Software

MX4 SCADA and HMI – Version 6

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MX4 Version 6 – What's new?

Introduction

MX4 version 6.0 includes many new features and enhancements to existing functionality, described below.

Web Client

The MX4 Web Client allows you to view a live MX4 project within a Web browser. It provides easy access to MX4 Runtime for LAN-connected users requiring read/write access to current production information.

For example, a senior manager could monitor a facility and access current production information from any computer on the LAN. This is achieved without requiring extensive downloads or software installation.

True Colour Support

True Colour support allows MX4 users to create graphically rich display pages more easily by supporting a far greater number of colours than the 256-Colours available in previous releases.

True Colour is supported for all animation objects and static objects, including page backgrounds, imported images, symbols, metafiles, and bitmaps (with the exception of colour floods). The flash rate of flashing colours defaults to 1 second, and is user-configurable via an .ini file parameter.

Process Analyst

The MX4 Process Analyst Control is an ActiveX control designed to allow Operators to view trend data from a MX4 trend server, and alarm tag data from a MX4 alarm server. The Process Analyst provides a visual means to analyse and compare data (real-time and historical) in a more intuitive manner than MX4's previous trend viewer.

The Process Analyst offers the following functions:

- Allows a user to load and save views, jump backwards and forwards in time, select commonly used time spans, select a start time and end time, identify daylight savings transition periods, and auto scroll to view trend data in real-time.
- Allows you to save the state (that is, the "look and feel") of the Process Analyst as a view. You can also load other views created by other Users and Operators.
- The Object View enables extensive control over pens, as well as providing at-a-glance information about pens, such as colour, name, tag properties, current cursor value, and so on.
- Display all data in local time taking into account daylight savings periods. The Process Analyst control indicates daylight savings transitions on its axis and date/time pickers, and allows Operators to seamlessly navigate and view their data through daylight savings transitions.

- Allows you to create reports of alarm and trend views by providing a comprehensive set of printable information.
- A powerful programming model gives engineers and technicians extensive control over the look and behaviour of the Process Analyst through Cicode.

Symbol Library

MX4 version 6 includes an enhanced symbol library, which contains hundreds of symbols that are ready for you to use on your MX4 project's graphics pages.

Tag Validation

In previous versions of MX4, it was possible for renumbering of Object Identifiers to occur when a MX4 project was restored onto a different MX4 installation from that on which the project was backed up. It was also possible to generate different Object Identifiers from one MX4 machine to another. To address these issues, several enhancements have been made in MX4 v6.0 to provide automated tag validation for systems using tag-based drivers. These new features make it easier to ensure that a project configuration that uses tag-based drives is valid; these changes only apply to projects that use tag-based drivers.

The following enhancements have been made:

- Compiler - If a compilation is attempted on a machine with the MX4 runtime still active, the compilation will fail. The compilation will not be allowed to succeed until the MX4 runtime is shut down. This is done to avoid the situation where newly compiled files are not compatible with the current active loaded configuration in the MX4 runtime.
- Dynamic Tag Validation - When a MX4 client connects to a MX4 IOServer, the client validates all of the tags for the tag-based drivers with the IOServer. If there is a tag mismatch, the client will not communicate with the IOServer on the unit that contained the mismatching tag. All other units that do not contain mismatches will still communicate with that IOServer. If there is a mismatch and redundancy is configured, the MX4 client will attempt to locate a valid unit amongst the other redundant IOServers.
- Page Validation - All MX4 pages that use tags from a tag-based driver are checked on load up to ensure that they were compiled against the same variable tag database. If the variable tag database has changed, the page will not be opened and a hardware alarm will be generated. This avoids the situation where the tags on a newly compiled page could be incompatible with the current loaded active tag database in the MX4 runtime.
- Interoperation - A MX4 version 6.0 client will communicate with older MX4 IOServers, and older MX4 clients will communicate with a MX4 version 6.0 IOServer. However, in these circumstances tag validation will not occur.
- CtApi - The functions ctTagToPoint, ctPointRead, and ctPointWrite have been disabled for units using tag-based drivers. This has been done to avoid the situation where the tag configuration on the MX4 client is not compatible with the currently loaded tag configuration in the MX4 IOServer. The functions ctTagRead and ctTagWrite are still available for all types of tags.

Display Event Trends by Time

MX4 now provides the option to display event trends as periodic data on a trend graph. As an alternative to viewing event trend data by event number, it is now possible to see event trends across a timeline. When event trends are shown by time, the trend graph includes a start and end time and enables operators to see both the time of a triggered event, and the elapsed

period between events. This data can also be displayed on the same graph as a periodic trend.

Time Stamped Digital and Time Stamped Analog Alarms

Two new alarm types, time stamped digital and time stamped analog, have been added to MX4. These alarms combine the features of existing digital and analog alarms with a timestamp that records, with millisecond precision, the Alarm On time and Alarm Off time from a field device. These alarms are configured the same way as existing digital and analog alarms.

Custom Alarm Filters

Custom alarm filters provide a new means for filtering and displaying active alarms. Up to eight custom filter strings can be assigned to a configured alarm. In conjunction with a user-defined query function, the custom filters enable operators to identify and display active alarms of interest.

Long Variable and Trend Tag Names

Variable and trend tag names can now be up to 79 characters in length.

Long Alarm Fields

The Tag and Name fields for all configured alarms have been extended and can now be a maximum of 79 characters in length. The Description field has also been extended to allow a maximum of 127 characters.

Queue-based Backfill

Trend redundancy backfilling has been enhanced. It is now faster, more reliable, and configurable for backfill speed.

Updated Help

The MX4 Help has been extensively revised for the 6.0 release. These revisions include replacing most of the WinHelp-based (.hlp) Help with Microsoft HTML (.chm) Help, as well as documenting the new features described above.

Hardware requirements

You might have to upgrade your computer equipment to run Version 6, as the minimum hardware requirements have been increased.

Minimum hardware

- Windows NT 4.0 SP6 - Pentium 500MHz processor with 96MB of RAM.
- Windows NT Server Enterprise SP5 - Pentium 500MHz processor with 96MB of RAM.
- Windows NT Server 4.0 Terminal Server SP6 - Pentium 500MHz processor with 96MB of RAM.
- Windows 2000 Server SP3 - Pentium 500MHz processor with 128MB of RAM.
- Windows 2000 SP3 - Pentium 500MHz processor with 128MB of RAM.
- Windows XP - Pentium 500MHz processor with 128MB of RAM.
- Windows Server 2003 - Pentium 500MHz with 256MB of RAM.

Preferred hardware

- Windows NT 4.0 SP6 - Pentium 500MHz processor with 192MB of RAM.
- Windows NT Server Enterprise SP5 - Pentium 500MHz processor with 256MB of RAM.
- Windows NT Server 4.0 Terminal Server SP6 - Pentium 500MHz processor with 256MB of RAM.
- Windows 2000 Server SP3 - Pentium 1GHz processor with 512MB of RAM.
- Windows 2000 SP3 - Pentium 1GHz processor with 512MB of RAM.
- Windows XP - Pentium 1GHz processor with 512MB of RAM.
- Windows Server 2003 - Pentium 1GHz with 512MB of RAM.

Note: If you are using the Process Analyst, we recommend that you use a graphics card with at least 64MB of VRAM and do not share VRAM with main memory.

Software requirements

Version 6.0 runs on Windows XP Service Pack 1, Windows 2000 Service Pack 3, Windows NT 4.0 Service Pack 6, and Windows NT Server (Enterprise Edition Service Pack 5 and Terminal Server Service Pack 6). Windows 2003 Server support is expected to work but is not yet fully tested.

Note: The Process Analyst and the MX4 Web Server do not run on Windows NT. Also, you must use Internet Explorer version 6.0 or above if using the Process Analyst, MX4 Web Client, or MX4 Web Server.