Update 6 - Detailed Release Notes

Complete list of features, improvements and corrections in FrameworX 10.1 Update 6 (version 10.1.6), by product area.

Update 6 installs side by side with 10.1.5, in its own installation folder. Moving your solutions to 10.1.6 is strongly recommended: this version brings important advances in connectivity, security, redundancy, displays and the AI tools that make the move worthwhile. Your 10.1.5 installation stays in place and available as a fallback while you migrate.

FrameworX 10.1 Update 6, October 15, 2026

Version: 10.1.6. Summary: Update 6.

AI, MCP and automation

- **AI Chat calls the solution's read-only custom MCP tools.** Works in Windows and Multiplatform solutions, and the audit trail records each call with the operator's user name. See ChatSession Control Reference.
- **AI Chat adds Clear and Compress conversation actions and follows the display theme.** Available on the Rich Client and the web client (HTML5). See ChatClear Action Reference.
- **AI Chat traffic of a solution can go out through one designated runtime server.** The model endpoint and its credentials stay on one server, and AI calls from server-side scripts still go directly to the endpoint. See Local AI Configuration Reference.
- **AI Designer drives the script debugger: breakpoints, stepping, call stack and local variables.** The runtime of the solution must be running. See AI Designer Connector.
- **AI tools create connectors between display elements by naming the two elements.** Applies to Canvas displays, and moving a connected element with the arrow keys now carries its connector end along. See AI Designer Connector.
- **The AI Runtime connector connects to the runtime you point it at.** Point the connector at a runtime at launch, or name the solution and profile when connecting. See AI Runtime Connector.
- **Solution imports and AI writes apply the values of built-in alarm groups and device access types.** Review the values of those built-in rows in files you import.
- **Adding tags through AI Designer keeps the Designer responsive on large solutions.**
- **Device point addresses written through the AI tools use the compact form of the protocol, and expression times use an accepted time form.** A tag created through the AI tools without a Visibility value is created as Protected and is published over OPC UA and other protocols.
- **AI sessions manage the objects whose Category has the MCP flag.** Enable the flag in Solution Categories for the objects an AI session should manage.
- **AI Runtime alarm-history queries take a time range and filters.** Update prompts or automation that passed SQL text to use those parameters. See AI Runtime Connector.
- **Chat actions on displays write their reply to the Return Value tag and run their Expressions rows.** Review chat actions that have a Return Value tag or Expressions rows. AI Chat also continues a conversation when conversation memory is on. See ChatRequest Action Reference.
- **The FrameworX File Access extension works in AI clients that check tool output schemas.** Install the extension again from this version and restart the AI client. See MCP and Claude Setup.
- **MCP-over-HTTP servers accept only same-computer connections until an API key is configured.** To connect from another computer, set an API key in the server settings and enter the same key in the client. See MCP and Claude Setup.
- **AI guidance files are read from the product installation folder.** Move any custom guidance file from the shared AI folder to the installation folder.
- **Displays built with AI Designer come out as requested.** Tag and object bindings are checked at write time, and symbols, chart ranges, item lists, layouts, code-behind and images are kept as written.
- **AI Designer collapses and expands the display editor side panels.** The canvas uses the full width while an AI session draws, and the panels reopen on request.
- **AI-built displays show compact # placeholders for expression captions in the Designer.** Buttons, labels and menu items keep a clean design view, and runtime captions are unchanged.

Displays and Symbols

- **Eight new chart controls cover operations, OEE and quality displays.** Heatmap, Pareto, waterfall, bullet graph, sparkline, histogram, SPC control chart and funnel run on the Rich Client and the web client and bind to tags or a table. See HeatMapChart Control Reference, ParetoChart Control Reference, WaterfallChart Control Reference, BulletChart Control Reference, SparklineChart Control Reference, HistogramChart Control Reference, ControlChart Control Reference and FunnelChart Control Reference.
- **Radar chart compares several measurements, each on its own axis and scale.** An optional second series outlines a target or limit, and the chart renders the same in the Rich Client and the web client. See RadarChart Control Reference.
- **Sankey chart renders in the web client as well as the Rich Client.** Existing displays keep their Sankey settings, and a node with no color draws in the chart's standard colors. See SankeyChart Control Reference.
- **Embedded displays accept parameters, and each instance keeps its own values.** Parameter values are literals or tag references, on the Rich Client and the web client. See ChildDisplay Control Reference.
- **TextBlock has a text alignment setting: Left, Center, Right or Justify.** It renders on the Rich Client and the web client, and Left stays the default. See TextBlock Control Reference.
- **PieChartPlus can print each slice value on the slice.** At runtime the chart also draws the rows of its linked data table, on the Rich Client and the web client. See PieChartPlus Control Reference.
- **TrendChart limit bands and X-axis label rotation work in the web client.** Scripts and bindings can read and set these properties at runtime through the client TrendChart object. See TrendChart Control Reference.
- **Holding Shift while resizing an element in the display editor keeps its proportions.** It applies to corner and side handles, including rotated and flipped elements. See Keyboard Shortcuts Reference.

- **Color threshold rules accept named theme colors.** Fill, line and text colors driven by thresholds follow the active theme on the Rich Client and the web client.
- **Trend Chart and Drilling Chart stay responsive in the Rich Client with a large alarm history.** Overlapping alarm markers merge into one marker with a count, and a pen that shares its name with a tag in a folder shows its own markers.
- **Display parameters work with numeric tag values inside OR, AND and XOR conditions.**
- **Startup display opening code and Display Action expressions inside Symbols now run.** Review that code and those expressions before upgrading. A RunExpressions write also updates the tag Quality, and expressions that read object values with the toolkit data methods refresh at runtime.
- **Displays with Symbols render charts and color dynamics correctly on first open.** This covers a TrendChart beside a Symbol, Group color dynamics beside a library-linked Symbol, and elements bound to a tag Quality.
- **Date and time pickers keep their popup open when the on-screen keyboard is enabled.** Picks follow write permission, the Min/Max range and electronic signature, and each change is written and audited once.
- **TabControl and Carousel update the tag bound to Selected Index when the tab changes.** A tab list driven by a text tag rebuilds on each display open with exactly one set of tabs.
- **ComboBox Reload refreshes the item list in place, and RadioButton selection resets its group.** In the web client, the ComboBox selected text is vertically centered at any control height. See ComboBox Control Reference.
- **LinearGauge draws its content and labels inside the control at narrow widths.** In the web client, scale numbers on the left or top stay inside the gauge and clear of the tick marks.
- **Connector ends follow their elements when resized, rotated, flipped or moved as a group.** The Designer also stays open when a ChildDisplay links to the display that contains it.
- **PushButtons release the pressed look after navigation, and scaled elements keep their size on Shine hover.** The shaded area behind a dialog follows the page on screen, and copying a dynamic keeps every method expression.
- **Asset Tree control filters show the full subtree below a match.** This applies to Initial Branch, Branch Filter and Attribute Filter on the Rich Client and the web client.
- **PieChartPlus takes each slice color from a color column in its data table.** Colors accept the common notations, and a pie chart and a bar chart reading the same column show each category in the same color.
- **The Draw editor shows the display type chosen at creation: Portable, WPF or HTML5.**
- **The runtime trace names the display and element of an expression that needs attention, including on displays opened with a parameter.**

HTML5 and web client

- **Web client URLs carry the display name and its parameter values.** A filtered view can be bookmarked or shared as a link, and display security applies to every link. See Desktop, Web and Mobile Clients.
- **Web client Trend Chart pen grids open a pen settings editor and color picker.** Clicking a pen in the chart legend shows or hides that pen.
- **Web client releases memory when displays with charts, grids, gauges and maps close.** Remaining grids and charts keep responding to resize and shortcuts, and the Knowledge Graph control renders in the web client.
- **Web client Trend Charts honor legend placement and scripted duration on first open.** Trend and Drilling Charts stay visible after Fullscreen and restore, and draw once their library files finish loading.
- **Web client popups with a Resize border pass clicks to their controls and resize both ways.** Mouse position handling is corrected across the web client, including dragging, double-click detection and release actions on touch screens.
- **Alarm Viewer Export to CSV downloads a file in the web client.** The file matches the grid, including rows, sort order, visible columns, filters and grouping.
- **A Tag Reference returns the current source value on its first read in the web client.**
- **The web client loads Windows-only solutions reliably across server configurations.**

Mobile client

- **The iPhone and iPad app shows alarm notifications, including when the app is closed.** It notifies the highest-priority active alarm once per activation. See Mobile App.
- **Press-and-release buttons work with touch in the web client and the Android app.** The press action runs on touch, the release action runs on lift, and a repeat action repeats while the finger stays down.
- **Mobile alarm checks handle alarm messages that contain quotes or line breaks.**

Unified Namespace, ontology and knowledge graph

- **Runtime follows the Reference target set for each UserType instance.** The Asset Tree adds a Set Reference Target action, and editing a Reference member opens the reference target editor and applies to that member. See Knowledge Graph How-to.
- **Per-instance start values can be set on members of nested UserTypes.** A dot-separated path addresses the nested member, and each instance keeps its own values.
- **Ontology import reports list every subject and containment parent that needs attention.**
- **RDF export writes every tag instance and the asset tree in all four graph formats.** An ontology import and export round trip keeps names, values, dates and relationship targets. See Export your UNS to RDF/OWL/GraphDB.
- **Asset tree imports keep every folder under the right parent, in any row order.** A re-import keeps the existing hierarchy in place, and an ambiguous parent name is reported for review.
- **Updates and edits reach the right asset folder when folders share a name.** Top-level folders created by AI tools or imports resolve by full path everywhere, and each top-level folder name stays unique.
- **Asset tree import validates folder names and names any folder that needs a new name.** With replace on, the Designer Output panel names each existing folder the import did not update.
- **UserType member Descriptions are set on the UserType and shared by every instance.** To annotate one instance, use the Description of the instance tag. Start Value, Minimum, Maximum, Disable, Display Text and Enumeration remain overridable per instance. See EngWrapper API Reference.

Devices and protocols

- **A Kafka Producer connector streams tag values to Apache Kafka clusters with no middleware.** Runs on Windows x64 servers with the .NET Framework or .NET 10 runtime, over plain or SASL_SSL connections. See Kafka Producer Connector.
- **A Kafka Consumer connector reads Apache Kafka topics into FrameworX tags.** Each point takes a whole message or one JSON field, on Windows x64 servers with the .NET Framework 4.8 or .NET 10 runtime. See Kafka Consumer Connector.
- **The CODESYS PLC Handler driver includes a built-in simulator that needs no controller or network.** The OPC UA server simulator also scales to about 8,000 variables and can drop and restore its connection on a schedule. See Codesys PLC Handler Connector.
- **OPC UA nodes in Devices > Nodes have an Import Tags action.** The importer opens connected with the node settings, and imported tags and points are created on that same node. See OPC UA Client Connector.
- **Modbus master channels rebuild only the changed device node on an online configuration change.** The other devices on the channel keep communicating, and every other driver still restarts the whole channel. See Modbus Master Connector.
- **Device channels limit pending writes and send forced and normal writes of a point in order.** Above 100,000 queued writes on a channel, a new write to a point replaces its waiting value, so runtime memory stays bounded. See Devices Channels Reference.
- **The OPC UA client Default certificate offers a selectable key size and hash algorithm.** Nodes can connect to servers whose only security policy is Basic256Sha256. See OPC UA Client Connector.
- **New Siemens channels use Siemens S7 Plus, and SorbaAI is offered as a UNS Tag Provider.** Existing legacy Siemens S7 channels keep working, and the Device channel catalog lists the connectors that run as channels. See Siemens S7 Devices Legacy Connector.
- **The OPC UA Server publishes a tag and an asset folder that share the same name.** The server also starts cleanly, and the Designer points out such a pair when it is created. See OPC UA Server Connector.
- **Large OPC UA configurations of about 8,000 points run with stable CPU and memory.** Every point receives its current value after a reconnection, and reconnection attempts to an unreachable server back off to about 30 seconds. See OPC UA Client Connector.
- **The OPC UA Client marks tags Uncertain when a subscription goes silent, then recovers the subscription.** Applies when the server sends no data and no keep-alive for about 15 seconds. Review scripts, alarms and displays that react to tag quality on OPC UA Client nodes. See OPC UA Client Connector.
- **Tag Providers routed through a gateway server connect, browse and write values.** The gateway machine runs FrameworX 10.1.6 with the .NET Framework gateway service. See UNS TagProvider Services Reference.
- **The CODESYS PLC Handler Tag Provider imports and browses large tag trees without stalling.** Every tag of a runtime polling batch reports its value. See Codesys PLC Handler Connector.
- **Report Out Of Range By Exception works on MQTT Sparkplug B publisher connections.** A value is published only while it is outside the tag scale range, on MQTT Sparkplug B publisher and AWS IoT Core connections.
- **The Built-in MQTT Broker publishes folder tags and Decimal tags correctly in Sparkplug B.** Folder tags update on the Asset device declared in their birth certificate, so Sparkplug B consumers that read them from the Tag device should be updated. Decimal tags publish as Double metrics.
- **Modbus master validates each Point when the connection is prepared, and Test applies the Point modifiers.** A Point that needs a correction is reported by address while the other Points on the connection keep running. See Modbus Master Connector.
- **Tags keep updating when a device reading in the same request is not-a-number or infinite.** OPC UA Client read polling and NI LabVIEW Data Sockets apply tag scaling once. Review scaled tags on these connectors if the solution compensated for double scaling.
- **ControlLogix and Siemens S7 Plus tag imports create counter UserTypes and STRING tags correctly.** Applies to counters inside a user-defined structure imported from the controller, and ControlLogix file import accepts a path that contains a semicolon.
- **The Mitsubishi MELSEC FX Ethernet Connector reads and writes every supported device with the correct address.** Device channels on this connector and on the LabView connector start, and FX3U-ENET and FX3U-ENET-ADP modules are supported. See Mitsubishi MELSEC FX Ethernet Connector.
- **Device nodes report backup, failover and redundancy status correctly.** A node with no backup partner reports redundancy as disabled, and Server-to-Server Connector points show the source quality when a Backup Station is configured.
- **The Value Simulator RAMP function starts at its minimum and stays within its maximum.** A point address with a decimal or non-numeric Min, Max or Step is flagged as invalid. See Value Simulator Connector.
- **The SQL Database Normalized connector connects to password-protected databases, including PostgreSQL.** It uses the password stored on its station, as the station editor writes it. A station typed by hand with the password in the UserName field should move it to the Password field.
- **The .NET Framework 4.8 remote device process connects to its server and reconnects automatically.** Automatic reconnection applies to a process started by hand.
- **The Siemens S7-1200 and S7-1500 Symbolic Connector reads and writes PLC variables by their TIA Portal symbol.** Tags in optimized data blocks work with no DB number or byte offset, PUT/GET stays off on the PLC, and the connection uses secure PG/HMI communication over TLS 1.3. Requires S7-1500 firmware V2.9 or later or S7-1200 firmware V4.5 or later, with a TIA Portal V17 or later project.
- **The ControlLogix Simulator runs a ControlLogix channel with no PLC, for demos, training and testing.** Start it from Devices > Channels. The tag list, value generators and write rules come from an editable configuration file, and it listens on the local machine by default.
- **ControlLogix connector reliability options are available through Tatsoft support.** They report a refused controller connection, bring the ControlLogix Tag Provider to the .NET 10 runtime, show the right text on partially configured STRING arrays and report write status on Micro850 controllers.

Alarms, Historian and redundancy

- **Alarm notifications can be sent to a webhook or an MQTT broker.** Events are buffered while the endpoint is unreachable and are re-sent automatically, including after a runtime restart. See Alarms Notifications Reference.
- **Redundancy recovers Alarm and Tag Historian records from the standby server into the active server.** Closes the history gap left after a role switch, for the history streams selected for replication in the Execution Profile. See Redundancy Reference.
- **Redundant pairs on PostgreSQL or TimescaleDB keep history replication current on large compressed databases.** Replication resumes without a runtime restart after a database outage, restart, read-only period or dropped connection. See Redundancy Reference.
- **The Alarms module starts faster on solutions with many alarm items.** With server redundancy, a tag StartValue, Enumeration and Labels written at runtime also reach the standby server.
- **Both servers of a redundant pair use the same port, and the Designer enforces it.** Solutions saved with different ports are reported in the Output window when the solution opens. See Redundancy Reference.
- **The Designer warns when the same tag is configured in more than one Historian table.** At runtime only the first configured table stores the tag values. See Historian Tables Reference.
- **MachineHMI solutions run hot-standby redundancy.** A primary and standby pair engages and fails over the same way it does on Enterprise. See Redundancy Reference.
- **A redundant pair stays redundant after a solution update is pushed to the standby server.** After a failover, Hot Reload also refreshes tag Descriptions to the values defined in engineering. See Redundancy Reference.
- **Alarm notifications and alarm counts stay correct after online configuration changes.** Alarm areas and groups created while the solution runs start normally.

- **Alarm history loads every record of a large batch and keeps quoted filter column names.** Applies to the Alarm Viewer, Trend Chart and Drilling Chart, including with the Alarm Historian on TimescaleDB.
- **Historian readers return the stored sample quality on PostgreSQL historian tables.** Applies to REST history, CSV export, trend and drilling charts, the Data Access API and script toolkit history reads.
- **Aggregated history requests return buckets computed from the stored samples.** Applies to the script toolkit, REST API and AI Runtime tools, and each bucket reports when the historian sample limit truncated it.
- **Historian table CSV export includes every tag and the whole selected period, under the correct headers.** Normalized table exports drop the extra number that preceded the tag values in each row.
- **The Tag Historian stores data on MySQL databases and on MongoDB Tag Providers.** The Alarm Historian also archives on MySQL, and MongoDB numeric samples are stored as text in this release.
- **The Audit Trail records MCP custom tool calls when the MCP Custom Tools option is enabled.** The option is off after an upgrade. See Alarms Global Settings Reference.
- **The Alarm Viewer acknowledge key acknowledges the first unacknowledged alarm when no row is selected.** Available on the desktop client.
- **Undo after deleting an Alarm Group leaves the alarm items in place.**
- **Solution updates pushed to the standby server download from the partner's Web Services port (default 10108).**

Designer and data

- **A Merge plugin import lists the objects that differ and lets you choose which to replace.** Covers tags, displays, images, script classes, script tasks, and reports, on plugin import and plugin update. See Solution Import Plugin Reference.
- **Solution Center and the Designer start in the Windows display language when a matching translation exists.** A language selected in Solution Center or the Designer is kept, including after upgrades. See Multi-Language UI Localization.
- **The display editor stays responsive when dragging, nudging, zooming, and selecting in large displays.** Covers connected polylines, Dashboard displays, and selections of thousands of elements.
- **Large displays, the symbol library, and the Component toolbox load without blocking the Designer.** Display save is faster after drawing-only changes.
- **Tag autocomplete navigates the tag hierarchy one folder level at a time.** Applies to the tag field of display properties and to the C# and VB.NET script editors, where Tab or Enter inserts the selected tag.
- **The display editor tag panel filter finds matching tags in folders that were never opened.** While the solution runs, tag rows in an opened folder show their live values.
- **Configuration tabs open faster, and large grids stay responsive while searching and editing.** Applies to the Tags, UNS Assets, Services Monitor, Alarm Areas, and Data Servers tabs and to the tag and device point grids.
- **The Designer reports a lost connection to a remote solution server right away.** The current action stops at once, and the message closes by itself when the connection returns.
- **The Asset Tree keeps open folders and the selection when it reloads.** Applies to changes made outside the tree, such as a tag edited in the grid or an import.
- **Edit Combined Rows sets a common station address for Device Nodes on different Channels.** The Channels must use the same protocol.
- **Esc, mouse-wheel scrolling, and the navigation sidebar respond consistently in the Designer.** Esc cancels the active dialog and closes dropdown lists, pickers, and autocomplete suggestions, and keeps unsaved work.
- **Imports keep skipped displays and symbols unchanged, and a multi-file import asks to skip or replace.** The answer applies to every file in the import, and Cancel leaves the solution unchanged.
- **Imported objects keep their links, build cleanly, and stay unique across repeated imports.** Covers solution JSON imports, Import Solution, Merge plugin imports, and AI Designer bulk writes.
- **JSON export follows the Auto-save preference, and Version Control Export writes every selected table.** Create JSON files also writes displays upgraded from version 9.2 and names any object that needs attention.
- **Designer and Solution Center menus and messages appear in the selected language.** Covers the Edit menus, the code editor menus, and messages that stayed in English, and Solution Center applies the selected language on every open. See Multi-Language UI Localization.
- **Dialogs and file pickers open in front of Designer and Solution Center popups.** Popups move, minimize, and restore with their main window and stay in step with the rest of the desktop.
- **The Data Servers page shows the current status, profile, endpoint, and port of each server.** The Built-in MQTT Broker settings dialog saves the SSL protocol option correctly, so the broker opens its port.
- **Designer grids, monitor views, and status texts stay in sync with configuration and runtime changes.** Covers the Channels grid, the Datasets DBs list, runtime monitor views, and the UNS Services Monitor.
- **Help links, F1, and built-in reference texts point to current pages and existing members.** On Devices > Channels and Devices > Protocols, help opens the page of the selected connector.
- **New solutions start with an empty Solution History instead of the template's build history.** Displays in the AlarmsTrendLayout, HeaderLayout, and WideScreenLayout templates use C# with asynchronous code-behind methods.
- **The Designer stays stable when switching chart types, packing a solution, and browsing tag providers.** Opening the Code Editor from an empty new row opens an existing script and creates nothing.
- **Editors opened in a separate window release their resources when closed.** A closed display editor is also released from memory.
- **Find References reports the object of the current page after you switch grid pages.**
- **OleDb database providers work on the .NET 10 runtime on Windows.** OleDb remains a Windows-only technology.
- **The Import Tags page offers a Migration Assessment for applications coming from other HMI and SCADA platforms.** Tatsoft migrates the complete application, starting with a free evaluation, and the page layout is clearer.
- **Tag imports from another SCADA platform's export bring each tag with its data type, description, alarms and history settings.**

Scripts

- **The script debugger attaches to solutions running on the Multiplatform (.NET 10) runtime.** Available on Windows x64, with the Designer and the runtime on the same computer. See Code Editor Reference.
- **Scripted AI calls support Anthropic Claude models in addition to OpenAI-compatible endpoints.** See AI.Execute API Reference.
- **Global namespace declarations set once in Solution Settings apply to the scripts of the solution.** See Solution Settings Reference.
- **Ctrl+click on a class, method, or namespace member in the script editors opens its definition.** Ctrl+S saves, and Esc closes open dialogs.
- **Scripts resolve a UNS folder ID to its asset path, and back, with one Toolkit call.**
- **The script debugger steps through Tasks and Classes, updates watches, and detaches cleanly.** Local debugging covers Windows (.NET Framework) solutions, with breakpoints, call stack, and local values.

- **Client scripts keep reaching server Script Classes under load, after failed calls, and after idle periods.** The failed-call correction applies to the Rich Client, and configuration tables are read from a client cache.
- **A Toolkit preload call with a property list loads only those properties of non-tag objects.** This reduces memory use in solutions with many alarm items.
- **IntelliSense lists only members that compile for the client the code targets.** VB.NET code lists Tag and Script members, and internal-only Toolkit methods are hidden.
- **Script compile errors name a missing tag path once and appear in separate editor windows.** The single missing-tag error applies to C# scripts.
- **TClipboard gives CodeBehind and client scripts one clipboard API for the desktop and web clients.** SetTextAsync, GetTextAsync and ContainsTextAsync compile and run on both clients.
- **The script debugger opens a DataRow in the data viewer, with its columns, values and table name.** The viewer stays within the screen.

Security and access

- **Operators sign in to runtime clients through SAML 2.0 identity providers.** Applies to the Rich Client and the web client (HTML5), and excludes encrypted assertions, single logout and sign-in started from the provider's portal. See Security Identity Providers Reference.
- **Administrators can reveal and copy a stored secret value from the Security Secrets editor.** Each reveal is recorded in the solution history. See Security Secrets Reference.
- **External sign-in applies the permission groups of the matching solution user.** Group claims from the identity provider apply to users outside the solution's user list. Review the permission groups of solution users who sign in through an external identity provider. See Security Identity Providers Reference.
- **Identity-provider groups with spaces in their names map to permission groups named with underscores.** The Designer validates permission group names as they are typed. See Security Permissions Reference.
- **Active Directory (LDAP) sign-in grants permissions from directory groups, as in version 9.2.** Directory users outside the solution's user list sign in, and group mapping requires the runtime to run as a service on a domain computer or under a domain account. See Security Identity Providers Reference.
- **Rich Client and Smart Client connect with Windows Authentication from the generated command line and URL.** The Runtime Startup page offers the Windows Authentication options only when the execution profile uses it, and TLS on the Windows Authentication port is optional. See Runtime Startup Reference.
- **Sign-in uses the Guest user's security policy when a user's own policy cannot be found.** Check the trace for missing-policy warnings after upgrading, and assign an existing security policy to each user named there. See Security Policies Reference.
- **Runtime users can be created and maintained when the runtime users database is PostgreSQL.** See Security Runtime Users Reference.
- **The WITSML service accepts user name and password sign-ins with a valid password.**
- **The Runtime API requires a signed-in session or a bearer token linked to a user, and enforces each tag's Read and Write Security.** Update custom Runtime API callers to sign in through the Runtime API or use a bearer token linked to a user. See Runtime REST API Reference.
- **Stored passwords and secrets stay on the runtime server.** Clients on other computers receive these values masked, so client-side scripts that read them from the configuration tables should move that logic to the server. Remote device channels keep receiving the secrets their connection settings use.
- **Electronic signatures and alarm acknowledgment comments always check the password.** On clients connected with Windows authentication, operators sign with their Windows password, using accounts from the server's domain.
- **Designer grids show stored passwords and secrets masked.** To read a stored value, use the administrator reveal action in the Security Secrets editor. See Security Secrets Reference.
- **Sessions relayed through a Secure Gateway with Windows authentication use the user's own identity and groups.** Review the permissions of Windows users who reach the runtime through a Secure Gateway, and optionally list the accepted gateway accounts in the server settings. See SecureGateway Services Reference.
- **FrameworX services read their start configuration from the protected installation folder.** Move start settings and custom .NET 10 database provider registrations from the shared settings folder to the installation folder, and turn on AutoStart in Solution Center for each solution that must start.
- **Remote file, process and service requests between FrameworX computers use allowed folders and programs, with a configurable size limit.** Add each folder used for remote solution loading or file transfer to the allowed folders in the machine settings.
- **On operator clients, the audit trail records every electronic-signature outcome: accepted, refused or canceled.**
- **Dataset filters and queries treat values from tags and from the signed-in user strictly as data.** Test Dataset queries and table filters after upgrading. Where a value closes quotes on purpose, move the quotes from the query into the value.
- **The SolutionCenter API is available for administrators who enable it.** It is turned on in SolutionCenterApi-Settings.json in the installation folder, serves network callers over TLS or runs in local-only mode, and keeps its setting across product updates.
- **Desktop clients opened with Windows Authentication follow the user's permissions for the Windows taskbar.** Users allowed to switch applications keep the taskbar, and restricted users get the locked desktop.

Runtime and platform

- **The runtime publishes server performance counters on a secured REST API endpoint.** See Runtime REST API Reference.
- **FxResourceMonitor records CPU and memory of every FrameworX runtime process on Windows.** The diagnostic tool runs independently of the runtime, logs process starts and exits, and summarizes growth, high CPU and crashes in a report. See FxResourceMonitor Reference.
- **The runtime REST API publishes an OpenAPI document and supports authenticated cross-origin browser calls.** Login responses state when the session expires, and tag history returns stored values for tags in normalized historian tables. See Runtime REST API Reference.
- **Runtime diagnostics and System Monitor values work on .NET 10 runtimes on Windows, Linux and macOS.** The diagnostics file adds FrameworX process trends and TCP connections and is generated in about one second. See Runtime Diagnostics Reference.
- **A runtime licensed from a remote license server tolerates outages of about 300 minutes.** Runtimes with a local license behave as before.
- **Opening a solution from an earlier version always saves a backup copy before the upgrade.** Solution Center shows an Upgrade action for a solution whose upgrade prompt was declined. See Upgrading Solutions Reference.
- **Operators see the license expiration warning only in the final week before expiration.** Earlier notices and maintenance-plan expirations go to the server event log, and the warning shows the product name as its title.
- **Clients connected through the Secure Gateway finish loading the solution.** The service opens each listener on its own port. See SecureGateway Services Reference.
- **Startup tools report unrecognized launch parameters and why a .NET 10 runtime component failed to launch.** The launch failure reason is written to the Startup log when Save log is enabled for the profile. See Runtime Startup Reference.

- **The Tatsoft.FrameworX PowerShell module is installed with the product.** It imports on Windows PowerShell 5.1 and PowerShell 7. See Tatsoft.FrameworX PowerShell Module Reference.
- **Designer, Solution Center and runtime clients reconnect after a lost server connection without a restart.** The .NET Framework edition of the TWebServices gateway releases Tag Provider connection memory when a connection closes or times out.
- **A forced write updates a tag's Previous Value and Timestamp, including when the value is unchanged.** Digital tags raise an event on a Device read or normal write only when the value or quality changes, and store 0 or 1.
- **On Linux and Docker, a Windows-target solution gets a clear message with the step that moves it to Multiplatform.** On Linux and macOS, a runtime started from a terminal stops in order on Ctrl+C or when the terminal closes. See Linux Deployment Reference.
- **Solution Center Start runs a solution as a Windows Service when it is configured as one.** Administrators can remove the runtime Windows service from the command line, with clear status reporting.
- **Module start problems are reported clearly as Cannot Start Module, and the runtime keeps running.** Value updates on the client continue throughout.
- **Historian, Dataset and Device modules keep normal operation through every online configuration change.** The Module Information window updates as soon as the in-process Devices module stops or restarts.
- **The continuous runtime trace file is a valid tab-delimited file.** Trace output stays on when an unrecognized client changes trace settings, and Device Points mapped in two channels raise no repeated warnings.
- **Saving a database connection, device node or tag provider at runtime keeps its base connection settings.** Applies when the solution runs on an execution profile that overrides the connection.
- **The built-in MQTT broker keeps running on .NET 10 solutions.**
- **A computer with teamed network adapters keeps its activated license across restarts.**
- **Reconnecting client stations receive the current tag values from the server.** Tags keep their values, quality and timestamps through client reconnections and online configuration changes, so alarms and device writes follow real process changes. Applies when every Smart Client and Rich Client runs this release.
- **FxResourceMonitor also runs on Linux and macOS with the .NET 10 runtime.** It records machine and process CPU and memory, follows process starts and exits, and registers to start at boot as a systemd service or a launchd daemon.

Good To Know Changes

These changes need no action. They are listed so you know what to expect on 10.1.6.

New Behavior	Notes
The AI tools use the documentation content installed with the product and start without an online update check.	
In the C# and VB.NET script editors, Tab or Enter inserts a tag found by name in autocomplete, and a period or a space keeps typing.	
Designer and Solution Center popups move, minimize, and restore with their main window, in step with other applications.	
Four connectors appear under new names: MES CoreM Connector (was LineMonitor Connector), Mitsubishi MELSEC FX Ethernet Connector, NI Labview Data Sockets Read-Only Connector, and SCPI Protocol Connector.	Existing channels and tag providers keep working without changes.
Two MachineHMI servers configured for redundancy run as an active and standby pair instead of both fully active.	The standby server pauses alarm, historian and device processing and refuses client connections until it takes over.
A Device channel with more than 100,000 pending writes delivers only the latest value of each point.	The limit can be changed in the machine settings, as described in Devices Channels Reference.
When a display script adds pens to a TrendChart and calls Refresh, the chart resolves them and its time window returns to live.	

Compatibility and Lifecycle

- Update 6 installs side by side with 10.1.5. Both versions run on the same computer, and you open each solution from Solution Center.
- Upgrade steps: Legacy Versions Upgrade, Managing Updates and Multiple Versions Reference and Install and Activate.
- Earlier updates: Release Notes. Support phases and end-of-support dates: Product Lifecycle and End of Support.

Security Note

This release contains security corrections and hardening. For per-item detail (affected versions, severity, required action) and the component manifest (CycloneDX) of your version, contact **support@tatsoft.com**.
