

*R*TIME Viewer 4.4*

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Topics

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- Action Lists
- Send Display Updates
- Command Line INI File Override
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- Local Archive Caching
- User Pop-Up Menu Additions
- Viewer 4.2 Feature Redux
 - Point Selection Suppression
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Archive Replay

- ❖ Allows archive data to be “replayed” through graphical displays instead of current values
- ❖ Time can be controlled through interface
 - ❖ Forward/Backward direction
 - ❖ Speed adjustment (from 1 sec/sec to 1 day/sec)
 - ❖ Pause and Single-step
 - ❖ Manual entry of time frame

Archive Replay (cont.)

- ❖ Limitations:
 - ❖ Data replay for entire Viewer, not individual displays
 - ❖ Data within Viewer program only. Does not effect external applications
 - ❖ Time based entities (Trends, Direction Pointer, etc.) do not work well during replays, especially with reverse time direction.

Archive Replay (cont.)

❖ Configure within the MMI.INI file

❖ New Section [Archive Replay]

- fCanReplay – Enables/Disables function on a per-workstation basis
- MaxArchiveReplayDatasets – Number of discrete time stamps of data the Viewer can cache at one time
- InitialReplayFrequency – The initial playback rate, in seconds advanced per update
- ArchiveReplayTimePointDatabase, ArchiveReplayTimePointName – Point that is used as time basis for archive data retrieval.

Archive Replay (cont.)

❖ Additional Configuration for Appearance

- Still in Section [Archive Replay]...
- Dialog:
 - bArchiveDialogTopMostWindow – Always on top
 - fArchiveDialogOpacity – Semi-Transparent dialog
- WaterMark
 - fArchiveWatermarkOpacity – Semi-Transparent (blended) watermark
 - fArchiveWatermarkSize – Font Size
 - ArchiveWatermarkString – String to be displayed
 - fShowWatermarkStyle
 - 0 – Display Only
 - 1 – Printer Only
 - 2 - Both

Archive Replay (cont.)

❖ Using Archive Replay

- Activate from new “Viewer” menu
- Viewer Checks to see if any open displays are enabled for Archive Replay View
 - Set “TRUE” by default in the Display Builder for 4.3 and later displays
 - Pre 4.3 displays defaulted depending on External Application settings
 - If no external application, display enabled for Archive Replay
 - If external application, display disabled
- Dialog allowing override of enable flags presented.

Archive Replay (cont.)

❖ Using Archive Replay (cont.)

- When activated, the Viewer fetches the initial archive data set for a time based on initial frequency and maximum datasets
- Use play/pause button to start or stop replay at the current frequency
- Use the drop-down list, or the arrow buttons to change the replay frequency or direction.
- Enter new replay start time to reset what the playback time should be
- Use the single-step button to step one time-frame while playback is pause
- Use dialog close button to exit Archive Replay Mode

Archive Replay (cont.)

❖ Archive Data Handling

- The initial fetch of data is frequency x max-datasets long, with the current time used as the endpoint. The current replay time is set 75% of this buffer length back from the current time
- As data plays, the current replay dataset is moved to match. When less than 10% of the buffer is left in replay, the buffer is moved till the current replay time is the buffer endpoint and a background thread is started to fetch data to refill the remaining buffer
- If the data replay frequency is changed to a courser frequency, the data buffer is compacted and a background thread started to refill the remaining buffer
- Any other change to the replay frequency, or manual setting of the replay time outside of the current buffer, will result in the replay pausing while a full buffer refetch is performed.

Pop-Up Windows

- ❖ New Option for displays – Pop-Up window
- ❖ If activated in new window (as opposed to replacing the current display in the window), will create a new frame that has it's own sizing, position etc.
- ❖ Useful as:
 - ❖ Pop-up trend, or other detail windows
 - ❖ Modal Dialog boxes
 - ❖ Pop-Up help displays for complex tasks

Pop-Up Windows (cont.)

- ❖ Can inherit \$LOCAL and \$STRING variables from the activating display
- ❖ Can be a “Child” window
 - ❖ Tied to parent – closes when parent closed, hidden when parent not active
- ❖ Can replace \$LOCAL and \$STRING variables that are used on display back to parent when pop-up is closed.
- ❖ Can have frame options configured – menu, title, etc.
- ❖ Can interact with parents external application

Action Lists

- ❖ New “Script-Like” addition to displays
- ❖ Allows multiple actions to be performed when the user clicks a button
- ❖ Special Action List names used to provide configuration control for displays
- ❖ Can be referenced by External Applications

Action Lists (cont.)

- ❖ Several different commands available
 - ❖ Set Default Server
 - ❖ Set Point Value
 - ❖ Activate Display
 - ❖ Send Function Code
 - ❖ Store Program Text
 - ❖ Run Action List
 - ❖ Load Group

Action Lists (cont.)

- ❖ Dialog for defining them in Display Builder, under the Options Menu. Not text entry, so cannot create invalid action lists
- ❖ Four special Action Lists that are auto-run at predefined times:
 - ❖ \$PRELOAD – Ran before display completes loading
 - ❖ \$AFTERLOAD – Ran after display is done loading
 - ❖ \$ACTIVATE – Ran when display becomes active
 - ❖ \$DEACTIVATE – Ran when display is closed or becomes inactive

Send Display Additions

- ❖ New Tree control for selecting receiving workstation
 - ❖ Multiple Levels within the tree
 - ❖ Service
 - ❖ Workstation
 - ❖ Alias (Optional)
 - ❖ Display
- ❖ Alias provided to aid multi-monitor workstation selection, or convert cryptic workstation names to human readable strings

Command Line INI file Override

- ❖ New command line option for Viewer that allows the INI file name to be used for initialization to be selected
 - ❖ Use for different configurations of multiple instances on same workstation (i.e. multi-monitor systems)
 - ❖ Use to have different start-up shortcuts that configure the Viewer for different plant/servers
- ❖ Does not affect Master INI files, only replaces the local INI file to be used. Will still check for override flags in the Master INI file if present.

Save/Load Environment

- ❖ New Options under the new Viewer menu
- ❖ Saves current state of the entire Viewer, all open displays, their settings (same as a Save User State), their position and sizing
- ❖ New option in INI file to load a saved environment on startup. Can be more useful than a list of startup displays (initial user entries are also loaded).

Local Archive Caching

- ❖ **Used to speed up a specific set of fixed trends, such as SPDS trends**
- ❖ Configuration includes:
 - ❖ Duration of local archive
 - ❖ Frequency of local archive
 - ❖ Points included in local archive
 - ❖ Whether the local archive should be filled at startup, database change, failover, etc., or just fill with data as it comes in
- ❖ If any client archive request can be completely fulfilled using the local archive data it is, else the request is sent to the appropriate server.
- ❖ New option to turn of trend progress bar, since requests processed by local caching are almost instantaneous

User Pop-Up Menu Additions

- ❖ User can now add additions to the right-click pop-up menu
 - Displays
 - “Point Programs” – Windows applications that will receive the selected entity’s point, the current security level, and user name as command line parameters
 - Point Notes
 - PMAX Apps
 - WinTag

Viewer 4.2/4.3 Little-known Additions

- ❖ Point Selection Dialog point suppression
 - Requires server version 12.1 or better
 - Points can be hidden for selected security levels

- ❖ Menu Command security
 - Each menu command has a security level to activate.
 - Especially useful for Send Display and Edit Function Key commands

Viewer 4.2/4.3 Little-known Additions (cont.)

- ❖ Point Notes
 - Allows two different (System and User) entries for each point in a database
 - Requires shared drive for information to be common across workstations
 - DDE compliant – drag Excel spreadsheets, Word documents, graphics, etc. into note.
 - Separate security allowed on the two entries
 - Point Program – can be set as right-click option for any entity.

Miscellaneous

- ❖ Open in New Window right-click on poke entities
- ❖ 32 Points on trends
- ❖ Up to 150 User menus supported