

History of The Equity Engineering Group Software Support for API RBI

The Equity Engineering Group took over the development of the API RBI technology and software product in late 2001 and committed to create:

- A first class technical tool and
- Enterprise network worthy product

Leaving aside the technical goals of the project, the software product would be capable of filling the need for a standalone desktop application as well as for an enterprise application. The commitment included support for 3 database products: MySQL, MS SQLServer and Oracle. The operating system was envisioned to be Windows 2000 and greater for desktops and MS 2000 Server and greater for server class computers.

Development of the application consisted of several versions.

Version 5 of the product was the basic desktop application. Support for V5 consisted of an Administrators Guide, Users Guide, Requirements Document, and API-RBI Interoperable Interface Specification to assist IT personnel as well as the average user with the use and installation of the software. This V5 was installed on standalone PCs in a limited application.

Version 6 provided the initial support for network installations. Remote Node was introduced as well as stronger controls on the startup and shutdown of the software installed on a single PC. A database browser was added for clients using MySQL as the database. Documentation improvements included a more complete Administrators Guide to better define installation steps.

Version 7 was a completely network ready application. Equity has worked with individual UG companies to support the product installation in their corporate IT environment, with actively multi-user at this time:

- Valero, Paulsboro – 3 tier using MySQL as the database
- Marathon Petroleum – client runs through terminal server using MS SQLServer as the database
- Sunoco, Inc. – client/server tier using MSSQLServer database

Software installation was improved with a scriptable installation program written in Wise as well as an Installation Guide document. V7 included an import/export interface to allow the client to:

- Move data from an enterprise database into MySQL using remote node,
- Export the data from MySQL to an Excel spreadsheet,
- Manipulate the data in Excel, and
- Import data to MySQL and
- Move data from MySQL using remote node to the enterprise database.

Version 8 is a further improvement in the V7 application. Based upon input from users, the API RBI service was rewritten. In previous versions, the API RBI service launched 3 child processes. When the logged in user, logged off the system, the operating system killed these child processes. The work around solution for V7 was to keep the login user logged into the server. In V8 the API RBI service was rewritten to provide a single service that remains alive as long as the computer is on, requiring that the Java Runtime Environment be installed on the server.

To improve speed and performance the schema was re-architected in V8. The normalization of the database schema changes include:

- Removing the referential tables and replacing the reference fields with the corresponding data fields,
- Splitting inspection planning from the inspection history table and into its own table
- Splitting damage, thinning supplemental, and calculator results
- Modify text comments to be text/clob
- Encode/decode all comments to permit storage of any input data including special characters.
- Move data component settings and operating condition data from separate tables to component table
- Provide upgrade path for V7 databases to V8 database structure

Server changes include:

- Changes required for removal of reference tables
- Implement caching of static data to improve performance
- Implemented the new API RBI Service
- Implemented new filter capabilities
- Use of both AND and OR filter conditions
- Filters are now assigned to the user who generated the filter definition
- Ability to have up to 12 instances of the server on a single server computer.

The Equity Engineering Group will continue to support and improve the API RBI software product.