

# Relativity

Micro Focus® Relativity brings the benefits of modern relational database access to COBOL applications. Relativity makes COBOL data contained within traditional COBOL data files, available to virtually any analytics or reporting tool using ODBC or JDBC, such as Microsoft Excel. Relativity presents COBOL data as a relational data source, enabling business users and developers to take full advantage of modern analytics and reporting tools to enhance the data processing capabilities of COBOL applications. Relativity delivers on data modernization needs where the performance of COBOL data files and the existing application architecture must be maintained but the flexibility of RDBMS is required.

## Product Highlights

### How Relativity Works

Relativity is an ODBC/JDBC enabled Relational Database Management System just like SQLServer, Oracle or DB2. The difference is, while traditional RDBMS products store data in proprietary files, Relativity retrieves and processes existing data stored in COBOL sequential, relative and indexed data files. Furthermore, it supports all of the COBOL data formats that your applications already use. No changes to the COBOL data files or the applications are required. By simply using the Relativity Designer to create the relational view of the data, you can realize the advantages of an RDBMS-based application, without the time and effort of rewriting your application code.

Relativity is unlike other data access middle-ware products. Other products attempt to solve the legacy data access problem either by converting a snapshot of the data into an approximation within a traditional relational database or by providing a generic gateway between legacy data storage systems (such as VSAM)

and ODBC-aware applications, with virtually no knowledge of the true structure of the data. In this sense they are often merely ODBC “drivers” for one or more file access methods. The problem with this approach is that the data itself is not relational and the gateway products do little or nothing to make it so. As a result, most of the power and utility of SQL and relational databases is never made available to business users or developers. In contrast, Relativity is designed not as a generic “driver,” but as a COBOL-specific database engine. It handles all of the COBOL data types and structures and it provides capabilities to map COBOL record areas into one or more truly relational entities. At the heart of Relativity is its powerful COBOL-SQL access technology. This allows almost any COBOL application data file to be represented by well normalized relational tables. This capability, along with the ODBC and JDBC interface provided by Relativity, means that the full power of SQL and ODBC are available to end users of modern business intelligence, analytics and data reporting tools.

- Enable secure and standards-based access to your data by turning COBOL data files into relational data sources
- Meet any business intelligence and data warehousing need with off the shelf ODBC/JDBC enabled tools
- Use Microsoft Excel to create Pivot tables and charts directly from COBOL data
- Provide users flexible options for customizing application data without changing the COBOL code
- Developers can quickly create mappings between files, records, fields and databases tables, views and columns using graphical design tools
- Get simultaneous access to data files by Relativity and COBOL applications
- Flexible deployment models using client/server or single tier architecture
- Provision and govern data access, securely, using access control lists

### Common Use Cases for Relativity

- Custom user-defined reports for business and technical audiences
- Integration with Crystal Reports, Microsoft Access and Microsoft Excel
- Data integration with Java, C#, VB.NET and C++ languages
- Real-time data analytics
- Data warehousing and Business Intelligence tools
- Data archival
- Extract, Transform, Load (ETL)
- Integration with other ODBC-enabled data tools

### Key Benefits

#### Faster Access to Business Data

Relativity can yield real results in a matter of hours. Design tools help developers quickly craft the relational table view of COBOL records. Once the tables are defined, business users can connect modern tools, such as Microsoft Excel, which will treat the COBOL files simply as another relational data source.

#### No Code Changes

Because Relativity works with your existing COBOL data files, there's no need to re-architect or change your application code.

#### Unlock Application Data

The COBOL data file is a fast and efficient mechanism for storing application data but it is a proprietary format, accessible only through the COBOL language. Relativity provides secure and standards based access for virtually any ODBC or JDBC enabled tool or application to consume COBOL data and enable multiple integration points with your application.

### Real-time Data Access

Relativity provides SQL-based, relational data access to COBOL data files, not abridged or replicated copies. The end user sees exactly the same data at exactly the same time as the COBOL application.

### Data Modernization Made Easy

Fully integrating an RDBMS solution with existing COBOL applications can be time consuming, costly and require considerable change to the application codebase. By contrast, Relativity provides a fast and simple approach to data modernization with minimal impact to the existing application architecture

### Key Features

#### DBMS Configurations

There are two configurations of Relativity: a single-tier architecture for use on Windows desktops where application data is contained locally, and a two-tier Data Server for applications that maintain COBOL data on one or more server or mainframe host systems. In both cases, the same Windows-based Relativity Designer is used to define the database model that will be seen by end users.

### System Requirements

#### Operating Systems

- Windows XP, Vista, 7, 8.
- Windows Server 2003, 2008, 2012, 2012 R2
- Red Hat 5.10, 5.5, 6.7, 7.1
- SUSE 11, SP2 & SP3, 12
- AIX 6.1 and 7.1
- X86 and 64 platform support

#### Supported Micro Focus COBOL Products

- Visual COBOL 2.3 and above
- Net Express / Server Express / Server for COBOL 5.1 Update 14 and above

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**“The fact that Relativity allowed us to provide read-only access to the application data was important. It gives us the confidence that we can maintain the integrity of the data we are opening up to our customers.”**

#### TOM VINCENT

President  
Geneva Software Company

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### Relativity Designer

The Relativity Designer is a graphical Windows tool that assists the developer in creating a mapping between the records and fields within a COBOL data files to the tables and columns of a relational data source. The tool can support advanced needs such as mapping multiple tables against a single file, managing multiple record types and repeating COBOL data found in OCCURS fields. Relativity Designer can also be used to denote special fields, such as those

- RM/COBOL 12. X and above
- Relativity Designer is a tool supported on Windows platforms only
- The single tier configuration, Relativity for Windows Workstations, is available on Windows platforms only
- The two-tier configuration, Relativity Data Server is available on all supported platforms
- The *extend*<sup>®</sup> portfolio offers a similar relational data access solution for ACUCOBOL applications—AcuXDBC. For more information, please see the AcuXDBC datasheet

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in a COBOL record that comprise a date value and should be treated as a single data field by an ODBC client.

**Relativity DBA**

The Relativity DBA is an admin tool used by the Database Administrator to assign user names and passwords to those requiring access to the Relativity toolset. These security features can be used to restrict access to the

COBOL data. The Relativity DBA provides the ability to create a group of users, to describe the tables and columns that the group may access, and how they may access the tables and columns, such as the ability only to read them.

**See Also**

Where Micro Focus Relativity is designed to provide relational data access to underlying COBOL data files, Micro Focus Database

Connectors enable you to store data within an RDBMS such as Microsoft SQL Server, Oracle or IBM DB2. Database Connectors minimize the effort required to change application source code by automatically translating COBOL file IO operations into SQL instructions.

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