

Update 5 (Preview)



DRAFT — work in progress (2026-05-10). This page is being refreshed from the 10.1.5 development log and is not yet final. Specification may change. Features may be added or removed before the final release.

This is the upcoming update for FrameworkX version 10.1. Scheduled release: May 15, 2026. Version 10.1.5 (build TBD).

[Release Notes](#) [Update 5 \(Preview\)](#)

Latest Update

Module	Description
Local AI - Platform Service	Local AI is now a first-class platform service. New Local AI tile on the Data Servers page (alongside OPC Server, DataHub, MQTT Broker, AI MCP) with a structured configuration dialog (URL, Model, Authorization, Auth Value, Headers) and a live reachability indicator (Reachable / Unreachable / Invalid URL / Auth required). Preconfigured for <code>qwen2.5:7b-instruct</code> against a local Ollama endpoint at <code>http://localhost:11434/v1/chat/completions</code> . A new installer script detects Ollama, installs it if needed, and pulls the model. New <i>Local AI - First Install Walkthrough</i> page on docs.tatsoft.com.
UNS - Industrial Ontology	The Unified Namespace is now industrial-ontology-aware. UserTypes, Tags, and member definitions carry semantic metadata fields for display text, labels, and ontology source links. New Designer importer reads RDF/OWL files into UserTypes and Tags. Solution Export tab exports the UNS in RDF/JSON, JSON-LD, Turtle, or N-Triples (W3C RDF formats) or in FrameworkX-native multi-file JSON. One-click Relationship Graph button on the Asset Tree produces shareable Mermaid visual reports. <i>Note: importer in 10.1.5 reads RDF/JSON only; JSON-LD / Turtle / N-Triples readers ship in a follow-up release.</i>
MCP / AI Integration	The Designer is now drivable from any MCP client. AI assistants can browse the full object model, read and write any Designer object, rename or delete objects, capture screenshots, run import wizards, search the UNS, search documentation, and generate visual reports. A new <code>set_object_value</code> tool lets an authoring session write directly into the live runtime Object Model, closing the design-and-test loop in a single conversation. Solution-creation wizards are now MCP-driven via <code>list_wizard_options</code> and <code>pick_wizard_variant</code> . Concurrent Designer instances are supported. ConsoleMCP ships as a file-based JSON workspace surface (no live Designer required), with both stdio and HTTP transport variants. The HTTP transport now uses a standard <code>/mcp</code> endpoint path. Auto-logout when opening or creating a solution. Multi-version routing for older solution files.
Designer - AI Tutor	Structured learning experience built into the Designer. Three-tier curriculum (Essentials, Professional, Expert) covering fundamentals through advanced topics, with persistent per-user progress tracking, a first-run nudge, and tier-completion certificates (Associate / Professional / Expert).
Web APIs / Data Explorer	New WebData module unifies external API consumption: REST clients with full verb support (GET, POST, PUT, DELETE, PATCH), GraphQL queries, and MCP client access from inside the FrameworkX runtime — call other MCP servers from Scripts, Tasks, or Displays. New WebData Tools tab in the Data Explorer (Designer) with schema-aware editors and per-row contextual actions for live testing.
Datasets / Protocol - Historian - MongoDB Integration	MongoDB ships as a native, fully-integrated platform connector with four roles in a single driver: Device protocol for direct collection reads/writes, UNS TagProvider for dynamic tag population, Historian StorageLocation for time-series storage, and Dataset provider with SQL-subset query support and JSON directives.
Devices / TagProvider / Historian - QuestDB Time-Series Integration	QuestDB ships as a native time-series platform connector with three roles in a single driver: Device protocol for direct table column reads/writes, UNS TagProvider for dynamic tag population (column-type-aware), and Historian StorageLocation for high-throughput append-style time-series storage via ILP/HTTP. SQL Dataset queries against historized data work natively through the existing PostgreSQL Dataset Provider with the <code>Server Compatibility Mode=NoTypeLoading</code> flag - no separate QuestDB Dataset Provider entry is needed. Runtime requires the .NET 10 host for the ILP write path; the .NET Framework 4.8 host can read via PostgreSQL wire but cannot perform ILP writes (the official <code>net-questdb-client</code> SDK targets .NET 6+ only).
Import Wizards - Tag Import from GIS and CAD	Complete import wizard family. GIS File Tag Importer (GeoJSON, Shapefile, KML/KMZ). AutoCAD File Tag Importer (DXF, DWG). GIS /CAD Display Generator turns import sources into native Display geometry — lines, circles, polylines, and polygons rendered as native Display shapes, with both Canvas mode and Map mode (hierarchical tag binding). Re-platformed JSON Import / Export round-trip handles nested UDTs, BaseType inheritance, and a stable headless mode. Wizards are drivable step-by-step from MCP. Improved import dialog default size, progress-bar correctness, and Asset Tree folder creation for hierarchical tag patterns.

Datasets - Visual Query Editor	New embedded Visual Query Editor in the Datasets page: drag-and-drop tables, joins, columns, and filters with full Designer theming. Covers the most common query shapes against any Dataset DB connection.
Displays - Enhancements	TRadialGauge : new unified portable gauge control — a single control replaces three legacy circular gauges; portable across WPF and HTML5. Four presets (Full / SemiCircle / CenterValue / BandedRange) and tag-driven range boundaries. Legacy controls remain available. Display Connectors : restored with full clipboard, undo, and delete support. Display Legends : position, move, context menu, and HasLegend property. Electrical components : runtime pipeline for power elements; v9.2 colors mapped to Enumerations. TWebBrowser : new property to enable browser local storage; browser compatibility fix; SVG rendering fixes (URL-encoded colors, missing viewBox). Faster Display open in Designer. MaxLength field now configurable in the Designer for TTextBlock. Semantic metadata from UNS tags (display text, labels, descriptions, ontology source) is now reachable from LinkedValue bindings on UserType-typed tags. TPdfViewer (HTML5) : Uri-based resourceUrl resolution for mobile and OpenSilver targets.
Displays - Trend Chart	LoadXY method now matches the asynchronous API behavior across WPF and HTML5. Online quality gap rendering parity in WPF and HTML5 — the chart correctly shows data gaps when adjacent point quality changes to Undefined. Trend Plugin : pen unit settings now persist after navigating away and returning.
Platform - .NET 10 Runtime	First release where the runtime ships on .NET 10 . Runtime executables, Web Contents, and Designer Web target .NET 10. Designer remains on .NET Framework 4.8. Reports module saves PDF / XPS / HTML on .NET 10 deployments. PropertyWatch , TraceWindow , and ModuleInformation toolbar tools launch correctly on .NET 10. System Monitor CPU and memory visualizers report private-working-set values across both runtimes.
Solution Center / Utilities - Enterprise IT Readiness	TServer /health and /ready HTTP endpoints (Kubernetes-compatible liveness/readiness probes). TWebServices /health endpoint on the .NET 10 host. UpgradeSolution.exe — command-line solution upgrader for legacy 10.1.4 solutions, with named-backup preservation, failure-safety (original untouched on failure), and a clickable log link in the Upgrade Concluded dialog. TManageServices — script-friendly Windows Service install/uninstall CLI with standard exit codes and silent mode. New IT Deployment Runbook documentation hub on docs.tatsoft.com (install, configure, monitor, update).
Solution Center / Designer - Multi-Language UI	UI localization for Solution Center and Designer, with regenerated translation files across the full UI surface.
Security - Identity Providers (OIDC)	New OIDC / OAuth2 identity-provider integration for enterprise Single Sign-On with Keycloak , Auth0 , Microsoft Entra ID , and login.gov . Includes runtime LDAP dispatch, dedicated edit dialogs per provider type, and industry-standard JWT validation (RFC 8725). <i>The SSO entry-point UI button is gated to a 10.1.5.x point release alongside auth-flow initiation.</i>
Security - Other	Session.AutoLogOff now honors the DurationHours setting. EditSecurity popup functional with built-in lock state. EditSecurity admin-only popup no longer re-opens on a second click. Corrected error message when EditSecurity permissions are insufficient. TPasswordBox : fix for cleartext leak when the ControlTemplate failed to apply; cursor preservation on mid-string edits; binding adapter for tag write-back.
HTML5 / Web Client	DataGrid columns persist after navigation in HTML5 WebClient. HTML5 client with Blazor elements loads on mobile browsers. SSL/TLS URLs without a trailing slash now connect correctly. DateTimePicker calendar/clock popup no longer clipped by parent ChildDisplay. TWebBrowser SVG rendering fixes.
Mobile - iOS / Android	First iOS Camera integration: QR/barcode scanning and photo-capture primitives for the Mobile FX Client, exposed to user scripts via ClientSession.
Reports	Save as PDF / XPS / HTML on .NET 10 deployments. Text / Unicode / ASCII report export now preserves table content (was empty in some configurations). Alarm Linear Gauge added.
Scripts	Email & SMS demo runs on a clean install — required libraries are now bundled by default for OAuth2 SMTP against Gmail and Microsoft 365 (no separate download). Script Tasks no longer raise a false "Namespace must be declared in this script" error when the solution contains a namespace class. Resolved a spurious "type not found" compiler error when scripts reference Script Class types. Improved script-reference IntelliSense when editing remotely. New TK.ApplyImageBytesToShape helper lets Display scripts apply an in-memory image (camera capture, dynamically generated content) to a Shape's fill at runtime.
Designer - Other Improvements	Update Notification : <i>Check for Latest Update</i> link surface and new About page in Solution Center. Importer dialog default size no longer clips content. Generate Displays progress bar updates during generation. Display/Images export : 20-image silent cap removed; per-image progress to the Output Window; explicit skip notice replaces silent break on missing contents row. DBServer "Solution file not found" error now names the missing path. Config DataGrid placeholder text guides the user to finalize row editing. Tag path references inside text expressions update correctly when a tag is renamed. Cross Reference looks for tag name (not user type) when navigating. Polyline rotation clockwise no longer collapses dimensions. Image flip no longer raises a null reference exception. Debug artifacts (PDB, source files) removed from disk when DebugInformation is disabled. Service icons restored in Connected Server / Add Services panel. Designer remote-server indicator when editing via ProjectServer. Display navigation : button clicks during display load are now properly handled. OnlineConfiguration exceptions in TraceWindow corrected. Find Results control fixes. Dataset Queries rows now preserve multiline SQL across copy-paste. SolutionCreator workspace import accepts raw JSON shapes; ProductVersion stamp; ghost-folders fix.

Symbols / Library	Symbol library renaming rules and Library1015 pipe-library cleanup (orphan symbols cleaned, renamed, descriptions added). Predefined sidebar shapes now use unified alias handling. Symbol-rotation null reference on Image flip fixed.
Runtime / Devices / Protocols	MongoDB triple-role connector (see above). Connection stability improvements to avoid TCP exhaustion. ControlLogix : byte-swap correctness; tag import past 1,000 tags completes reliably; new <code>ForceCIPLittleEndian</code> option per Point; Program-scope tag communication via CIP two-segment encoding. OPC UA Server : UDT members marked Private are no longer published; importer no longer freezes Designer; Host Override field on OPC UA Client. MQTT : TLS 1.1 / 1.2 connection; SparkplugB Pub Point Address documentation correction. Phoenix : SSL/TLS certificate enforcement dialog completion (FR-02 click handler restored, FR-04 validation polish). DNP3 : log path is now configurable. PI Server : import wrong-tree fix. Byte Swap for SLC/PLC5 over TCP/IP. DataHub : cross-pen value duplication fix when quality changes. Channel-level disable setting no longer affects other channels. TwinCAT : stale handle cache cleared on reconnect. Historian / Alarm / Device enable preserves AssetTree path for nested tags. System Monitor memory metrics aligned across .NET 4.8 and .NET 10.
Documentation	New IT Deployment Runbook hub. New AI Tutor end-user docs hub. New Industrial Ontology Integration How-to. New AutoCAD / GIS Tag Importer pages. New Local AI - First Install Walkthrough . New MongoDB Database Connector reference. New QuestDB Time-Series Database Connector reference. New Predefined Script Tasks - Client Lifecycle Matrix .

Known Issues

Item	Description	Workaround
Industrial Ontology import — non-RDF/JSON formats	Importer in 10.1.5 reads RDF/JSON only. JSON-LD, Turtle, and N-Triples readers ship in a follow-up release backed by dotNetRDF.	Use RDF/JSON for import. Export supports all four formats.
OpenSilver / OPC-UA on .NET 10 (provisional — pending verification)	OpenSilver and OPC-UA library compatibility on .NET 10 verification is still in progress for some HTML5 rendering scenarios.	Continue using the .NET 8 build for affected HTML5 deployments if issues are observed; targeted for the first 10.1.5.x patch.

This page is maintained as a draft and will be finalized as **Update 5** at GA release.