

DATASHEET

AVEVA™ Edge

SCADA and HMI from edge to enterprise

Choosing the right version of AVEVA Edge 2020 R2 SP1

- **AVEVA Edge Studio** – design once, deploy anywhere.
- **AVEVA™ Edge 2020 R2 SP1** offers an Integrated Development Environment (IDE) that can be deployed to any runtime edition of AVEVA Edge.
- **AVEVA™ Edge SCADA** – The full Microsoft Windows based runtime offers all the tools you need for advanced SCADA applications.
- **AVEVA™ Edge HMI** – AVEVA Edge for embedded systems such as Microsoft's Windows Embedded operating systems. The small footprint makes AVEVA Edge HMI ideal for embedded and edge machines.
- **AVEVA™ Edge Compact HMI** – Compact HMI is designed especially for Microsoft Windows CE operating systems.
- **AVEVA™ Edge IoT View** – IoT View is designed for Linux devices and enables edge computing on even small devices such as a Raspberry Pi.



Enhancements in AVEVA Edge 2020 R2 SP1

AVEVA Edge 2020 R2 SP1 builds on the previous enhancements to the product in the 2020 R2 version and adds further capabilities and flexibility.

New drivers added:

- EcoStruxure™ Machine Advisor (Schneider Electric) Driver for Windows (AVEVA Edge SCADA) and AVEVA Edge IoT View
- Emerson ROC for Windows (SCADA runtime) and IoT View

Enhancements to the AVEVA Edge Mobile Access thin client:

- Additional support for built-in scripting functions:
 - FileCopy
 - FileDelete
 - InfoAppAlrDir
 - InfoAppHstDir
 - InfoDiskFree
 - GetUserState
 - SetAppAlarmPath
 - SetAppHstPath
 - DeleteOlderFiles
 - ForceTagChange
 - BlockUser
 - UnblockUser
- Rotate and scale text using the integrated development environment of AVEVA Edge.
- New support for an OPC UA Client worksheet “screen” scan mode for tags.

AVEVA Industrial Graphics enhancements:

- Use two instances of AVEVA Industrial Graphics simultaneously for System Platform 2020 R2 SP1 and AVEVA Edge 2020 R2 SP1

AVEVA Edge IoT View enhancements:

- Performance improvements
- Trend decimation support
- Trend dead band property for signal conditioning
- AVEVA historian (on Premises) support
- Remote agent improvements
- Support for the “only newer files option” to install system files and download projects
- Improved reliability of project downloads
- LDAP support
- Lockout when login limits are exceeded
- Added options to automatically install and configure either Lighttpd or NGINX (update install.sh)

General enhancements:

- Customer response and cybersecurity improvements
- Security LDAP/AD usability enhancements
- New function; OPCUABrowseToJSON (Viewer and MA)

Domain (LDAP) security mode updates:

AVEVA Edge 2020 R2 SP1 replaces the existing Domain (LDAP) security mode with a new Local Plus Domain (LDAP) security mode, which changes how local groups and users are combined with domain groups and users. We improved the overall usability and performance of the mode. This includes the following:

- Support for AVEVA Edge IoT View
- Ability to configure addresses for multiple domain servers
- Options to automatically import groups and users from the domain server
- Option not to verify the domain server's SSL certificate, which can make configuration and testing easier
- Support for default user that matches the Default Rights Permission.
- Improved user interface that is more responsive and better organized
- Improved run-time stability

AVEVA™ Edge features

(in alphabetical order for convenience)

Alarms: Send online alarms or reports using multi-media formats like PDF. Alarms are real-time and historical; log data in text file format or to any database. Use remote notification to send alarms right to your inbox, printer, or smartphone. Custom alarm fields allow you to customize up to ten additional fields to the alarm history.

Animation: Take command over graphics in a user-friendly and intuitive interface. Paste images, and even rotate dynamically using custom rotation points. Fill bar graphs with color or adjust the scale of objects with easy-to-use configuration. Other animations include “command” (for touch, keyboard, and mouse interaction), hyperlink, text data link, color, resize, transparency/visibility, and position.

Business intelligence: Log data directly to AVEVA Insight¹.

Cloud: Natively connect with the AVEVA cloud to take advantage of tools like AVEVA Insight¹ or Edge Management Services to get a holistic view of your business. Pair edge devices running AVEVA Edge to

the cloud and remotely monitor health and status or update applications.

Database: Connect to any SQL database (Microsoft SQL, MySQL, Sybase, Oracle), Microsoft Access, Excel, or ERP/MES systems (including SAP), even from Microsoft Windows Embedded Compact Edition. The flexible built-in interface doesn't require knowledge of SQL. A patented solution allows for communication with SQL and relational databases running on any supported platform.

Drivers: Use over 250 native communication drivers for PLCs, temperature controllers, motion controllers, bar code/2D/RFID readers, and many other devices. Use native drivers, connect to an OPC server, or use AVEVA driver toolkits to build your own drivers. Save time with comprehensive tag integration for PLCs. Drivers are included for Modbus, MQTT Sparkplug B, Allen Bradley, Siemens, Mitsubishi, Omron, Schneider-Electric, and many others.

Email: Send email (with attachments) or text messages that can be accessed from mobile devices. Get real-time information on alarms, process values, and other events. Full runtime supports SSL encryption.

Events: Ensure traceability for operator-initiated actions or internal system activities. Log events such as security system changes (user logon or logoff), screen open/close, recipe/report operations, system warnings, and any tag value changes, including custom messages.

FDA traceability: Take advantage of built-in functionality to create 21 CFR part 11 compliant projects with traceability and e-signatures. These features are often used for pharmaceutical and food applications but can be used for any application where traceability is a requirement.

FTP: Automatically upload or download files during runtime to or from remote storage locations using the FTP protocol and flexible scripting functions. Configure FTP via scripting or the included interface.

Graphics and design tools: Create screens to meet any application requirement using the tools in our graphic interface. Combine over 1,000 animated objects to create any functionality required. Store graphics in the library for future use and easily give projects across an entire product line a consistent look and feel.

Historian: AVEVA has optimized trend history, featuring data decimation designed to load millions of values from SQL relational databases. Easy to use tools provide quick access to statistical process control (SPC) values without any need for programming. AVEVA™ Edge offers add-on integration with the Wonderware Historian and support for AVEVA Insight.¹

IoT View: IoT View is a platform agnostic runtime for Linux and other embedded platforms. Make intelligent embedded systems and add your machines to the Internet of Things, Industrial Internet of Things (IIoT) and Industrie 4.0.

Import wizards: Convert whole applications from FactoryTalk™ ME/SE, PanelMate™, or PanelBuilder™ 32. Save time in conversion from a previously designed application to an AVEVA Edge application.¹

Industrial graphics: An additional graphics editor provides new tools and additional graphics and libraries. Extensive animations, situational awareness, style management, and symbol import/export are all included.

Intellectual property protection: Protect your intellectual property with just a few clicks of your mouse. Password protect individual screens, documents, scripts, and worksheets. This prevents unauthorized viewing or editing of your project or application.

JavaScript custom widgets: Custom Widgets integrate third party, reusable JavaScript, HTML5, and CSS interfaces properties and events to expand and enhance the graphical interface. Includes custom widgets such as pie chart, tree view, calendar, image list and web browser, or create your own.

Mobile access: This thin client allows you to access your graphical interface from any device with a browser that supports HTML5, such as iPads, iPhones, Android devices, Windows devices, and others. AVEVA™ Edge now includes support for all native objects and allows you to integrate third party web-based controls.

Multi-language: Develop your application in one of many development languages, including English, Portuguese, German, French, Polish, Russian, Chinese (traditional and simplified), Japanese, and Spanish, or use external translation tools to switch the runtime to any language. AVEVA™ Edge offers automatic font replacement based on the language selected.



Multi-touch interface: Develop applications for touch screen devices. AVEVA InTouch Edge HMI's multi-touch interface allows development for any touch-screen enabled device. Use familiar, modern interface gestures, like pinch zooming and panning. Scroll through alarms using swiping gestures; inertia in the multi-touch interface offers a comfortable user experience. Rotate graphics, dock screens, and take advantage of features like dual-touch command. Use swipe gestures to change screens or other commands.

NET and ActiveX: Use third-party controls to enhance your project. AVEVA™ Edge is a container for .NET and ActiveX controls, allowing you to add functionality such as browsers, media players, charting, live streaming from cameras, and other ActiveX or .NET controls.

OEM: AVEVA™ Edge can be customized for OEMs who want to offer pre-installed HMI or SCADA software on their hardware, or for OEMs who want to add value to their machines by offering remote monitoring, maintenance, or customizable applications.

OPC: AVEVA™ Edge provides native OPC interfaces, such as OPC UA (Client/Server), OPC DA (Client/Server), OPC XML (Client), and OPC HDA (Server). OPC UA and OPC DA also offers native redundancy configuration and tag integration for OPC DA and OPC UA Servers.

PDF export: Send alarms, reports, text files, or Microsoft Word documents in Portable Document Format (PDF) to a production supervisor, quality manager, or maintenance worker using the included PDF writer.

Recipes: Save time and maintain consistency by automating part parameters or production quantities with flexible recipe management tools. Options include loading directly to PLC or editing before committing to PLC.

Redundancy: For critical applications where data is vital, AVEVA™ Edge supports web server, database, and overall system redundancy to protect your information.

Reports: Create clear, concise reports in plain text, RTF, XML, PDF, HTML, and CSV or integrate with Microsoft Office programs such as Excel. Get the data you need, in the format you need it, to make informed decisions, fast. AVEVA has also partnered with Ocean Data Systems to offer further reporting capabilities through AVEVA Reports for AVEVA Edge¹.

Scalable: Use the same development environment to design and deploy projects to a wide range of platforms, such as Linux, Windows Embedded, Windows CE, Windows 8.1, Windows 10, Server 2012 R2, Server 2016, and Server 2019 editions. (See Tech. Ref. for more details)

Scheduler: Schedule application behavior triggered by tag changes, date/time, frequency, or any trigger. Use this for simulation, to trigger reports or other functionality at a time of day, or even to trigger driver worksheets to read/write at a scan rate you choose.

Scripting: AVEVA Edge supports several powerful scripting languages: built-in AVEVA Edge functions and standard VBScript. Take advantage of widely available resources for VBScript. Both the native AVEVA scripting language and VBScript can be used simultaneously to give you the functionality you need, even from thin clients. Script debugging tools for the native VBScript editor include break-points and a variable watch list to improve scripting productivity. Included with Industrial Graphics is the flexible and powerful Quick-Script language.

Security: AVEVA™ Edge includes support for group and user accounts, e-signatures, and traceability. Integrate your project to the active directory (users and groups).

Standards: Use common standards to develop applications that are compatible with TCP/IP, .NET, ActiveX, OPC (client and server), ADO/ODBC, COM/DCOM, OLE, DDE, XML, SOAP, REST, and HTML5.

Symbols: The included native graphics library features push buttons, pilot lights, tanks, sliders, meters, motors, pipes, valves, and other common objects. Use the 1,000+ included symbols in your project, modify existing symbols to suit your needs, or create your own from scratch. AVEVA™ Edge supports third-party symbol libraries and graphic tools. Industrial Graphics adds additional symbol libraries including situational awareness graphics to make it efficient and easy to understand what is happening.

Templates: AVEVA™ Edge has many templates and sample applications available including: andon, digital OEE, PackML, and business intelligence.

Tag database: AVEVA™ Edge features an object-oriented database with boolean, integer, real, strings, arrays, classes (structures), indirect tags and included system tags. Built-in functions allow you to create, delete, or modify the tags database settings during the runtime. This feature increases the flexibility to design generic templates that can be easily customized to each project, even during the runtime. AVEVA™ Edge also offers tag integration from a wide range of PLCs, including Schneider Electric.

Trends: AVEVA™ Edge supports real-time and historical trends, as well as SPC functionality. Log data in binary format, to any local or remote SQL database, or to AVEVA Historian or AVEVA Insight. Color or fill trends with graphic elements to enhance clarity of data. Date/Time based or numeric (X/Y plot) trends give you the flexibility to display information that best suits your application. AVEVA™ Edge supports vertical and horizontal trending.

Troubleshooting: Quickly debug and verify a project using local and remote tools for troubleshooting, including status fields, HTML5 based Database Spy for IoT View, Watch Window, and LogWin. Capture screen open and close times, see communications in real time, messages related to OPC, recipes/reports, security, database errors, and even custom messages. Finish your project quickly using these powerful tools.

XML screen toolkit: Modify or create screens during the runtime or import screens that you've created¹.



AVEVA Edge® 2020 R2 SP1 is a comprehensive platform that includes all the tools you need to make SCADA and HMI applications that have real power behind them. The environment allows you to develop once and deploy anywhere. AVEVA™ Edge supports all Windows runtime platforms (including 32 and 64 bit), including Windows Embedded Compact, Windows Embedded Standard, Windows 8.1/10, and Windows Server Editions (Server 2012R2/2016/2019), along with built-in support for local or remote (web) based visualization. AVEVA™ Edge also offers a runtime edition (IoT View) available for Linux and other embedded platforms.

Build powerful graphical displays and take advantage of the 250+ available communication drivers for all major PLC products. AVEVA™ Edge includes OPC UA and OPC Classic (HDA and DA), trends, alarms, reports, recipes, and built-in SQL database support as standard features. Not all features supported on all platforms.

¹Additional purchase required

For more information about AVEVA Edge, visit:
aveva.com/en/products/edge/

