R*TIME 2013 New Features

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R*TIME Server 2013 New Features

- Future versions will utilize the new version naming convention

- Release Dates
  - R*TIME Server 2013.0 – 1Q 2014
  - R*TIME Server 2013.1 – 3Q 2014
  - R*TIME Server 2013.2 – TBD as needed

R*TIME 2013 New Features

- Projects
  - R*TIME Server 2013.0
    - Limerick PPC Replacement
    - TMI PPC Replacement
    - LaSalle PPC Upgrade
  - R*TIME Server 2013.1
    - Millstone U2 PPC Replacement

R*TIME Server 2013.0 New Features

Platform

- Windows Server 2012

- Visual Studio 2012

- Eliminate use of MKS third party software (MKS Toolkit and MKS Lex/Yacc)

- C# background and display based applications

- Changes to database update to reduce the number of notifications to R*TIME Viewer

- Viewer Archive Request

R*TIME Server 2013.0 New Features

Specific Updates

- Point Groups

- RTP Interface

- Archive

- Miscellaneous

R*TIME Server 2013.0 New Features

SQL Server

- ## SQL Server
  - R*TIME Messaging Subsystem
  - R*TIME Equipment Monitoring
  - Site Specific Applications

R*TIME Server 2013.0 New Features

C# Application Support

- C# background and display based applications
  - Utilize for new projects and R*TIME applications going forward
  - C/C++ applications still supported
  - Retain C/C++ for R*TIME base functions

R*TIME Server 2013.0 New Features

C# Application Support

- C# background and display based applications
  - Features
    - Integrated library of objects that understand R*TIME operation
    - Program Creator application for filling in initial code and configuration file for creating many of these objects
    - Excel tool for creating data tables for use by the applications
    - New CodeManager tool (replaces CMTool)
    - Hyperlinked documentation
    - XML configuration and data files
    - Client-customizable quality handling and standard message formats
    - Full Unicode character set for strings
    - Example programs for learning

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C# Application Support

- ## C# Integrated Library
  - Utilizes C# events to have objects support themselves
    - Automatic handling of configuration file changes
    - Automatic handling of Database change events
    - Automatic handling of group change events
    - Automatic handling of server mode changes
  - Quality handling built into to all operations
    - Client defined quality states
    - Client defined quality handling (quality precedence, etc.)

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C# Application Support

- **C# Integrated Library**
  - Double-precision math internally
    - Including steam-tables and configuration constants
  - C# events defined for many state changes
    - Monitor for changes to a point value/quality with a single line of code
  - Multiple configuration files allowed for a program
    - Can be shared across programs
    - All files monitored by the Application object for changes

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C# Application Support

- ▪ C# Integrated Library (cont.)
  - – Some of the objects available
    - ▪ Application – both Background and Display
    - ▪ Data – from database, configuration file, or archive
    - ▪ Messages – for logs and displays
    - ▪ Timers
      - – Interval – repeat periodically
      - – Calendar – fire at specific times (such as 'at midnight each day')

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C# Application Support

- ## C# Integrated Library (cont.)
  - Some of the objects available
    - Redundant data set – automatically replicated across servers
    - TCP Socket classes – Listener and Initiator
    - Data tables – 1D and 2D tables with look-ups and interpolation
    - Steam tables
    - Unit conversion class
    - Graphic primitives – for use in report layouts and display drawing
  - DLL implementation of all static libraries

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C# Application Support

- ## C# Program Creator

  - Replaces Visual Studio Wizards

  - Creates initial program files based on user options

    - Visual Studio Project files

    - Initial C# code file

    - Initial configuration file

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C# Application Support

- ## C# Program Creator

  - Can be used to add code and configuration data for most of the R*TIME objects that can be defined in a configuration file

    - Database references

    - Data constants (numeric and string)

    - Messages (text format and repeat limiters)

    - Display event handling

    - PDF report layouts (positions and fonts)

  - Automatically links code with configuration file, without possibility of typographical errors between the two files

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C# Application Support

- C# Data Table Creator
  - Allows Excel to be used to maintain data tables
  - Can be used for 1-dimensional or 2-dimensional tables
  - Creates configuration file entry
    - Can be saved to its own XML file if large, or pasted into an application configuration file
  - Creates code snippet for creating an object that will access the data
    - As with all R*TIME C# objects, it will automatically handle changes to the configuration data while running

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C# Application Support

- ## CodeManager
  - – Understands C# and VB projects
  - – Still supports C/C++ projects and Fetch-Only directories
  - – Used for full system builds or individual project fetch-build commands
  - – Can create a report of all PVCS files currently locked that would be used in a build of your system
  - – Can be used to put and fetch C# applications into PVCS in a 'flattened' state
    - ▪ No sub-projects for solution and property files

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C# Application Support

- ## CodeManager
  - Can be used to create client-specific PVCS archive from Scientech PVCS archive (feature currently in development)
  - Drops support for
    - 'makefile' builds
    - Multiple PVCS sources
  - Future support for
    - Fortran

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Viewer Archive Request

- R*TIME Viewer Archive data requests go directly to the archive file bypassing NETSRVR
  - Significant performance improvement

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Point Groups

- Separate directories for unit specific groups

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RTP Interface

- DCM Proxy

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Archive

- SAN segmented writes

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Miscellaneous

- REGEX v 1.53

- MODBUS – 32 integer values

- PI Interface – auto add