

## Micro Focus® Reflection® and Extra! X-treme

## Comparing Reflection Desktop and Extra! X-treme

Use this document to choose which is the right product for you.

Features	Reflection Desktop	Extra! X-treme		
Supported Platforms	16.2	9.5	Pre 9.5	Key Consideration(s)
<b>Desktop Operating Systems</b>				
Microsoft Windows 10 Pro or Enterprise (32- and 64-bit) Certified Logo	●	● <sup>1</sup>		Be confident that the host application access solution you deploy with Windows 10 will work reliably.
<b>Server Environments (Deployment and Virtualization)</b>				
Windows Server 2019 Remote Desktop Services (RDS)	●			Plan ahead for future desktop and server operating system upgrades.
Windows Server 2016 Remote Desktop Services (RDS)	●	●		
Windows Server 2012 Remote Desktop Services (RDS)	●	●		
Citrix Ready Logo with support for Citrix XenApp version 7.x or higher	●			
Supported on Citrix XenApp supported versions <sup>2</sup>	●	●		
VMware Ready Logo	●			
VMware Workstation/Player	●	●		
Microsoft App-V 5.x <sup>2</sup>	●			
<b>Secure Encryption</b>				
<b>Support for TLS</b>				
Transport Layer Security (TLS) 1.2 support	●	●	9.4 & above	The pace of change for threats, security requirements, and regulatory requirements means that companies must be able to use the most current technologies for encryption.
Elliptical curve cryptography (ECC) for TLS 1.2 (prime curves)	●	●		
SHA-2: Support for SHA-256/RSA-2048 digital signatures	●	●	9.4 & above	
Access detailed TLS information when user hovers mouse over padlock icon in the session status line	●			
Certificate Revocation—Check authenticity of certificates using Online Certificate Status Protocol (OCSP)	●			
Administrators can lock down specific SSL/TLS settings	●			
Support for multi-factor authentication to MSS via x.509 certificates on smart card	●			
Support for sending intermediate CAs along with the user certificate	●			

● Feature available in this version

1 Microsoft no longer offers this logo certification. Micro Focus tested Extra! X-treme 9.5 against Microsoft's Windows 10 compatibility testing criteria and passed.

2 Supported on the above-supported Windows Server versions

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Features	Reflection Desktop	Extra! X-treme		
	16.2	9.5	Pre 9.5	Key Consideration(s)
<b>Secure Desktop</b>				
Trusted Locations feature for securing desktop environment by allowing only trusted session files and macros to execute (specified location of session and macro files)	●			Administrators can configure terminal emulation sessions to meet end user needs while locking down configurations to prevent unauthorized access.
Ability to encrypt session files	●			
Ability to update deployed settings files	●			
User Account Control (UAC) for Installation—Build Microsoft Installer (.msi) packages and lock down features	●			
<b>Data Privacy and Protection</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
Privacy filters to protect sensitive data	●	●		Mainframe applications were designed long before privacy requirements and regulations. Organizations can now comply with privacy regulations and requirements (such as GDPR and PCI DSS) without making any high cost and risky changes to their mainframe application or disrupting existing end user workflows to prevent sensitive information from being viewed, copied to the clipboard, and printed.
PCI DSS mode to prevent unsecured connections to host systems (all networks, wireless networks)	●			
Support for protecting/masking sensitive data on IBM 3270 and 5250 screens	●			
Dynamic privacy filters to efficiently identify, filter and protect sensitive data	●			
Ability to ensure PCI DSS compliance for terminal emulation sessions	●			
Enforce secure connections over wireless network	●			
Make primary account numbers (PAN) viewable/non-viewable based on user role	●			
Prevent users from changing PAN settings with User Account Control (UAC)	●			
Ability to log when a user accesses a credit card number on an IBM (3270 or 5250) host screen via API (allowing for data capture in a third-party enterprise logging solution)	●			
<b>Ease the Transition to Reflection Desktop</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
Retain existing Extra! sessions while gaining easier administration	●	●		Minimize disruption to end users by running existing Extra! configurations and macros in Reflection Desktop while providing users a familiar look and feel much like the experience of upgrading Microsoft Office.
Use existing Extra! session files without changes	●	●		
Deploy Classic interface to maintain Extra! look and feel	●			
Run existing Extra! macros and automations with Reflection Desktop	●			
<b>Simplified Administration</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
Support for compound settings files to include all customizations in single session file	●			Reflection Desktop, provides one session file for multiple settings files, including keyboard, colors, file transfer, security, and connections that simplify administration.
Administrators can centrally modify workspace (global) settings without disrupting existing end-user configurations	●			
Choose between one session file for all customizations or each customization in a separate file	●			
<b>Authentication and Authorization</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
Support for Kerberos telnet authentication for TN5250 connections to the AS/400	●	●		Use existing mainframe/host side authentication capabilities to secure access to host applications and data.
Support for IBM Express Logon Feature (ELF) enables certificate authentication and single sign-on (SSO) for mainframe sessions	●	●		
Support for multi-factor authentication to MSS via x.509 certificates on smart card	●			
Automated sign-on to IBM mainframe (ASM) for existing, unmanaged user sessions	●			

● Feature available in this version

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Features	Reflection Desktop	Extra! X-treme		Key Consideration(s)
	16.2	9.5	Pre 9.5	
<b>Centralized Management via Host Access Management &amp; Security Server</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
Seamless workflow to secure host access without disrupting end user productivity	●			Strong security requires the enterprise to control access to host applications and data, in addition to supporting regulatory compliance, without disrupting employee productivity. You can enable strong security through effective management by teaming Reflection Desktop with Host Access Management and Security Server (MSS). Working with your Identity and Access Management (IAM) system, MSS seamlessly propagates changes to application settings and user-specific content from a central server.
LDAP Authentication	●			
x.509 Certificate Authentication	●			
Single Sign On for NTLM v2	●			
Support server certificates managed by MSS	●			As enterprises move to encrypting data in motion and validating senders and receivers, centralized management enables more secure and simpler management of server certificates.
Centralized certificate management for IBM host system	●			
Require authentication	●			Prevent unauthorized users from accessing your hosts systems by forcing authentication to MSS.
<b>Host Access Management and Security Server Add-On Components</b>				
<b>Security Proxy Add-On:</b> Deliver end-to-end encryption and enforce access control at the perimeter with patented security technology	●			Add layers of security protection for your most sensitive systems and data.
SSH connections via the Security Proxy Add-On	●			
<b>Advanced Authentication Add-On:</b> Enable multifactor authentication to authorize access to your valuable host systems	●			
<b>Automated Sign-On for Mainframe Add-On:</b> Enable automated sign-on to IBM 3270 applications via your identity and access management (IAM) system	●			
<b>PKI Automated Sign-On Add-On:</b> PKI-enable automated application sign-on to your critical enterprise systems	●			
<b>Terminal ID Management Add-On:</b> Dynamically allocate terminal IDs based on username, DNS name, IP address, or address pool	●			
<b>Standardization and Competitive Replacement</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
IBM Personal Communications (PComm) sessions and runtime support for PComm macros	●			Organizations looking to simplify administration and reduce costs are standardizing on a single terminal emulation solution. They can now ease the transition to Reflection Desktop saving time and reducing disruptions to user productivity.
OpenText (Hummingbird) Host Explorer runtime support for Hummingbird macros	●			
Brandon Systems/Jolly Giant QWS 3270 macro runtime support	●			
Run Rumba session files and run time support for Rumba macros	●	●		
<b>End User Productivity</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
Print multiple screens utility for collating data from multiple host applications	●			Empower end users to easily automate routine tasks increasing productivity without having to use a developer/ programmer. Drag and drop tool enables users to edit macros quickly and reduce errors. EML macros can be used without modification in Reflection Desktop, Rumba+ Desktop, and InfoConnect Desktop.
Express Macro Language (EML)	●			

● Feature available in this version

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Features	Reflection Desktop	Extra! X-treme		
End User Productivity <small>continued</small>	16.2	9.5	Pre 9.5	Key Consideration(s)
Scan bar code data into host applications using Bluetooth (wireless) scanning devices	●			Bluetooth scanner support allows customers to leverage a wide array of bar code scanners to increase the mobility and efficiency of assembly line workers allowing them to directly enter data into mainframe applications.
Printing output of host print data in a predefined format to a PDF document	●			<p>Enable end users to get more done faster without making changes on the mainframe.</p> <p>Use familiar Microsoft Office interfaces and features to make working with mainframe applications familiar and efficient. With Microsoft Office installed, you can enable users to leverage host data in e-mail messages, contacts, appointments, notes, tasks, and word-processing documents.</p>
QuickPad support for fast access to productivity features that support users' unique workflows	●	●		
Visual terminal keyboard for accessing terminal keys	●	●		
Application, desktop, and Internet search support	●			
Support for opening new sessions in existing workspaces	●			
Triple-mouse-click support	●			
Word wrap support (IBM 3270 and 5250)	●			
Tabbed Multiple Document Interface (MDI)	●			
Create custom Context Menus	●			
Full Plus UI modernization support	●			
Support for the Extra! method of performing multiple print screens of host data	●	●	●	
Ability to merge host print data with a predefined Rich Text Format (RTF) file and output it to Word or PDF document	●			
Status bar indicator that indicates progress when starting sessions and importing legacy session files	●			
Cut/copy/paste improvements	●			
Search feature added in Classic mode	●			
Ability to save layouts in Classic mode	●			
<b>Microsoft Office Integration—All Host Types—to automate data exchange between host apps and Office</b>				
Office 2013/2016/2019 integration (32-bit and 64-bit)	●	●		
Office 2016 theme support for look and feel consistency	●			
<b>User Interface Modernization</b>				
Plus UI mode for modernizing green screens with a drag and drop tool	●			Add modern time saving controls and look and feel to IBM 3270 and IBM 5250 sessions to give workers a more intuitive and modern look and feel without making costly and disruptive changes to the mainframe application.
<b>Use existing Extra! Basic Macros without changes in Reflection</b>				
Extra! Basic macro runtime and editing	●	●	●	Organizations can continue to use existing Extra! macros and customizations in Reflection without the need to update or rewrite them.
Support for encrypted Extra! Basic macros	●	●	●	

● Feature available in this version

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Features	Reflection Desktop	Extra! X-treme		Key Consideration(s)
	16.2	9.5	Pre 9.5	
<b>Customizations and integrations with other desktop applications</b>				
Events Mapper for triggering actions based on events in host sessions with no coding required	●			Using the Events Mapper, you can configure Reflection to initiate actions, such as macros, menu and terminal commands when an event is encountered during a host session. This makes it possible to monitor Reflection host interactions and synchronize Reflection commands with a defined group of host session events.
Ability to programmatically interact/share information between a host session and a webpage	●			Easily customize and integrate Reflection with other desktop applications.
Programmatic access to over 400 properties and methods via Reflection API	●			
HLLAPI, eHLLAPI, and WinHLLAPI (IBM 3270 and 5250)	●	●	●	
Attachmate HLLAPI (ATMAPI32.dll)		●	●	
VT HLLAPI		●	●	
<b>Visual Basic for Applications (VBA) Support</b>	●			Programmers familiar with Microsoft Visual Basic for Applications (VBA) can customize Reflection and automate common tasks using Reflection methods, properties, and events that extend the core Visual Basic language.
Macro recorder for VBA	●			
VBA-macro output available in VB.NET and C# (.NET)	●			
VBA IDE (integrated development environment) included and integrated	●			
VBA macro-sharing capability for accelerating productivity on a wide scale	●			
<b>Microsoft .NET</b>	●			Create custom desktop applications in a .NET development environment using the Micro Focus Reflection API. The .NET Framework is the Microsoft managed-code technology used for building applications that have visually stunning user experiences, seamless and secure communication, and the ability to model a range of business processes.
Embeddable .NET terminal user control	●			
Native .NET API	●			
Integration between Reflection .NET API and Microsoft Visual Studio IDE	●			
API Guide and documentation with detailed walkthroughs showing you how to use the Reflection .NET API	●			
<b>User Interface</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
TouchUx for an optimized user experience with host applications on touch devices	●			Leverage TouchUx to give iOS, Android, and Windows mobile-device users the mainframe interactive experience they are accustomed to.
Ribbon user interface mode	●			The Ribbon interface shares the look and feel of modern Windows and Office.
Classic mode interface for Extra! and Reflection	●			A Classic interface option provides an interface that is familiar to users of Extra! and Reflection.
Customizable Ribbon	●			Customize the user interface to best suit the needs of user population.
Tabbed or windowed Multiple Document Interface (MDI) for sessions	●			
Configurable tabs, including colors, renaming, and more	●			
Local and online HTML Help	●			
<b>International Support</b>	16.2	9.5	Pre 9.5	<b>Key Consideration(s)</b>
German, French, Spanish, Italian, and Brazilian Portuguese localization	●	●	●	Multi-national organizations can standardize on a single 3270/5250 terminal emulator across all regions of the world.
Support for Chinese Simplified/Traditional, Korean, and Japanese code pages—Double Byte Character Support (DBCS) enabled	●			
Japanese localization	●			



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