be searched. If this returns `TRUE`, the document can be searched by using the Find method. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the document can be searched. `FALSE` if the document cannot be searched.

CanIncreaseFont

Description

Specifies whether the document font size can be increased. If this returns `TRUE`, the font size can be increased by using the IncreaseFont method. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the font size can be increased. `FALSE` if the font size cannot be increased.

CanMultiObj

Description

Specifies whether a document contains multiple objects. If this property is `TRUE`, the `ObjName` property and `ChangeObject` method are applicable to the opened document. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the document contains multiple objects. `FALSE` if the document does not contain multiple objects.

CanNextObj

Description

Specifies whether the next object is available in a multiple-object document. **This property is read-only.**

Examples of a multiple-object document include:

- A Microsoft Excel spreadsheet with multiple worksheets, where each worksheet is considered an object.
- A Microsoft PowerPoint presentation with multiple slides, where each slide is considered an object.

Returns

Type	Description
Boolean	TRUE – the next object is available. FALSE – the next object is not available.

CanPause

Description

Specifies whether the playing of a multimedia document can be paused. This returns TRUE only if you have a multimedia document opened and playing. **This property is read-only**.

Returns

Type	Description
Boolean	TRUE if the document can be paused. FALSE if the document cannot be paused.

CanPlay

Description

Specifies whether a multimedia document can be played. This property is TRUE if the document is a multimedia (sound or digital video) document, and if the document is not currently playing. **This property is read-only**.

Returns

Type	Description
Boolean	TRUE if the document can be played. FALSE if the document cannot be played.

CanPrevObj

Description

Specifies whether the previous object is available in a multiple-object document. **This property is read-only**.

Examples of a multiple-object document include:

- A Microsoft Excel spreadsheet with multiple worksheets, where each worksheet is considered an object.
- A Microsoft PowerPoint presentation with multiple slides, where each slide is considered an object.

Returns

Type	Description
Boolean	`TRUE`– the previous object is available.
	`FALSE` – the previous object is not available.

CanPrint

Description

Specifies whether the currently opened document is completely open and ready for printing. A document must be fully processed before it can be printed. Use the OPENWaitOnOpen property to make sure that the `Open` method does not return until the entire document is open. **This property is read-only**.

If this property is `TRUE`, the document can be printed by using the PrintDlg or PrintOut method.

Returns

Type	Description
Boolean	`TRUE` if the document can be printed.
	`FALSE` if the document cannot be printed.

CanSaveAs

Description

Specifies whether the currently opened document can be saved or converted to a different file. If this is `TRUE`, the document can be saved or converted by using the SaveAs and Convert methods. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the document can be saved.

CanSelectAll

Description

Specifies whether all items in the currently opened document can be selected. If this property is `TRUE`, all items in the document can be selected by using the SelectAll method. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the document can be selected.

CanStop

Description

Specifies whether the playing of a multimedia document can be stopped. This property returns `TRUE` only if you have a multimedia document opened and playing. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the document can be stopped.

CanUnZip

Description

Returns `TRUE` if the currently opened document is a container file and there are subfiles selected in the file. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the document can be unzipped.

CanViewPane

Description

Specifies whether a preview pane can be viewed. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` – can show preview pane. This applies only to container files. `FALSE` – cannot show a preview pane.

CharSet

Description

Enables you to get and set the character set of a document that is open in the Viewing window.

Returns

Type	Description
Integer	A value from the enumerated type `KVCharSet`. See the `kvtypes.h` file for a description.

ContextMenu

Description

Turns the context menu on or off. The context menu is the menu that appears when you right mouse click in the client area. This is a persistent property.

Returns

Type	Description
Boolean	`TRUE` if the context menu is enabled.

DocumentClass

Description

Indicates which general class the currently opened document belongs to. **This property is read-only.**

The classes are as follows:

`1` – Text document (ASCII)	`6` – Fax document (FAX)
`2` – Word processor document (WP)	`7` – Presentation (PG)
`3` – Spreadsheet document (SS)	`8` – Archive document
`4` – Image (Image)	`9` – Other
`5` – Multimedia document (MM)	

The document class is useful to determine whether a specific set of properties is applicable to the currently opened document. The codes specified in the brackets above are prefixes used for all persistent properties specific to that document type.

For example, a multimedia document has a `DocumentClass` of 5, and the properties `MMPlayOption` and `MMScaleMovie` are relevant only to multimedia documents. The value of these properties is ignored for any other kind of document.

The one exception to the above rule is the `WPPageLayout` property, which is applicable to both text and word processor documents.

Returns

Type	Description
Short	The document class (a value of `1` through `9`, as described above).

DocumentFormat

Description

Specifies the document format value of a document. This value corresponds to the numerical equivalent of the `DocumentType` property value. For example, the "Microsoft Word for Windows" `DocumentType` corresponds to "44" for the `DocumentFormat` property. **This property is read-only**.

The document formats are defined in the `adinfo.h` header file.

Returns

Type	Description
Integer	*n* – The document format value.

DocumentType

Description

Specifies the type of the currently opened document, such as "Microsoft Word for Windows". If an `Open` fails because the document type is not supported for viewing by Viewing SDK, this property still contains the document type until another call to the `Open` method is made, even though no document is currently opened. **This property is read-only**.

The document formats are defined in the `adinfo.h` header file.

Returns

Type	Description
String	A description of the type of the currently opened document.

DrawPageCount

Description

Specifies the total number of pages in the document. Use this property with the OPENMode property set to **`7`** (drawing mode enabled). **This property is read-only.**

To make sure that the entire document is opened before the page count is retrieved, set the OPENWaitOnOpen property to **`TRUE`**. If `OPENWaitOnOpen` is not set to **`TRUE`**, the returned page count might not be accurate.

Returns

Type	Description
Long	*n* – The number of pages.

DrawPageHeight

Description

Specifies the page height. Use this property with the OPENMode property set to **7** (drawing mode enabled). **This property is read-only**.

Returns

Type	Description
Long	*n* – The page height.

DrawPageWidth

Description

Specifies the page width. Use this property with the OPENMode property set to **7** (drawing mode enabled). **This property is read-only**.

Returns

Type	Description
Long	*n* – The page width.

DrawWorkBookPageCount

Description

Specifies the number of workbook pages in spreadsheet documents. Use this property with the OPENMode property set to **7** (drawing mode enabled). **This property is read-only**.

Returns

Type	Description
Long	`n` – Number of pages.

FileName

Description

Specifies the file name of the currently opened document, for example `file1.doc`. **This property is read-only**.

Returns

Type	Description
String	The file name of the currently opened document.

HiLiteBackground

Description

Specifies the background highlight color. Use this property with the OPENMode property set to `5` (indexing enabled).

Returns

Type	Description
Long	*n* – The color value.

HiLiteForeground

Description

Specifies the foreground highlight color. Use this property with the OPENMode property set to `5` (indexing enabled).

Returns

Type	Description
Long	*n* – The color value.

HotKeys

Description

Specifies whether or not hotkeys are enabled for KeyView and the parent application. The default is `TRUE`.

Returns

Type	Description
Boolean	`TRUE` – Hotkeys are enabled in KeyView and disabled in parent applications.
	`FALSE` – Hotkeys are disabled in KeyView and enabled in parent applications.

ImageCustomSize

Description

Specifies the image document view in a custom size, but only if the `ImageScaling` property is set to **`10`**. The range of acceptable values is 10 to 400 percent. This is a persistent property.

Returns

Type	Description
Integer	*n* – Specify a custom view size.

ImagePrintHorzAlign

Description

Specifies the horizontal print alignment of the image document. This is a persistent property.

Returns

Type	Description
Integer	`0` – Print the image aligned to the left. `1` – Print the image aligned to horizontal center. `2` – Print the image aligned to the right.

ImagePrintMode

Description

Specifies the image document print mode. This is a persistent property.

Returns

Type	Description
Integer	`0` – Print the image in its original size. `1` – Print the image at full-page size. `2` – Print the image at a customized scaling factor based on the value of the `ImagePrintPercent` property (see ImagePrintPercent, below).

ImagePrintPercent

Description

Specifies the image print mode in a custom size, but only if the ImagePrintMode property is set to **2** (customized scaling). The range of acceptable values is 10 to 400 percent. This is a persistent property.

Returns

Type	Description
Integer	*n* – Specify a custom print size.

ImagePrintVertAlign

Description

Specifies the vertical print alignment of the image document. This is a persistent property.

Returns

Type	Description
Integer	`0` – Print the image aligned to the top of the page.
	`2` – Print the image aligned to the bottom of the page.

ImageScaling

Description

Specifies the image document view. This is a persistent property.

Returns

Type	Description
Integer	`1` – Display the image to fit the selected portion of the image to the window, while maintaining the image's aspect ratio.
	`2` – Display the image to fit to the window, while maintaining the image's aspect ratio.
	`3` – Display the image in its original size.
	`10` – Display the image at a customized scaling factor based on the value of the ImageCustomSizeproperty.

IndexBufCharSet

Description

Sets the character set for the returned indexed text buffer of an open document. See GetNextTextBuffer, on page 203 for more information.

Returns

Type	Description
Integer	A value from the `KVCharSet` enumerated type. See the `kvtypes.h` file for a description.

Invert

Description

Indicates and allows the inversion status of a document to be specified, for example, turning black to white and white to black.

Returns

Type	Description
Short	`-1` – Not applicable to the opened document. `0` – The opened document is not inverted. `1` – The opened document is inverted.

JumpToFirstHiLite

Description

Specifies whether to jump to the first highlight. This applies only when using XML files with the Verity Developer's Kit (VDK) to specify highlights.

Returns

Type	Description
Boolean	`TRUE` – jump to the first highlight. `FALSE` – do not jump to the first highlight.

MMPlayOption

Description

Specifies whether a multimedia file plays continuously (loops). This is a persistent property.

Returns

Type	Description
Integer	`0` – Play the multimedia file once and stop. `1` – The multimedia file loops.

MMScaleMovie

Description

Specifies whether the movie should be played at original size or if it should fit to window.

Returns

Type	Description
Boolean	`TRUE` – fit the movie to the window size. `FALSE` – play the movie at the original size.

ObjName

Description

Specifies the name of the currently active object. This applies only to multiple-object documents, such as spreadsheets with multiple worksheets. **This property is read-only**.

Returns

Type	Description
Boolean	`TRUE` if the context menu is enabled.

OPENDisableUI

Description

This property disables the generation of dialog boxes or message boxes by the KeyView control. Dialog boxes such as **Save As** still appear if you specifically call the `SaveAs` method.

Returns

Type	Description
Boolean	`TRUE` – do not generate message boxes or dialog boxes.

OPENHighLight

Description

Specify the text to appear highlighted in subsequently opened documents. For example, `OPENHighLight = 1 dog and mouse` highlights all occurrences of `dog and mouse` (case sensitive) in documents subsequently opened by using the `Open` method.

You can also search for non-adjacent words by separating them with a tab character, indicated by `(tab)`. For example, `OPENHighLight = 1 dog(tab)mouse` highlights all occurences of `dog` or `mouse` (case sensitive).

Returns

Type	Description
String	The first character should be a 1 (case sensitive) or a 0 (case insensitive), followed by the text to be highlighted.

OPENMode

Description

The `OPENMode` property specifies the behavior of the Openmethod.

Returns

Type	Description
Short	`0` – Default open, generates a formatted view of the document if the document format is supported. `1` – Open with a text view of the document. `2` – Open without generating a view. This is useful when, for example, you want to print a document without viewing it. `3` – Open with a text view of the document automatically when the document is an

Type	Description
	unsupported format. 5 – Open the file with indexing enabled. This generates text buffer events. 6 – Open the file for indexing only. This generates text buffer events with document viewing disabled. To get text buffer events in this mode, you need to call the `GetNextTextBuffer` method—except for the first text buffer). 7 – Open the file with drawing methods and properties enabled. 8 – Open the files with revision marks enabled.

OPENWaitOnOpen

Description

If this property is set to **TRUE**, the `Open` method does not return until the entire document is open. This ensures that the document is fully processed before an operation (such as printing, converting, or searching) is performed, and is useful when you want to use an operation immediately after opening the document. Use the various "Can" properties, such as `CanPrint`, `CanSaveAs`, and `CanFind`, to determine whether the document has been completely processed and is ready for the operation.

If you are opening the document for viewing only, set this property to **FALSE** so that the first page of the document can be viewed as soon as it is processed.

Returns

Type	Description
Boolean	If **TRUE**, the `Open` method does not return until the document is completely processed.

PrintAnnotations

Description

Specifies whether annotations should be printed in the printed output of a document.

Returns

Type	Description
Boolean	`TRUE` – print annotations. `FALSE` – do not print annotations.

PrintHeaders

Description

Specifies whether a file name and page number header should be printed at the top of each page of the printed output of a document.

Returns

Type	Description
Boolean	`TRUE` – print the header.
	`FALSE` – do not print the header.

RegIniMode

Description

The `RegIniMode` property specifies whether Viewing gets initialization information from an initialization file (`.ini`) or the registry. The RegIniName property must also be set. See View Initialization Information, on page 23 for more information. This is a persistent property.

> **NOTE:** By default, Viewing SDK looks for the initialization file in the Windows system directory; however, you can specify a file in another location by using the `RegIniName` property.

Returns

Type	Description
Short	`1` – use the initialization file specified in the `RegIniName` property.
	`2` – use the registry entry specified in the `RegIniName` property.

RegIniName

Description

The initialization file (if RegIniMode is `1`) or the registry key (if `RegIniMode` is `2`) where the Viewing initialization information resides. The `RegIniMode` property must also be set. See View Initialization Information, on page 23 for more information. This is a persistent property.

Returns

Type	Description
String	When `RegIniMode` is `1`, this is the path and name of the initialization file. For example, `kvsdk.ini` or `C:\myprogram\myini.ini`. By default, Viewing looks for the initialization file in the Windows system directory. When `RegIniMode` is `2`, this is the registry key under `HKEY_LOCAL_MACHINE\Software`. For example, `YourCompany\YourProduct`. Do not specify the complete registry name, only the `Company\Product` portion.

Rotate

Description

Rotates the currently opened document (fax or picture) and returns the current rotation angle.

Returns

Type	Description
Short	If the value is `-1`, the file cannot be rotated. To rotate the file, specify one of the following angles: `0`, `90`, `180`, `270`, or `360`.

Sample Code

```
If  KEYview1.Rotate > -1 Then  ' Can the file be rotated?
    KEYview1.Rotate = 180      ' Rotate 180 degrees.
End If
```

SrcCharSet

Description

Sets the source character set of a document to be opened. This property is used to specify the character set for documents when the character set cannot be determined by Viewing, such as in the case of plain text documents.

Returns

Type	Description
Integer	A value from the `KVCharSet` enumerated type. See the `kvtypes.h` file for a description.

SSDisplayGrid

Description

Specifies whether the spreadsheet document displays gridlines. This is a persistent property.

Returns

Type	Description
Integer	`0` – Do not display gridlines. `1` – Display gridlines. `2` – Display gridlines based on the setting in the original document.

SSDisplayHeaders

Description

Specifies whether the spreadsheet document displays and prints headings, such as row numbers and column letters. This is a persistent property.

Returns

Type	Description
Integer	`0` – Do not display headers. `1` – Display headers. `2` – Display headers based on the setting in the original document.

SSViewObjects

Description

Specifies whether the spreadsheet document displays embedded graphic objects. This is a persistent property.

Returns

Type	Description
Integer	`0` – Do not display graphic objects. `1` – Display graphic objects.

TrgCharSet

Description

Sets the target character set of a document to be opened. This property forces the character set Viewing uses to display a document. For example, this allows Japanese documents to be accurately displayed on an English Windows machine if the Japanese fonts are available.

Returns

Type	Description
Integer	A value from the `KVCharSet` enumerated type. See the `kvtypes.h` file for a description.

ViewPane

Description

Specifies whether the preview pane of a container file is enabled. When the preview pane is enabled, the viewing area is divided into two panes: one pane displays the contents of the container file, the other displays the contents of the selected subfile.

Returns

Type	Description
Boolean	`TRUE` – the preview pane is enabled.
	`FALSE` – the preview pane is not enabled.

WPCustomSize

Description

Specifies the word processing document view in a custom size, but only if `WPViewMode` is set to **`1`** (page layout mode) and the `WPPageLayout` property is set to **`10`** (customized scaling factor). The range of acceptable values is 10 to 400 percent. This is a persistent property.

Returns

Type	Description
Integer	*n* – Specify a custom view size.

WPDisplayPict

Description

Specifies whether pictures in a word processing document are displayed. This is a persistent property.

Returns

Type	Description
Integer	`0` – Do not display pictures.
	`1` – Display pictures.

WPPageLayout

Description

Specifies the page layout mode of the word processing document. This property applies only if WPViewMode is set to **`1`** (page layout mode). This is a persistent property.

Returns

Type	Description
Integer	`0` – Display the document at full size (100%). `1` – Display the document at the current page width. `10` – Display the document at a customized scaling factor based on the value of the WPCustomSize property.

WPScaleTable

Description

Specifies whether tables in the word processing document are scaled.This property applies only if WPViewMode is set to **`0`** (fit to window mode). In this mode, setting the property to **`TRUE`** scales tables within documents. This is a persistent property.

Returns

Type	Description
Boolean	`TRUE` – scale tables to fit window. `FALSE` – tables retain their original size.

WPViewMode

Description

Specifies whether the word processing document fits to the window size or appears in page layout mode. This is a persistent property.

Returns

Type	Description
Integer	`0` – Display the document in fit to window mode. `1` – Display the document in page layout mode.

Chapter 12: Control Events

This section describes the Viewing ActiveX control events. It includes the following topics:

> **NOTE:** The Viewing control's events in this chapter show the syntax in Visual Basic.

Annotation

Description

These events are generated to report that the user clicked an annotation.

Syntax

```
Annotation(bDoubleClick, lLogicalAddress)
```

Parameters

Parameter	Type	Description
`bDoubleClick`	Boolean	This flag is `TRUE` if the user double-clicked, and `FALSE` if the user single-clicked.
`lLogicalAddress`	Long	The logical address of the mouse click.

KeyDown

Description

These events are generated to indicate that a key is pressed. The `HotKeys` property must be set to **`FALSE`** before the file is opened for these events to be generated.

For more information about HotKeys, see HotKeys, on page 238.

Syntax

```
KeyDown(KeyCode, Shift)
```

Parameters

Parameter	Type	Description
`KeyCode`	Integer	The virtual key code of the key that was pressed.
`Shift`	Integer	This parameter is always `0`.

MouseUp

Description

These events are generated to indicate that the right mouse button is released. The `ContextMenu` property must be set to `FALSE` before the file is opened for these events to be generated. Users can combine `MouseUp` and `ContextMenu` to disable KeyView's context menu and implement their own.

For more information about `ContextMenu`, see ContextMenu, on page 234.

Syntax

```
MouseUp(Button, Shift, X, Y)
```

Parameters

Parameter	Type	Description
`Button`	Short	This parameter should always be set to **`2`**.
`Shift`	Short	This parameter should always be set to **`0`**.

Parameter	Type	Description
X	Long	The x-coordinate of the cursor when a mouse button was released. The coordinate is relative to the upper-left corner of the control window.
Y	Long	The y-coordinate of a cursor when a mouse button was released. The coordinate is relative to the upper-left corner of the control window.

OpenDocDone

Description

These events are generated to indicate the percentage (0-100) of the document processed. These events are generated in response to the `Open` method call.

Syntax

```
OpenDocDone(PercentageDone)
```

Parameters

Parameter	Type	Description
PercentageDone	Short	The percentage of the document processed.

PageNumber

Description

This event is generated in response to an `Open` method call. It indicates the total number of pages in the document and the page number at which the document is currently being viewed.

Syntax

```
PageNumber(CurrentPage, TotalPages)
```

Parameters

Parameter	Type	Description
CurrentPage	Short	The current page number of the document.
TotalPages	Short	The total number of pages in the document. This number reflects the total number of processed pages, until the `OpenDocDone` event reaches `100`.

PrintDone

Description

This event indicates that the printing of the document is complete.

> **NOTE:** This event does not return any status reports. If you want to receive a status report about your print job, use PrintDoneEx.

Syntax

```
PrintDone()
```

Parameters

None

PrintDoneEx

Description

This event indicates that the printing of the document is complete, and reports the status of the print job.

> **NOTE:** If you do not want to receive status reports, use PrintDone.

Syntax

```
PrintDoneEx(printStatus)
```

Parameters

Parameter	Type	Description
`printStatus`	Short	Returns one of four status reports: `0`: General error `1`: Success `2`: Printing aborted by user `3`: Printing aborted due to Windows GDI call failure

Selection

Description

These events are generated to report that the user changed the selection state.

Syntax

```
Selection(bHaveSelection, lStart, lEnd)
```

Parameters

Parameter	Type	Description
`BHaveSelection`	Boolean	The flag is `TRUE` if a selection exists, or `FALSE` if a selection does not exist.
`lStart`	Long	The logical address of the start of the view.
`lEnd`	Long	The logical address of the end of the view.

TextBuffer

Description

This event returns a text buffer.

Syntax

```
TextBuffer(lBaseLogicalAddress, szBuffer)
```

Parameters

Parameter	Type	Description
`lBaseLogicalAddress`	Long	The logical address of the text buffer.
`szBuffer`	String	A pointer to the text buffer.

UserClick

Description

These events are generated to report that the user clicked the mouse on the document. To generate the events, set the OPENMode property to `5` before the document is opened. This indicates that the file should be opened with indexing enabled.

Syntax

```
UserClick(bDoubleClick, lLogicalAddress)
```

Parameters

Parameter	Type	Description
`bDoubleClick`	Boolean	The flag is `TRUE` if the user double-clicked, and `FALSE` if the user single-clicked.
`lLogicalAddress`	Long	The logical address of the mouse click.

ViewExtent

Description

These events are generated to report that the user changed the view extent.

Syntax

```
ViewExtent(lStart, lEnd)
```

Parameters

Parameter	Type	Description
`lStart`	Long	The logical address of the start of the view.
`lEnd`	Long	The logical address of the end of the view.

ViewFile

Description

This event is generated in response to a user double-clicking on the contents of a displayed container file or using the `UnZip` method. You can then respond to this event to `Open` the file.

Syntax

```
ViewFile(FileName, DeleteFile)
```

Parameters

Parameter	Type	Description
`FileName`	String	The path and file name of the file that the user double-clicked within the container file.
`DeleteFile`	Boolean	If this is `TRUE`, delete the file when you are finished with it (it is a temporary file).

Part IV: Appendixes

This section provides information on files required for redistribution, character sets, and supported and detected formats, and includes the following appendixes:

Appendix A: Supported Formats

This section lists the file formats that KeyView can process (either filter, convert, or display).

Supported Formats

The tables in this section provide the following information:

- The file formats supported by the Filter API, Export API, Viewing API, and File Extraction API. The supported versions and the format's extension are also listed. All of the formats listed in this section can be detected by the KeyView format detection module (`kwad`). For a complete list of formats that can be detected, see Detected Formats, on page 289.
- The file formats for which KeyView can detect and extract the character set and metadata information (properties such as title, author, and subject).

  Even though a file format might be able to provide character set information, some documents might not contain character set information. Therefore, the document reader would not be able to determine the character set of the document. In this case, either the operating system code page or the character set specified in the API is used.
- The document reader used to filter each format.

Key to Support Tables

Symbol	Description
Y	The format is supported. You can extract metadata for this format. You can determine the character set for this format.
N	The format is not supported. You cannot extract metadata for this format. You cannot determine the character set for this format.
P	Partial metadata is extracted from this format. Some non-standard fields are not extracted.
T	Only text is extracted from this format. Formatting information is not extracted.
M	Only metadata (title, subject, author, and so on) is extracted from this format. Text and formatting information are not extracted.

Archive Formats

Supported Archive Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
7-Zip	4.57	z7zsr, multiarcsr[1]	7Z	N	N	Y	Y	N	n/a	N
AD1	n/a	ad1sr	AD1	N	N	Y	Y	N	n/a	N
ARJ	n/a	multiarcsr	ARJ	N	N	N	Y	N	n/a	N
B1	n/a	b1sr	B1	N	N	Y	Y	N	n/a	N
BinHex	n/a	kvhqxsr	HQX	N	N	Y	Y	N	n/a	N
Bzip2	n/a	bzip2sr	BZ2	N	N	Y	Y	N	n/a	N
CPIO (copy-in-and-out archiver)	n/a	multiarcsr		N	N	N	Y	N	n/a	N
Debian binary package	n/a	multiarcsr	DEB	N	N	N	Y	N	n/a	N
DOS/Windows Object Library	n/a	multiarcsr	LIB, A	N	N	N	Y	N	n/a	N
Expert Witness Compression Format (EnCase)	6	encasesr	E01, L01	N	N	Y	Y	N	n/a	N
	7	encase2sr	Lx01	N	N	Y	Y	N	n/a	N

[1] 7zip is supported with the multiarcsr reader on some platforms for Extract.

Supported Archive Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
GZIP	2	kvgzsr	GZ	N	N	N	Y	N	n/a	N
		kvgz	GZ	N	N	Y	N	N	n/a	N
ISO	n/a	isosr	ISO	N	N	Y	Y	N	n/a	N
Java Archive	n/a	unzip	JAR	N	N	Y	Y	N	n/a	N
Legato EMailXtender Archive	n/a	emxsr	EMX	N	N	Y	Y	N	n/a	N
LZMA compressed data	n/a	multiarcsr	LZMA	N	N	N	Y	N	n/a	N
MacBinary	n/a	macbinsr	BIN	N	N	Y	Y	N	n/a	N
Mac Disk Copy Disk Image	n/a	dmgsr	DMG	N	N	Y	Y	N	n/a	N
Mac OS-X (Mach-O) executable	n/a	multiarcsr		N	N	N	Y	N	n/a	N
Microsoft Backup File	n/a	bkfsr	BKF	N	N	Y	Y	N	n/a	N
Microsoft Cabinet format	1.3	cabsr	CAB	N	N	Y	Y	N	n/a	N
Microsoft Compiled HTML Help	3	chmsr	CHM	N	N	Y	Y	N	n/a	N
Microsoft Compressed Folder	n/a	lzhsr	LZH LHA	N	N	N	Y	N	n/a	N
Microsoft Power BI Desktop format	n/a	unzip	PBIX	N	N	N	Y	N	n/a	N
MSI (Microsoft Installer)	n/a	multiarcsr	MSI	N	N	N	Y	N	n/a	N

Supported Archive Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
PKZIP	through 9.0	unzip	ZIP	N	N	Y	Y	N	n/a	N
RAR archive	2.0 through 3.5	rarsr	RAR	N	N	N	Y	N	n/a	N
RAR5 archive	5	multiarcsr	RAR5	N	N	N	Y	N	n/a	N
RPM (package manager file)	n/a	multiarcsr	RPM	N	N	N	Y	N	n/a	N
SUN PEX Binary Archive	n/a	multiarcsr		N	N	Y	Y	N	n/a	N
Tableau Packaged Data Source format	n/a	unzip	TDSX	N	N	N	Y	N	n/a	N
Tableau Packaged Workbook format	n/a	unzip	TWBX	N	N	N	Y	N	n/a	N
Tape Archive	n/a	tarsr	TAR	N	N	Y	Y	N	n/a	N
UNIX Compress	n/a	kvzeesr	Z	N	N	N	Y	N	n/a	N
		kvzee	Z	N	N	Y	N	N	n/a	N
UUEncoding	all versions	uudsr	UUE	N	N	Y	Y	N	n/a	N
XZ	n/a	multiarcsr	XZ	N	N	N	Y	N	n/a	N
Windows Imaging Format	n/a	multiarcsr	WIM	N	N	N	Y	N	n/a	N

Supported Archive Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Windows Scrap File	n/a	olesr	SHS	N	N	N	Y	N	n/a	N
WinZip	through 10	unzip	ZIP	N	N	Y	Y	N	n/a	N
XAR (Extensible Archive)	n/a	multiarcsr		N	N	N	Y	N	n/a	N
Zipped Keyhole Markup Language	n/a	unzip	ZIP	N	N	N	Y	N	n/a	N

Binary Format

Supported Binary Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Executable	n/a	exesr	EXE	N	N	Y	N	N	n/a	N
Link Library	n/a	exesr	DLL	N	N	Y	N	N	n/a	N

Computer-Aided Design Formats

Supported CAD Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
AutoCAD Drawing	R13, R14, R15/2000, 2004, 2007, 2010, 2013, 2018	kpODArdr kpDWGrdr[1]	DWG	Y	Y	Y	N	Y	Y	N
AutoCAD Drawing Exchange	R13, R14, R15/2000, 2004, 2007, 2010, 2013	kpODArdr kpDXFrdr[2]	DXF	Y	Y	Y	N	Y	Y	N
CATIA formats	5	kpCATrdr	CAT[3]	Y	N	N	N	Y	N	N
Microsoft Visio	4, 5, 2000, 2002, 2003, 2007, 2010[4]	vsdsr	VSD	Y	Y	Y	Y[5]	Y	Y	N
		kpVSD2rdr	VSD, VSS VST	Y	Y	Y	N	Y	Y	N

[1]The `kpODArdr` reader can filter, export, and view all versions but is supported only on Windows, Linux, and OSX. The `kpDWGrdr` reader is used on AIX, FreeBSD, Solaris, and SPARC platforms, but does not support graphics for versions after 2004 or text for versions after 2013.
[2]The `kpODArdr` reader can filter, export, and view all versions but is supported only on Windows, Linux, and OSX. The `kpDXFrdr` reader is used on AIX, FreeBSD, Solaris, and SPARC platforms, but does not support graphics for versions after 2004.
[3]All CAT file extensions, for example CATDrawing, CATProduct, CATPart, and so on.
[4]Viewing and Export use the graphic reader, kpVSD2rdr for Microsoft Visio 2003, 2007, and 2010, and vsdsr for all earlier versions. Image fidelity in Viewing and Export is therefore only supported for versions 2003 and above. Filter uses the graphic reader kpVSD2rdr for Microsoft Visio 2003, 2007, and 2010, and vsdsr for all earlier versions.
[5]Extraction of embedded OLE objects is supported for Filter on Windows platforms only.

Supported CAD Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
	2013	ActiveX components	VSDM VSSM VSTM VSDX VSSX VSTX	N	N	Y[1]	N	Y	N	N
		kpVSDXrdr	VSDM VSSM VSTM VSDX VSSX VSTX	Y	Y	Y	Y	Y	Y	N
Unigraphics (UG) NX		kpUGrdr	PRT	Y	N	N	N	N	N	N

Database Formats

Supported Database Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
dBase Database	III+, IV	dbfsr	DBF	Y	Y	Y	N	N	N	N

[1]Visio 2013 is supported in Viewing only, with the support of ActiveX components from the Microsoft Visio 2013 Viewer. Image fidelity is supported but other features, such as highlighting, are not.

Supported Database Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Microsoft Access	95, 97, 2000, 2002, 2003, 2007, 2010, 2013, 2016	mdbsr	MDB, ACCDB	Y	T	T	N	N	Y[1]	N
Microsoft Project	2000, 2002, 2003, 2007, 2010, 2013, 2016	mppsr	MPP	Y	Y	Y	Y	Y	Y	N

Desktop Publishing

Supported Desktop Publishing Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Microsoft Publisher	98 to 2016	mspubsr	PUB	Y	T	T	Y	Y	Y	N

Display Formats

Supported Display Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Adobe PDF	1.1 to 1.7	pdfsr	PDF	Y	Y	N	Y[2]	Y	Y	N
		pdf2sr	PDF	N	Y	N	N	N	N	N

[1]Charset is not supported for Microsoft Access 95 or 97.

[2]Includes support for extraction of subfiles from PDF Portfolio documents.

Supported Display Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
		kppdfrdr	PDF	N	Y	Y	N	N	N	N
		kppdf2rdr[1]	PDF	N	N	Y	N	N	N	N

Graphic Formats

Supported Graphic Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Computer Graphics Metafile	n/a	kpcgmrdr[2]	CGM	Y	Y	Y	N	N	N	N
CorelDRAW[3]	through 9.0 10, 11, 12, X3	kpcdrrdr	CDR	N	Y	Y	N	N	N	N
DCX Fax System	n/a	kpdcxrdr	DCX	N	Y	Y	N	N	N	N
Digital Imaging & Communications in	n/a	dcmsr	DCM	M	N	N	N	Y	N	N

[1]kppdf2rdr is an alternate graphic-based reader that produces high-fidelity output but does not support other features such as highlighting or text searching.
[2]Files with non-partitioned data are supported.

[3]CDR/CDR with TIFF header.

Supported Graphic Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Medicine (DICOM)										
Encapsulated PostScript (raster)	TIFF header	kpepsrdr	EPS	N	Y	Y	N	N	N	N
Enhanced Metafile	n/a	kpemfrdr	EMF	Y	Y	Y	N	Y	N	N
GIF	87, 89	kpgifrdr	GIF	N	Y	Y	N	N	N	N
		gifsr		M	M	N	N	Y	N	N
ISO-BMFF JPEG 2000 compound image	n/a	kpjp2000rdr	JPM	N	Y	Y	N	N	N	N
		jp2000sr		M	M	N	N	Y	N	N
ISO-BMFF JPEG 2000 image	n/a	kpjp2000rdr	JP2	N	Y	Y	N	N	N	N
		jp2000sr		M	M	N	N	Y	N	N
ISO-BMFF JPEG 2000 with extensions	n/a	kpjp2000rdr	JPX	N	Y	Y	N	N	N	N
		jp2000sr		M	M	N	N	Y	N	N
JBIG2	n/a	kpJBIG2rdr	JBIG2	N	Y	Y	N	N	N	N
JPEG	n/a	kpjpgrdr	JPEG	N	Y	Y	N	N	N	N
		jpgsr		M	M	N	N	Y	N	N
JPEG 2000	n/a	kpjp2000rdr	JP2, JPF, J2K, JPWL, JPX, PGX	N	Y	Y	N	N	N	N
		jp2000sr		M	M	N	N	Y	N	N

Supported Graphic Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
JPEG 2000 PGX Verification Model image	n/a	kpjp2000rdr	PGX	N	Y	Y	N	N	N	N
		jp2000sr		M	M	N	N	Y	N	N
Lotus AMIDraw Graphics	n/a	kpsdwrdr	SDW	N	Y	Y	N	N	N	N
Lotus Pic	n/a	kppicrdr	PIC	Y	Y	Y	N	N	N	N
Macintosh Raster	2	kppctrdr	PIC PCT	N	Y	Y	N	N	N	N
MacPaint	n/a	kpmacrdr	PNTG	N	Y	Y	N	N	N	N
Microsoft Office Drawing	n/a	kpmsordr	MSO	N	Y	Y	N	N	N	N
Omni Graffle	n/a	kpGFLrdr	GRAFFLE	Y	N	N	N	Y	Y	N
PC PaintBrush	3	kppcxrdr	PCX	N	Y	Y	N	N	N	N
Portable Network Graphics	n/a	kppngrdr	PNG	N	Y	Y	N	N	N	N
		pngsr	PNG	M	M	N	N	Y	N	N
Scalable Vector Graphics	n/a	xmlsr	SVG	Y	T	T	N	Y	Y	N
SGI RGB Image	n/a	kpsgirdr	RGB	N	Y	Y	N	N	N	N
Sun Raster Image	n/a	kpsunrdr	RS	N	Y	Y	N	N	N	N

Supported Graphic Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Tagged Image File	through 6.0[1]	tifsr	TIFF	M	M	N	N	Y	N	N
		kptifrdr	TIFF	N	Y	Y	N	N	N	N
Truevision Targa	2	kpTGArdr	TGA	N	Y	Y	N	N	N	N
Windows Animated Cursor	n/a	kpanirdr	ANI	N	Y	Y	N	N	N	N
Windows Bitmap	n/a	kpbmprdr	BMP	N	Y	Y	N	N	N	N
		bmpsr	BMP	M	M	N	N	Y	N	N
Windows Icon Cursor	n/a	kpicordr	ICO	N	Y	Y	N	N	N	N
Windows Metafile	3	kpwmfrdr	WMF	Y[2]	Y	Y	N	N	N	N
WordPerfect Graphics 1	1	kpwpgrdr	WPG	N	Y	Y	N	N	N	N
WordPerfect Graphics 2	2, 7	kpwg2rdr	WPG	N	Y	Y	N	N	N	N

[1]The following compression types are supported: no compression, CCITT Group 3 1-Dimensional Modified Huffman, CCITT Group 3 T4 1-Dimensional, CCITT Group 4 T6, LZW, JPEG (only Gray, RGB and CMYK color space are supported), and PackBits.

[2]Windows Metafiles can contain both raster images (KeyView file class 4) and vector graphics (KeyView file class 5). Filtering is supported only for vector graphics (class 5).

Mail Formats

Supported Mail Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Documentum EMCMF	n/a	msgsr	EMCMF	N	N	Y	Y	Y	Y	N
Domino XML Language[1]	n/a	dxlsr	DXL	N	N	Y	Y	Y	N	N
GroupWise FileSurf	n/a	gwfssr	GWFS	N	N	Y	Y	Y	N	N
Legato Extender	n/a	onmsr	ONM	N	N	Y	Y	Y	N	N
Lotus Notes database	4, 5, 6.0, 6.5, 7.0, 8.0	nsfsr	NSF	N	N	Y	Y	Y	N	N
Mailbox[2]	Thunderbird 1.0, Eudora 6.2	mbxsr[3]	MBX	N	N	T	Y	Y	Y	N
Microsoft	2004	entsr	various	N	N	Y	Y	Y	Y	N

[1]Supports non-encrypted embedded files only.

[2]KeyView supports MBX files created by Eudora Email and Mozilla Thunderbird. MBX files created by other common mail applications are typically filtered, converted, and displayed.

[3]This reader supports both clear signed and encrypted S/MIME. KeyView supports S/MIME for PST, EML, MBX, and MSG files.

Supported Mail Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Entourage Database										
Microsoft Outlook	97, 2000, 2002, 2003, 2007, 2010, 2013, 2016, 2019	msgsr[1]	MSG, OFT	Y	T	T	Y	Y	Y [2]	N
Microsoft Outlook DBX	5.0, 6.0	dbxsr	DBX	N	N	Y	Y	Y	Y	N
Microsoft Outlook Express	Windows 6 MacIntosh 5	emlsr[3]	EML	Y	T	T	Y	Y	Y	N
		mbxsr[4]	EML	N	N	T	Y	Y	Y	N
Microsoft Outlook iCalendar	1.0, 2.0	icssr	ICS, VCS	N	N	Y	Y	Y	Y	N
Microsoft Outlook for Macintosh	2011	olmsr	OLM	N	N	Y	Y	N	Y	N
Microsoft Outlook Offline Storage File	97, 2000, 2002, 2003, 2007, 2010, 2013	pffsr[5]	OST	N	N	Y	Y	Y	Y	N

[1]This reader supports both clear signed and encrypted S/MIME. KeyView supports S/MIME for PST, EML, MBX, and MSG files.

[2]Returns "Unicode" character set for version 2003 and up, and "Unknown" character set for previous versions.

[3]This reader supports both clear signed and encrypted S/MIME. KeyView supports S/MIME for PST, EML, MBX, and MSG files.

[4]This reader supports both clear signed and encrypted S/MIME. KeyView supports S/MIME for PST, EML, MBX, and MSG files.

[5]The reader `pffsr` is available only on Windows and Linux.

Supported Mail Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Microsoft Outlook Personal Folder[1]	97, 2000, 2002, 2003, 2007, 2010, 2013, 2016, 2019	pstsr[2]	PST	N	N	Y	Y	Y	N	N
	97, 2000, 2002, 2003, 2007, 2010, 2013	pstnsr	PST	N	N	Y	Y	Y	Y	N
	97, 2000, 2002, 2003, 2007, 2010, 2013, 2016, 2019	pstxsr	PST	N	N	Y	Y	Y	Y	N
Microsoft Outlook vCard Contact	2.1, 3.0, 4.0	vcfsr	VCF	Y	Y	T	N	Y	N	N
Text Mail (MIME)	n/a	emlsr[3]	various	Y	T	T	Y	Y	Y	N
		mbxsr[4]	various	Y	T	T	Y	Y	Y	N
Transport Neutral Encapsulation Format	n/a	tnefsr	various	N	N	Y	Y	Y	Y	N

[1]KeyView provides several readers capable of processing PST files. The `pstsr` reader uses the Microsoft Messaging Application Programming Interface (MAPI), works only on Windows, and requires that you have Microsoft Outlook installed. The `pstxsr` reader is available for Windows (32-bit and 64-bit) and Linux (64-bit only) and does not require Microsoft Outlook. The `pstnsr` reader is an alternative reader that does not require Microsoft Outlook, for all platforms not supported by `pstxsr`.
[2]This reader supports both clear signed and encrypted S/MIME. KeyView supports S/MIME for PST, EML, MBX, and MSG files.

[3]This reader supports both clear signed and encrypted S/MIME. KeyView supports S/MIME for PST, EML, MBX, and MSG files.

[4]This reader supports both clear signed and encrypted S/MIME. KeyView supports S/MIME for PST, EML, MBX, and MSG files.

Multimedia Formats

Viewing SDK plays some multimedia files using the Windows Media Control Interface (MCI). MCI is a set of Windows APIs that communicate with multimedia devices.

Supported Multimedia Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
3GPP video file	n/a	mpeg4sr	3GP	M	N	N	N	Y	N	N
3GPP2 video file	n/a	mpeg4sr	3G2	M	N	N	N	Y	N	N
Adobe Flash Player audio	n/a	mpeg4sr	F4A	M	N	N	N	Y	N	N
Adobe Flash Player audio book	n/a	mpeg4sr	F4B	M	N	N	N	Y	N	N
Adobe Flash Player protected video	n/a	mpeg4sr	F4P	M	N	N	N	Y	N	N
Adobe Flash Player video	n/a	mpeg4sr	F4V	M	N	N	N	Y	N	N
Apple ISO-BMFF QuickTime video	n/a	MCI	QT MOV	N	N	Y	N	N	N	N
Apple MPEG-4 Part 14 audio	n/a	mpeg4sr	M4A	M	N	N	N	Y	N	N
Apple MPEG-4 Part 14 audio book	n/a	mpeg4sr	M4B	M	N	N	N	Y	N	N
Apple MPEG-4 Part 14 protected audio	n/a	mpeg4sr	M4P	M	N	N	N	Y	N	N
Apple MPEG-4 Part 14	n/a	mpeg4sr	M4V	M	N	N	N	Y	N	N

Supported Multimedia Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
video										
Audible Enhanced Audiobook	n/a	mpeg4sr	AAX	M	N	N	N	Y	N	N
KDDI video file	n/a	MCI		N	N	Y	N	N	N	N
Advanced Systems Format	1.2	asfsr	ASF WMA WMV	N	N	N	N	Y	N	N
Audio Interchange File Format	n/a	MCI	AIFF	N	N	Y	N	N	N	N
		aiffsr	AIFF	M	N	N	N	Y	N	N
ISO-BMFF MPEG-4 with AVC extension	n/a	mpeg4sr		M	N	N	N	Y	N	N
Microsoft Wave Sound	n/a	MCI	WAV	N	N	Y	N	N	N	N
		riffsr	WAV	M	N	N	N	Y	N	N
MIDI	n/a	MCI	MID	N	N	Y	N	N	N	N
Mobile QuickTime video	n/a	mpeg4sr	MQV	M	N	N	N	Y	N	N
Motion JPEG 2000	n/a	kpjp2000rdr	MJ2 MJP2	N	Y	Y	N	N	N	N
		jp2000sr		M	M	N	N	Y	N	N
MPEG-1 Audio layer 3	ID3 v1 and v2	MCI	MP3	N	N	Y	N	N	N	N
		mp3sr	MP3	M	M	Y	N	Y	N	N

Supported Multimedia Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
MPEG-1 Video	2, 3	MCI	MPG	N	N	Y	N	N	N	N
MPEG-2 Audio	n/a	MCI	MPEGA	N	N	Y	N	N	N	N
MPEG-21	n/a	mpeg4sr		M	N	N	N	Y	N	N
MPEG-4 Audio	n/a	mpeg4sr	MP4 3GP	M	N	N	N	Y	N	N
Nero AAC audio	n/a	mpeg4sr		M	N	N	N	Y	N	N
Nero MPEG-4 profile	n/a	mpeg4sr		M	N	N	N	Y	N	N
Nero MPEG-4 profile with AVC extension	n/a	mpeg4sr		M	N	N	N	Y	N	N
NeXT/Sun Audio	n/a	MCI	AU	N	N	Y	N	N	N	N
NTT MPEG-4	n/a	mpeg4sr		M	N	N	N	Y	N	N
QuickTime Movie	2, 3, 4	MCI	QT MOV	N	N	Y	N	N	N	N
Sony PSP MPEG-4	n/a	mpeg4sr	MP4	M	N	N	N	Y	N	N
Sony XAVC video	n/a	mpeg4sr		M	N	N	N	Y	N	N
Windows Video	2.1	MCI	AVI	N	N	Y	N	N	N	N

NOTE:
Depending on the default multimedia player installed on your computer, the View API might not be able to play some supported multimedia formats. To play multimedia files, the View API uses the Windows Media Control Interface (MCI) to communicate with the multimedia player installed on your computer. If the player does not play a multimedia file that is supported by the Viewing SDK, the View API cannot

> play the file.
>
> If you cannot play a supported multimedia file by using the View API, install a different multimedia player or compressor/decompressor (codec) component.

Presentation Formats

Supported Presentation Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Apple iWork Keynote	2, 3, '08, '09	kplWPGrdr	GZ	Y	Y	Y	N	Y	Y	N
	'13, '16, '18 iCloud 2018	kplWPG13rdr [1]	KEY	Y	T	N	N	N	N	N
Applix Presents	4.0, 4.2, 4.3, 4.4	kpagrdr	AG	Y	Y	Y	N	N	N	N
Corel Presentations	6, 7, 8, 9, 10, 11, 12, X3	kpshwrdr	SHW	Y	Y	Y	N	N	N	N
Extensible Forms Description Language	n/a	kpXFDLrdr	XFD XFDL	Y	Y	Y	N	Y	Y	N
Lotus Freelance Graphics	96, 97, 98, R9, 9.8	kpprzrdr	PRZ	Y	Y	Y	N	N	N	N
Lotus Freelance Graphics 2	2	kpprerdr	PRE	Y	Y	Y	N	N	N	N

[1] This reader is available only on Windows (32-bit and 64-bit), Linux (32-bit and 64-bit), and Solaris x86-64.

Supported Presentation Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Macromedia Flash	through 8.0	swfsr	SWF	Y	Y	Y	N	N	Y[1]	N
Microsoft PowerPoint Macintosh	98	kpp40rdr	PPT	Y	Y	Y	N	N	N	N
	2001, v.X, 2004	kpp97rdr	PPT PPS POT	Y	Y	Y	N	P	Y	N
Microsoft PowerPoint PC	4	kpp40rdr	PPT	Y	Y	Y	N	P	N	N
Microsoft PowerPoint Windows	95	kpp95rdr	PPT	Y	Y	Y	N	P	Y	N
Microsoft PowerPoint Windows	97, 2000, 2002, 2003	kpp97rdr	PPT PPS POT	Y	Y	Y	Y	P	Y	Y[2]
Microsoft PowerPoint Windows XML	2007, 2010, 2013, 2016, 2019	kpppxrdr	PPTX PPTM POTX POTM PPSX PPSM PPAM	Y	Y	Y	Y	Y	Y	Y

[1]The character set cannot be determined for versions 5.x and lower.

[2]Slide footers are supported for Microsoft PowerPoint 97 and 2003.

Supported Presentation Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
OASIS Open Document Format	1, 2[1]	kpodfrdr	SXD SXI ODG ODP	Y	Y	Y	Y[2]	Y	Y	N
OpenOffice Impress, LibreOffice Impress	1 to 5	sosr	SXI SXP ODP	Y	T	T	N	Y	Y	N
StarOffice Impress	3, 4, 5	kpsddrdr	SDA SDD	Y	T	N	N	N	N	N
	6, 7, 8, 9	sosr	SXI SXP ODP	Y	T	T	N	Y	Y	N

[1]Generated by OpenOffice Impress 2.0, StarOffice 8 Impress, and IBM Lotus Symphony Presentation 3.0.

[2]Supported using the `olesr` embedded objects reader.

Spreadsheet Formats

Supported Spreadsheet Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Apple iWork Numbers	‘08, ‘09	iwsssr	GZ	Y	Y	Y	N	Y	Y	N
	'13, '16, '18, iCloud 2018	iwss13sr[1]	NUMBERS	Y	T	T	N	N	Y	N
Applix Spreadsheets	4.2, 4.3, 4.4	assr	AS	Y	Y	Y	N	N	Y	N
Comma Separated Values	n/a	csvsr	CSV	Y	Y	Y	N	N	N	N
Corel Quattro Pro	5, 6, 7, 8	qpssr	WB2 WB3	Y	Y	Y	N	P	Y	N
	X4	qpwsr	QPW	Y	N	Y	N	P	Y	N
Data Interchange Format	n/a	difsr		Y	Y	Y	N	N	N	N
Lotus 1-2-3	96, 97, R9, 9.8	l123sr	123	Y	Y	Y	N	P	Y	N
Lotus 1-2-3	2, 3, 4, 5	wkssr	WK4	Y	Y	Y	N	N	Y	N
Lotus 1-2-3 Charts	2, 3, 4, 5	kpchtrdr	123	N	Y	Y	N	N	N	N
Microsoft Excel Charts	2, 3, 4, 5, 6, 7	kpchtrdr	XLS	N	Y	Y	N	N	N	N

[1]This reader is available only on Windows (32-bit and 64-bit), Linux (32-bit and 64-bit), and Solaris x86-64.

Supported Spreadsheet Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Microsoft Excel Macintosh	98, 2001, v.X, 2004	xlssr	XLS	Y	Y	Y	Y[1]	Y	Y	N
Microsoft Excel Windows	2.2 through 2003	xlssr	XLS XLW XLT XLA	Y	Y	Y	Y[2]	Y	Y	Y
Microsoft Excel Windows XML	2007, 2010, 2013, 2016, 2019	xlsxsr	XLSX XLTX XLSM XLTM XLAM	Y	Y	Y	Y	Y	Y	Y
Microsoft Excel Binary Format	2007, 2010, 2013, 2016	xlsbsr	XLSB	Y	Y	Y	N	N	N	N
Microsoft Works Spreadsheet	2, 3, 4	mwssr	S30 S40	Y	Y	Y	N	N	Y	N
OASIS Open Document Format	1, 2[3]	odfsssr	ODS SXC STC	Y	Y	Y	Y[4]	Y	Y	N
OpenOffice Calc, LibreOffice Calc	1 to 5	sosr	SXC ODS	Y	T	T	N	Y	Y	N

[1]Supported using the embedded objects reader `olesr`.
[2]Supported for versions 97 and higher using the embedded objects reader `olesr`.
[3]Generated by OpenOffice Calc 2.0, StarOffice 8 Calc, and IBM Lotus Symphony Spreadsheet 3.0.
[4]Supported using the embedded objects reader `olesr`.

Supported Spreadsheet Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
			OTS							
StarOffice Calc	3, 4, 5	starcsr	SDC	Y	T	T	N	N	N	N
	6, 7, 8, 9	sosr	SXC ODS	Y	T	T	N	Y	Y	N

Text and Markup Formats

Supported Text and Markup Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
ANSI	n/a	afsr	TXT	Y	Y	Y	N	N	N	N
ASCII	n/a	afsr	TXT	Y	Y	Y	N	N	N	N
HTML	3, 4	htmsr	HTM	Y	Y	Y	N	P	Y	N
Microsoft Excel Windows XML	2003	xmlsr	XML	Y	T	T	N	Y	Y	N
Microsoft Word Windows XML	2003	xmlsr	XML	Y	T	T	N	Y	Y	N
Microsoft Visio XML	2003	xmlsr	VDX VTX	Y	T	T	N	Y	Y	N
MIME HTML	n/a	mhtsr	MHT	Y	Y	Y	N	Y	Y	N
Rich Text Format	1 through 1.7	rtfsr	RTF	Y	Y	Y	N	P	Y	Y

Supported Text and Markup Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Tableau Data Source format	n/a	xmlsr	TDS	Y	T	T	N	Y	Y	N
Tableau Map Source format	n/a	xmlsr	TMS	Y	T	T	N	Y	Y	N
Tableau Preferences format	n/a	xmlsr	TPS	Y	T	T	N	Y	Y	N
Tableau Workbook format	n/a	xmlsr	TWB	Y	T	T	N	Y	Y	N
Unicode HTML	n/a	unihtmsr	HTM	Y	Y	Y	N	Y	Y	N
Unicode Text	3, 4	unisr	TXT	Y	Y	Y	N	N	Y	N
Vector Open Diagnostic Data Exchange Format	n/a	xmlsr	ODX	Y	T	T	N	Y	Y	N
XHTML	1.0	htmsr	HTM	Y	Y	Y	N	Y	Y	N
XML (generic)	1.0	xmlsr	XML	Y	T	T	N	Y	Y	N

Word Processing Formats

Supported Word Processing Formats

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Adobe FrameMaker Interchange Format	5, 5.5, 6, 7	mifsr	MIF	Y	Y	Y	N	N	Y	N
Apple iChat Log	1, AV 2 AV 2.1, AV 3	ichatsr	ICHAT	Y	Y	Y	N	N	N	N

Supported Word Processing Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Apple iWork Pages	‘08, ‘09	iwwpsr	GZ	Y	Y	Y	N	Y	Y	N
	'13, '16, '18 iCloud 2018	iwwp13sr[1]	PAGES	Y	T	T	N	N	N	N
Applix Words	3.11, 4, 4.1, 4.2, 4.3, 4.4	awsr	AW	Y	Y	Y	N	N	Y	Y
Corel WordPerfect Linux	6.0, 8.1	wp6sr	WPS	Y	Y	Y	N	P	Y	N
Corel WordPerfect Macintosh	1.02, 2, 2.1, 2.2, 3, 3.1	wpmsr	WPM	Y	Y	Y	N	N	Y	N
Corel WordPerfect Windows	5, 5.1	wosr	WO	Y	Y	Y	N	P	Y	Y
Corel WordPerfect Windows	6, 7, 8, 9, 10, 11, 12, X3	wp6sr	WPD	Y	Y	Y	N	P	Y	Y
DisplayWrite	4	dw4sr	IP	Y	Y	Y	N	N	Y	N
Folio Flat File	3.1	foliosr	FFF	Y	Y	Y	N	Y	Y	Y
Founder Chinese E-paper Basic	3.2.1	cebsr[2]	CEB	Y	N	N	N	N	N	N

[1]This reader is available only on Windows (32-bit and 64-bit), Linux (32-bit and 64-bit), and Solaris x86-64.
[2]This reader is only supported on Windows 32-bit platforms.

Supported Word Processing Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Fujitsu Oasys	7	oa2sr	OA2	Y	Y	Y	N	P	N	N
Haansoft Hangul	97	hwpsr	HWP	Y	Y	Y	N	Y	Y	N
	2002, 2005, 2007, 2010	hwposr	HWP	Y	Y	Y	Y	Y	Y	N
Health level7	2.0	hl7sr	HL7	Y	Y	Y	N	Y	Y	N
IBM DCA/RFT (Revisable Form Text)	SC23-0758-1	dcasr	DC	Y	Y	Y	N	N	Y	N
JustSystems Ichitaro	8 to 2013, 2018	jtdsr	JTD	Y	Y	Y	N	P	N	Y
Lotus AMI Pro	2, 3	lasr	SAM	Y	Y	Y	N	P	Y	Y
Lotus AMI Professional Write Plus	2.1	lasr	AMI	Y	Y	Y	N	N	N	Y
Lotus Word Pro	96, 97, R9	lwpsr	LWP	Y	Y	Y	N	P	N	Y
Lotus SmartMaster	96, 97	lwpsr	MWP	Y	Y	Y	N	N	N	N
Microsoft OneNote	2007, 2010, 2013, 2016	kpONErdr	ONE ONETOC2	Y	Y	Y	Y	N	Y	N
Microsoft OneNote Alternate Format	2007, 2010, 2013, 2016	onealtsr	ONE ONETOC2	Y	T	T	Y	N	N	N

Supported Word Processing Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Microsoft Word Macintosh	4, 5, 6, 98	mbsr	DOC	Y	Y	Y	N	Y	N	Y
	2001, v.X, 2004	mw8sr	DOC DOT	Y	Y	Y	Y[1]	Y	Y	N
Microsoft Word PC	4, 5, 5.5, 6	mwsr	DOC	Y	Y	Y	N	N	N	Y
Microsoft Word Windows	1.0, 2.0	misr	DOC	Y	Y	Y	N	N	N	Y
Microsoft Word Windows	6, 7, 8, 95	mw6sr	DOC	Y	Y	Y	N	Y	Y	Y
Microsoft Word Windows	97, 2000, 2002, 2003	mw8sr	DOC DOT	Y	Y	Y	Y[2]	Y	Y	Y
Microsoft Word Windows XML	2007, 2010, 2013, 2016, 2019	mwxsr	DOCM DOCX DOTX DOTM	Y	Y	Y	Y	Y	Y	Y
Microsoft Word Windows Flat XML	2007, 2010, 2013, 2016	mwxsr	XML	Y	Y	Y	Y	Y	Y	Y
Microsoft Works	1, 2, 3, 4	mswsr	WPS	Y	Y	Y	N	N	N	Y

[1]Supported using the embedded objects reader `olesr`.

[2]Supported using the embedded objects reader `olesr`.

Supported Word Processing Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
Microsoft Works	6, 2000	msw6sr	WPS	Y	Y	Y	N	N	N	Y
Microsoft Windows Write	1, 2, 3	mwsr	WRI	Y	Y	Y	N	N	Y	N
OASIS Open Document Format	1, 2[1]	odfwpsr	ODT SXW STW	Y	Y	Y	Y[2]	Y	Y	Y
Omni Outliner	v3, OPML, OOutline	oo3sr	OO3 OPML OOUTLINE	Y	Y	Y	N	N	Y	N
OpenOffice Writer, LibreOffice Writer	1 to 5	sosr	SXW ODT	Y	T	T	N	Y	Y	N
Open Publication Structure eBook	2.0, 3.0	epubsr	EPUB	Y	Y	Y	N	Y	Y	N
StarOffice Writer	3, 4, 5	starwsr	SDW	Y	T	T	N	N	N	N
	6, 7, 8, 9	sosr	SXW ODT	Y	T	T	N	Y	Y	N
Skype Log	3	skypesr	DBB	Y	Y	Y	N	N	N	N
WordPad	through 2003	rtfsr	RTF	Y	Y	Y	N	P	Y	N

[1]Generated by OpenOffice Writer 2.0, StarOffice 8 Writer, and IBM Lotus Symphony Documents 3.0.

[2]Supported using the embedded objects reader `olesr`.

Supported Word Processing Formats, continued

Format	Version	Reader	Extension	Filter	Export	View	Extract	Metadata	Charset	Header/Footer
XML Paper Specification	n/a	xpssr	XPS	Y	T	T	N	N	N	N
XyWrite	4.12	xywsr	XY4	Y	Y	Y	N	N	N	N
Yahoo! Instant Messenger	n/a	yimsr[1]	DAT	Y	Y	Y	N	N	N	N

[1]To successfully use this reader, you must set the `KV_YAHOO_ID` environment variable to the Yahoo user ID. You can optionally set the `KV_OTHER_YAHOO_ID` environment variable to the other Yahoo user ID. If you do not set it, "`Other`" is used by default. If you enter incorrect values for the environment variables, erroneous data is generated.

Appendix B: Detected Formats

This section lists the file formats that KeyView can detect.

Key to Detected Formats Table

The detected formats table includes the following information:

Column	Description
Format Name	The format name that is returned by KeyView format detection. • In the C API, these values are defined in the `ENdocFmt` enumeration in `adDocFmt.h`.
Number	The format number that is returned by KeyView format detection. This is the value associated with the Format Name in the relevant enumeration.
Category	This value is used in the KeyView configuration file `formats.ini` to specify the reader to use to filter, export, or view the format. Several formats might have the same category value.
Description	A short description of the file format.
MIME Type	The MIME type (if any).
Extension	A list of common file extensions for the file format. **NOTE:** This is not a complete list of file extensions. KeyView does not distinguish between file types based on their extension. Instead, it detects the file format based on the file content. This is more reliable because content cannot always be predicted from the file extension, and because some file extensions are associated with multiple formats.
File Class	The KeyView file class. • In the C API, these values are defined in the `ENdocClass` enumeration in `adinfo.h`.

Detected Formats

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Reserved__Fmt	-1	-1				AutoDetNoFormat
Unknown_Fmt	0	0				AutoDetNoFormat
AES_Multiplus_Comm_Fmt	1	1	Multiplus (AES)		PTF	adWORDPROCESSOR
ASCII_Text_Fmt	2	2	Plain Text file	text/plain	TXT	adWORDPROCESSOR
MSDOS_Batch_File_Fmt	3	2	MS-DOS Batch File	application/x-bat	BAT	adEXECUTABLE
Applix_Alis_Fmt	4	3	APPLIX ASTERIX		AX	adWORDPROCESSOR
BMP_Fmt	5	4	Windows Bitmap Image (BMP)	image/bmp	BMP	adRASTERIMAGE
CT_DEF_Fmt	6	5	Convergent Technologies DEF Comm. Format			adWORDPROCESSOR
Corel_Draw_Fmt	7	6	Corel Draw (up to version 13/X3)	application/coreldraw	CDR	adVECTORGRAPHIC
CGM_ClearText_Fmt	8	8	Computer Graphics Metafile (CGM)		CGM	adVECTORGRAPHIC
CGM_Binary_Fmt	9	8	Computer Graphics Metafile (CGM)	image/cgm	CGM	adVECTORGRAPHIC
CGM_Character_Fmt	10	8	Computer Graphics Metafile (CGM)		CGM	adVECTORGRAPHIC
Word_Connection_Fmt	11	9	Word Connection		CN	adWORDPROCESSOR
COMET_TOP_Word_Fmt	12	10	Nixdorf COMET TOP Financial Accounting software			adWORDPROCESSOR
CEOwrite_Fmt	13	11	CEOwrite		CW	adWORDPROCESSOR
DSA101_Fmt	14	12	DSA101 (Honeywell Bull)			adWORDPROCESSOR
DCA_RFT_Fmt	15	13	DCA-RFT (IBM Revisable Form)	application/dca-rft	RFT, DC	adWORDPROCESSOR
CDA_DDIF_Fmt	16	14	CDA / DDIF		DDIF	adWORDPROCESSOR
DG_CDS_Fmt	17	16	DG Common Data Stream (CDS)		CDS	adWORDPROCESSOR
Micrografx_Draw_Fmt	18	18	Windows Draw (Micrografx)		DRW	adVECTORGRAPHIC
Data_Point_VistaWord_Fmt	19	19	Vistaword		DV	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
DECdx_Fmt	20	20	DECdx		DX	adWORDPROCESSOR
Enable_WP_Fmt	21	21	Enable Word Processing		WPF	adWORDPROCESSOR
EPSF_Fmt	22	22	Encapsulated PostScript	application/postscript	EPS	AutoDetNoFormat
Preview_EPSF_Fmt	23	22	Encapsulated PostScript	application/postscript		AutoDetNoFormat
MS_Executable_Fmt	24	23	MSDOS/Windows Program	application/x-msdownload	EXE	adEXECUTABLE
G31D_Fmt	25	24	CCITT G3 1D			adRASTERIMAGE
GIF_87a_Fmt	26	25	Graphics Interchange Format (GIF87a)	image/gif	GIF	adRASTERIMAGE
GIF_89a_Fmt	27	25	Graphics Interchange Format (GIF89a)	image/gif	GIF	adRASTERIMAGE
HP_Word_PC_Fmt	28	26	HP Word PC		HW	adWORDPROCESSOR
IBM_1403_LinePrinter_Fmt	29	27	IBM 1403 Line Printer		I4	adWORDPROCESSOR
IBM_DCF_Script_Fmt	30	28	DCF Script		IC	adWORDPROCESSOR
IBM_DCA_FFT_Fmt	31	29	DCA-FFT (IBM Final Form)		IF, FFT	adWORDPROCESSOR
Interleaf_Fmt	32	30	Interleaf			adWORDPROCESSOR
GEM_Image_Fmt	33	31	GEM Bit Image		IMG	adRASTERIMAGE
IBM_Display_Write_Fmt	34	32	Display Write		IP	adWORDPROCESSOR
Sun_Raster_Fmt	35	33	Sun Raster	image/x-cmu-raster	RAS	adRASTERIMAGE
Ami_Pro_Fmt	36	35	Lotus Ami Pro	application/x-lotus-amipro	SAM	adWORDPROCESSOR
Ami_Pro_StyleSheet_Fmt	37	35	Lotus Ami Pro Style Sheet			adWORDPROCESSOR
MORE_Fmt	38	36	MORE Database MAC			adOUTLINE
Lyrix_Fmt	39	37	Lyrix Word Processing			adWORDPROCESSOR
MASS_11_Fmt	40	38	MASS-11		M1	adWORDPROCESSOR
MacPaint_Fmt	41	39	MacPaint		PNTG	adRASTERIMAGE
MS_Word_Mac_Fmt	42	40	Microsoft Word for Macintosh (up to version 3)	application/msword	DOC	adWORDPROCESSOR
SmartWare_II_Comm_Fmt	43	41	SmartWare II			adCOMMUNICATION
MS_Word_Win_Fmt	44	42	Microsoft Word for Windows (up to version 6)	application/msword	DOC, WPS	adWORDPROCESSOR
Multimate_Fmt	45	43	MultiMate		MM	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Multimate_Fnote_Fmt	46	43	MultiMate Footnote File			adWORDPROCESSOR
Multimate_Adv_Fmt	47	43	MultiMate Advantage			adWORDPROCESSOR
Multimate_Adv_Fnote_Fmt	48	43	MultiMate Advantage Footnote File			adWORDPROCESSOR
Multimate_Adv_II_Fmt	49	43	MultiMate Advantage II			adWORDPROCESSOR
Multimate_Adv_II_Fnote_Fmt	50	43	MultiMate Advantage II Footnote File		FBX, FNX	adWORDPROCESSOR
Multiplan_PC_Fmt	51	44	Multiplan (PC)			adSPREADSHEET
Multiplan_Mac_Fmt	52	44	Multiplan (Mac)			adSPREADSHEET
MS_RTF_Fmt	53	45	Rich Text Format (RTF)	application/rtf	RTF	adWORDPROCESSOR
MS_Word_PC_Fmt	54	46	Microsoft Word for PC (up to version 6)	application/x-ms-wordpc	MW	adWORDPROCESSOR
MS_Word_PC_StyleSheet_Fmt	55	46	Microsoft Word for PC (up to version 6) Style Sheet			adWORDPROCESSOR
MS_Word_PC_Glossary_Fmt	56	46	Microsoft Word for PC (up to version 6) Glossary			adWORDPROCESSOR
MS_Word_PC_Driver_Fmt	57	46	Microsoft Word for PC (up to version 6) Driver			adWORDPROCESSOR
MS_Word_PC_Misc_Fmt	58	46	Microsoft Word for PC (up to version 6) Miscellaneous File			adWORDPROCESSOR
NBI_Async_Archive_Fmt	59	47	NBI Async Archive Format			adWORDPROCESSOR
Navy_DIF_Fmt	60	48	Navy DIF (document interchange format)		ND	adWORDPROCESSOR
NBI_Net_Archive_Fmt	61	49	NBI Net Archive Format		NN	adWORDPROCESSOR
NIOS_TOP_Fmt	62	50	NIOS TOP			adWORDPROCESSOR
FileMaker_Mac_Fmt	63	51	Filemaker MAC		FP5, FP7	adDATABASE
ODA_Q1_11_Fmt	64	52	ODA / ODIF Q1 11		OD	adWORDPROCESSOR
ODA_Q1_12_Fmt	65	52	ODA / ODIF Q1 12		OD	adWORDPROCESSOR
OLIDIF_Fmt	66	53	OLIDIF (Olivetti)			adWORDPROCESSOR
Office_Writer_Fmt	67	55	Office Writer		OW	adWORDPROCESSOR
PC_Paintbrush_Fmt	68	56	PC Paintbrush Graphics (PCX)	image/vnd.zbrush.pcx	PCX	adRASTERIMAGE
CPT_Comm_Fmt	69	57	CPT Corporation word processor		PF	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Lotus_PIC_Fmt	70	58	Lotus PIC	image/x-pict	PIC	adVECTORGRAPHIC
Mac_PICT_Fmt	71	59	QuickDraw Picture	image/x-pict	PCT	AutoDetNoFormat
Philips_Script_Word_Fmt	72	60	Philips Script			adWORDPROCESSOR
PostScript_Fmt	73	61	PostScript	application/postscript	PS	adVECTORGRAPHIC
PRIMEWORD_Fmt	74	62	PRIMEWORD			adWORDPROCESSOR
Quadratron_Q_One_v1_Fmt	75	63	Q-One V1.93J		Q1, QX	adWORDPROCESSOR
Quadratron_Q_One_v2_Fmt	76	64	Q-One V2.0		Q1, QX	adWORDPROCESSOR
SAMNA_Word_IV_Fmt	77	65	SAMNA Word		SAM	adWORDPROCESSOR
Ami_Pro_Draw_Fmt	78	66	Lotus Ami Pro Draw		SDW	adVECTORGRAPHIC
SYLK_Spreadsheet_Fmt	79	67	SYmbolic LinK (SYLK) format		SLK	adSPREADSHEET
SmartWare_II_WP_Fmt	80	68	Informix SmartWare II word processor		DOC	adWORDPROCESSOR
Symphony_Fmt	81	69	Lotus Symphony spreadsheet		WR1	adSPREADSHEET
Targa_Fmt	82	70	Targa image	image/x-tga	TGA	adRASTERIMAGE
TIFF_Fmt	83	71	Tag Image File Format (TIFF)	image/tiff	TIF, TIFF	adRASTERIMAGE
Targon_Word_Fmt	84	72	Targon Word		TW	adWORDPROCESSOR
Uniplex_Ucalc_Fmt	85	73	Uniplex Ucalc		SS	adSPREADSHEET
Uniplex_WP_Fmt	86	74	Uniplex word processor		UP	adWORDPROCESSOR
MS_Word_UNIX_Fmt	87	75	Microsoft Word UNIX	application/msword		adWORDPROCESSOR
WANG_PC_Fmt	88	76	WANG PC			adWORDPROCESSOR
WordERA_Fmt	89	77	WordERA			adWORDPROCESSOR
WANG_WPS_Comm_Fmt	90	78	WANG WPS		WF	adWORDPROCESSOR
WordPerfect_Mac_Fmt	91	79	WordPerfect MAC	application/x-corel-wordperfect		adWORDPROCESSOR
WordPerfect_Fmt	92	86	WordPerfect version 4	application/x-corel-wordperfect	WP, WP4	adWORDPROCESSOR
WordPerfect_VAX_Fmt	93	139	WordPerfect VAX	application/x-corel-wordperfect		adWORDPROCESSOR
WordPerfect_Macro_Fmt	94	139	WordPerfect Macro	application/vnd.wordperfect	MRS	adWORDPROCESSOR
WordPerfect_Dictionary_Fmt	95	139	WordPerfect Spelling Dictionary	application/vnd.wordperfect	SPW	adWORDPROCESSOR
WordPerfect_Thesaurus_Fmt	96	139	WordPerfect Thesaurus	application/vnd.wordperfect		adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
WordPerfect_Resource_Fmt	97	139	WordPerfect Resource File	application/vnd.wordperfect	WWK, PRS	adWORDPROCESSOR
WordPerfect_Driver_Fmt	98	139	WordPerfect Driver	application/vnd.wordperfect	IRS, VRS	adWORDPROCESSOR
WordPerfect_Cfg_Fmt	99	139	WordPerfect Configuration File	application/vnd.wordperfect	PFX	adWORDPROCESSOR
WordPerfect_Hyphenation_Fmt	100	139	WordPerfect Hyphenation Dictionary	application/vnd.wordperfect	HYC	adWORDPROCESSOR
WordPerfect_Misc_Fmt	101	139	WordPerfect Miscellaneous File	application/vnd.wordperfect		adWORDPROCESSOR
WordMARC_Fmt	102	82	WordMARC Composer	video/x-ms-wm	WM, PW	adWORDPROCESSOR
Windows_Metafile_Fmt	103	83	Windows Metafile	image/wmf	WMF	adVECTORGRAPHIC
Windows_Metafile_NoHdr_Fmt	104	83	Windows Metafile (no header)	image/wmf	WMF	adVECTORGRAPHIC
SmartWare_II_DB_Fmt	105	84	Informix SmartWare II database			adDATABASE
WordPerfect_Graphics_Fmt	106	195	WordPerfect Graphics (version 2 and higher)	application/vnd.wordperfect	WPG, QPG	AutoDetNoFormat
WordStar_Fmt	107	87	WordStar		WS, WSD	adWORDPROCESSOR
WANG_WITA_Fmt	108	88	WANG WITA		WT	adWORDPROCESSOR
Xerox_860_Comm_Fmt	109	89	Xerox 860			adWORDPROCESSOR
Xerox_Writer_Fmt	110	91	Xerox Writer			adWORDPROCESSOR
DIF_SpreadSheet_Fmt	111	92	Data Interchange Format (DIF)	application/dif+xml	DIF	adSPREADSHEET
Enable_Spreadsheet_Fmt	112	93	Enable Spreadsheet	application/vnd.epson.ssf	SSF	adSPREADSHEET
SuperCalc_Fmt	113	94	Sorcim SuperCalc spreadsheet		CAL	adSPREADSHEET
UltraCalc_Fmt	114	95	UltraCalc spreadsheet			adSPREADSHEET
SmartWare_II_SS_Fmt	115	96	Informix SmartWare II spreadsheet			adSPREADSHEET
SOF_Encapsulation_Fmt	116	97	Serialized Object Format (SOF)	application/java-serialized-object	SOF	adENCAPSULATION
PowerPoint_Win_Fmt	117	98	Microsoft PowerPoint PC (up to version 4)	application/x-ms-powerpoint	PPT	adPRESENTATION
PowerPoint_Mac_Fmt	118	99	Microsoft PowerPoint MAC (up to version 4)	application/x-ms-powerpoint	PPT	adPRESENTATION
PowerPoint_95_Fmt	119	212	Microsoft PowerPoint 95	application/x-ms-powerpoint	PPT	adPRESENTATION
PowerPoint_97_Fmt	120	272	Microsoft PowerPoint 97	application/x-ms-powerpoint	PPT	adPRESENTATION
PageMaker_Mac_Fmt	121	100	PageMaker for Macintosh			adDESKTOPPUBLSH
PageMaker_Win_Fmt	122	101	PageMaker for Windows			adDESKTOPPUBLSH

Format Name	Number	Category	Description	MIME Type	Extension	File Class
MS_Works_Mac_WP_Fmt	123	103	Microsoft Works Word Processor for MAC	application/x-msworks	MWK	adWORDPROCESSOR
MS_Works_Mac_DB_Fmt	124	104	Microsoft Works Database for MAC	application/x-msworks		adDATABASE
MS_Works_Mac_SS_Fmt	125	105	Microsoft Works Spreadsheet for MAC	application/x-msworks		adSPREADSHEET
MS_Works_Mac_Comm_Fmt	126	106	Microsoft Works Communication for MAC	application/x-msworks		adCOMMUNICATION
MS_Works_DOS_WP_Fmt	127	107	Microsoft Works Word Processor for DOS	application/x-msworks	WPS	adWORDPROCESSOR
MS_Works_DOS_DB_Fmt	128	108	Microsoft Works Database for DOS	application/x-msworks	WDB	adDATABASE
MS_Works_DOS_SS_Fmt	129	109	Microsoft Works Spreadsheet for DOS	application/x-msworks		adSPREADSHEET
MS_Works_Win_WP_Fmt	130	227	Microsoft Works Word Processor for Windows	application/x-msworks	WPS, W40	adWORDPROCESSOR
MS_Works_Win_DB_Fmt	131	231	Microsoft Works Database for Windows	application/x-msworks		adDATABASE
MS_Works_Win_SS_Fmt	132	228	Microsoft Works Spreadsheet for Windows	application/x-msworks	S30, S40	adSPREADSHEET
PC_Library_Fmt	133	111	DOS/Windows Object Library	application/x-archive	LIB, A	adLIBRARY
MacWrite_Fmt	134	112	MacWrite	application/macwriteii		adWORDPROCESSOR
MacWrite_II_Fmt	135	113	MacWrite II	application/macwriteii		adWORDPROCESSOR
Freehand_Fmt	136	114	Freehand MAC	image/x-freehand		adVECTORGRAPHIC
Disk_Doubler_Fmt	137	115	Disk Doubler			adENCAPSULATION
HP_GL_Fmt	138	116	HP Graphics Language	vector/x-hpgl	HPGL	adVECTORGRAPHIC
FrameMaker_Fmt	139	136	FrameMaker	application/vnd.framemaker	FM, FRM	adDESKTOPPUBLSH
FrameMaker_Book_Fmt	140	136	FrameMaker Book	application/vnd.framemaker	BOOK	adDESKTOPPUBLSH
Maker_Markup_Language_Fmt	141	174	Maker Markup Language	application/vnd.mif		adDESKTOPPUBLSH
Maker_Interchange_Fmt	142	117	Maker Interchange Format (MIF)	application/x-mif	MIF	adWORDPROCESSOR
JPEG_File_Interchange_Fmt	143	118	JPEG Interchange Format	image/jpeg	JPG, JPEG	adRASTERIMAGE
Reflex_Fmt	144	119	Borland Reflex database			adDATABASE

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Framework_Fmt	145	276	Framework office suite			adMIXED
Framework_II_Fmt	146	120	Framework II office suite		FW3	adMIXED
Paradox_Fmt	147	121	Borland Paradox database		DB	adDATABASE
MS_Windows_Write_Fmt	148	123	Microsoft Windows Write	application/x-ms-write	WRI	adWORDPROCESSOR
Quattro_Pro_DOS_Fmt	149	124	Quattro Pro for DOS	application/x-quattropro	WQ1	adSPREADSHEET
Quattro_Pro_Win_Fmt	150	184	Quattro Pro for Windows	application/x-quattro-win	WB1, WB2, WB3	adSPREADSHEET
Persuasion_Fmt	151	126	Adobe Persuasion			adPRESENTATION
Windows_Icon_Fmt	152	128	Windows Icon Format	image/ico	ICO	adRASTERIMAGE
Windows_Cursor_Fmt	153	133	Windows Cursor	image/x-win-bitmap	CUR	adRASTERIMAGE
MS_Project_Activity_Fmt	154	129	Microsoft Project (up to version 3) activity file			adSCHEDULE
MS_Project_Resource_Fmt	155	129	Microsoft Project (up to version 3) resource file			adSCHEDULE
MS_Project_Calc_Fmt	156	129	Microsoft Project (up to version 3) calc file			adSCHEDULE
PKZIP_Fmt	157	132	ZIP Archive	application/zip	ZIP, ZIPX	adENCAPSULATION
Quark_Xpress_Fmt	158	134	Quark Xpress MAC			adDESKTOPPUBLSH
ARC_PAK_Archive_Fmt	159	135	PAK/ARC Archive		ARC, PAK	adENCAPSULATION
MS_Publisher_Fmt	160	137	Microsoft Publisher (up to version 3)	application/x-mspublisher	PUB	adDESKTOPPUBLSH
PlanPerfect_Fmt	161	138	PlanPerfect			adSCHEDULE
WordPerfect_Auxiliary_Fmt	162	139	WordPerfect auxiliary file		WPW	adMISC
MS_WAVE_Audio_Fmt	163	141	Microsoft Wave	audio/wav	WAV	adSOUND
MIDI_Audio_Fmt	164	142	MIDI audio	audio/mid	MID, MIDI	adSOUND
AutoCAD_DXF_Binary_Fmt	165	143	AutoCAD DXF	image/x-dxf	DXF	adVECTORGRAPHIC
AutoCAD_DXF_Text_Fmt	166	143	AutoCAD DXF	image/x-dxf	DXF	adVECTORGRAPHIC
dBase_Fmt	167	144	dBase	application/x-dbf	DBF, VCX	adDATABASE
OS_2_PM_Metafile_Fmt	168	145	OS/2 PM Metafile		MET	adVECTORGRAPHIC
Lasergraphics_Language_Fmt	169	146	Lasergraphics Language			adVECTORGRAPHIC

Format Name	Number	Category	Description	MIME Type	Extension	File Class
AutoShade_Rendering_Fmt	170	147	AutoShade Rendering			adVECTORGRAPHIC
GEM_VDI_Fmt	171	148	GEM VDI Metafile image		GEM, GDI	adVECTORGRAPHIC
Windows_Help_Fmt	172	149	Windows Help File	application/winhlp	HLP	adMISC
Volkswriter_Fmt	173	150	Volkswriter word processor		VW4	adWORDPROCESSOR
Ability_WP_Fmt	174	151	Ability Word Processor			adWORDPROCESSOR
Ability_DB_Fmt	175	151	Ability Database			adDATABASE
Ability_SS_Fmt	176	151	Ability Spreadsheet			adSPREADSHEET
Ability_Comm_Fmt	177	151	Ability Presentation			adCOMMUNICATION
Ability_Image_Fmt	178	151	Ability Image			adRASTERIMAGE
XyWrite_Fmt	179	152	XYWrite / Nota Bene		XY4	adWORDPROCESSOR
CSV_Fmt	180	153	CSV (Comma Separated Values)	text/csv	CSV	adSPREADSHEET
IBM_Writing_Assistant_Fmt	181	154	IBM Writing Assistant		IWA	adWORDPROCESSOR
WordStar_2000_Fmt	182	155	WordStar 2000		WS2	adWORDPROCESSOR
HP_PCL_Fmt	183	157	HP Printer Control Language	application/pcl	PCL	adVECTORGRAPHIC
UNIX_Exe_PreSysV_VAX_Fmt	184	158	Unix Executable (PDP-11/pre-System V VAX)	application/octet-stream		adEXECUTABLE
UNIX_Exe_Basic_16_Fmt	185	158	Unix Executable (Basic-16)	application/octet-stream		adEXECUTABLE
UNIX_Exe_x86_Fmt	186	158	Unix Executable (x86)	application/octet-stream		adEXECUTABLE
UNIX_Exe_iAPX_286_Fmt	187	158	Unix Executable (iAPX 286)	application/octet-stream		adEXECUTABLE
UNIX_Exe_MC68k_Fmt	188	158	Unix Executable (MC680x0)	application/octet-stream		adEXECUTABLE
UNIX_Exe_3B20_Fmt	189	158	Unix Executable (3B20)	application/octet-stream		adEXECUTABLE
UNIX_Exe_WE32000_Fmt	190	158	Unix Executable (WE32000)	application/octet-stream		adEXECUTABLE
UNIX_Exe_VAX_Fmt	191	158	Unix Executable (VAX)	application/octet-stream		adEXECUTABLE
UNIX_Exe_Bell_5_Fmt	192	158	Unix Executable (Bell 5.0)	application/octet-stream		adEXECUTABLE
UNIX_Obj_VAX_Demand_Fmt	193	159	Unix Object Module (VAX Demand)			adOBJECTMODULE
UNIX_Obj_MS8086_Fmt	194	159	Unix Object Module (old MS 8086)			adOBJECTMODULE
UNIX_Obj_Z8000_Fmt	195	159	Unix Object Module (Z8000)			adOBJECTMODULE
AU_Audio_Fmt	196	161	NeXT/Sun Audio Data	audio/basic	AU	adSOUND

Format Name	Number	Category	Description	MIME Type	Extension	File Class
NeWS_Font_Fmt	197	162	NeWS bitmap font			adFONT
cpio_Archive_CRChdr_Fmt	198	163	cpio archive (CRC Header)	application/x-cpio		adENCAPSULATION
cpio_Archive_CHRhdr_Fmt	199	163	cpio archive (CHR Header)	application/x-cpio		adENCAPSULATION
PEX_Binary_Archive_Fmt	200	164	SUN PEX Binary Archive			adENCAPSULATION
Sun_vfont_Fmt	201	165	SUN vfont Definition			adFONT
Curses_Screen_Fmt	202	166	Curses Screen Image			adRASTERIMAGE
UUEncoded_Fmt	203	167	UU encoded	text/x-uuencode	UUE	adENCAPSULATION
WriteNow_Fmt	204	168	WriteNow MAC			adWORDPROCESSOR
PC_Obj_Fmt	205	169	DOS/Windows Object Module	application/octet-stream	OBJ	adOBJECTMODULE
Windows_Group_Fmt	206	170	Windows Group			adMISC
TrueType_Font_Fmt	207	171	TrueType Font	application/x-font-ttf	TTF	adFONT
Windows_PIF_Fmt	208	172	Program Information File (PIF)	application/octet-stream	PIF	adMISC
MS_COM_Executable_Fmt	209	173	PC (.COM)	application/octet-stream	COM	adEXECUTABLE
StuffIt_Fmt	210	175	StuffIt (MAC)	application/x-stuffit	HQX	adENCAPSULATION
PeachCalc_Fmt	211	176	PeachCalc		CAL	adSPREADSHEET
Wang_GDL_Fmt	212	177	WANG Office GDL Header			adENCAPSULATION
Q_A_DOS_Fmt	213	179	Q & A for DOS			adWORDPROCESSOR
Q_A_Win_Fmt	214	180	Q & A for Windows		JW	adWORDPROCESSOR
WPS_PLUS_Fmt	215	181	WPS-PLUS	application/vnd.ms-wpl	WPL	adWORDPROCESSOR
DCX_Fmt	216	182	DCX FAX Format(PCX images)	image/dcx	DCX	adFAXFORMAT
OLE_Fmt	217	183	OLE Compound Document		OLE	adENCAPSULATION
EBCDIC_Fmt	218	186	EBCDIC Text			adWORDPROCESSOR
DCS_Fmt	219	187	DCS			adWORDPROCESSOR
UNIX_SHAR_Fmt	220	190	SHAR shell archive format	application/x-shar	SHAR	adENCAPSULATION
Lotus_Notes_BitMap_Fmt	221	191	Lotus Notes Bitmap			adRASTERIMAGE
Lotus_Notes_CDF_Fmt	222	193	Lotus Notes CDF	application/cdf	CDF	adWORDPROCESSOR
Compress_Fmt	223	192	Unix Compress	application/x-compress	Z	adENCAPSULATION
GZ_Compress_Fmt	224	198	GZ Compress	application/gzip	GZ	adENCAPSULATION

Format Name	Number	Category	Description	MIME Type	Extension	File Class
TAR_Fmt	225	194	TAR archive	application/tar	TAR	adENCAPSULATION
ODIF_FOD26_Fmt	226	196	Open Document Architecture (ODA / ODIF) FOD26	application/oda	F26	adWORDPROCESSOR
ODIF_FOD36_Fmt	227	196	Open Document Architecture (ODA / ODIF) FOD36	application/oda	F36	adWORDPROCESSOR
ALIS_Fmt	228	197	ALIS			adWORDPROCESSOR
Envoy_Fmt	229	199	WordPerfect Envoy	application/envoy	EVY	adWORDPROCESSOR
PDF_Fmt	230	200	Portable Document Format	application/pdf	PDF	adWORDPROCESSOR
BinHex_Fmt	231	206	BinHex	application/mac-binhex40	HQX	adENCAPSULATION
SMTP_Fmt	232	207	SMTP	message/rfc822	SMTP	adENCAPSULATION
MIME_Fmt	233	208	MIME (EML, MBX email)[1]	message/rfc822	EML, MBX	adENCAPSULATION
USENET_Fmt	234	264	USENET	message/news		adWORDPROCESSOR
SGML_Fmt	235	209	SGML	text/sgml	SGML	adWORDPROCESSOR
HTML_Fmt	236	210	HTML	text/html	HTM, HTML	adWORDPROCESSOR
ACT_Fmt	237	211	ACT! CRM software		ACT	adWORDPROCESSOR
PNG_Fmt	238	213	Portable Network Graphics (PNG)	image/png	PNG	adRASTERIMAGE
MS_Video_Fmt	239	214	Video for Windows (AVI)	video/avi	AVI	adMOVIE
Windows_Animated_Cursor_Fmt	240	215	Windows Animated Cursor		ANI	adRASTERIMAGE
Windows_CPP_Obj_Storage_Fmt	241	216	Windows C++ Object Storage			adMIXED
Windows_Palette_Fmt	242	217	Windows Palette		PAL	adRASTERIMAGE
RIFF_DIB_Fmt	243	218	RIFF Device Independent Bitmap			adRASTERIMAGE
RIFF_MIDI_Fmt	244	219	RIFF MIDI	audio/midi	RMI	adSOUND
RIFF_Multimedia_Movie_Fmt	245	220	RIFF Multimedia Movie			adMOVIE
MPEG_Fmt	246	221	MPEG Movie	video/mpeg		adMOVIE
QuickTime_Fmt	247	222	QuickTime Movie, MPEG-4 audio	video/quicktime	MOV, QT, MP4	adMOVIE
AIFF_Fmt	248	223	Audio Interchange File Format (AIFF)	audio/aiff	AIF, AIFF	adSOUND
Amiga_MOD_Fmt	249	224	Amiga MOD		MOD	adSOUND
Amiga_IFF_8SVX_Fmt	250	225	Amiga IFF (8SVX) Sound	audio/x-8svx	IFF	adSOUND

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Creative_Voice_Audio_Fmt	251	226	Creative Voice (VOC)		VOC	adSOUND
AutoDesk_Animator_FLI_Fmt	252	229	AutoDesk Animator FLIC	video/x-fli	FLI	adANIMATION
AutoDesk_AnimatorPro_FLC_Fmt	253	230	AutoDesk Animator Pro FLIC	video/x-flc	FLC	adANIMATION
Compactor_Archive_Fmt	254	233	Compactor / Compact Pro	application/mac-compactpro		adENCAPSULATION
VRML_Fmt	255	234	VRML	model/vrml	WRL	adVECTORGRAPHIC
QuickDraw_3D_Metafile_Fmt	256	235	QuickDraw 3D Metafile			adVECTORGRAPHIC
PGP_Secret_Keyring_Fmt	257	236	PGP Secret Keyring	application/pgp		adENCAPSULATION
PGP_Public_Keyring_Fmt	258	237	PGP Public Keyring	application/pgp		adENCAPSULATION
PGP_Encrypted_Data_Fmt	259	238	PGP Encrypted Data	application/pgp		adENCAPSULATION
PGP_Signed_Data_Fmt	260	239	PGP Signed Data	application/pgp		adENCAPSULATION
PGP_SignedEncrypted_Data_Fmt	261	240	PGP Signed and Encrypted Data	application/pgp		adENCAPSULATION
PGP_Sign_Certificate_Fmt	262	241	PGP Signature Certificate	application/pgp-signature	SIG	adENCAPSULATION
PGP_Compressed_Data_Fmt	263	246	PGP Compressed Data	application/pgp		adENCAPSULATION
PGP_ASCII_Public_Keyring_Fmt	264	242	ASCII-armored PGP Public Keyring	application/pgp	PGP	adENCAPSULATION
PGP_ASCII_Encoded_Fmt	265	243	ASCII-armored PGP encoded	application/pgp		adENCAPSULATION
PGP_ASCII_Signed_Fmt	266	244	ASCII-armored PGP signed	application/pgp		adENCAPSULATION
OLE_DIB_Fmt	267	245	OLE DIB object			adRASTERIMAGE
SGI_Image_Fmt	268	247	SGI Image	image/sgi	RGB	adRASTERIMAGE
Lotus_ScreenCam_Fmt	269	248	Lotus ScreenCam	application/vnd.lotus-screencam	SCM	adANIMATION
MPEG_Audio_Fmt	270	249	MPEG Audio	audio/mpeg	MPEGA, MPG, MP3	adSOUND
FTP_Software_Session_Fmt	271	250	FTP Session Data		STE	adCOMMUNICATION
Netscape_Bookmark_File_Fmt	272	210	Netscape Bookmark File	text/html		adWORDPROCESSOR
Corel_Draw_CMX_Fmt	273	252	Corel CMX	application/cmx	CMX	adVECTORGRAPHIC
AutoDesk_DWG_Fmt	274	253	AutoDesk Drawing (DWG)	image/x-dwg	DWG	adVECTORGRAPHIC
AutoDesk_WHIP_Fmt	275	254	AutoDesk WHIP		WHP	adVECTORGRAPHIC
Macromedia_Director_Fmt	276	255	Macromedia Director	application/x-director	DCR	adANIMATION
Real_Audio_Fmt	277	256	Real Audio	audio/x-pn-realaudio	RM, RA	adSOUND

Format Name	Number	Category	Description	MIME Type	Extension	File Class
MSDOS_Device_Driver_Fmt	278	257	MSDOS Device Driver	application/octet-stream	SYS	adEXECUTABLE
Micrografx_Designer_Fmt	279	258	Micrografx Designer		DSF	adVECTORGRAPHIC
SVF_Fmt	280	259	Simple Vector Format (SVF)	image/x-svf	SVF	adVECTORGRAPHIC
Applix_Words_Fmt	281	261	Applix Words	application/x-applix-word	AW	adWORDPROCESSOR
Applix_Graphics_Fmt	282	262	Applix Graphics		AG	adPRESENTATION
MS_Access_Fmt	283	263	Microsoft Access (versions 1 and 2)	application/x-msaccess	MDB	adDATABASE
MS_Access_95_Fmt	284	263	Microsoft Access 95	application/msaccess	MDB	adDATABASE
MS_Access_97_Fmt	285	263	Microsoft Access 97	application/msaccess	MDB	adDATABASE
MacBinary_Fmt	286	265	MacBinary	application/x-macbinary	BIN	adENCAPSULATION
Apple_Single_Fmt	287	266	Apple Single			adENCAPSULATION
Apple_Double_Fmt	288	267	Apple Double	multipart/appledouble	AD	adENCAPSULATION
Enhanced_Metafile_Fmt	289	270	Enhanced Metafile	image/x-emf	EMF	adVECTORGRAPHIC
MS_Office_Drawing_Fmt	290	271	Microsoft Office Drawing			adVECTORGRAPHIC
XML_Fmt	291	285	XML	text/xml	XML	adWORDPROCESSOR
DeVice_Independent_Fmt	292	274	DeVice Independent file (DVI)	application/x-dvi	DVI	adVECTORGRAPHIC
Unicode_Fmt	293	275	Unicode text file	text/plain	UNI	adWORDPROCESSOR
Lotus_123_Worksheet_Fmt	294	81	Lotus 1-2-3	application/x-lotus-123	WKS, WK1, WK3, WK4	adSPREADSHEET
Lotus_123_Format_Fmt	295	81	Lotus 1-2-3 Formatting	application/x-123	FM3	adSPREADSHEET
Lotus_123_97_Fmt	296	81	Lotus 1-2-3 97	application/x-lotus-123	123	adSPREADSHEET
Lotus_Word_Pro_96_Fmt	297	268	Lotus Word Pro 96	application/vnd.lotus-wordpro	LWP, MWP	adWORDPROCESSOR
Lotus_Word_Pro_97_Fmt	298	268	Lotus Word Pro 97	application/vnd.lotus-wordpro	LWP, MWP	adWORDPROCESSOR
Freelance_DOS_Fmt	299	140	Lotus Freelance for DOS	application/x-freelance	PRZ	adPRESENTATION
Freelance_Win_Fmt	300	140	Lotus Freelance for Windows	application/x-freelance	PRE	adPRESENTATION
Freelance_OS2_Fmt	301	140	Lotus Freelance for OS/2	application/x-freelance	PRS	adPRESENTATION
Freelance_96_Fmt	302	140	Lotus Freelance 96	application/x-freelance	PRZ	adPRESENTATION
Freelance_97_Fmt	303	140	Lotus Freelance 97	application/x-freelance	PRZ	adPRESENTATION
MS_Word_95_Fmt	304	189	Microsoft Word 95	application/msword	DOC	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
MS_Word_97_Fmt	305	269	Microsoft Word 97	application/msword	DOC, WPS, WBK	adWORDPROCESSOR
Excel_Fmt	306	90	Microsoft Excel (up to version 5)	application/x-ms-excel	XLS	adSPREADSHEET
Excel_Chart_Fmt	307	90	Microsoft Excel (up to version 5) chart	application/x-ms-excel	XLC	adSPREADSHEET
Excel_Macro_Fmt	308	90	Microsoft Excel (up to version 5) macro	application/vnd.ms-excel	XLM	adSPREADSHEET
Excel_95_Fmt	309	188	Microsoft Excel 95	application/x-ms-excel	XLS	adSPREADSHEET
Excel_97_Fmt	310	188	Microsoft Excel 97	application/x-ms-excel	XLS	adSPREADSHEET
Corel_Presentations_Fmt	311	127	Corel Presentations	application/x-corelpresentations	XFD, XFDL	adPRESENTATION
Harvard_Graphics_Fmt	312	131	Harvard Graphics		PR4	adPRESENTATION
Harvard_Graphics_Chart_Fmt	313	131	Harvard Graphics Chart		CH3, CHT	adVECTORGRAPHIC
Harvard_Graphics_Symbol_Fmt	314	131	Harvard Graphics Symbol File		SY3	adVECTORGRAPHIC
Harvard_Graphics_Cfg_Fmt	315	131	Harvard Graphics Configuration File			adVECTORGRAPHIC
Harvard_Graphics_Palette_Fmt	316	131	Harvard Graphics Palette			adVECTORGRAPHIC
Lotus_123_R9_Fmt	317	81	Lotus 1-2-3 Release 9	application/x-lotus-123	123	adSPREADSHEET
Applix_Spreadsheets_Fmt	318	278	Applix Spreadsheets	application/x-applix-spreadsheet	AS	adSPREADSHEET
MS_Pocket_Word_Fmt	319	45	Microsoft Pocket Word		PWD	adWORDPROCESSOR
MS_DIB_Fmt	320	279	Microsoft Device Independent Bitmap	image/bmp	DIB	adRASTERIMAGE
MS_Word_2000_Fmt	321	269	Microsoft Word 2000	application/msword	DOC	adWORDPROCESSOR
Excel_2000_Fmt	322	188	Microsoft Excel 2000	application/x-ms-excel	XLS	adSPREADSHEET
PowerPoint_2000_Fmt	323	272	Microsoft PowerPoint 2000	application/x-ms-powerpoint	PPT	adPRESENTATION
MS_Access_2000_Fmt	324	263	Microsoft Access 2000	application/x-msaccess	MDB	adDATABASE
MS_Project_4_Fmt	325	281	Microsoft Project 4		MPP	adSCHEDULE
MS_Project_41_Fmt	326	281	Microsoft Project 4.1		MPP	adSCHEDULE
MS_Project_98_Fmt	327	281	Microsoft Project 98	application/vnd.ms-project	MPP	adSCHEDULE
Folio_Flat_Fmt	328	282	Folio Flat File		FFF	adWORDPROCESSOR
HWP_Fmt	329	283	HWP (Arae-Ah Hangul)	application/x-hwp	HWP	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
ICHITARO_Fmt	330	284	ICHITARO (v4-10)		JTD	adWORDPROCESSOR
IS_XML_Fmt	331	273	Extended or Custom XML	text/xml	XML	adWORDPROCESSOR
Oasys_Fmt	332	286	Oasys	application/vnd.fujitsu.oasys	OAS, OA2, OA3	adWORDPROCESSOR
PBM_ASC_Fmt	333	287	Portable Bitmap Utilities ASCII format (PBM)	image/pbm	PBM	adRASTERIMAGE
PBM_BIN_Fmt	334	287	Portable Bitmap Utilities BINARY format (PBM)	image/pbm	PBM	adRASTERIMAGE
PGM_ASC_Fmt	335	288	Portable Greymap Utilities ASCII format (PGM)	image/x-pgm	PGM	adRASTERIMAGE
PGM_BIN_Fmt	336	288	Portable Greymap Utilities BINARY format (PGM)	image/x-pgm	PGM	adRASTERIMAGE
PPM_ASC_Fmt	337	289	Portable Pixmap Utilities ASCII format (PPM)	image/x-portable-pixmap	PPM	adRASTERIMAGE
PPM_BIN_Fmt	338	289	Portable Pixmap Utilities BINARY format (PPM)	image/x-portable-pixmap	PPM	adRASTERIMAGE
XBM_Fmt	339	290	X Bitmap format (XBM)	image/x-xbitmap	XBM	adRASTERIMAGE
XPM_Fmt	340	291	X Pixmap format (XPM)	image/xpm	XPM	adRASTERIMAGE
FPX_Fmt	341	292	Kodak FlashPix FPX Image format	image/fpx	FPX	adRASTERIMAGE
PCD_Fmt	342	293	PCD Image format	image/pcd	PCD	adRASTERIMAGE
MS_Visio_Fmt	343	294	Microsoft Visio (up to version 11)	image/x-vsd	VSD	adPRESENTATION
MS_Project_2000_Fmt	344	281	Microsoft Project 2000	application/vnd.ms-project	MPP	adSCHEDULE
MS_Outlook_Fmt	345	295	Microsoft Outlook message	application/vnd.ms-outlook	MSG, OFT	adENCAPSULATION
ELF_Relocatable_Fmt	346	159	ELF Relocatable	application/octet-stream	O	adOBJECTMODULE
ELF_Executable_Fmt	347	158	ELF Executable	application/octet-stream		adEXECUTABLE
ELF_Dynamic_Lib_Fmt	348	160	ELF Dynamic Library	application/octet-stream	SO	adLIBRARY
MS_Word_XML_Fmt	349	285	Microsoft Word 2003 XML	text/xml	XML	adWORDPROCESSOR
MS_Excel_XML_Fmt	350	285	Microsoft Excel 2003 XML	text/xml	XML	adWORDPROCESSOR
MS_Visio_XML_Fmt	351	285	Microsoft Visio 2003 XML	text/xml	VDX	adWORDPROCESSOR
SO_Text_XML_Fmt	352	314	OpenDocument format (OpenOffice 1/StarOffice 6,7) Text XML	application/vnd.sun.xml.writer	SXW	adWORDPROCESSOR
SO_Spreadsheet_XML_Fmt	353	315	OpenDocument format	application/vnd.sun.xml.calc	SXC, STC	adSPREADSHEET

Format Name	Number	Category	Description	MIME Type	Extension	File Class
			(OpenOffice 1/StarOffice 6,7) Spreadsheet XML			
SO_Presentation_XML_Fmt	354	316	OpenDocument format (OpenOffice 1/StarOffice 6,7) Presentation XML	application/vnd.sun.xml.impress	SXD, SXI	adPRESENTATION
XHTML_Fmt	355	296	XHTML	text/xhtml	XML, ASP	adWORDPROCESSOR
MS_OutlookPST_Fmt	356	297	Microsoft Outlook Personal Folders File (.pst)	application/vnd.ms-outlook-pst	PST	adENCAPSULATION
RAR_Fmt	357	298	RAR archive format	application/x-rar-compressed	RAR	adENCAPSULATION
Lotus_Notes_NSF_Fmt	358	299	IBM Lotus Notes Database NSF/NTF	application/x-lotus-notes	NSF	adENCAPSULATION
Macromedia_Flash_Fmt	359	300	Macromedia Flash (.swf)	application/x-shockwave-flash	SWF	adWORDPROCESSOR
MS_Word_2007_Fmt	360	301	Microsoft Word 2007 XML - Docx	application/x-ms-word07	DOCX, DOTX	adWORDPROCESSOR
MS_Excel_2007_Fmt	361	302	Microsoft Excel 2007 XML	application/x-ms-excel07	XLSX, XLTX	adSPREADSHEET
MS_PPT_2007_Fmt	362	303	Microsoft PowerPoint 2007 XML	application/x-ms-powerpoint07	PPTX, POTX, PPSX	adPRESENTATION
OpenPGP_Fmt	363	304	OpenPGP Message Format (with new packet format)	application/pgp-encrypted	PGP	adENCAPSULATION
Intergraph_V7_DGN_Fmt	364	305	Intergraph Standard File Format (ISFF) V7 DGN (non-OLE)		DGN	adVECTORGRAPHIC
MicroStation_V8_DGN_Fmt	365	306	MicroStation V8 DGN (OLE)		DGN	adVECTORGRAPHIC
MS_Word_Macro_2007_Fmt	366	307	Microsoft Word Macro 2007 XML	application/x-ms-word07m	DOCM, DOTM	adWORDPROCESSOR
MS_Excel_Macro_2007_Fmt	367	308	Microsoft Excel Macro 2007 XML	application/x-ms-excel07m	XLSM, XLTM, XLAM	adSPREADSHEET
MS_PPT_Macro_2007_Fmt	368	309	Microsoft PPT Macro 2007 XML	application/x-ms-powerpoint07m	PPTM, POTM, PPSM, PPAM	adPRESENTATION
LZH_Fmt	369	310	LZH Archive	application/x-lzh-compressed	LZH, LHA	adENCAPSULATION
Office_2007_Fmt	370	311	Office 2007 document		XLSB	adMISC
MS_XPS_Fmt	371	312	Microsoft XML Paper Specification (XPS)	application/vnd.ms-xpsdocument	XPS	adWORDPROCESSOR
Lotus_Domino_DXL_Fmt	372	313	IBM Domino Data in XML format (.dxl)	text/xml	DXL	adENCAPSULATION
ODF_Text_Fmt	373	314	ODF Text	application/vnd.oasis.opendocument.text	ODT	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
ODF_Spreadsheet_Fmt	374	315	ODF Spreadsheet	application/vnd.oasis.opendocument.spreadsheet	ODS	adSPREADSHEET
ODF_Presentation_Fmt	375	316	ODF Presentation	application/vnd.oasis.opendocument.presentation	ODP	adPRESENTATION
Legato_Extender_ONM_Fmt	376	317	Legato Extender Native Message ONM	application/x-lotus-notes	ONM	adENCAPSULATION
bin_Unknown_Fmt	377	318	Bin unknown format (.xxx)			adWORDPROCESSOR
TNEF_Fmt	378	319	Transport Neutral Encapsulation Format (TNEF)	application/vnd.ms-tnef		adENCAPSULATION
CADAM_Drawing_Fmt	379	320	CADAM Drawing		CDD	adVECTORGRAPHIC
CADAM_Drawing_Overlay_Fmt	380	321	CADAM Drawing Overlay		CDO	adVECTORGRAPHIC
NURSTOR_Drawing_Fmt	381	322	NURSTOR Drawing		NUR	adVECTORGRAPHIC
HP_GLP_Fmt	382	323	HP Graphics Language (Plotter)	vector/x-hpgl2	HPG	adVECTORGRAPHIC
ASF_Fmt	383	324	Advanced Systems Format (ASF)	application/x-ms-asf	ASF	adMISC
WMA_Fmt	384	325	Windows Media Audio Format (WMA)	audio/x-ms-wma	WMA	adSOUND
WMV_Fmt	385	326	Windows Media Video Format (WMV)	video/x-ms-wmv	WMV	adMOVIE
EMX_Fmt	386	327	Legato EMailXtender Archives Format (EMX)		EMX	adENCAPSULATION
Z7Z_Fmt	387	328	7 Zip Format (7z)	application/7z	7Z	adENCAPSULATION
MS_Excel_Binary_2007_Fmt	388	329	Microsoft Excel Binary 2007	application/vnd.ms-excel.sheet.binary.macroenabled.12	XLSB	adSPREADSHEET
CAB_Fmt	389	330	Microsoft Cabinet File (CAB)	application/vnd.ms-cab-compressed	CAB	adENCAPSULATION
CATIA_Fmt	390	331	CATIA Formats (CAT*)		CATPART, CATPRODUCT [2]	adVECTORGRAPHIC
YIM_Fmt	391	332	Yahoo Instant Messenger History		DAT	adWORDPROCESSOR
ODF_Drawing_Fmt	392	316	ODF Drawing/Graphics	application/vnd.oasis.opendocument.graphics	ODG	adVECTORGRAPHIC
Founder_CEB_Fmt	393	333	Founder Chinese E-paper Basic (ceb)	application/ceb	CEB	adWORDPROCESSOR
QPW_Fmt	394	334	Corel Quattro Pro 9+ for Windows	application/quattro-pro	QPW	adSPREADSHEET
MHT_Fmt	395	335	MHTML format (MHT)[1]	multipart/related	MHT, MHTML	adWORDPROCESSOR
MDI_Fmt	396	336	Microsoft Document Imaging Format	image/vnd.ms-modi	MDI	adRASTERIMAGE

Format Name	Number	Category	Description	MIME Type	Extension	File Class
GRV_Fmt	397	337	Microsoft Office Groove Format	application/vnd.groove-injector	GRV	adWORDPROCESSOR
IWWP_Fmt	398	338	Apple iWork Pages format	application/vnd.apple.pages	PAGES	adWORDPROCESSOR
IWSS_Fmt	399	339	Apple iWork Numbers format	application/vnd.apple.numbers	NUMBERS	adSPREADSHEET
IWPG_Fmt	400	340	Apple iWork Keynote format	application/vnd.apple.keynote	KEY	adPRESENTATION
BKF_Fmt	401	341	Windows Backup File		BKF	adENCAPSULATION
MS_Access_2007_Fmt	402	342	Microsoft Access 2007	application/msaccess	ACCDB	adDATABASE
ENT_Fmt	403	343	Microsoft Entourage Database Format			adENCAPSULATION
DMG_Fmt	404	344	Mac Disk Copy Disk Image File	application/x-apple-diskimage	DMG	adENCAPSULATION
CWK_Fmt	405	345	AppleWorks File	application/appleworks	CWK	adWORDPROCESSOR
OO3_Fmt	406	346	Omni Outliner V3 File		OO3	adWORDPROCESSOR
OPML_Fmt	407	347	Omni Outliner OPML File		OPML	adWORDPROCESSOR
Omni_Graffle_XML_Fmt	408	348	Omni Graffle XML File		GRAFFLE	adVECTORGRAPHIC
PSD_Fmt	409	349	Photoshop Document	image/vnd.adobe.photoshop	PSD, PSB	adRASTERIMAGE
Apple_Binary_PList_Fmt	410	350	Apple Binary Property List format		PLIST	adMISC
Apple_iChat_Fmt	411	351	Apple iChat format		ICHAT	adWORDPROCESSOR
OOUTLINE_Fmt	412	352	OOutliner File		OOUTLINE	adWORDPROCESSOR
BZIP2_Fmt	413	353	Bzip 2 Compressed File	application/x-bzip2	BZ2	adENCAPSULATION
ISO_Fmt	414	354	ISO-9660 CD Disc Image Format	application/x-iso9660-image	ISO	adENCAPSULATION
DocuWorks_Fmt	415	355	DocuWorks Format	application/vnd.fujixerox.docuworks	XDW	adWORDPROCESSOR
RealMedia_Fmt	416	356	RealMedia Streaming Media	application/vnd.rn-realmedia	RM, RA	adMOVIE
AC3Audio_Fmt	417	357	AC3 Audio File Format	audio/ac3	AC3	adSOUND
NEF_Fmt	418	358	Nero Encrypted File		NEF	adENCAPSULATION
SolidWorks_Fmt	419	359	SolidWorks Format Files		SLDASM, SLDPRT, SLDDRW, SLDDRT	adVECTORGRAPHIC
XFDL_Fmt	420	366	Extensible Forms Description Language	application/x-xfdl	XFDL, XFD	adPRESENTATION
Apple_XML_PList_Fmt	421	367	Apple XML Property List format		PLIST	adMISC

Format Name	Number	Category	Description	MIME Type	Extension	File Class
OneNote_Fmt	422	368	OneNote Note Format	application/onenote	ONE	adWORDPROCESSOR
IFilter_Fmt	423	369	iFilter			adWORDPROCESSOR
Dicom_Fmt	424	370	Digital Imaging and Communications in Medicine (Dicom)	application/dicom	DCM	adRASTERIMAGE
EnCase_Fmt	425	371	Expert Witness Compression Format (EnCase)		E01, L01, Lx01	adENCAPSULATION
Scrap_Fmt	426	372	Shell Scrap Object File		SHS	adENCAPSULATION
MS_Project_2007_Fmt	427	373	Microsoft Project 2007	application/vnd.ms-project	MPP	adSCHEDULE
MS_Publisher_98_Fmt	428	374	Microsoft Publisher from version 98	application/x-mspublisher	PUB	adDESKTOPPUBLSH
Skype_Fmt	429	375	Skype Log File		DBB	adWORDPROCESSOR
HI7_Fmt	430	377	Health level7 message		HL7	adWORDPROCESSOR
MS_OutlookOST_Fmt	431	378	Microsoft Outlook Offline Folders File (OST)	application/vnd.ms-outlook-pst	OST	adENCAPSULATION
Epub_Fmt	432	379	Electronic Publication	application/epub+zip	EPUB	adWORDPROCESSOR
MS_OEDBX_Fmt	433	380	Microsoft Outlook Express DBX Message Database		DBX	adENCAPSULATION
BB_Activ_Fmt	434	381	BlackBerry Activation File		DAT	adWORDPROCESSOR
DiskImage_Fmt	435	382	Disk Image		DMG	adENCAPSULATION
Milestone_Fmt	436	383	Milestone Document		MLS, ML3, ML4, ML5, ML6, ML7, ML8, ML9, MLA	adRASTERIMAGE
E_Transcript_Fmt	437	384	RealLegal E-Transcript File		PTX	adWORDPROCESSOR
PostScript_Font_Fmt	438	385	PostScript Type 1 Font	application/x-font	PFB	adFONT
Ghost_DiskImage_Fmt	439	386	Ghost Disk Image File		GHO, GHS	adENCAPSULATION
JPEG_2000_JP2_File_Fmt	440	387	JPEG-2000 JP2 File Format Syntax (ISO/IEC 15444-1)	image/jp2	JP2, JPF, J2K, JPWL, JPX, PGX	adRASTERIMAGE
Unicode_HTML_Fmt	441	388	Unicode HTML	text/html	HTM, HTML	adWORDPROCESSOR
CHM_Fmt	442	389	Microsoft Compiled HTML Help	application/x-chm	CHM	adENCAPSULATION
EMCMF_Fmt	443	390	Documentum EMCMF format		EMCMF	adENCAPSULATION

Format Name	Number	Category	Description	MIME Type	Extension	File Class
MS_Access_2007_Tmpl_Fmt	444	391	Microsoft Access 2007 Template		ACCDT	adDATABASE
Jungum_Fmt	445	392	Samsung Electronics Jungum Global document		GUL	adWORDPROCESSOR
JBIG2_Fmt	446	393	JBIG2 File Format	image/jbig2	JB2, JBIG2	adRASTERIMAGE
EFax_Fmt	447	394	eFax file		EFX	adRASTERIMAGE
AD1_Fmt	448	395	AD1 Evidence file		AD1	adENCAPSULATION
SketchUp_Fmt	449	396	Google SketchUp		SKP	adVECTORGRAPHIC
GWFS_Email_Fmt	450	397	Group Wise File Surf email		GWFS	adENCAPSULATION
JNT_Fmt	451	398	Windows Journal format		JNT	adWORDPROCESSOR
Yahoo_yChat_Fmt	452	399	Yahoo! Messenger chat log		YCHAT	adWORDPROCESSOR
PaperPort_MAX_File_Fmt	453	400	PaperPort MAX image file	image/max	MAX	adRASTERIMAGE
ARJ_Fmt	454	402	ARJ (Archive by Robert Jung) file format	application/arj	ARJ	adENCAPSULATION
RPMSG_Fmt	455	403	Microsoft Outlook Restricted Permission Message	application/x-microsoft-rpmsg-message	RPMSG	adENCAPSULATION
MAT_Fmt	456	404	MATLAB file format	application/x-matlab-data	MAT, FIG	adWORDPROCESSOR
SGY_Fmt	457	405	SEG-Y Seismic Data format		SGY, SEGY	adWORDPROCESSOR
CDXA_MPEG_PS_Fmt	458	406	MPEG-PS container with CDXA stream	video/mpeg	MPG	adMOVIE
EVT_Fmt	459	407	Microsoft Windows NT Event Log		EVT	adMISC
EVTX_Fmt	460	408	Microsoft Windows Vista Event Log		EVTX	adMISC
MS_OutlookOLM_Fmt	461	409	Microsoft Outlook for Macintosh format		OLM	adENCAPSULATION
WARC_Fmt	462	410	Web ARChive	application/warc	WARC	adENCAPSULATION
JAVACLASS_Fmt	463	411	Java Class format	application/x-java-class	CLASS	adWORDPROCESSOR
VCF_Fmt	464	412	Microsoft Outlook vCard file format	text/vcard	VCF	adWORDPROCESSOR
EDB_Fmt	465	413	Microsoft Exchange Server Database file format		EDB	adENCAPSULATION
ICS_Fmt	466	414	Microsoft Outlook iCalendar file format	text/calendar	ICS, VCS	adENCAPSULATION
MS_Visio_2013_Fmt	467	415	Microsoft Visio 2013	application/vnd.visio	VSDX, VSTX,	adPRESENTATION

Format Name	Number	Category	Description	MIME Type	Extension	File Class
					VSSX	
MS_Visio_2013_Macro_Fmt	468	415	Microsoft Visio 2013 macro	application/vnd.visio	VSDM, VSTM, VSSM	adPRESENTATION
ICHITARO_Compr_Fmt	469	417	ICHITARO Compressed format	application/x-js-taro	JTDC	adWORDPROCESSOR
IWWP13_Fmt	470	418	Apple iWork 2013 Pages format		IWA, PAGES	adWORDPROCESSOR
IWSS13_Fmt	471	419	Apple iWork 2013 Numbers format		IWA, NUMBERS	adSPREADSHEET
IWPG13_Fmt	472	420	Apple iWork 2013 Keynote format		IWA, KEY	adPRESENTATION
XZ_Fmt	473	421	XZ archive format	application/x-xz	XZ	adENCAPSULATION
Sony_WAVE64_Fmt	474	422	Sony Wave64 format	audio/wav64	W64	adSOUND
Conifer_WAVPACK_Fmt	475	423	Conifer Wavpack format	audio/x-wavpack	WV	adSOUND
Xiph_OGG_VORBIS_Fmt	476	424	Xiph Ogg Vorbis format	audio/ogg	OGG	adSOUND
MS_Visio_2013_Stencil_Fmt	477	415	MS Visio 2013 stencil format	application/vnd.visio	VSSX	adPRESENTATION
MS_Visio_2013_Stencil_Macro_Fmt	478	415	MS Visio 2013 stencil Macro format	application/vnd.visio	VSSM	adPRESENTATION
MS_Visio_2013_Template_Fmt	479	415	MS Visio 2013 template format	application/vnd.visio	VSTX	adPRESENTATION
MS_Visio_2013_Template_Macro_Fmt	480	415	MS Visio 2013 template Macro format	application/vnd.visio	VSTM	adPRESENTATION
Borland_Reflex_2_Fmt	481	425	Borland Reflex 2 format		R2D	adDATABASE
PKCS_12_Fmt	482	426	PKCS #12 (p12) format	application/x-pkcs12	P12, PFX	adWORDPROCESSOR
B1_Fmt	483	427	B1 format	application/x-b1	B1	adENCAPSULATION
ISO_IEC_MPEG_4_Fmt	484	428	ISO/IEC MPEG-4 (ISO 14496) format	video/mp4	MP4	adMOVIE
RAR5_Fmt	485	429	RAR5 Format	application/x-rar-compressed	RAR	adENCAPSULATION
Unigraphics_NX_Fmt	486	362	Unigraphics (UG) NX CAD Format		PRT	adVECTORGRAPHIC
PTC_Creo_Fmt	487	430	PTC Creo CAD Format		ASM, PRT	adVECTORGRAPHIC
KML_Fmt	488	431	Keyhole Markup Language	application/vnd.google-earth.kml+xml	KML	adWORDPROCESSOR
KMZ_Fmt	489	432	Zipped Keyhole Markup Language	application/vnd.google-earth.kmz	KMZ	adWORDPROCESSOR
WML_Fmt	490	433	Wireless Markup Language	text/vnd.wap.wml	WML	adWORDPROCESSOR
ODF_Formula_Fmt	491	434	ODF Formula	application/vnd.oasis.opendocument.formula	ODF	adWORDPROCESSOR
SO_Text_Fmt	492	435	Star Office 4,5 Writer Text	application/vnd.stardivision.writer	SDW, SGL,	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
					VOR	
SO_Spreadsheet_Fmt	493	436	Star Office 4,5 Calc Spreadsheet	application/vnd.stardivision.calc	SDC	adSPREADSHEET
SO_Presentation_Fmt	494	437	Star Office 4,5 Impress Presentation	application/vnd.stardivision.draw	SDD, SDA	adPRESENTATION
SO_Math_Fmt	495	438	Star Office 4,5 Math	application/vnd.stardivision.math	SMF	adMISC
STEP_Fmt	496	439	ISO 10303-21 STEP format			adMISC
STL_Fmt	497	364	3D Systems STL ASCII format			adMISC
Wiki_Fmt	545	488	MediaWiki File	text/x-mediawiki		adWORDPROCESSOR
MS_Word_2007_Flat_XML_Fmt	546	301	Microsoft Word 2007 XML - Flat xml	text/xml	XML	adWORDPROCESSOR
Matroska_Fmt	547	489	Matroska video File	video/x-matroska	MKV	adMOVIE
SVG_Fmt	548	490	Scalable Vector Graphics image	image/svg+xml	SVG	adVECTORGRAPHIC
Shapefile_Fmt	549	491	Shapefile	application/x-shapefile	SHP, SHX	adGIS
Flash_Video_Fmt	550	492	Flash video File	video/x-flv	FLV	adMOVIE
Embedded_OpenType_Fmt	551	493	Embedded OpenType font	application/vnd.ms-fontobject	EOT	adFONT
Web_Open_Font_Fmt	552	494	Web Open Font Format	font/woff	WOFF, WOFF2	adFONT
OpenType_Fmt	553	495	OpenType Font	font/otf	OTF	adFONT
MNG_Fmt	554	496	Multiple-image Network Graphics	video/x-mng	MNG	adANIMATION
JNG_Fmt	555	497	JPEG Network Graphics	image/x-jng	JNG	adRASTERIMAGE
AppleScript_Binary_Fmt	556	498	AppleScript Binary Source Code		SCPT	adSOURCECODE
Maya_Binary_Fmt	557	499	Autodesk Maya binary file		MB	adCAD
Jupiter_Tesselation_Fmt	558	363	UGS Jupiter Tesselation file		JT	adCAD
OGV_Fmt	559	500	Ogg Theora Video format	video/ogg	OGV	adMOVIE
OGG_Container_Fmt	560	501	General Ogg Container format	application/ogg	OGG	adMISC
GNU_Message_Catalog_Fmt	561	502	GNU Message Catalog format		MO	adMISC
Windows_Shortcut_Fmt	562	503	Windows shortcut file	application/x-ms-shortcut	LNK	adMISC
Apple_Typedstream_Fmt	563	504	Apple/NeXT typedstream data format			adMISC
XCF_Fmt	564	505	GIMP XCF image	image/x-xcf	XCF	adRASTERIMAGE
PaintShop_Pro_Fmt	565	506	PaintShop Pro image		PSP,	adRASTERIMAGE

Format Name	Number	Category	Description	MIME Type	Extension	File Class
					PSPIMAGE	
SQLite_Database_Fmt	566	507	SQLite database format	application/x-sqlite3	QHC	adDATABASE
MySQL_Table_Fmt	567	508	MySQL table definition file		FRM	adDATABASE
Microsoft_Program_DB_Fmt	568	509	Microsoft Program Database format		PDB	adDATABASE
OpenEXR_Fmt	569	510	OpenEXR image format		EXR	adRASTERIMAGE
XMV_Fmt	570	511	4X Movie File			adMOVIE
AMV_Fmt	571	512	AMV video file		AMV	adMOVIE
NIFF_Fmt	572	513	Notation Interchange File Format		NIF	adSOUND
CuBase_Fmt	573	514	Steinberg CuBase file			adSOUND
SoundFont_Fmt	574	515	SoundFont file			adSOUND
WebP_Fmt	575	516	WebP image	image/webp	WEBP	adRASTERIMAGE
ICC_Fmt	576	517	International Color Consortium files	application/vnd.iccprofile	ICC, ICM	adMISC
PCF_Fmt	577	518	X11 Portable Compiled Font file	application/x-font-pcf	PCF	adFONT
WebM_Fmt	578	519	WebM video file	video/webm	WEBM	adMOVIE
AMFF_Fmt	579	520	Amiga Metafile		AMF	adVECTORGRAPHIC
ANBM_Fmt	580	521	IFF Animated Bitmap			adRASTERIMAGE
ANIM_Fmt	581	522	IFF Amiga animated raster graphics format			adRASTERIMAGE
DEEP_Fmt	582	523	IFF-DEEP TVPaint image		DEEP	adRASTERIMAGE
FAXX_Fmt	583	524	IFF-FAXX Facsimile image			adRASTERIMAGE
ICON_Fmt	584	525	IFF Glow Icon image			adRASTERIMAGE
ILBM_Fmt	585	526	Interleaved BitMap image		IFF	adRASTERIMAGE
LWOB_Fmt	586	527	LightWave Object format		LWOB	adMISC
MAUD_Fmt	587	528	IFF-MAUD MacroSystem audio format			adSOUND
PBM_Fmt	588	529	IFF Planar BitMap			adRASTERIMAGE
TDDD_Fmt	589	530	IFF TDDD and Imagine Object animation format		TDD	adRASTERIMAGE
DjVu_Fmt	590	531	AT&T DjVu format	image/vnd.djvu	DJVU	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
InDesign_Fmt	591	532	Adobe InDesign document	application/x-indesign		adDESKTOPPUBLSH
Calamus_Fmt	592	533	Calamus Desktop Publishing			adDESKTOPPUBLSH
Adaptive_MultiRate_Fmt	593	534	Adaptive Multi-Rate audio format	audio/amr	AMR	adSOUND
FLAC_Fmt	594	535	Free Lossless Audio Codec format	audio/flac	FLAC	adSOUND
Ogg_FLAC_Fmt	595	536	Ogg Container FLAC audio format		OGG	adSOUND
SAS7BDAT_Fmt	596	537	SAS7BDAT database storage format		SAS7BDAT	adDATABASE
Design_Web_Format_Fmt	597	538	Autodesk Design Web Format	model/vnd.dwf	DWF	adCAD
Adobe_Flash_Audio_Book_Fmt	598	539	Adobe Flash Player audio book	audio/mp4	F4B	adSOUND
Adobe_Flash_Audio_Fmt	599	540	Adobe Flash Player audio	audio/mp4	F4A	adSOUND
Adobe_Flash_Protected_Video_Fmt	600	541	Adobe Flash Player protected video	video/mp4	F4P	adMOVIE
Adobe_Flash_Video_Fmt	601	542	Adobe Flash Player video	video/x-f4v	F4V	adMOVIE
Audible_Audiobook_Fmt	602	543	Audible Enhanced Audiobook		AAX	adSOUND
Canon_Camera_Fmt	603	544	Canon Digital Camera image			adRASTERIMAGE
Canon_Raw_Fmt	604	545	Canon Raw image		CR3	adRASTERIMAGE
Casio_Camera_Fmt	605	546	Casio Digital Camera image			adRASTERIMAGE
Convergent_Design_Fmt	606	547	Convergent Design file			adRASTERIMAGE
DMB_MAF_Audio_Fmt	607	548	DMB MAF audio			adSOUND
DMB_MAF_Video_Fmt	608	549	DMB MAF video			adMOVIE
DMP_Content_Fmt	609	550	Digital Media Project Content Format			adMISC
DVB_Fmt	610	551	Digital Video Broadcast format	video/vnd.dvb.file	DVB	adMOVIE
Dirac_Wavelet_Compression_Fmt	611	552	ISO-BMFF Dirac Wavelet compression			adMISC
HEICS_Image_Sequence_Fmt	612	553	High Efficiency Image Format HEVC image sequence	image/heic-sequence	HEICS	adRASTERIMAGE
HEIC_Image_Fmt	613	554	High Efficiency Image Format HEVC image	image/heic	HEIC	adRASTERIMAGE
HEIFS_Image_Sequence_Fmt	614	555	High Efficiency Image Format image sequence	image/heif-sequence	HEIFS	adRASTERIMAGE
HEIF_Image_Fmt	615	556	High Efficiency Image Format	image/heif	HEIF	adRASTERIMAGE

Format Name	Number	Category	Description	MIME Type	Extension	File Class
			image			
ISMACryp_Fmt	616	557	ISMACryp 2.0 Encrypted format			adENCAPSULATION
ISO_3GPP2_Fmt	617	558	3GPP2 video file	video/3gpp2	3G2	adMOVIE
ISO_3GPP_Fmt	618	559	3GPP video file	video/3gpp	3GP	adMOVIE
ISO_JPEG2000_JP2_Fmt	619	560	ISO-BMFF JPEG 2000 image	image/jp2	JP2	adRASTERIMAGE
ISO_JPEG2000_JPM_Fmt	620	561	ISO-BMFF JPEG 2000 compound image	image/jpm	JPM	adRASTERIMAGE
ISO_JPEG2000_JPX_Fmt	621	562	ISO-BMFF JPEG 2000 with extensions	image/jpx	JPX	adRASTERIMAGE
ISO_QuickTime_Fmt	622	563	Apple ISO-BMFF QuickTime video	video/quicktime	QT, MOV	adMOVIE
KDDI_Video_Fmt	623	564	KDDI Video file	video/3gpp2		adMOVIE
MAF_Photo_Player_Fmt	624	565	MAF Photo Player			adMISC
MPEG4_AVC_Fmt	625	566	ISO-BMFF MPEG-4 with AVC extension	video/mp4		adMOVIE
MPEG4_M4A_Fmt	626	567	Apple MPEG-4 Part 14 audio	audio/x-m4a	M4A	adSOUND
MPEG4_M4B_Fmt	627	568	Apple MPEG-4 Part 14 audio book	audio/mp4	M4B	adSOUND
MPEG4_M4P_Fmt	628	569	Apple MPEG-4 Part 14 protected audio	audio/mp4	M4P	adSOUND
MPEG4_M4V_Fmt	629	570	Apple MPEG-4 Part 14 video	video/x-m4v	M4V	adMOVIE
MPEG4_Sony_PSP_Fmt	630	571	Sony PSP MPEG-4	audio/mp4	MP4	adSOUND
MPEG_21_Fmt	631	572	MPEG-21	audio/mp4		adMISC
Mobile_QuickTime_Fmt	632	573	Mobile QuickTime video	video/quicktime	MQV	adMOVIE
Motion_JPEG_2000_Fmt	633	574	Motion JPEG 2000	video/mj2	MJ2, MJP2	adMOVIE
NTT_MPEG4_Fmt	634	575	NTT MPEG-4	video/mp4		adMOVIE
Nero_MPEG4_AVC_Profile	635	576	Nero MPEG-4 profile with AVC extension	video/mp4		adMOVIE
Nero_MPEG4_Audio_Fmt	636	577	Nero AAC audio	audio/mp4		adSOUND
Nero_MPEG4_Profile	637	578	Nero MPEG-4 profile	video/mp4		adMOVIE
OMA_DRM_Fmt	638	579	OMA DRM Format			adMISC
Panasonic_Camera_Fmt	639	580	Panasonic Digital Camera image			adRASTERIMAGE

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Ross_Video_Fmt	640	581	Ross video			adMOVIE
SDA_Video_Fmt	641	582	SDA SD Memory Card video			adMOVIE
Samsung_Stereoscopic_Fmt	642	583	Samsung stereoscopic stream			adMISC
Sony_XAVC_Fmt	643	584	Sony XAVC video			adMOVIE
JPEG_2000_PGX_Fmt	644	585	JPEG 2000 PGX Verification Model image		PGX	adRASTERIMAGE
Apple_Desktop_Services_Store_Fmt	645	586	Apple Desktop Services Store file		DS_Store	adMISC
Core_Audio_Fmt	646	587	Apple Core Audio Format	audio/x-caf	CAF	adSOUND
VICAR_Fmt	647	588	VICAR image format		IMG	adRASTERIMAGE
FITS_Fmt	648	589	Flexible Image Transport System FITS image	image/fits	FIT	adRASTERIMAGE
DIF_Fmt	649	590	Digital Interface Format (DIF) DV video		DV	adMOVIE
MPEG_Transport_Stream_Fmt	650	591	MPEG Transport Stream data	video/MP2T	TS	adMISC
MPEG_Sequence_Fmt	651	592	MPEG Sequence format	video/mpeg		adMISC
Ogg_OGM_Fmt	652	593	Ogg OGM video format	video/ogg	OGM	adMOVIE
Ogg_Speex_Fmt	653	594	Ogg Speex audio format	audio/ogg	SPX	adSOUND
Ogg_Opus_Fmt	654	595	Ogg Opus audio format	audio/ogg	OGG	adSOUND
Musepack_Audio_Fmt	655	596	Musepack audio format	audio/x-musepack	MPC	adSOUND
ART_Image_Fmt	656	597	ART image format		ART	adRASTERIMAGE
Vivo_Fmt	657	598	Vivo audio-video format	video/vnd.vivo	VIV	adMOVIE
QCP_Fmt	658	599	Qualcomm QCP audio	audio/qcelp	QCP	adSOUND
CSP_Codec_Fmt	659	600	Creative Signal Processor codec		CSP	adMISC
TwinVQ_Fmt	660	601	NTT TwinVQ audio format		VQF	adSOUND
Interplay_MVE_Fmt	661	602	Interplay MVE video format		MVE	adMOVIE
IRIX_Moviemaker_Fmt	662	603	IRIX Silicon Graphics moviemaker video file	video/x-sgi-movie	MV, MOVIE	adMOVIE
Sega_FILM_Fmt	663	604	Sega FILM video format		CPK, CAK	adMOVIE
SMAF_Fmt	664	605	Synthetic music Mobile Application Format	application/vnd.smaf	MMF	adSOUND

Format Name	Number	Category	Description	MIME Type	Extension	File Class
NIST_SPHERE_Fmt	665	606	NIST SPeech HEader REsources format		NIST	adSOUND
Chinese_AVS_Fmt	666	607	Chinese AVS video format			adMOVIE
VQA_Fmt	667	608	Westwood Studios Vector Quantized Animation video file		VQA	adANIMATION
YAFA_Fmt	668	609	Wildfire YAFA animation		YAFA	adANIMATION
Origin_MVE_Fmt	669	610	Origin Wing Commander III MVE movie format		MVE	adMOVIE
BBC_Dirac_Fmt	670	611	BBC Dirac video format	video/x-dirac	DRC	adMOVIE
Maya_ASCII_Fmt	671	612	Autodesk Maya ASCII file format		MA	adCAD
RenderMan_Fmt	672	613	Pixar RenderMan Interface Bytestream file		RIB	adVECTORGRAPHIC
NOFF_Binary_Fmt	673	614	NOFF 3D Object File Format		NOFF	adVECTORGRAPHIC
VTK_ASCII_Fmt	674	615	Visualization Toolkit VTK ASCII format		VTK	adVECTORGRAPHIC
VTK_Binary_Fmt	675	616	Visualization Toolkit VTK Binary format		VTK	adVECTORGRAPHIC
Wolfram_CDF_Fmt	676	617	Wolfram Mathematica Computable Document Format	application/cdf	CDF	adMISC
Wolfram_Notebook_Fmt	677	618	Wolfram Mathematica Notebook Format		NB	adMISC
HDF4_Fmt	678	619	Hierarchical Data Format HDF4	application/x-hdf	HDF, H4	adMISC
HDF5_Fmt	679	620	Hierarchical Data Format HDF5	application/x-hdf	HDF, H5	adMISC
ARMovie_Fmt	680	621	Acorn RISC ARMovie video format		RPL	adMOVIE
Windows_TV_DVR_Fmt	681	622	Windows Television DVR format		WTV	adMOVIE
InstallShield_Z_Fmt	682	623	InstallShield Z archive format	application/x-compress	Z	adENCAPSULATION
MS_DirectDraw_Surface_Fmt	683	624	Microsoft DirectDraw Surface container format		DDS	adENCAPSULATION
Bink_Fmt	684	625	Bink audio-video container format		BIK, BK2	adMOVIE
LZMA_Fmt	685	626	LZMA compressed data format	application/x-lzma	LZMA	adENCAPSULATION
True_Audio_Fmt	686	627	True Audio format	audio/x-tta	TTA	adSOUND
Keepass_Fmt	687	628	Keepass Password file		KDB, KDBX	adMISC

Format Name	Number	Category	Description	MIME Type	Extension	File Class
RPM_Fmt	688	629	RPM Package Manager file	application/x-rpm	RPM	adENCAPSULATION
Printer_Font_Metrics_Fmt	689	630	Adobe Printer Font Metrics format	application/x-font-printer-metric	PFM	adFONT
Adobe_Font_Metrics_Fmt	690	631	Adobe Font Metrics ASCII format	application/x-font-adobe-metric	AFM	adFONT
Printer_Font_ASCII_Fmt	691	632	Adobe Printer Font ASCII format	application/x-font-type1	PFA	adFONT
Netware_Loadable_Module_Fmt	692	633	Netware Loadable Module format		NLM	adMISC
TCPdump_pcap_Fmt	693	634	TCPdump packet stream capture savefile format	application/vnd.tcpdump.pcap	PCAP	adMISC
Multiple_Master_Font_Fmt	694	635	Adobe Multiple master font format		MMM	adFONT
TrueType_Font_Collection_Fmt	695	636	TrueType font collection format	application/x-font-ttf	TTC	adFONT
Shapefile_Spatial_Index_Fmt	696	637	Shapefile binary spatial index format	application/x-shapefile	SBX, SBN	adGIS
Java_Key_Store_Fmt	697	638	Java Key Store format	application/x-java-keystore	KS	adMISC
Java_JCE_Key_Store_Fmt	698	639	Java JCE Key Store format	application/x-java-jce-keystore		adMISC
Quark_Xpress_Intel_Fmt	699	640	QuarkXPress Intel format	application/vnd.quark.quarkxpress	QXB	adDESKTOPPUBLSH
Windows_Imaging_Fmt	700	641	Microsoft Windows Imaging Format WIM		WIM	adMISC
VMware_Virtual_Disk_Fmt	701	642	VMware Virtual Disk Format 5.0	application/x-vmdk	VMDK	adMISC
XPConnect_Typelib_Fmt	702	643	XPConnect Typelib Format		XPT	adMISC
MS_DOS_Compression_Fmt	703	644	Microsoft MS-DOS installation ‘Quantum’ compression		EX_	adENCAPSULATION
DLS_Fmt	704	645	DLS Downloadable Sounds format		DLS	adSOUND
MS_Windows_Registry_Fmt	705	646	Microsoft Windows Registry format			adMISC
Microsoft_Help_2_Fmt	706	647	Microsoft Help 2.0 format		HXD, HXW, HXH	adENCAPSULATION
Qt_Translation_Fmt	707	648	Qt binary translation file format		QM	adMISC
PEM_SSL_Certificate_Fmt	708	649	PEM-encoded SSL certificate	application/pkix-cert	CRT, PEM, CER, KEY	adENCAPSULATION
PostScript_Printer_Description_Fmt	709	650	Adobe PostScript Printer Description file	application/vnd.cups-ppd	PPD	adMISC
Speedo_Font_Fmt	710	651	Speedo Font format		SPD	adFONT
InstallShield_Cabinet_Fmt	711	652	InstallShield Cabinet Archive		CAB, HDR	adENCAPSULATION

Format Name	Number	Category	Description	MIME Type	Extension	File Class
			format			
InstallShield_Uninstall_Fmt	712	653	InstallShield Uninstall format		ISU	adENCAPSULATION
MS_OEDBX_Folder_Fmt	713	654	Outlook Express DBX folder database format		DBX	adENCAPSULATION
LabVIEW_Fmt	714	655	National Instruments LabVIEW file format		VI	adMISC
SAP_Archive_SAR_Fmt	715	656	SAP compression archive SAR format		SAR	adENCAPSULATION
Netscape_Address_Book_Fmt	716	657	Netscape Address Book format		NAB	adMISC
Universal_3D_Fmt	717	658	Universal 3D file format		U3D	adVECTORGRAPHIC
Open_Inventor_ASCII_Fmt	718	659	Open Inventor ASCII format		IV	adVECTORGRAPHIC
Open_Inventor_Binary_Fmt	719	660	Open Inventor Binary format		IV	adVECTORGRAPHIC
X_Window_Dump_Fmt	720	661	X Window Dump image	image/x-xwindowdump	XWD	adRASTERIMAGE
Git_Packfile_Fmt	721	662	Git Packfile format		PACK	adENCAPSULATION
Xara_Xar_Fmt	722	663	Xara X Xar image format	application/vnd.xara	XAR	adVECTORGRAPHIC
Internet_Archive_ARC_Fmt	723	664	Internet Archive ARC format	application/x-ia-arc	ARC	adENCAPSULATION
Applix_Builder_Fmt	724	665	Applix Builder format		AB	adMISC
Applix_Bitmap_Fmt	725	666	Applix Bitmap image format		IM	adRASTERIMAGE
PEM_RSA_Private_Key_Fmt	726	667	PEM-encoded RSA private key		PEM	adENCAPSULATION
MIFF_Fmt	727	668	Magick Image File Format		MIFF	adRASTERIMAGE
Subversion_Dump_Fmt	728	669	Subversion Dump format			adENCAPSULATION
Virtual_Hard_Disk_Fmt	729	670	Microsoft Virtual Hard Disk format	application/x-vhd	VHD	adENCAPSULATION
Direct_Access_Archive_Fmt	730	671	PowerISO Direct Access Archive format		DAA	adENCAPSULATION
Debian_Binary_Fmt	731	672	Debian binary package format	application/x-debian-package	DEB	adENCAPSULATION
XUL_Fastload_Fmt	732	673	Mozilla XUL Fastload format		MFL	adMISC
Nastran_OP2_Fmt	733	674	Nastran OP2 format		OP2	adCAD
Binary_Logging_Fmt	734	675	CAD Binary Logging Format		BLF	adCAD
Measurement_Data_Fmt	735	676	CAD Measurement Data Format		MDF	adCAD
Abaqus_ODB_Fmt	736	677	Abaqus ODB Format		ODB	adCAD

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Open_Diagnostic_Data_Exchange_Fmt	737	678	Vector Open Diagnostic Data Exchange format		ODX	adCAD
Vector_ASCII_Fmt	738	679	Vector CAD ASCII ASC format		ASC	adCAD
LSDYNA_State_Database_Fmt	739	680	LS-DYNA State Database format			adCAD
LSDYNA_Binary_Output_Fmt	740	681	LS-DYNA binary output (binout) format			adCAD
MS_Power_BI_Fmt	741	682	Microsoft Power BI Desktop format		PBIX	adANALYTICS
Tableau_Workbook_Fmt	742	683	Tableau Workbook format		TWB	adANALYTICS
Tableau_Packaged_Workbook_Fmt	743	684	Tableau Packaged Workbook format		TWBX	adANALYTICS
Tableau_Extract_Fmt	744	685	Tableau Extract format		TDE	adANALYTICS
Tableau_Data_Source_Fmt	745	686	Tableau Data Source format		TDS	adANALYTICS
Tableau_Packaged_Data_Source_Fmt	746	687	Tableau Packaged Data Source format		TDSX	adANALYTICS
Tableau_Preferences_Fmt	747	688	Tableau Preferences format		TPS	adANALYTICS
Tableau_Map_Source_Fmt	748	689	Tableau Map Source format		TMS	adANALYTICS
Windows_Installer_Fmt	908	848	MSI Windows Installer format	application/x-ole-storage	MSI	adENCAPSULATION
Autodesk_3ds_Max_Fmt	909	849	Autodesk 3ds Max format		MAX	adCAD
PhotoDraw_Mix_Fmt	910	850	PhotoDraw MIX image	image/vnd.mix	MIX	adRASTERIMAGE
Softimage_SCN_Fmt	911	851	Softimage Scene SCN format		SCN	adCAD
Parasolid_XT_Fmt	912	852	Parasolid ascii XT format		X_T	adCAD
Parasolid_XB_Fmt	913	853	Parasolid binary XB format		X_B	adCAD
IGES_Fmt	914	854	Initial Graphics Exchange Specification format	model/iges	IGS	adCAD
ACE_Archive_Fmt	915	855	ACE archive format	application/x-ace-compressed	ACE	adENCAPSULATION
Grasshopper_GHX_Fmt	916	856	Grasshopper GHX format		GHX	adCAD
MS_FrontPage_Macro_Fmt	917	857	Microsoft FrontPage macro file format		FPM	adWORDPROCESSOR
MS_AtWork_Fax_Fmt	918	858	Microsoft AtWork Fax format		AWD	adFAXFORMAT
MS_Image_Composer_Fmt	919	859	Microsoft Image Composer format		MIC	adRASTERIMAGE
MS_Visual_InterDev_Fmt	920	860	Microsoft Visual InterDev web		WDM	adMISC

Format Name	Number	Category	Description	MIME Type	Extension	File Class
			project items file			
Macromedia_Flash_FLA_OLE_Fmt	921	861	Macromedia Flash FLA Project File OLE format		FLA	adWORDPROCESSOR
Corel_Draw_X4_Fmt	922	862	CorelDRAW version X4 onwards	application/x-vnd.corel.zcf.draw.document+zip	CDRX	adVECTORGRAPHIC
Ogg_Daala_Fmt	923	863	Ogg Daala video format	video/daala	OGV	adMOVIE
Ogg_BBC_Dirac_Fmt	924	864	Ogg BBC Dirac video format	video/x-dirac	OGV	adMOVIE
PKCS_7_Fmt	925	865	PKCS #7 cryptographic format	application/pkcs7-signature	P7S	adWORDPROCESSOR
Time_Stamped_Data_Fmt	926	866	Time-stamped data format	application/timestamped-data	TSD	adENCAPSULATION
Sereal_Fmt	927	867	Sereal data serialization format	application/sereal	SRL	adMISC
Associated_Signature_Simple_Fmt	928	868	Associated Signature Container Simple format	application/vnd.etsi.asic-s+zip	ASICS	adENCAPSULATION
Associated_Signature_Extended_Fmt	929	869	Associated Signature Container Extended format	application/vnd.etsi.asic-e+zip	ASICE	adENCAPSULATION
iBooks_Fmt	930	870	Apple iBooks format	application/x-ibooks+zip	IBOOKS	adWORDPROCESSOR
PDF_Forms_Data_Fmt	931	871	PDF Forms Data Format	application/vnd.fdf	FDF	adWORDPROCESSOR
PDF_XML_Forms_Data_Fmt	932	872	PDF XML Forms Data Format	application/vnd.adobe.xfdf	XFDF	adWORDPROCESSOR
AxCrypt_Fmt	933	873	AxCrypt encrypted document	application/x-axcrypt	AXX	adENCAPSULATION
Unix_Archive_Fmt	934	874	Unix Archive ar format	application/x-archive	AR	adENCAPSULATION
Berkeley_Btree_Database_Fmt	935	875	Berkeley DB btree database format	application/x-berkeley-db	DB	adDATABASE
Berkeley_Hash_Database_Fmt	936	876	Berkeley DB hash database format	application/x-berkeley-db	DB	adDATABASE
Berkeley_Log_Database_Fmt	937	877	Berkeley DB log database format	application/x-berkeley-db		adDATABASE
Berkeley_Queue_Database_Fmt	938	878	Berkeley DB queue database format	application/x-berkeley-db		adDATABASE
BitTorrent_Fmt	939	879	BitTorrent file format	application/x-bittorrent	TORRENT	adMISC
Chrome_Extension_Fmt	940	880	Google Chrome Extension format	application/x-chrome-package	CRX	adENCAPSULATION
Dalvik_Executable_Fmt	941	881	Dalvik Executable dex format	application/x-dex	DEX	adEXECUTABLE
Foxmail_Fmt	942	882	Foxmail email format	application/x-foxmail	BOX	adWORDPROCESSOR
GRIB_Fmt	943	883	General Regularly-distributed Information in Binary form GRIB format	application/x-grib	GRB, GRIB2	adMISC

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Zstandard_Fmt	944	884	Zstandard compression format	application/zstd	ZSTD	adENCAPSULATION
LZ4_Fmt	945	885	LZ4 compressed file	application/x-lz4	LZ4	adENCAPSULATION
MS_Money_Fmt	946	886	Microsoft Money format	application/x-msmoney	MNY	adSPREADSHEET
NetCDF_Fmt	947	887	Network Common Data Form NetCDF format	application/x-netcdf	NC	adMISC
SAS6_Data_Fmt	948	888	SAS 6 Data storage format	application/x-sas-data-v6	SD2	adDATABASE
SAS_Transport_Fmt	949	889	SAS Transport File XPORT format	application/x-sas-xport	XPT, XPORT	adDATABASE
Snappy_Framed_Fmt	950	890	Snappy Framed compression format	application/x-snappy-framed	SZ	adENCAPSULATION
Stata_Data_Fmt	951	891	Stata Data Format	application/x-stata-dta	DTA	adDATABASE
SPSS_SAV_Fmt	952	892	SPSS Statistics Data File Format		SAV	adDATABASE
Zoo_Archive_Fmt	953	893	Zoo Compressed Archive Format	application/x-zoo	ZOO	adENCAPSULATION
CDX_Fmt	954	894	ChemDraw CDX format	chemical/x-cdx	CDX	adSCIENTIFIC
CDXML_Fmt	955	895	ChemDraw CDXML format	application/vnd.chemdraw+xml	CDXML	adSCIENTIFIC
BPG_Fmt	956	896	Better Portable Graphics BPG format	image/x-bpg	BPG	adRASTERIMAGE
Apple_Icon_Fmt	957	897	Apple Icon image format	image/icns	ICNS	adRASTERIMAGE
NITF_Fmt	958	898	National Imagery Transmission Format NITF image	image/nitf	NTF, NITF	adRASTERIMAGE
ERDAS_Imagine_Fmt	959	899	ERDAS Imagine image format	application/x-erdas-hfa	HFA, RRD, AUX	adRASTERIMAGE
MS_Office_Temporary_Owner_Fmt	960	900	Microsoft Office temporary owner file	application/x-ms-owner		adMISC
EAC3_Audio_Fmt	961	901	Enhanced-AC3 (EAC3) Audio File format	audio/eac3	AC3	adSOUND
COFF_Relocatable_Fmt	962	902	Common Object File Format (COFF) relocatable object	application/x-object-file	O	adOBJECTMODULE
COFF_Executable_Fmt	963	903	Common Object File Format (COFF) executable	application/x-executable-file		adEXECUTABLE
COFF_Dynamic_Lib_Fmt	964	904	Common Object File Format (COFF) dynamic library	application/x-library-file		adLIBRARY
ELF_Core_Fmt	965	905	ELF Core file	application/x-coredump		adMISC

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Purify_Fmt	966	906	Rational Purify data file		PFY	adMISC
Kryptel_Fmt	967	907	Kryptel encrypted file		EDC	adENCAPSULATION
Windows_Core_Dump_Fmt	968	908	Windows heap or mini core dump file	application/x-dmp	DMP	adMISC
Qt_Prerendered_Font_Fmt	969	909	Qt Prerendered Font format		QPF2	adFONT
AIX_Relocatable_Fmt	970	910	AIX/RISC COFF relocatable object	application/x-object-file		adOBJECTMODULE
AIX_Executable_Fmt	971	911	AIX/RISC COFF executable	application/x-executable-file		adEXECUTABLE
AIX_Dynamic_Lib_Fmt	972	912	AIX/RISC COFF dynamic library	application/x-library-file	A	adLIBRARY
HPUX_Relocatable_Fmt	973	913	HPUX/PA-RISC COFF relocatable object	application/x-object-file		adOBJECTMODULE
HPUX_Executable_Fmt	974	914	HPUX/PA-RISC COFF executable	application/x-executable-file		adEXECUTABLE
HPUX_Dynamic_Lib_Fmt	975	915	HPUX/PA-RISC COFF dynamic library	application/x-library-file	SL	adLIBRARY
XML_EBCDIC_Fmt	976	916	EBCDIC-encoded XML file	application/xml	XML	adWORDPROCESSOR
MPEG_JVT_H264_Fmt	977	917	MPEG JVT-NAL sequence H264 video	video/h264	264	adMOVIE
Material_Exchange_Fmt	978	918	Material Exchange Format audio-video container format	application/mxf	MXF	adMOVIE
MS_Agent_Character_Fmt	979	919	Microsoft Agent Character file		ACS	adMOVIE
Quicken_Fmt	980	920	Quicken data file		QDF	adMISC
MS_Outlook_Address_Fmt	981	921	Microsoft Outlook address file		WAB	adMISC
MS_Answer_Wizard_Fmt	982	922	Microsoft Answer Wizard file			adMISC
ADX_Fmt	983	923	ADX audio file		ADX	adSOUND
System_Deployment_Image_Fmt	984	924	Microsoft System Deployment Image SDI format		SDI	adMISC
Free_Lossless_Image_Fmt	985	925	Free Lossless Image Format (FLIF)	image/flif	FLIF	adRASTERIMAGE
DPX_Fmt	986	926	Digital Picture Exchange (DPX) image format	image/dpx	DPX	adRASTERIMAGE
Avro_Fmt	987	927	Apache Avro binary format		AVRO	adMISC
InstallShield_Archive_Fmt	988	928	InstallShield archive (early versions) format		EX_	adENCAPSULATION

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Mac_Executable_Fmt	989	929	Mac OS-X (Mach-O) executable format			adEXECUTABLE
GDSII_Fmt	990	930	GDSII data format		GDS	adMISC
ActiveMime_Fmt	991	931	Microsoft ActiveMime (mso) documents	application/x-mso	MSO	adMISC
SmartCharts_Fmt	992	932	BizInt SmartCharts data format		CHP, CHRR	adMISC
Webex_ARF_Fmt	993	933	Webex advanced network ARF recordings		ARF	adMOVIE
Webex_WRF_Fmt	994	934	Webex local WRF recordings		WRF	adMOVIE
PGP_NetShare_Fmt	995	935	Symantec PGP NetShare encrypted file			adENCAPSULATION
Ability_WP_OLE_Fmt	996	936	Ability Write later versions format		AWW	adWORDPROCESSOR
Ability_SS_OLE_Fmt	997	937	Ability Spreadsheet later versions format		AWS	adSPREADSHEET
InDesign_IDML_Fmt	998	938	Adobe InDesign IDML format	application/vnd.adobe.indesign-idml-package	IDML	adDESKTOPPUBLSH
Executable_JAR_Fmt	999	939	Executable Java Archive (jar) file	application/java-archive	JAR	adENCAPSULATION
IDOL_IDX_Fmt	1000	940	IDOL Server IDX file		IDX	adENCAPSULATION
Android_Package_Kit_Fmt	1001	941	Android Package Kit (APK) format	application/vnd.android.package-archive	APK	adEXECUTABLE
Android_Binary_XML_Fmt	1002	942	Android Binary XML (compressed by aapt) format	application/xml	XML	adWORDPROCESSOR
Java_WAR_Fmt	1003	943	Java WAR file format		WAR	adENCAPSULATION
Java_EAR_Fmt	1004	944	Java EAR file format		EAR	adENCAPSULATION
Atom_Syndication_Fmt	1005	945	Atom Syndication Format	application/atom+xml	ATOM	adWORDPROCESSOR
RSS_Fmt	1006	946	RSS syndication XML format	application/rss+xml	RSS	adWORDPROCESSOR
SMIL_Fmt	1007	947	Synchonized Multimedia Integration Language (SMIL) XML format	application/smil+xml	SMIL	adWORDPROCESSOR
XSLT_Fmt	1008	948	Extensible Stylesheet Language Transformations (XSLT) format	application/xslt+xml	XSL, XSLT	adWORDPROCESSOR
XML_Shareable_Playlist_Fmt	1009	949	XML Shareable Playlist Format (XSPF)	application/xspf+xml	XSPF	adWORDPROCESSOR
FictionBook_Fmt	1010	950	FictionBook e-book XML format	application/x-fictionbook+xml	FB2	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Adobe_Premiere_Project_Fmt	1011	951	Adobe Premiere project format	image/vnd.adobe.premiere	PPJ	adMISC
RDF_XML_Fmt	1012	952	RDF/XML format	application/rdf+xml	RDF	adWORDPROCESSOR
Really_Simple_Discovery_Fmt	1013	953	Really Simple Discovery (RSD) XML format	application/rsd+xml	RSD	adWORDPROCESSOR
SBML_Fmt	1014	954	Systems Biology Markul Language (SBML) XML format	application/sbml+xml	SBML	adWORDPROCESSOR
SRU_Fmt	1015	955	Search/Retrieve via URL (SRU) XML format	application/sru+xml	SRU	adWORDPROCESSOR
SSML_Fmt	1016	956	Speech Synthesis Markup Language (SSML) XML format	application/ssml+xml	SSML	adWORDPROCESSOR
PLS_Fmt	1017	957	Pronunciation Lexicon Specification (PLS) XML format	application/pls+xml	PLS	adWORDPROCESSOR
TEI_Fmt	1018	958	Text Encoding Initiative (TEI) XML format	application/tei+xml	TEI	adWORDPROCESSOR
METS_Fmt	1019	959	Metadata Encoding and Transmission Standard (METS) XML format	application/mets+xml	METS	adWORDPROCESSOR
MODS_Fmt	1020	960	Metadata Object Description Schema (MODS) XML format	application/mods+xml	MODS	adWORDPROCESSOR
Metalink_Fmt	1021	961	Metalink XML format	application/metalink4+xml	METALINK	adWORDPROCESSOR
Open_eBook_Fmt	1022	962	Open eBook (OEBPS) XML format	application/oebps-package+xml	OPF	adWORDPROCESSOR
SRGS_Fmt	1023	963	Speech Recognition Grammar Specification (SRGS) XML format	application/srgs+xml	SRGS	adWORDPROCESSOR
SPARQL_Results_Fmt	1024	964	SPARQL Query Results XML format	application/sparql-results+xml	SRX	adWORDPROCESSOR
Adobe_XML_Data_Package_Fmt	1025	965	Adobe XML Data Package format	application/vnd.adobe.xdp+xml	XDP	adWORDPROCESSOR
ESzigno_Fmt	1026	966	e-Szigno signed xml document	application/vnd.eszigno3+xml	ES3	adWORDPROCESSOR
Mozilla_XUL_Fmt	1027	967	Mozilla XML User Interface Language (XUL) XML format	application/vnd.mozilla.xul+xml	XUL	adWORDPROCESSOR
SyncML_Fmt	1028	968	Synchronization Markup Language (SyncML) XML format	application/vnd.syncml+xml	XML	adWORDPROCESSOR
VoiceXML_Fmt	1029	969	VoiceXML (VXML) XML format	application/voicexml+xml	VXML	adWORDPROCESSOR
TI_Target_Configuration_Fmt	1030	970	Texas Instruments CCXML target configuration XML format		CCXML	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
LZFSE_Fmt	1031	971	Lempel-Ziv Finite State Entropy (LZFSE) compression format		LZFSE	adENCAPSULATION
Kindle_eBook_Fmt	1032	972	Amazon Kindle or Mobipocket eBook format	application/vnd.amazon.ebook	AZW, PRC	adWORDPROCESSOR
Oasis_Stream_Fmt	1033	973	Open Artwork System Interchange Standard (OASIS) format		OAS	adMISC
Amazon_KFX_Fmt	1034	974	Amazon KFX eBook format		KFX	adWORDPROCESSOR
KTX_Fmt	1035	975	KTX image format	image/ktx	KTX	adRASTERIMAGE
GMSH_Mesh_Fmt	1036	976	GMSH Mesh polygon format	model/mesh	MSH	adCAD
Collada_DAE_Fmt	1037	977	Collada Digital Asset Exchange (DAE) format	model/vnd.collada+xml	DAE	adCAD
YIN_Fmt	1038	978	YIN XML format	application/yin+xml	YIN	adWORDPROCESSOR
MPEG_Playlist_Fmt	1039	979	MPEG audio playlist format	audio/mpegurl	M3U	adSOUND
Windows_Audio_Playlist_Fmt	1040	980	Windows Audio playlist format	audio/x-ms-wax	WAX	adSOUND
DTS_Audio_Fmt	1041	981	DTS Coherent Acoustics audio format	audio/vnd.dts	DTS	adSOUND
Chemical_Markup_Language_Fmt	1042	982	Chemical Markup Language (CML) XML format	chemical/x-cml	CML	adWORDPROCESSOR
CrystalMaker_Fmt	1043	983	CrystalMaker chemical format	chemical/x-cmdf	CMDF	adSCIENTIFIC
VTK_XML_Fmt	1044	984	Visualization Toolkit VTK XML format	model/vnd.vtu	VTU	adVECTORGRAPHIC
IPFIX_Fmt	1045	985	IP Flow Information Export (IPFIX) format	application/ipfix	IPFIX	adMISC
Portable_Font_Resource_Fmt	1046	986	Portable Font Resource font format	application/font-tdpfr	PFR	adFONT
MARC_Fmt	1047	987	Machine-Readable Cataloging (MARC21) format	application/marc	MARC	adDATABASE
MARC_XML_Fmt	1048	988	Machine-Readable Cataloging (MARC) XML format	application/marcxml+xml	XML	adWORDPROCESSOR
XAR_Fmt	1049	989	Extensible Archive (XAR) format			adENCAPSULATION
Symbian_Installer_Fmt	1050	990	Symbian installer format	application/vnd.symbian.install	SIS	adENCAPSULATION
SO_Drawing_XML_Fmt	1051	316	OpenDocument format (OpenOffice 1/StarOffice 6.7) Drawing XML	application/vnd.sun.xml.draw	SXD	adVECTORGRAPHIC

Format Name	Number	Category	Description	MIME Type	Extension	File Class
SO_Text_Global_XML_Fmt	1052	991	OpenDocument format (OpenOffice 1/StarOffice 6.7) Writer Master document XML	application/vnd.sun.xml.writer.global	SXG	adWORDPROCESSOR
ODF_Chart_Fmt	1053	992	ODF Chart	application/vnd.oasis.opendocument.chart	ODC	adVECTORGRAPHIC
ODF_Database_Fmt	1054	993	ODF Database	application/vnd.sun.xml.base	ODB	adDATABASE
ODF_Image_Fmt	1055	994	ODF Image	application/vnd.oasis.opendocument.image	ODI	adRASTERIMAGE
ODF_Text_Master_Fmt	1056	995	ODF Text Master	application/vnd.oasis.opendocument.text-master	ODM	adWORDPROCESSOR
ODF_Text_Web_Fmt	1057	996	ODF Text Web	application/vnd.oasis.opendocument.text-web	OTH	adWORDPROCESSOR
ODF_Chart_Template_Fmt	1058	997	ODF Chart Template	application/vnd.oasis.opendocument.chart-template	OTC	adVECTORGRAPHIC
ODF_Formula_Template_Fmt	1059	998	ODF Formula Template	application/vnd.oasis.opendocument.formula-template	OTF	adWORDPROCESSOR
ODF_Drawing_Template_Fmt	1060	316	ODF Drawing/Graphics Template	application/vnd.oasis.opendocument.graphics-template	OTG	adVECTORGRAPHIC
ODF_Image_Template_Fmt	1061	999	ODF Image Template	application/vnd.oasis.opendocument.image-template	OTI	adRASTERIMAGE
ODF_Presentation_Template_Fmt	1062	316	ODF Presentation Template	application/vnd.oasis.opendocument.presentation-template	OTP	adPRESENTATION
ODF_Spreadsheet_Template_Fmt	1063	315	ODF Spreadsheet Template	application/vnd.oasis.opendocument.spreadsheet-template	OTS	adSPREADSHEET
ODF_Text_Template_Fmt	1064	314	ODF Text Template	application/vnd.oasis.opendocument.text-template	OTT	adWORDPROCESSOR
ODF_Chart_XML_Fmt	1065	1000	ODF Chart flat XML format	application/vnd.oasis.opendocument.chart.xml	FODC	adVECTORGRAPHIC
ODF_Drawing_XML_Fmt	1066	1001	ODF Drawing/Graphics flat XML format	application/vnd.oasis.opendocument.formula.xml	FODG	adWORDPROCESSOR
ODF_Formula_XML_Fmt	1067	1002	ODF Formula flat XML format	application/vnd.oasis.opendocument.graphics.xml	FODF	adVECTORGRAPHIC
ODF_Image_XML_Fmt	1068	1003	ODF Image flat XML format	application/vnd.oasis.opendocument.image.xml	FODI	adRASTERIMAGE
ODF_Presentation_XML_Fmt	1069	1004	ODF Presentation flat XML format	application/vnd.oasis.opendocument.presentation.xml	FODP	adPRESENTATION
ODF_Spreadsheet_XML_Fmt	1070	1005	ODF Spreadsheet flat XML format	application/vnd.oasis.opendocument.spreadsheet.xml	FODS	adSPREADSHEET
ODF_Text_XML_Fmt	1071	1006	ODF Text flat XML format	application/vnd.oasis.opendocument.text.xml	FODT	adWORDPROCESSOR
ODF_Extension_Fmt	1072	1007	ODF Extension format	application/vnd.openofficeorg.extension	OXT	adMISC
StarView_Metafile_Fmt	1073	1008	OpenOffice StarView MetaFile format	image/x-svm	SVM	adRASTERIMAGE
BBeB_LRF_eBook_Fmt	1074	1009	Broad Band eBook (BBeB) in LRF format		LRF	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
GPG_Trust_DB_Fmt	1075	1010	GPG trust database format		GPG	adMISC
VICE_Emulator_Fmt	1076	1011	VICE (Versatile Commodore Emulator) format		VSF	adMISC
Portable_Game_Notation_Fmt	1077	1012	Portable Game Notation chess format	application/vnd.chess-pgn	PGN	adWORDPROCESSOR
Doom_WAD_Fmt	1078	1013	Doom IWAD/PWAD format	application/x-doom	WAD	adMISC
Device_Tree_Blob_Fmt	1079	1014	Linux Device Tree Blob format		DTB	adMISC
BDF_Font_Fmt	1080	1015	Glyph Bitmap Distribution Format	application/x-font-bdf	BDF	adFONT
PC_Screen_Font_Fmt	1081	1016	PC Screen Font format	application/x-font-psf	PSF	adFONT
JNLP_Fmt	1082	1017	Java Network Launching Protocol	application/x-java-jnlp-file	JNLP	adWORDPROCESSOR
XAML_Browser_Application_Fmt	1083	1018	XAML Browser Application (XBAP) format	application/x-ms-xbap	XBAP	adWORDPROCESSOR
MS_Binder_Fmt	1084	1019	Microsoft Office Binder format	application/x-msbinder	OBP	adENCAPSULATION
XAP_Fmt	1085	1020	Microsoft Silverlight application (XAP) format	application/x-silverlight-app	XAP	adENCAPSULATION
StuffIt_X_Fmt	1086	1021	StuffIt X (SITX) archive format	application/x-stuffitx	SITX	adENCAPSULATION
FIG_Fmt	1087	1022	Facility for Interactive Generation of figures (FIG) image format	application/x-xfig	FIG	adVECTORGRAPHIC
XPInstall_Fmt	1088	1023	XPInstall Cross-Platform Installer Module (XPI) format	application/x-xpinstall	XPI	adENCAPSULATION
XDF_Fmt	1089	1024	Extensible Data Format (XDF) XML format		XDF	adWORDPROCESSOR
MXML_Fmt	1090	1025	MXML UI markup language XML format		MXML	adWORDPROCESSOR
MusicXML_Fmt	1091	1026	MusicXML format	application/vnd.recordare.musicxml	MXL	adENCAPSULATION
Finale_Fmt	1092	1027	Finale audio format		MUS	adSOUND
Spotfire_DXP_Fmt	1093	1028	TIBCO Spotfire DXP data format	application/vnd.spotfire.dxp	DXP	adANALYTICS
MS_Office_Theme_2007_Fmt	1094	1029	Microsoft Office theme format	application/vnd.ms-officetheme	THMX	adMISC
Adobe_AIR_Installer_Fmt	1095	1030	Adobe AIR application installer package	application/vnd.adobe.air-application-installer-package+zip	AIR	adENCAPSULATION
Flex_Project_Fmt	1096	1031	Adobe Flash Flex project file format	application/vnd.adobe.fxp	FXP	adENCAPSULATION
FoxPro_Fmt	1097	1032	FoxPro compiled source format		FXP	adLIBRARY

Format Name	Number	Category	Description	MIME Type	Extension	File Class
VST_Preset_Fmt	1098	1033	Virtual Studio Technology (VST) preset format		FXP	adSOUND
Mischief_Image_Fmt	1099	1034	Mischief vector graphics image format		ART	adVECTORGRAPHIC
FreeArc_Fmt	1100	1035	FreeArc archive format	application/x-freearc	ARC	adENCAPSULATION
Autodesk_3ds_Fmt	1101	1036	Autodesk 3ds format	application/x-3ds	3DS	adCAD
Monkeys_Audio_Fmt	1102	1037	Monkey's Audio format		APE	adSOUND
CALS_Fmt	1103	1038	CALS raster image format		CAL	adRASTERIMAGE
Dr_Halo_PAL_Fmt	1104	1039	Dr Halo raster image PAL file format		PAL	adRASTERIMAGE
DPG_Fmt	1105	1040	Nintendo DS DPG video format		DPG	adMOVIE
JPEG_XR_Fmt	1106	1041	JPEG XR (extended range) image format	image/vnd.ms-photo	JXR, HDP	adRASTERIMAGE
TCR_eBook_Fmt	1107	1042	TCR (Text Compression for Reader) eBook format		TCR	adWORDPROCESSOR
IHEX_Fmt	1108	1043	Intel Hex format		IHEX	adENCAPSULATION
QCOW_Fmt	1109	1044	QEMU Copy On Write		QCOW	adENCAPSULATION
VDI_Fmt	1110	1045	VirtualBox Disk Image		VDI	adENCAPSULATION
OneNote_Alternate_Fmt	1111	1046	OneNote Alternative Packaging Format			adWORDPROCESSOR
RMS_Protected_Fmt	1112	1047	Rights Management Services (RMS)-protected format		PFILE, PPDF, PJPG, PTXT	adENCAPSULATION
Portfolio_PDF_Fmt	1113	1048	Portfolio PDF File	application/pdf	PDF	adWORDPROCESSOR
Crystal_Reports_Fmt	1114	1049	SAP Crystal Reports format	application/x-rpt	RPT	adANALYTICS
Thumbs_db_Fmt	1115	1050	Microsoft Windows thumbs.db format		DB	adENCAPSULATION
PagePlus_Fmt	1116	1051	Serif PagePlus format		PPP	adDESKTOPPUBLSH
MS_Project_Exchange_Fmt	1117	1052	Microsoft Project Exchange format		MPX	adSCHEDULE
MS_Management_Pack_MPX_Fmt	1118	1053	Microsoft Systems Center Operation Manager (SCOM) management pack MPX format		MPX	adMISC
AutoCAD_VBA_Project_Fmt	1119	1054	AutoCAD VBA project format		DVB	adMISC

Format Name	Number	Category	Description	MIME Type	Extension	File Class
PLY_ASCII_Fmt	1120	1055	Polygon File Format (PLY) ASCII format		PLY	adCAD
PLY_Binary_Fmt	1121	1056	Polygon File Format (PLY) binary format		PLY	adCAD
JavaView_JVX_Fmt	1122	1057	JavaView XML (JVX) format		JVX	adCAD
X3D_Fmt	1123	1058	Extensible 3d Graphics (X3D) XML format	model/x3d+xml	X3D	adCAD
ZBrush_Project_Fmt	1124	1059	ZBrush ZProject (ZPR) format		ZPR	adCAD
ZBrush_Tool_Fmt	1125	1060	ZBrush ZTtool (ZTL) format		ZTL	adCAD
Windows_Installer_Patch_Fmt	1126	1061	Microsoft Windows Installer Patch Package (MSP) format		MSP	adENCAPSULATION
Windows_Installer_Transform_Fmt	1127	1062	Microsoft Windows Installer Transform (MST) format		MST	adENCAPSULATION
Lotus_Approach_Fmt	1128	1063	Lotus Approach format	application/vnd.lotus-approach	APR, MPR	adDATABASE
Outlook_SendRcv_Settings_Fmt	1129	1064	Microsoft Outlook 2002 Send-Receive Settings		SRS	adMISC
MS_Publisher_Scheme_Fmt	1130	1065	Microsoft Publisher colour scheme		SCM	adMISC
SO_Chart_Fmt	1131	1066	Star Office 4,5 Chart	application/vnd.stardivision.chart	SDS	adVECTORGRAPHIC
SO_Database_Fmt	1132	1067	Star Office 4,5 Database	application/vnd.stardivision.base	SDB	adDATABASE
SO_Library_Fmt	1133	1068	Star Office 4,5 Library		SBL	adLIBRARY
PageMaker_Document_Fmt	1134	1069	Adobe PageMaker document	application/pagemaker	PMD	adDESKTOPPUBLSH
MS_DTS_Fmt	1135	1070	Microsoft Data Transformation Services (DTS) package file		DTS	adMISC
Cognos_PowerPlay_PPR_Fmt	1136	1071	Cognos PowerPlay up to version 7 (PPR) format		PPR	adANALYTICS
Visual_Studio_SUO_Fmt	1137	1072	Microsoft Visual Studio solution user options (suo) file		SUO	adMISC
MS_GraphEdit_Fmt	1138	1073	Microsoft GraphEdit File format		GRF	adMISC
ArcGIS_Graph_Fmt	1139	1074	ArcGIS Graph format		GRF	adGIS
SID_Audio_Fmt	1140	1075	SID Audio format	audio/prs.sid	SID	adSOUND
MrSID_Fmt	1141	1076	LizardTech MrSID image format	image/x-mrsid	SID	adRASTERIMAGE
Cardfile_Fmt	1142	1077	Microsoft Windows Cardfile	application/x-mscardfile	CRD	adWORDPROCESSOR

Format Name	Number	Category	Description	MIME Type	Extension	File Class
			address book format			
MS_Word_Mac_4_Fmt	1143	205	Microsoft Word for Macintosh (version 4,5)	application/msword	DOC	adWORDPROCESSOR
WordPerfect_5_Fmt	1144	80	WordPerfect (version 5)	application/x-corel-wordperfect	WOP, DOC	adWORDPROCESSOR
WordPerfect_6_Fmt	1145	178	WordPerfect (version 6 and higher)	application/x-corel-wordperfect	WPD	adWORDPROCESSOR
WordPerfect_Graphics_1_Fmt	1146	85	WordPerfect Graphics (version 1)	application/vnd.wordperfect	WPG, QPG	AutoDetNoFormat
Organization_Chart_Fmt	1147	1078	OrgPlus Organization Chart	application/orgplus	OPX	adDATABASE
Lotus_Organizer_Fmt	1148	1079	Lotus Organizer documents	application/vnd.lotus-organizer	OR2, OR3, OR4, OR5, OR6	adSCHEDULE
MS_DBML_Fmt	1149	1080	Microsoft Database Markup Language XML document		DBML	adWORDPROCESSOR
XMind_Fmt	1150	1081	XMind document	application/xmind	XMIND	adPRESENTATION
MSI_Cerius_Fmt	1151	1082	MSI Cerius chemical formula document	chemical/x-cerius	MSI	adSCIENTIFIC
GenBank_Fmt	1152	1083	GenBank DNA character sequence document	chemical/x-genbank	GB	adSCIENTIFIC
GIS_World_File_Fmt	1153	1084	ESRI GIS World file		BPW, GFW, JGW, J2W, PGW, SDW, TFW, WLD	adGIS
GIS_Projection_Metadata_Fmt	1154	1085	ESRI Projection Metadata (PRJ) file		PRJ	adGIS
PowerWorld_Binary_Fmt	1155	1086	PowerWorld Binary (PWB) file		PWB	adCAD
PowerWorld_Display_Fmt	1156	1087	PowerWorld Display (PWD) file		PWD	adCAD
ArcXML_Fmt	1157	1088	ESRI ArcIMS project XML file (ArcXML)		AXL	adGIS
GAMS_GDX_Fmt	1158	1089	General Algebraic Modeling System (GAMS) Data Exchange (GDX) format		GDX	adSCIENTIFIC
ArcMap_MXD_Fmt	1159	1090	ArcMap Map Exchange Document project (MXD)		MXD	adGIS
RRDtool_Fmt	1160	1091	RRDtool (Round Robin Database) data file		RRD	adDATABASE

Format Name	Number	Category	Description	MIME Type	Extension	File Class
HWPX_Fmt	1161	1092	Hangul HWPX document	application/hwp+zip	HWPX	adWORDPROCESSOR
SolidWorks_2015_Fmt	1162	1093	SolidWorks (2015 onwards) file		SLDPRT, SLDDRW, SLDASM	adCAD
MS_Photo_Editor_Fmt	1163	1094	Microsoft Photo Editor 'embedded GIF' file	application/vnd.ms-photo-editor		adRASTERIMAGE
MS_Word_HTML_Fmt	1164	1095	Microsoft Word HTML format		DOC, HTM	adWORDPROCESSOR
MS_Excel_HTML_Fmt	1165	1096	Microsoft Excel HTML format		XLS, HTM	adWORDPROCESSOR
Portable_FloatMap_Fmt	1166	1097	Portable FloatMap (PFM) image	image/x-portable-floatmap	PFM	adRASTERIMAGE
RGBE_Fmt	1167	1098	Radiance RGBE (HDR) image	image/vnd.radiance	HDR, PIC, RGBE, XYZE	adRASTERIMAGE
APNG_Fmt	1168	1099	Animated Portable Network Graphics (Animated-PNG)	image/apng	APNG, PNG	adANIMATION
Enhanced_Compressed_Wavelet_Fmt	1169	1100	Enhanced Compressed Wavelet image	image/ecw	ECW	adRASTERIMAGE
Ensoniq_Waveset_Fmt	1170	1101	Ensoniq Waveset audio data file		ECW	adSOUND
Corel_Photo_Paint_Fmt	1171	1102	Corel Photo Paint (version 7 and higher)	image/x-corelphotopaint	CPT	adRASTERIMAGE
OpenRaster_Fmt	1172	1103	OpenRaster image	image/openraster	ORA	adRASTERIMAGE
Krita_Fmt	1173	1104	Krita image	application/x-krita	KRA	adRASTERIMAGE
Gerber_Fmt	1174	1105	Gerber image format	application/vnd.gerber	GBR	adVECTORGRAPHIC
PGML_Fmt	1175	1106	Precision Graphics Markup Language		PGML	adVECTORGRAPHIC
Away3D_Fmt	1176	1107	Away3D scene file		AWD	adCAD
CAD_3MF_Fmt	1177	1108	3D Manufacturing Format document	application/vnd.ms-package.3dmanufacturing-3dmodel+xml	3MF	adCAD
AMF_Fmt	1178	1109	Additive manufacturing file format (AMF) document	application/x-amf	AMF	adCAD
C3D_Fmt	1179	1110	Coordinate 3D (C3D) format		C3D	adCAD
CAD_3DSystems_BFF_Fmt	1180	1111	3D Sprint (3D Systems) SLA Build file		BFF	adCAD
NRRD_Fmt	1181	1112	NRRD (nearly raw raster data) image format		NRRD	adRASTERIMAGE

Format Name	Number	Category	Description	MIME Type	Extension	File Class
Cinema_4D_Fmt	1182	1113	Cinema 4D model		C4D	adCAD
FBX_ASCII_Fmt	1183	1114	Kaydara FBX project (ASCII)		FBX	adCAD
FBX_Binary_Fmt	1184	1115	Kaydara FBX project (binary)		FBX	adCAD
Wavefront_OBJ_Fmt	1185	1116	Wavefront OBJ geometry definition file		OBJ	adCAD
Wavefront_MTL_Fmt	1186	1117	Wavefront Material Template Library (MTL)		MTL	adCAD
MS_Power_BI_Template_Fmt	1187	1118	Microsoft Power BI Desktop template format		PBIT	adANALYTICS

[1]MHT, EML, and MBX files might return either format 2, 233, or 395, depending on the text in the file. In general, files that contain fields such as **To**, **From**, **Date**, or **Subject** are considered to be email messages; files that contain fields such as **content-type** and **mime-version** are considered to be MHT files; and files that do not contain any of those fields are considered to be text files.

[2]All CAT file extensions, for example CATDrawing, CATProduct, CATPart, and so on.

Appendix C: Character Sets

This section provides information on the handling of character sets in the KeyView suite of products, which includes KeyView Filter SDK, KeyView Export SDK, and KeyView Viewing SDK.

Multibyte and Bidirectional Support

The KeyView SDKs can process files that contain multibyte characters. A multibyte character encoding represents a single character with consecutive bytes. KeyView can also process text from files that contain bidirectional text. Bidirectional text contains both Latin-based text which is read from left to right, and text that is read from right to left (Hebrew and Arabic).

The following table indicates which character encodings are supported by KeyView for each format.

Multibyte and bidirectional support

Format	Single-byte	Multibyte	Bidirectional
Archive			
7-Zip (7Z)	n/a	n/a	n/a
AD1 Evidence file	n/a	n/a	n/a
ADJ	n/a	n/a	n/a
B1	n/a	n/a	n/a
BinHex (HQX)	n/a	n/a	n/a
Bzip2 (BZ2)	n/a	n/a	n/a
EnCase – Expert Witness Compression Format (E01)	n/a	n/a	n/a
GZIP (GZ)	n/a	n/a	n/a
ISO (ISO)	n/a	n/a	n/a
Java Archive (JAR)	n/a	n/a	n/a
Legato EMailXtender Archive (EMX)	n/a	n/a	n/a
MacBinary (BIN)	n/a	n/a	n/a
Mac Disk Copy Disk Image (DMG)	n/a	n/a	n/a
Microsoft Backup File (BKF)	n/a	n/a	n/a

Multibyte and bidirectional support, continued

Format	Single-byte	Multibyte	Bidirectional
Microsoft Cabinet format (CAB)	n/a	n/a	n/a
Microsoft Compiled HTML Help (CHM)	n/a	n/a	n/a
Microsoft Compressed Folder (LZH)	n/a	n/a	n/a
PKZip (ZIP)	n/a	n/a	n/a
Microsoft Outlook DBX (DBX)	Y	Y	Y
Microsoft Outlook Offline Storage File (OST)	Y	Y	Y
RAR Archive (RAR)	n/a	n/a	n/a
Tape Archive (TAR)	n/a	n/a	n/a
UNIX Compress (Z)	n/a	n/a	n/a
UUEncoding (UUE)	n/a	n/a	n/a
Windows Scrap File (SHS)	n/a	n/a	n/a
WinZip (ZIP)	n/a	n/a	n/a
Binary			
Executable (EXE)	n/a	n/a	n/a
Link Library (DLL)	n/a	n/a	n/a
Computer-aided Design			
AutoCAD Drawing (DWG)	Y	Y	Y
AutoCAD Drawing Exchange (DXF)	Y	Y	Y
CATIA formats (CAT)	Y	N	N
Microsoft Visio (VSD)	Y	Y	Y
Database			
dBase Database	Y	N	N
Microsoft Access (MDB)	Y	Y	N
Microsoft Project (MPP)	Y	Y	N
Desktop Publishing			
Microsoft Publisher	N	Y	N

Multibyte and bidirectional support, continued

Format	Single-byte	Multibyte	Bidirectional
Display			
Adobe Portable Document Format (PDF) (basic reader)	Y	Y[1]	Y
Adobe Portable Document Format (PDF) (graphic-based reader)	Y	Y1	Y
Graphics			
Computer Graphics Metafile (CGM)	Y	N	N
Corel DRAW (CDR)	n/a	n/a	n/a
DCX Fax System (DCX)	Y	N	N
DICOM – Digital Imaging and Communications in Medicine (DCM)	n/a	n/a	n/a
Encapsulated PostScript (EPS)	Y	N	N
Enhanced Metafile (EMF)	Y	Y	N
Graphic Interchange Format (GIF)	n/a	n/a	n/a
JBIG2	n/a	n/a	n/a
JPEG	n/a	n/a	n/a
JPEG 2000	n/a	n/a	n/a
Lotus AMIDraw Graphics (SDW)	n/a	n/a	n/a
Lotus Pic (PIC)	n/a	n/a	n/a
Macintosh Raster (PICT/PCT)	n/a	n/a	n/a
MacPaint (PNTG)	n/a	n/a	n/a
Microsoft Office Drawing (MSO)	n/a	n/a	n/a

1 Multibyte PDFs are supported, provided the PDF document is created by using either Character ID-keyed (CID) fonts, predefined CJK CMap files, or `ToUnicode` font encodings, and does not contain embedded fonts. See the Adobe website and the Adobe Acrobat documentation for more information. Any multibyte characters that are not supported are displayed using the replacement character. By default, the replacement character is a question mark (?).

To determine the type of font encodings that are used in a PDF, open the PDF in Adobe Acrobat, and select File > Document Info > Fonts. If the Encoding column lists Custom or Embedded encodings, you might encounter problems converting the PDF.

Multibyte and bidirectional support, continued

Format	Single-byte	Multibyte	Bidirectional
Omni Graffle (GRAFFLE)	Y	N	N
PC PaintBrush (PCX)	n/a	n/a	n/a
Portable Network Graphics (PNG)	n/a	n/a	n/a
SGI RGB Image (RGB)	n/a	n/a	n/a
Sun Raster Image (RS)	n/a	n/a	n/a
Tagged Image File (TIFF)	Y	N	N
Truevision Targa (TGA)	n/a	n/a	n/a
Windows Animated Cursor (ANI)	n/a	n/a	n/a
Windows Bitmap (BMP)	n/a	n/a	n/a
Windows Icon Cursor (ICO)	n/a	n/a	n/a
Windows Metafile (WMF)	Y	Y	N
WordPerfect Graphics 1 (WPG)	Y	N	N
WordPerfect Graphics 2 (WPG)	Y	N	N
Mail			
Documentum EMCMF Format	Y	Y	Y
Domino XML Language (DXL)	Y	Y	N
GroupWise FileSurf	Y	N	N
Legato Extender (ONM)	Y	Y	N
Lotus Notes database (NSF)	Y	Y	Y
Mailbox (MBX)	Y	Y	Y
Microsoft Entourage Database	Y	Y	Y
Microsoft Outlook (MSG)	Y	Y	Y
Microsoft Outlook Express (EML)	Y	Y	Y
Microsoft Outlook iCalendar	Y	Y	Y
Microsoft Outlook for Macintosh	Y	Y	Y
Microsoft Outlook Offline Storage File	Y	Y	Y
Microsoft Outlook Personal File Folders (PST)	Y	Y	Y

Multibyte and bidirectional support, continued

Format	Single-byte	Multibyte	Bidirectional
Microsoft Outlook vCard Contact			
Text Mail (MIME)	Y	Y	Y
Transport Neutral Encapsulation Format	Y	Y	Y
Multimedia			
Advanced Systems Format (ASF)	n/a	n/a	n/a
Audio Interchange File Format (AIFF)	n/a	n/a	n/a
Microsoft Wave Sound (WAV)	n/a	n/a	n/a
MIDI (MID)	n/a	n/a	n/a
MPEG 1 Audio Layer 3 (MP3)	n/a	n/a	n/a
MPEG 1 Video (MPG)	n/a	n/a	n/a
MPEG 2 Audio (MPEGA)	n/a	n/a	n/a
MPEG 4 Audio (MP4)	n/a	n/a	n/a
NeXT/Sun Audio (AU)	n/a	n/a	n/a
QuickTime Movie (QT/MOV)	n/a	n/a	n/a
Windows Video (AVI)	n/a	n/a	n/a
Presentations			
Apple iWork Keynote (GZ)	Y	Y	N
Applix Presents (AG)	character set 1252 only	N	N
Corel Presentations (SHW)	character set 1252 only	N	N
Extensible Forms Description Language (XFD)	Y	Y	N
Lotus Freelance Graphics 2 (PRE)	character set 850 only	N	N
Lotus Freelance Graphics (PRZ)	Y	Japanese, Simple Chinese, Traditional Chinese, Thai only	N
Macromedia Flash (SWF)	Y	Y	N

Multibyte and bidirectional support, continued

Format	Single-byte	Multibyte	Bidirectional
Microsoft OneNote	Y	Y	N
Microsoft PowerPoint PC (PPT)	character set 1252 only	Traditional Chinese only	N
Microsoft PowerPoint Windows (PPT)	Y	Japanese, Simple Chinese, Traditional Chinese, Korean only	Hebrew only
Microsoft PowerPoint Macintosh (PPT)	Y	N	N
Microsoft PowerPoint Windows XML 2007 and 2010 (PPTX)	Y	Y	Y
OASIS Open Document (ODP)	Y	Y	N
OpenOffice Impress (ODP)	Y	Y	N
StarOffice Impress (ODP)	Y	Y	N
Spreadsheets			
Apple iWork Numbers (GZ)	Y	Y	N
Applix Spreadsheets (AS)	character set 1252 only	N	N
Comma Separated Values (CSV)	character set 1252 only	N	N
Corel Quattro Pro (QPW/WB3)	Y	N	N
Data Interchange Format (DIF)	Y	Y	Y[1]
Lotus 1-2-3 (123)	Y	Y	Y
Lotus 1-2-3 (WK4)	Y	Y	N
Lotus 123 Charts (123)	Y	Y	N
Microsoft Excel Charts (XLS)	Y	Y	N
Microsoft Excel Macintosh (XLS)	Y	N	N
Microsoft Excel Windows (XLS)	Y	Y	Y [2]
Microsoft Excel Windows XML 2007 (XLSX)	Y	Y	N
Microsoft Office Excel Binary Format (XLSB)	Y	Y	N
Microsoft Works Spreadsheet	Y	N	N

Multibyte and bidirectional support, continued

Format	Single-byte	Multibyte	Bidirectional
(S30/S40)			
OASIS Open Document (ODS)	Y	Y	N
OpenOffice Calc (ODS)	Y	Y	N
StarOffice Calc (ODS)	Y	Y	N
Text and Markup			
ANSI (TXT)	Y	Y	Y[2]
ASCII (TXT)	Y	Y	Y[2]
HTML (HTM)	Y	Y	Y[2, 2]
Microsoft Excel Windows XML 2003	Y	Y	Y
Microsoft Word for Windows XML 2003	Y	Y	Y
Microsoft Visio XML 2003	Y	Y	Y
Rich Text Format (RTF)	Y	Y	Y [3]
Unicode HTML	Y	Y	Y [2,3]
Unicode Text (TXT)	Y	Y	Y[2]
XHTML	Y	Y	Y[3]
XML	Y	Y	Y
Word Processing			
Adobe Maker Interchange Format (MIF)	character set 1252 only	N	N
Apple iChat Log (ICHAT)	Y	Y	N
Apple iWork Pages (GZ)	Y	Y	N
Applix Words (AW)	character set 1252 only	N	N
DisplayWrite (IP)	character set 500, 1026 only	N	N
Folio Flat File (FFF)	character set 1252 only	N	N
Founder Chinese E-paper Basic (CEB)	Y	Y	N

Multibyte and bidirectional support, continued

Format	Single-byte	Multibyte	Bidirectional
Fujitsu Oasys (OA2)	Y	Y	N
Hangul (HWP)	Y	Y	N
Health level7 (HL7)	Y	Y	Y
IBM DCA/RTF (DC)	character sets 500, 1026 only	N	N
JustSystems Ichitaro (JTD)	Y	Y	N
Lotus AMI Pro (SAM)	Y	Simple Chinese, Traditional Chinese, Japanese, Thai only	Y
Lotus AMI Professional Write Plus (AMI)	Y	Simple Chinese, Traditional Chinese, Japanese, Thai only	N
Lotus Word Pro (LWP)	Y	Y	Y[3]
Lotus SmartMaster (MWP)	Y	Y	N
Microsoft Word PC (DOC)	character set 1252 only	N	N
Microsoft Word Windows V1-2 (DOC)	Y	N	N
Microsoft Word Windows V6, 7, 8, 95 (DOC)	Y	Y	Hebrew only[3]
Microsoft Word Windows V97 through 2003 (DOC)	Y	Y	Y[3]
Microsoft Word Windows XML 2007 and 2010 (DOCX)	Y	Y	Y[3]
Microsoft Word Macintosh (DOC)	Y	N	Y[3]
Microsoft Works (WPS)	Y	Japanese only	N
Microsoft Write (WRI)	Y	Japanese only	N
OASIS Open Document (ODT)	Y	Y	N
Omni Outliner (OO3)	Y	Y	N
OpenOffice Writer (ODT)	Y	Y	N
Open Publication Structure eBook (EPUB)	Y	Y	Y
StarOffice Writer (ODT)	Y	Y	N

Multibyte and bidirectional support, continued

Format	Single-byte	Multibyte	Bidirectional
Skype Log (DBB)	Y	Y (null-terminated charsets)	N
WordPad (RTF)	Y	Y	Y
WordPerfect Linux (WPS)	Y	N	N
WordPerfect Macintosh (WPS)	Y	N	N
WordPerfect Windows (WO)	Y	N	N
XML Paper Specification (XPS)	Y	Y	N
XYWrite Windows (XY4)	character set 1252 only	N	N
Yahoo! Instant Messenger (DAT)	Y	Y (null-terminated charsets)	N

[1]The text direction in the output file might not be correct.

[2]In Export SDK, a bidirectional right-to-left (`RTL`) tag is extracted from this format and included in the direction element (`<dir=RTL>`) of the output.

Coded Character Sets

This section lists which character set you can use to specify the target character set. The coded character sets are enumerated in `kvtypes.h` and defined in the class.

Code Character Sets

Coded Character Set	Description	Can be set as target charset?
KVCS_ UNKNOWN	Unknown character set	N
KVCS_SJIS	Japanese (uses multibyte encoding), cp932	Y
KVCS_GB	Simplified Chinese (China, Singapore, Malaysia) cp936	Y
KVCS_BIG5	Traditional Chinese (Taiwan, Hong Kong, Macaw) cp950	Y
KVCS_KSC	Korean, cp949	Y
KVCS_1250	Windows Latin 2 (Central Europe)	Y
KVCS_1251	Windows Cyrillic (Slavic)	Y

Code Character Sets, continued

Coded Character Set	Description	Can be set as target charset?
KVCS_1252	Windows Latin 1 (ANSI)	Y
KVCS_1253	Windows Greek	Y
KVCS_1254	Windows Latin 5 (Turkish)	Y
KVCS_1255	Windows Hebrew	Y
KVCS_1256	Windows Arabic	Y
KVCS_1257	Windows Baltic Rim	Y
KVCS_1258	Windows Vietnamese	Y
KVCS_8859_1	ISO 8859-1 Latin 1 (Western Europe, Latin America)	Y
KVCS_8859_2	ISO 8859-2 Latin 2 (Central Eastern Europe)	Y
KVCS_8859_3	ISO 8859-3 Latin 3 (S.E. Europe)	Y
KVCS_8859_4	ISO 8859-4 Latin 4 (Scandinavia/Baltic)	Y
KVCS_8859_5	ISO 8859-5 Latin/Cyrillic	Y
KVCS_8859_6	ISO 8859-6 Latin/Arabic	Y
KVCS_8859_7	ISO 8859-7 Latin/Greek	Y
KVCS_8859_8	ISO 8859-8 Latin/Hebrew	Y
KVCS_8859_9	ISO 8859-9 Latin/Turkish	Y
KVCS_8859_14	ISO 8859-14	Y
KVCS_8859_15	ISO 8859-15	Y
KVCS_437	DOS Latin US	Y
KVCS_737	DOS Greek	Y
KVCS_775	DOS Baltic Rim	Y
KVCS_850	DOS Latin 1	Y
KVCS_851	DOS Greek	Y
KVCS_852	DOS Latin 2	Y
KVCS_855	DOS Cyrillic	Y

Code Character Sets, continued

Coded Character Set	Description	Can be set as target charset?
KVCS_857	DOS Turkish	Y
KVCS_860	DOS Portuguese	Y
KVCS_861	DOS Icelandic	Y
KVCS_862	DOS Hebrew	Y
KVCS_863	DOS Canadian French	Y
KVCS_864	DOS Arabic	Y
KVCS_865	DOS Nordic	Y
KVCS_866	DOS Cyrillic Russian	Y
KVCS_869	DOS Greek 2	Y
KVCS_874	Thai	Y
KVCS_ PDFMACDOC	PDF MAC DOC	N
KVCS_ PDFWINDOC	PDF WIN DOC	N
KVCS_STDENC	Adobe Standard Encoding	N
KVCS_PDFDOC	Adobe standard PDF character set	N
KVCS_037	EBCDIC code page 037	Y
KVCS_1026	EBCDIC code page 1026	Y
KVCS_500	EBCDIC code page 500	Y
KVCS_875	EBCDIC code page 875	Y
KVCS_LMBCS	Lotus multibyte character set Group 1 and Group 2	N
KVCS_UNICODE	Unicode, UCS-2	Y
KVCS_UTF16	16-bit Unicode transformation format	Y
KVCS_UTF8	8-bit Unicode transformation format	Y
KVCS_UTF7	7-bit Unicode transformation format	Y
KVCS_2022_JP	ISO 2022-JP, Japanese mail and news safe encoding (JIS-7)	N

Code Character Sets, continued

Coded Character Set	Description	Can be set as target charset?
KVCS_2022_CN	ISO 2022-CN, Chinese mail and news safe encoding	N
KVCS_2022_KR	ISO 2022-KR, Korean mail and news safe encoding	N
KVCS_WP6X	Word Perfect 6.x and higher character mapping	N
KVCS_10000	Western European (Macintosh)	Y
KVCS_KSC5601	Unified Hangul	Y
KVCS_GB2312	Simplified Chinese (China, Singapore, Hong Kong)	Y
KVCS_GB12345	Traditional Chinese (China) - analogue of GB2312	Y
KVCS_CNS11643	Traditional Chinese - Taiwan. Supplement to Big5	Y
KVCS_JIS0201	Japanese - contains ASCII character set (JIS-Roman)	N
KVCS_JIS0212	Japanese. Supplement to JIS0208.	Y
KVCS_EUC_JP	Japanese Extended UNIX Code	Y
KVCS_EUC_GB	Simplified Chinese Extended UNIX Code	Y
KVCS_EUC_ BIG5	Traditional Chinese Extended UNIX Code	N
KVCS_EUC_KSC	Korean Extended UNIX Code	N
KVCS_424	EBCDIC Hebrew	N
KVCS_856	PC Hebrew (old)	N
KVCS_1006	IBM AIX Pakistan (Urdu)	N
KVCS_KOI8R	Cyrillic (Russian)	Y
KVCS_PDF_ JAPAN1	Adobe-Japan1-2 character collection	N
KVCS_PDF_ KOREA1	Adobe-Korea1-0 character collection	N
KVCS_PDF_GB1	Adobe-GB1-3 character collection	N
KVCS_PDF_	Adobe-CNS1-2 character collection	N

Code Character Sets, continued

Coded Character Set	Description	Can be set as target charset?
CNS1		
KVCS_2022_JP_8	ISO 2022-JP, Japanese mail and news safe encoding (JIS8)	N
KVCS_720	Arabic DOS-720	Y
KVCS_VISCII	Vietnamese VISCII	Y
KVCS_8859_10	ISO 8859-10 (Latin 6 Nordic)	Y[1]
KVCS_8859_13	ISO 8859-13 (Latin 7 Baltic)	Y [1]
KVCS_57002	ISCII Devanagari (x-iscii-de)	Y [1]
KVCS_57003	ISCII Bengali (x-iscii-be)	Y [1]
KVCS_57004	ISCII Tamil (x-iscii-ta)	Y[1]
KVCS_57005	ISCII Telugu (x-iscii-te)	Y[1]
KVCS_57006	ISCII Assamese (x-iscii-as)	Y[1]
KVCS_57007	ISCII Oriya (x-iscii-or)	Y[1]
KVCS_57008	ISCII Kannada (x-iscii-ka)	Y[1]
KVCS_57009	ISCII Malayalam (x-iscii-ma)	Y[1]
KVCS_57010	ISCII Gujarathi (x-iscii-gu)	Y[1]
KVCS_57011	ISCII Panjabi (x-iscii-pa)	Y [1]
KVCS_GB18030b2	Reserved for internal use	n/a
KVCS_GB18030	GB18030 (Chinese 4-byte character set)	Y
KVCS_8859_11	ISO 8859-11 (Thai)	Y
KVCS_8859_16	ISO 8859-16 (Latin-10 South-Eastern Europe)	Y
KVCS_ARABICMAC	Arabic Mac (x-mac-arabic)	Y
KVCS_KOI8U	Cyrillic (KOI8U Ukrainian)	Y
KVCS_HZGB2312	The 7-bit representation of GB 2312 / RFC 1842	n/a

[1]The character set cannot be forced as output in Export SDK and Viewing SDK because the character

set is not supported by the major browsers.

Appendix D: File Format Detection

This section describes how file formats are detected in KeyView Viewing SDK.

Introduction

The KeyView format detection module (`kwad`) detects a file's format, and reports the information to the API, which in turn reports the information to the developer's application. If the detected format is supported by the KeyView SDK, the detection module also loads the appropriate structured access layer and format reader for further processing.

For a list of supported formats, see Supported Formats, on page 259.

Extract Format Information

To extract format information from a document, use the VAPIMWP_INIT_GETDOCFORMAT parameter of the `VAPIM_INIT` message. This parameter gets format information (such as the file class, format, and version), and populates the `ADDOCINFO` structure. This structure, which is defined in the header file `adinfo.h`, specifies the formats that KeyView can detect. If required, this format information can then be reported to the developer's application.

For information on how to translate the extracted format information, see Translate Format Information, on the next page.

Determine Format Support

After the file format is extracted, the detection module then uses an initialization file (`kvsdk.ini`) or the Windows registry to determine whether the format is supported by KeyView, and the appropriate structured access layer and reader to load. See View Initialization Information, on page 23 for more information.

The initialization file and Windows registry contain the following information:

- Coded format information. To translate this information, see Translate Format Information, on the next page.

- The reader associated with each format. See Determine a Document Reader, on the next page.
- Initialization information. See View Initialization Information, on page 23.

Below are some entries from the initialization file:

```
153=afsr.dll
207=afsr.dll
210=htmsr.dll
251=htmsr.dll
296=htmsr.dll
282=foliosr.dll
```

> **NOTE:** The information in the initialization file and Windows registry applies to all formats except graphics. Detection of graphics formats is handled by an internal module named KeyView Picture Interchange Format (KPIF).

Translate Format Information

Format information can include file attributes in the following categories:

- Major format
- File class
- Minor format
- Major version
- Minor version

Not all categories are required. Many formats include only major format and file class, or major format only.

The format information has the following structure:

`MajorFormat.FileClass.MinorFormat.MajorVersion.MinorVersion`

For example:

`81.2.0.9.0`

Each number in the format information represents a file attribute. The entry `81.2.0.9.0` represents a Lotus 1-2-3 Spreadsheet file version 9.0, where

`81` = Lotus 1-2-3 Spreadsheet (major format)

`2` = Spreadsheet (file class)

`0` = not defined (minor format)

`9` = 9 (major version)

`0` = 0 (minor version)

The example above applies to the initialization file and the Windows registry. When extracting format information by using the `VAPIMWP_INIT_GETDOCFORMAT` parameter, the same format information is represented as `294.2.0.9`.

> **NOTE:** The format values returned by `VAPIMWP_INIT_GETDOCFORMAT` differ from those in the initialization file and Windows registry because the former defines a unique ID for each major format, whereas the latter uses a major version, minor version, and minor format to distinguish between formats.

Distinguish Between Formats

The `ADDOCINFO` structure provides a unique ID for each major format. For example, `VAPIMWP_INIT_GETDOCFORMAT` returns `351.1.0` for a Microsoft Word 2003 XML format. The major format `351` is unique to this format.

Unlike `ADDOCINFO`, the initialization file and the Windows registry use the major version number to distinguish between formats. For example, in the initialization file, a Microsoft Word 2003 XML format is defined as `285.1.0.100.0`. The major format `285` and file class `1` are the same values for generic XML. The major version `100` distinguishes the format as Microsoft Word 2003 XML.

The major version is used in the `kvsdk.ini` file or the Windows registry to specify the following formats:

- The Microsoft Office 2003 XML format has the same major format and file class as generic XML (`285.1`). It is distinguished from generic XML by using the following major versions:
  - Word: `100`
  - Excel: `101`
  - Visio: `110`
- The XHTML format has the same major format and file class as HTML (`210.1`). It is distinguished from HTML by using the major version `100`.

Determine a Document Reader

The entries in the initialization file or the Windows registry list each format's coded value, and the reader used to parse that format. For example, the entry below specifies that a Lotus 1-2-3 Spreadsheet file version 9.0 is parsed by the Lotus 1-2-3 reader, `l123sr.dll`:

```
81.2.0.9.0=l123sr.dll
```

List of Files Required for Redistribution, on page 365 lists the document readers provided with KeyView.

Category Values in the Initialization File and Registry

This section lists the possible category values for format information in the initialization file and the Windows registry. The corresponding values for the format information extracted by using the `VAPIMWP_INIT_GETDOCFORMAT` parameter are listed in `adinfo.h`.

- File Classes
- Minor Formats

File Classes

Attribute Number	Description	File class
0	No file class	AutoDetNoFormat
01	Word processor	adWORDPROCESSOR
02	Spreadsheet	adSPREADSHEET
03	Database	adDATABASE
04	Raster image	adRASTERIMAGE
05	Vector graphic	adVECTORGRAPHIC
06	Presentation	adPRESENTATION
07	Executable	adEXECUTABLE
08	Encapsulation	adENCAPSULATION
09	Sound	adSOUND
10	Desktop publishing	adDESKTOPPUBLSH
11	Outline/planning	adOUTLINE
12	Miscellaneous	adMISC
13	Mixed format	adMIXED
14	Font	adFONT
15	Time scheduling	adSCHEDULE
16	Communications	adCOMMUNICATION
17	Object module	adOBJECTMODULE
18	Library module	adLIBRARY
19	Fax	adFAXFORMAT
20	Movie	adMOVIE
21	Animation	adANIMATION
22	Source Code	adSOURCECODE
23	Computer-Aided Design	adCAD
24	BI and analysis tools	adANALYTICS
25	Scientific data	adSCIENTIFIC
26	Geographic Info System	adGIS

Minor Formats

Attribute Number	Minor Format
00	Minor format not defined
01	Standard
02	Book
03	Chart
04	Macro
05	Text
06	Binary
07	PC
08	Windows
09	DOS
10	Macintosh
11	RGB
12	TIFF
13	IFF
14	Experimental
15	Format Information
16	RLE
17	Symbol
18	Old
19	Footnote
20	Style
21	Palette
22	Configuration
23	Activity
24	Resource
25	Calculation

Minor Formats, continued

Attribute Number	Minor Format
26	Glossary
27	Spelling
28	Thesaurus
29	Hyphenation
30	Miscellaneous
31	UNIX
32	VAX
33	Driver
34	Archive

Appendix E: Extract and Format Lotus Notes Subfiles

This section describes how to create XML templates to alter the appearance of extracted Lotus mail note subfiles so that they maintain the look and feel of the original notes.

Overview

KeyView uses the NSF reader, nsfsr, to extract Lotus database files, and places Lotus mail notes in subfiles. The NSF reader uses a set of default XML templates to extract the notes and apply formatting, thereby approximating the look and feel of the original notes.

In some cases, you might need to customize the XML templates, for instance if your notes contain custom data. In such cases, you can modify the existing XML templates or create your own.

During extraction, the NSF reader loads all XML files in the `NSFtemplates` directory and its subdirectories (except for the `NSFtemplates\images` directory, which is reserved for images). During initialization, the KeyView XML parser verifies the XML templates. If the templates contain any invalid XML, elements, or attributes, initialization fails and errors are recorded in the `nsfsr.log` file.

Customize XML Templates

XML templates are enabled by default. In most cases, the default templates should be sufficient; however, you can customize them or create your own as required.

To customize XML templates for Lotus note extraction

1. Modify the template files in the following directory.

   *install**OS*\bin\NSFtemplates

   The `main.xml` file must exist in the `NSFtemplates` directory. It is the top-level template file that extracts all subfiles, usually by calling other templates.

2. Make sure that any modifications or additional XML files conform to the supported elements and attributes described in Template Elements and Attributes, on page 354.

3. Extract the Lotus database file.

Use Demo Templates

For testing purposes, you can extract notes by using a set of demo templates, which are provided to demonstrate the proper usage of all the XML elements and attributes, because the default templates do not use all the XML elements.

The demo templates are available at:

*install**OS*\bin\NSFtemplates

To use the demo XML templates

1. In the `formats.ini` file, set the following parameter.

   ```
   [nsfsr]
   UseDemoTemplate=1
   ```

2. In the `main.xml` file, uncomment the following section.

   ```
   <ifini name="UseDemoTemplate" text="1">
     <call file="demo.xml"/>
     <quit/>
   </ifini>
   ```

Use Old Templates

For testing purposes, you can extract notes by using legacy templates, which produce MHTML output. You can generate similar output by disabling the XML templates, but using the old templates enables you to see the XML code and compare it to the standard and demo templates.

To use the old XML templates

1. In the `formats.ini` file, set the following parameter.

   ```
   [nsfsr]
   UseOldTemplate=1
   ```

2. In the `main.xml` file, uncomment the following section.

   ```
   <ifini name="UseOldTemplate" text="1">
     <call file="default_old.xml">
     <quit>
   </ifini>
   ```

Disable XML Templates

For testing purposes, you can disable XML templates; KeyView extracts the notes in MHTML format. You can compare the MHTML output directly by the NSF reader with the MHTML output indirectly by the NSF reader through the XML templates.

To disable XML templates

1. In the `formats.ini` file, set the following parameter.

```
[nsfsr]
ExtractByTemplate=0
```

Template Elements and Attributes

This section lists the valid XML elements and attributes that you can use when creating or modifying templates. See the demo templates for examples.

Conditional Elements

The following table lists the valid conditional elements.

Conditional elements

Element	Description
`<keyview>`	The KeyView XML template container ("root") element
`<if*>`	If the condition from the comparison is true, process the XML. Conditions can be nested up to 25 levels deep. **Attributes** • `name`. (Required) The name of the main item to compare to `item` or `text`. • `item`. (Required if no `text`) The name of the item to compare to the item specified by `name`. • `text`. (Required if no `item`) The text to compare to the item specified by `name`.
`<ifex>`, `<ifnx>`	If `name` item exists and has a `text` value or not. The Notes item might have a value that cannot be converted to text, such as an image.
`<ifeq>`, `<ifne>`, `<iflt>`, `<ifle>`, `<ifgt>`, `<ifge>`	Respectively, if `text` `==`, `!=`, `<`, `>`, `<=`, `>`, `>=`. Text comparison uses a case-insensitive string compare.
`<iftdeq>`, `<iftdne>`, `<iftdlt>`, `<iftdle>`, `<iftdgt>`, `<iftdge>`	Respectively, if time/date `==`, `!=`, `<`, `>`, `<=`, `>`, `>=`. Time/date comparison converts dates to text in local time using the Notes default, `TZFMT_NEVER`, because Notes also sometimes converts fields to text internally. For example: `text="06/30/2005 02:52:04 PM"`

Conditional elements, continued

Element	Description
`<iftzeq>, <iftzne>`	Respectively, if the time zone equals or does not equal the comparison `text`, for example `CDT`, `EST`, and so on.
`<ifini>`	If the value of the INI option specified in `name` equals the `text` value.
`<else>`	If the condition from the last `<if>` or `<switch>` was false, process XML.
`<switch>`	If a `name` value exists, process XML. **Attributes** • `name`. (Required) The name of the main item to compare in `<case>` subelements.
`<case>`	If the comparison condition is true, process XML, then stop processing the rest of `<switch>`. **Attributes** • `text`. (Required) The text to compare to the `name` item of `<switch>`.
`<default>`	If all `<case>` conditions were false, process XML. This element must be the last element in `<switch>`, after all the `<case>` elements. Any `<case>` elements after the `<default>` element are ignored.
`<for>`	If a `name` value exists, process XML. Process for each part of the `name` item. **Attributes** • `name`. (Required) The name of the main item. • `max`. (Optional) The maximum index to process. By default, all are processed.
`<index>`	Output `<for>` loop index (1-based). `<index>` is only valid within a `<for>` element.

Control Elements

The following table lists the valid control elements.

Control Elements

Element	Description
`<call>`	Call another XML template. You can nest templates up to 10 levels deep. **Attributes**

Control Elements, continued

Element	Description
	• `file`. (Required) The template file name. This name must be unique.
`<log>`	Log message to the NSF log file. **Attributes** • `text`. (Required) The text to log. • `type`. (Optional) The type of log message. The following values are valid: ◦ `ERROR` ◦ `WARN` ◦ `INFO` ◦ `DIAG` (the default option) ◦ `DEBUG` ◦ `DUMP`
`<quit>`	Stop processing the template. Exits without error. **Attributes** • `text`. (Optional) The text to log. • `type`. (Optional) The type of log message. See <log>, above.
`<stop>`	Stop processing the template. Exits with an `ERROR` log message. **Attributes** • `text`. (Required) The text to log.

Data Elements

The following table lists the valid data elements.

Data elements

Element	Description
`<text>`	Output text. **Attributes** • `name`. (Required if there is no parent) The name of the item to output.
`<rich>`	Output rich text (MHTML). Images are output in the next part or parts of the MHTML, after the first `<HTML>` part.

Data elements, continued

Element	Description
	Attributes • `name`. (Required if there is no parent) The name of the item to output.
`<body>`	Output the message body in rich text (MHTML). As with <rich>, on the previous page, images are output in the next part or parts of the MHTML.
`<form>`	Output the message form (usually `$Body` field) in rich text (MHTML). **Attributes** • `name`. (Required if there is no parent) The name of the item to output.
`<addr>`	Output an address. **Attributes** • `name`. (Required if there is no parent) The name of the item to output. • `type`. (Optional) The type of address to output. Set this attribute to **`CN`** (Common Name), which is the only supported type.
`<name>`	Output the name of the last `name` item, or in other words the current main item. The item must exist.
`<format>`	Set the default format for `<date>` and `<date_kv>`. This element does not set the `<text>` format. See Date and Time Formats, on page 359 for a list of all Notes and KeyView date and time formats and integer values. **Attributes** • `format`. (Optional. Omit to reset to defaults) The Notes and KeyView date and time format. You can set the following formats: ◦ `TD=int`. The Time Date format (`TDFMT_*`) ◦ `TS=int`. The Time Show format (`TSFMT_*`) ◦ `TT=int`. The Time Time format (`TTFMT_*`) ◦ `TZ=int`. The Time Zone format (`TZFMT_*`) ◦ `KV=int`. The KeyView date and time format where `int` is an integer value that corresponds to the desired format. Separate multiple formats with commas. For example: `format="TD=0,TS=2,TT=1,TZ=1,KV=55"`
`<date>`	Output a Notes date. **Attributes** • `name`. (Required if there is no parent) The name of the item to output.

Data elements, continued

Element	Description
	• `format`. (Optional) See <format>, on the previous page. You can set the following values: ◦ `TD` ◦ `TS` ◦ `TT` ◦ `TZ`
`<date_kv>`	Output a KeyView date. **Attributes** • `name`. (Required if there is no parent) The name of the item to output. • `format`. (Optional) See <format>, on the previous page. You can set the following values: ◦ `TZ` ◦ `KV`
`<time>`	Output a time range, for example 1 hour, 30 minutes. **Attributes** • `name`. (Required if there is no parent) The item name of the start date or time. • `item`. (Required) The item name of the end date or time.
`<zone>`	Output a Notes time zone mnemonic, for example `MST`. **Attributes** • `name`. (Required if there is no parent) The name of date item to output.
`<zone_utc>`	Output a time zone as UTC, for example `(UTC-06:00)`.
`<logo>`	Output the mail header logo. The image link is included in the output; the actual image is output to a different part of the MHTML subfile.
`<image>`	Output an image. The image link is included in the output; the actual image is output to the MHTML next part, as with <rich>, on page 356 and <body>, on the previous page.
`<image_uri>`	Output an image URI, in quotation marks. The actual image is output to a different part of the MHTML subfile. **Attributes**

Data elements, continued

Element	Description
	• `link`. (Required if there is no `file`) The image link, such as a form or title name. For example: • `link="StdNotesLtr0"` • `file`. (Required if there is no `link`) The name of the image file. The file must exist in the `../../templates/images` directory. For example: • `file="boxcheck.gif"`

Date and Time Formats

This section lists the supported Notes and KeyView date and time formats for use with <format>, <date>, and <date_kv>.

Lotus Notes Date and Time Formats

This section lists supported Lotus Notes date and time formats, and the integer values that specify each one.

Lotus Notes date and time formats

Format	Integer Value	Description
`TDFMT_FULL`	0	(The Notes default) Year, month, and day
`TDFMT_CPARTIAL`	1	Month and day, year if not this year
`TDFMT_PARTIAL`	2	Month and day
`TDFMT_DPARTIAL`	3	Year and month
`TDFMT_FULL4`	4	Four-digit year, month, and day
`TDFMT_CPARTIAL4`	5	Month and day, four-digit year if not this year
`TDFMT_DPARTIAL4`	6	Four-digit year and month
`TTFMT_FULL`	0	(Notes default) Hour, minute, and second
`TTFMT_PARTIAL`	1	Hour and minute
`TTFMT_HOUR`	2	Hour

Lotus Notes date and time formats, continued

Format	Integer Value	Description
TZFMT_NEVER	0	(Notes default) All time zones are converted to the current time zone
TZFMT_ SOMETIMES	1	Show only when outside the current time zone
TZFMT_ALWAYS	2	Show for all time zones
TSFMT_DATE	0	Date
TSFMT_TIME	1	Time
TSFMT_DATETIME	2	(The Notes default) Date and time
TSFMT_ CDATETIME	4	Date and time, or time today or time yesterday

KeyView Date and Time Formats

This section lists KeyView date and time formats. The KeyView formats use the following syntax:

Month	`Month` = full month name
	`Mon` = abbreviated month name
	`m` = month (number)
	`mm` = two-digit month (leading 0)
Weekday	`Weekday` = full weekday name
	`Wday` = abbreviated weekday name
Year	`yy` = two-digit year
	`yyyy` = four-digit year
>Day	`d` = day (number)
	`dd` = two-digit day (leading 0)
Time	`h` = 12-hour
	`H` = 24-hour
	`m` = minutes
	`s` = seconds
	`P` = AM/PM
	`p` = am/pm

Separators _ = space

c = comma

s = slash

a = dash

o = dot

KeyView date and time formats

Format	Output	Integer Value
12-Hour and 24-Hour Time Formats		
KVDTF_P	P	1
KVDTF_P_hmm	P h:mm	2
KVDTF_hmm_P	h:mm P	3
KVDTF_P_hhmm	P hh:mm	4
KVDTF_hhmm_P	hh:mm P	5
KVDTF_P_hmmss	P h:mm:ss	6
KVDTF_hmmss_P	h:mm:ss P	7
KVDTF_P_hhmmss	P hh:mm:ss	8
KVDTF_hhmmss_P	hh:mm:ss P	9
KVDTF_Hmm	H:mm	10
KVDTF_HHmm	HH:mm	11
KVDTF_mmss	mm:ss	12
KVDTF_Hmmss	H:mm:ss	13
KVDTF_HHmmss	HH:mm:ss	14
Numerical Date Formats with Slashes		
KVDTF_mmsdd	mm/dd	15
KVDTF_msdsyy	m/d/yy	16
KVDTF_mmsddsyy	mm/dd/yy	17
KVDTF_mmsddsyyyy	mm/dd/yyyy	18
KVDTF_ddsmm	dd/mm	19

KeyView date and time formats, continued

Format	Output	Integer Value
KVDTF_ddsmmsyy	dd/mm/yy	20
KVDTF_ddsmmsyy_Hmm	dd/mm/yy H:mm	21
KVDTF_ddsmm_P_hmm	dd/mm P h:mm	22
KVDTF_ddsmm_hmm_P	dd/mm h:mm P	23
KVDTF_ddsmm_P_hhmm	dd/mm P hh:mm	24
KVDTF_ddsmm_hhmm_P	dd/mm hh:mm P	25
KVDTF_ddsmmsyy_P_hmm	dd/mm/yy P h:mm	26
KVDTF_ddsmmsyy_hmm_P	dd/mm/yy h:mm P	27
KVDTF_ddsmmsyy_P_hmmss	dd/mm/yy P h:mm:ss	28
KVDTF_ddsmmsyy_hmmss_P	dd/mm/yy h:mm:ss P	29
KVDTF_ddsmmsyy_P_hhmmss	dd/mm/yy P hh:mm:ss	30
KVDTF_ddsmmsyy_hhmmss_P	dd/mm/yy hh:mm:ss P	31
KVDTF_yysmmsdd_P_hhmmss	yy/mm/dd P hh:mm:ss	32
KVDTF_yysmmsdd_hhmmss_P	yy/mm/dd hh:mm:ss P	33
KVDTF_msdsyy_Hmm	m/d/yy H:mm	34
KVDTF_mmsddsyy_Hmm	mm/dd/yy H:mm	35
KVDTF_msdsyy_P_hmm	m/d/yy P h:mm	36
KVDTF_msdsyy_hmm_P	m/d/yy h:mm P	37
KVDTF_mmsddsyy_hmm_P	mm/dd/yy h:mm P	38
KVDTF_mmsdd_P_hhmm	mm/dd P hh:mm	39
KVDTF_mmsdd_hhmm_P	mm/dd hh:mm P	40
KVDTF_mmsddsyy_P_hhmmss	mm/dd/yy P hh:mm:ss	41
KVDTF_mmsddsyy_hhmmss_P	mm/dd/yy hh:mm:ss P	42
KVDTF_msd	m/d	43
KVDTF_yysm	yy/m	44
KVDTF_yysmm	yy/mm	45

KeyView date and time formats, continued

Format	Output	Integer Value
KVDTF_yysmsd	yy/m/d	46
KVDTF_yysmmsdd	yy/mm/dd	47
KVDTF_yyyysmmsdd	yyyy/mm/dd	48
Numerical Date Formats with Dashes		
KVDTF_ddammayy	dd-mm-yy	49
KVDTF_mmadd	mm-dd	50
KVDTF_mmayy	mm-yy	51
KVDTF_yyammadd	yy-mm-dd	52
KVDTF_yyyyammadd	yyyy-mm-dd	53
KVDTF_yyyyammaddaHHmmss	yyyy-mm-dd-HH:mm:ss	54
Numerical Date Formats with Dots		
KVDTF_yyomod	yy.m.d	55
KVDTF_yyommodd	yy.mm.dd	56
KVDTF_mod	m.d	57
KVDTF_mmodd	mm.dd	58
Numerical and String Date Formats with Dashes, Commas, and Spaces		
KVDTF_ddaMon	dd-Mon	59
KVDTF_daMonayy	d-Mon-yy	60
KVDTF_ddaMonayy	dd-Mon-yy	61
KVDTF_ddaMonayyyy	dd-Mon-yyyy	62
KVDTF_Mon	Mon	63
KVDTF_Monayy	Mon-yy	64
KVDTF_Monayyyy	Mon-yyyy	65
KVDTF_Monaddayy	Mon-dd-yy	66
KVDTF_yyammadd_P_hhmmss	yy-mm-dd P hh:mm:ss	67
KVDTF_mmadd_P_hhmm	mm-dd P hh:mm	68

KeyView date and time formats, continued

Format	Output	Integer Value
KVDTF_Mon_yy	Mon yy	69
KVDTF_Monc_yy	Mon, yy	70
KVDTF_Month	Month	71
KVDTF_Monthayy	Month-yy	72
KVDTF_Month_yy	Month yy	73
KVDTF_Monthc_yy	Month, yy	74
KVDTF_Monthayyyy	Month-yyyy	75
KVDTF_Month_yyyy	Month yyyy	76
KVDTF_Monthc_yyyy	Month, yyyy	77
KVDTF_Mon_dc_yyyy	Mon d, yyyy	78
KVDTF_d_Monc_yyyy	d Mon, yyyy	79
KVDTF_yyyy_Mon_d	yyyy Mon d	80
KVDTF_Month_dc_yyyy	Month d, yyyy	81
KVDTF_d_Monthc_yyyy	d Month, yyyy	82
KVDTF_yyyy_Month_d	yyyy Month d	83
Weekday Date Formats		
KVDTF_Wday	Wday	84
KVDTF_Weekday	Weekday	85
KVDTF_Wdayc_Mon_dc_yyyy	Wday, Mon d, yyyy	86
KVDTF_Weekdayc_Month_dc_yyyy	Weekday, Month d, yyyy	87
KVDTF_Weekdayc_d_Monthc_yyyy	Weekday, d Month, yyyy	88

Appendix F: List of Files Required for Redistribution

This section lists the files required for redistributing applications based on Viewing SDK.

The following files should be installed to the `\bin` directory of your application's installation directory.

Core Files

The following core files can be redistributed with your application.

File	Description
`chartbls.ux`	Character mapping tables.
`htmcnv.dll`	HTML converter for the document token stream.
`kvarcve.dll`	Archive format viewing engine.
`kvdecrypt.dll`	Decryption utility functions.
`kvdocve.dll`	Word processing format viewing engine.
`kvmailve.dll`	Mail format viewing engine.
`kvmve.dll`	Multimedia format viewing engine.
`kvpicve.dll`	Picture format viewing engine.
`kvolefio.dll`	Embedded OLE object reader.
`kvsdk.ini`	Initialization file.
`kvutil.dll`	Utility.
`kvvapi.dll`	Viewing API.
`kvwkbve.dll`	Spreadsheet format viewing engine.
`kvxsssa.dll`	Interface between spreadsheet readers and Viewing API.
`kvxtract.dll`	File Extraction interface for container file support.
`kvxwpsa.dll`	Interface between word processing document readers and Viewing API.

File	Description
`kvzip.dll`	Zip writer.
`kwad.dll`	Format detection module.
`kwcm.dll`	Conversion Manager.
`kwlm.dll`	URL Launch Manager.
`kwres.dll`	Resources.
`vcredist\*`	Microsoft Visual C++ Redistributable Packages. **NOTE:** This folder can be found in the Viewing SDK installation directory.

Support Files

The following support files can be redistributed with your application.

File	Description
`datafiles\`	(Folder) Required by `kvlangdetect`.
`NSFtemplates\`	(Folder) Templates used by `nsfsr` to format Lotus mail notes.
`7z.dll`	Required by `z7zsr` and `multiarcsr`.
`bentofio.dll`	Required by `l123sr.dll` and `kpprzrdr.dll`.
`cbmap.map`	Character mappings for Adobe Portable Document Format (PDF).
`chmdll.dll`	Required by `chmsr.dll`.
`kp3dwrld.dll`	Required for 3D charts.
`kpifcnvt.dll`	Picture conversion routines.
`kpifutil.dll`	Picture utility routines.
`kpjpeg.dll`	JPEG file interchange format shared routines.
`kppng.dll`	Portable Network Graphics (PNG) utilities.
`kv.lic`	Contains license information for KeyView products. This file is opened and validated when a KeyView API is used.
`kvaxcc.dll`	Required for viewing HTML using Internet Explorer within View API window
`kvgraph.dll`	Required for all spreadsheets (chart support).

File	Description
`kvlangdetect.dll`	Utility functions for language and character set detection.
`kvpageve.dll`	An alternate viewing engine for Word processing formats.
`kvpie.dll`	Required for all spreadsheets (chart support).
`kvplug.dll`	Required for PDF support through the Acrobat plug-in if you use a version of Acrobat Reader earlier than 4.0. You might have to manually install the Acrobat plug-in `nppdf32.dll`. This is determined by the browser you use. If you use Netscape, `nppdf32.dll` installs automatically with Acrobat Reader. However, if you use other browsers, such as Internet Explorer, you must manually install `nppdf32.dll` into a subdirectory of the Viewing `Home` directory called `plugins`. You must then set up the registry or initialization file according to the description for PDF in `kvsdk.ini` or `install.reg`.
`kvradar.dll`	Required for all spreadsheet formats (chart support).
`kvreg.dll`	Sheet Registry processing.
`kvssvwr.dll`	Required for all spreadsheet formats.
`kvxmlve.dll`	XML format viewing engine.
`langdetectext.dll`	Required by `kvlangdetect.dll`.
`libeay32.dll`	SSL utility functions used by KeyView mail format readers.
`libpff.dll`	Required by pffsr.
`unzipjpg.dll`	Required for JPEG decompression.
`wpmap.dll`	Extended character mapping for WordPerfect and Corel Presentation.
`xmlsh.dll`	Contains a library of content handlers for each XML file type. Required by the Expat XML parser.

Document Readers and Writers

The following readers and writers can be redistributed with your application.

Archive Formats

File	Description
`ad1sr.dll`	AD1 Evidence file reader

File	Description
b1sr.dll	B1 archive reader
bkfsr.dll	Microsoft Backup File reader
bzip2sr.dll	Bzip2 reader
cabsr.dll	Microsoft Cabinet format reader
chmsr.dll	Microsoft Compiled HTML Help reader
dmgsr.dll	Mac Disk Copy Disk Image File reader
emxsr.dll	Legato EMailXtender archive (EMX) reader
encasesr.dll	Expert Witness Compression Format (EnCase) v6 reader
encase2sr.dll	Expert Witness Compression Format (EnCase) v7 reader
isosr.dll	ISO-9660 CD Disc Image Format reader
kvgz.dll	GZIP reader
kvgzsr.dll	GZIP reader
kvhqx.dll	BinHex reader
kvzee.dll	Unix Compress reader
kw2hqx.dll	BinHex writer
kw2tar.dll	Tape Archive writer
kw2uue.dll	UUEncoding writer
kw2zee.dll	Unix Compressed writer
kw2zip.dll	ZIP writer
lzhsr.dll	Microsoft Compression Folder reader.
macbinsr.dll	MacBinary reader
multiarcsr	ARJ reader
rarsr.dll	RAR Archive reader
tarsr.dll	Tape Archive (TAR) reader
unzip.dll	ZIP reader
uudsr.dll	UUEncoding reader
z7zsr.dll	7-Zip reader

Binary Formats

File	Description
`exesr.dll`	DOS/Windows Executables/DLLs

Computer-Aided Design Formats

File	Description
`kpODArdr.*`	AutoCAD reader (Windows only)
`kpvsd2rdr.dll`	Microsoft Visio reader
`kpVSDXrdr.dll`	Microsoft Visio 2013 reader
`vsdsr.dll`	Microsoft Visio reader

Database Formats

File	Description
`dbfsr.dll`	dBase Database reader
`mdbsr.dll`	Microsoft Access reader
`mppsr.dll`	Microsoft Project reader

Desktop Publishing Formats

File	Description
`mspubsr.dll`	Microsoft Publisher reader

Display Formats

File	Description
`kppdfrdr.dll`	Adobe Portable Document File (PDF) graphic-based reader
`kppdf2rdr.dll`	High-fidelity Adobe Portable Document File (PDF) graphic-based reader

Graphic Formats

File	Description
jp2000sr.dll	JPEG 2000 metadata reader
kpanirdr.dll	Windows Animated cursor reader
kpbmprdr.dll	Windows Bitmap reader
kpbmpwrt.dll	Windows Bitmap writer
kpcdrrdr.dll	Corel Draw reader
kpcgmrdr.dll	Computer Graphics Metafile (CGM)
kpdcxrdr.dll	DCX (fax) reader
kpem2rdr.dll	Enhanced Windows Metafile (EMF) reader
kpemfrdr.dll	Enhanced Windows Metafile (EMF) reader
kpemfwrt.dll	Enhanced Metafile writer
kpepsrdr.dll	Encapsulated PostScript (EPS) reader
kpgflrdr.dll	OmniGraffle Picture reader
kpgifrdr.dll	Graphic Interchange Format (GIF) reader
kpicordr.dll	Windows Icon reader
kpjbig2rdr.dll	JBIG2 reader
kpjp2000rdr.dll	JPEG 2000 reader
kpjpgrdr.dll	JPEG file interchange format reader
kpjpgwrt.dll	JPEG file interchange format writer
kpmacrdr.dll	MacPaint reader
kpmsordr.dll	Microsoft Office Drawing Objects reader
kpnbmprdr.dll	Lotus Notes Bitmap reader (for embedded images in DXL files)
kpoxdrdr.dll	Open Office XML Diagram Graphics reader
kppctrdr.dll	Macintosh Quick Draw Picture (PICT) reader
kppcxrdr.dll	PC Paintbrush (PCX) reader
kppicrdr.dll	Pictor PC Paint format (PIC) reader

File	Description
kppngrdr.dll	Portable Network Graphics (PNG) reader
kppngwrt.dll	Portable Network Graphics (PNG) writer
kprawrdr.dll	ODA Internal Raster (RAW) Picture reader
kpsdwrdr.dll	Lotus Ami Pro Graphics reader
kpsgirdr.dll	SGI RGB reader
kpsprdr.dll	Shape Stream reader
kpsunrdr.dll	Sun Raster reader
kptgardr.dll	Truevision Targa reader
kptifrdr.dll	Tagged Image File Format reader
kptifwrt.dll	Tagged Image File Format writer
kpwg2rdr.dll	WordPerfect Graphics 2.0 reader
kpwm2rdr.dll	Windows Metafile (WMF) reader
kpwmfrdr.dll	Windows Metafile (WMF) reader
kpwmfwrt.dll	Windows Metafile writer
kpwpgrdr.dll	WordPerfect Graphics 1.0 reader

Mail Formats

File	Description
dbxsr.dll	Microsoft Outlook Express DBX reader
dxlsr.dll	Domino XML Language reader
emlsr.dll	Microsoft Outlook Express (EML) reader
entsr.dll	Microsoft Entourage Database Format reader
gwfssr.dll	GroupWise FileSurf reader
icssr.dll	Microsoft Outlook iCalendar reader
msgsr.dll	Microsoft Outlook (MSG) reader
mbxsr.dll	Mailbox (MBX) and Microsoft Outlook Express (EML) reader. This reader is considered an advanced feature and is sold and licensed separately from the Viewing SDK. See License Information, on page 19.

File	Description
nsfsr.dll	Lotus Notes Database reader. This reader is considered an advanced feature and is sold and licensed separately from the Viewing SDK. See License Information, on page 19.
olmsr.dll	Microsoft Outlook for Macintosh reader
onmsr.dll	Legato EMailXtender Native Message reader
pffsr.dll	Microsoft Outlook Offline Storage File reader
pstsr.dll	Microsoft Outlook Personal Folders file MAPI-based reader (supported on Windows platform only). This reader is considered an advanced feature and is sold and licensed separately from the Viewing SDK. See License Information, on page 19.
pstnsr.dll	Microsoft Outlook Personal Folders file native reader. This reader is considered an advanced feature and is sold and licensed separately from the Viewing SDK. See License Information, on page 19.
pstxsr.dll	Microsoft Outlook Personal Folders file native reader. This reader is considered an advanced feature and is sold and licensed separately from the Viewing SDK. See License Information, on page 19.
tnefsr.dll	Transfer Neutral Encapsulation Format reader
vcfsr.dll	Microsoft Outlook vCard Contact reader

Presentation Formats

File	Description
kpagrdr.dll	Applix Presentations reader
kpiwpgrdr.dll	Apple iWork Keynote reader
kpodfrdr.dll	Oasis Open Document Format presentation (ODP) reader
kpONErdr.dll	Microsoft OneNote reader
kpp40rdr.dll	Microsoft PowerPoint 4.0 reader
kpp95rdr.dll	Microsoft PowerPoint 95 reader
kpp97rdr.dll	Microsoft PowerPoint 97, 2000, and 2002 reader
kpppxrdr.dll	Microsoft PowerPoint XML reader 2007
kpprerdr.dll	Lotus Freelance 96/97 reader
kpprzrdr.dll	Lotus Freelance 2.x reader
kpshwrdr.dll	Corel Presentation Graphics reader

File	Description
kpXFDLrdr.dll	Extensible Forms Description Language reader
swfsr.dll	Macromedia Flash reader
vsdsr.dll	Microsoft Visio reader

Spreadsheet Formats

File	Description
assr.dll	Applix spreadsheet reader
csvsr.dll	Comma Separated Values reader
difsr.dll	Data Interchange Format reader
htmss.dll	Required to save spreadsheets as HTML.
iwsssr.dll	Apple iWork Numbers reader
kpchtrdr.dll	Required for all spreadsheets (chart support)
l123sr.dll	Lotus 123 V96/97 reader
mwssr.dll	Microsoft Works Spreadsheet reader
odfsssr.dll	Oasis Open Document Format spreadsheets (ODS) reader
qpssr.dll	Quattro Pro Spreadsheet reader
qpwsr.dll	Corel Quattro Pro version X4 spreadsheet reader
wkssr.dll	Lotus 123 V2 to 5 reader
xlsbsr.dll	Microsoft Office 2007 Excel Binary Format reader
xlssr.dll	Microsoft Excel reader
xlsxsr.dll	Microsoft Excel 2007 XML reader

Word Processor Formats

File	Description
afsr.dll	ASCII reader
awsr.dll	Applix Words V4.x reader
dcasr.dll	Document Content Architecture/Revisable Form Text (DCA/RFT) reader

File	Description
dw4sr.dll	DisplayWrite 4 reader
epubsr.dll	Open Publication Structure eBook reader
foliosr.dll	Folio Flat File 3.1 reader
hexsr.dll	Hexadecimal reader
hl7sr.dll	Health level7 reader
htmsr.dll	Hypertext Markup Language (HTML) reader
hwposr.dll	Hangul reader
hwpsr.dll	Hangul 97 reader
ichatsr.dll	Apple iChat Log reader
iwwp13sr.dll	iWork 13 Pages reader
iwwpsr.dll	Apple iWork Pages reader
jtdsr.dll	JustSystems Ichitaro reader
lasr.dll	Lotus AMI Pro reader
ltbenn30.dll	Lotus Word Pro support
ltscsn10.dll	Lotus Word Pro support
lwpapin.dll	Lotus Word Pro support
lwppann.dll	Lotus Word Pro support
lwpsr.dll	Lotus Word Pro reader.
mbsr.dll	Microsoft Word Mac reader
mhtsr.dll	MIME HTML reader
mifsr.dll	Adobe Maker Interchange Format (.mif) reader
misr.dll	Microsoft Word 2 reader
msw6sr.dll	Microsoft Works 6, 2000 reader
mswsr.dll	Microsoft Works 1, 2, 3, 4 reader
mw6sr.dll	Microsoft Word 95 reader
mw8sr.dll	Microsoft Word 97, 2000, XP reader
mwsr.dll	Microsoft Word for DOS and Microsoft Write reader

File	Description
`mwxsr.dll`	Microsoft Word 2007 XML reader
`oa2sr.dll`	Fujitsu Oasys reader
`odfwpsr.dll`	Oasis Open Document Format word processing (ODS) reader
`oo3sr.dll`	Omni Outliner reader
`rtfsr.dll`	Microsoft Rich Text Format reader
`skypesr.*`	Skype log file reader
`sosr.dll`	StarOffice/OpenOffice reader
`unihtmsr.dll`	Unicode HTML reader
`unisr.dll`	Unicode reader
`wosr.dll`	WordPerfect 5.x reader
`wp6sr.dll`	WordPerfect 6.0 through 10.0 reader
`wpmsr.dll`	WordPerfect for Macintosh reader
`xmlsr.dll`	XML reader
`xpssr.dll`	XML Paper Specification reader
`xywsr.dll`	XyWrite reader
`yimsr.dll`	Yahoo! Instant Messenger reader

Miscellaneous Functionality

File	Description
`htmcnv.dll`	SaveAs HTML (through SaveAs dialog box)
`kvcnv.dll`	SaveAs
`kvtlbar.dll`	Toolbar with MFC library dynamically loaded (need to redistribute `mfc42.dll`).
`kvtlbst.dll`	Toolbar with MFC library statically linked
`rtfcnv.dll`	SaveAs RTF (through SaveAs dialog box or `VAPIM_CONVERT`), Copy to Clipboard
`rtfss.dll`	SaveAs RTF, Copy to Clipboard
`txtcnv.dll`	SaveAs Text (through SaveAs dialog box) Copy to Clipboard

Viewing ActiveX Control

File	Description
`kvocx.ocx`	Viewing ActiveX control

Appendix G: Configuration Options in kvsdk.ini

This appendix lists and explains configuration parameters available in the `kvsdk.ini` file.

kvsdk.ini Options

The following table lists configuration parameters available in the `kvsdk.ini` file.

kvsdk.ini configuration options

Configuration option	Description
`[DiskCache]` section	
`DiskCacheSize` type = integer default = 64	Specify the amount of memory in KB that KeyView will use for caching. Generally, when you increase the memory, performance improves. To determine a reasonable value, divide the maximum amount of memory you want KeyView to use by the number of threads. For example, if you want KeyView to use 50MB of memory and have 10 threads, set the value to 5MB, or 5120. The minimum amount of memory that you can use for file caching is 64 KB.
`[nsfsr]` section	
`ExtractAllNotes` type = Boolean default = 0	Set to 1 to extract all classes of notes and all subfiles regardless of whether they contain mail headers.
`ExtractAllFields` type = Boolean default = 0	Set to 1 to extract all fields to a subfile. Applies to non-mail subfiles only.
`TempDir` type = file path default = current temp directory	(Windows only) Specify a new temp directory.
`ExportDXL` type = Boolean default = 0	Export as DXL instead of MHT.

kvsdk.ini configuration options, continued

Configuration option	Description
`[pdf_flags]` section	
`remove_invisible_text` type = Boolean default = 0	Set to 1 if you do not want to include invisible text from PDF documents in your output.
`[ss_flags]` section	
`process_images_with_min_width` type = integer	The minimum width (in pixels) that an image in a spreadsheet must have for it to be exported from or viewed in a spreadsheet. This option can improve performance for documents that have lots of very small images.
`process_images_with_min_height` type = integer	The minimum height (in pixels) that an image in a spreadsheet must have for it to be exported from or viewed in a spreadsheet. This option can improve performance for documents that have lots of very small images.

Appendix H: Password Protected Files

This section lists supported password-protected container and non-container files and describes how to open them.

- Supported Password Protected File Types, below
- View Password Protected Files, on the next page

Supported Password Protected File Types

The following table lists the password-protected file types that KeyView supports.

Key to support table

Symbol	Description
Y	Format is supported.
N	Format is not supported.
S	Support for viewing subfiles.
V	Support for viewing content.
P	Password required.
C	Password and certificate or User ID file required.

Supported password-protected file types

File Type	Version	Filter	Export	Extract	View	Credentials
PST (Windows)	n/a	N	N	Y	S	P
PST (non-Windows)[1]	n/a	N	N	Y	S	N
ZIP	n/a	N	N	Y	S	P
7-Zip	n/a	N	N	Y	S	P
RAR	n/a	N	N	Y	S	P
SMIME in MSG, EML, MBX	n/a	N	N	Y	N	C

[1]The native PST readers, `pstxsr` and `pstnsr`, do not require credentials to open password-protected PST files that use compressible encryption.

Supported password-protected file types, continued

File Type	Version	Filter	Export	Extract	View	Credentials
Lotus Notes NSF	n/a	N	N	Y	N	C
Adobe PDF	n/a	Y	Y	Y	V	P
Microsoft Office	97-2003 2007 2010	Y	Y	Y	V	P

View Password Protected Files

This section describes how to view password-protected files by using the Viewing API.

To view password-protected files

- Set the password with the VAPIMWP_INIT_SETPASSWORD message parameter.
  - For password-protected PST files, this message must be called before the `VAPIMWP_INIT_OPEN_DOCUMENT` message.
  - For password-protected Microsoft Office 2007 and 2010 files, this message must be called before the `VAPIMWP_INIT_OPEN_DOCUMENT` message.
  - For password-protected ZIP files, this message can be called after the `VAPIMWP_INIT_OPEN_DOCUMENT`, but must be called before the protected subfile is extracted or viewed.

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