

The TRIDIUM logo is positioned vertically on the left side of the page. It features the word "TRIDIUM" in a bold, blue, sans-serif font. The letter "I" is replaced by a red exclamation point. Above the logo, there are two grey squares and a series of small grey squares along the top edge of the page.

TRIDIUM®



Software Frameworks
Open Modular Platforms
Automation Infrastructure Technology
Device-to-Enterprise Integration

solutions GUIDE

Tridium is the global leader in software frameworks, open modular platforms, automation infrastructure technology and device-to-enterprise integration solutions.

Our technologies extend connectivity, integration and interoperability to the millions of devices deployed in the market today and empower manufacturers to develop intelligent equipment systems and smart devices that enable collaboration and communication between the enterprise and edge assets.

Our customers are manufacturers, systems integrators and end-users worldwide involved in the Building Automation, Security, Industrial, Residential, Energy, Telecom, M2M and Medical industries who embrace our technology to develop smart devices, connect machines-to-machines and deliver pervasive automation solutions.

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Frameworks

Tridium's software frameworks are used to develop device-to-enterprise applications, Internet-enabled products and automation solutions. A software framework is a universal, reusable software platform used to develop applications, products and solutions. Software frameworks include support programs, compilers, code libraries, scripting language, an application programming interface (API) and tool sets that bring together all the different components to enable development of a project or solution. Using software frameworks facilitates the development process and offers multiple benefits including:

- Shorter design cycles
- Speed to market; faster time-to-value
- Lower costs
- Minimized risk
- Ease of adoption
- A more efficient process for development
- Comprehensive tool set
- Ability to design technically and philosophically to any specification
- Creates more features and functionality
- Increases product quality
- Uses fewer resources
- Greater customer satisfaction
- Leverages existing ecosystem



Niagara^{AX} Framework®

Niagara^{AX} resolves the challenges associated with open systems, integration and interoperability by integrating diverse systems and devices — regardless of manufacturer, or communication protocol — into a unified platform that is easily managed and controlled over the Internet. A scalable solution, Niagara^{AX} increases the functionality and value of “smart devices and systems” by connecting real-time operational data to the people and systems that manage business enterprises.

Sedona Framework™

The Sedona Framework™ is an open source development framework that provides a complete software platform for developing, deploying, integrating and managing pervasive device applications at the lowest level. The Sedona Framework distributes decision making control and manageability to any device and brings intelligence and connectivity to the network edge and back.

The Sedona Framework allows manufacturers to quickly and easily build their own device-to-Internet applications rather than having to build their own applications or use the complex and difficult embedded programming tools that exist today.





Software

Software



NPM


The Niagara NPM is a compact, embedded controller server platform that combines integrated control, supervision, data logging, alarming, scheduling and network management functions with Internet connectivity and Web serving capabilities. The NPM-600 is designed for OEMs to develop and market custom control devices in a variety of applications.



Software



SEDONA CHIP



The Sedona chip uses a Jennic module and is designed for the most restrictive communications both wired and wireless. It seamlessly incorporates a MS/TP trunk into the 802.15.4 pan and runs 6LoWPAN over 802.15.4 over MS/TP. The serial links become high quality 802.15.4 routes within the mesh and allows every device that has the chip embedded into it to have its own Internet address.

Software



AX SUPERVISOR®

The AX Supervisor® is a flexible network server used in applications where multiple Niagara^{AX} based controllers will be networked together. The AX Supervisor serves real-time graphical information displays to standard Web-browser clients and provides server-level functions such as centralized data logging, archiving, alarming, real-time graphical displays, master scheduling, system-wide database management and integration with enterprise software applications. It is available for Windows XP, Linux, 64-bit Windows and as a small building version.

The AX Supervisor also includes a comprehensive, graphical engineering toolset for application development.



Software



AX SOFTJACE®

Complete real-time control, dynamic graphics and multi-protocol integration capabilities of the Niagara^{AX} Framework on the hardware of your choice.

The AX SoftJACE® makes it easy to address unique application needs such as rack mounting, extended temperature ranges and industrial packaging in a Windows environment.

The SoftJACE provides all of the capabilities of a programmable controller, multi-protocol adapter, network manager, Web server (with optional Web User Interface), data logger and alarm system in a single software solution. The AX SoftJACE communicates with external devices utilizing Ethernet-based protocols, and currently supports the industry's most common standard protocols: OPC, BACnet IP, Modbus TCP, oBIX, XML and SNMP.



Automation & Control

Automation & Control



JACE[®]-2 CONTROLLER

Ideal for smaller facilities, remote sites and for distributing control and monitoring throughout large facilities. Optional input/output modules can be plugged in for applications where local control is required. Supports a wide range of field busses for connection to remote I/O and standalone controllers.



64 MB RAM/64 MB Flash, (2) 10/100 MB Ethernet ports, (1) RS-485 serial port, (1) RS-232 serial port, NDIO port and (2) communication card option slots. Standard features include Niagara station and Web User Interface. Standard drivers include oBIX Client/Server and Niagara Network (Fox) Client/Server. The JACE[®]-2 is designed for DIN rail mounting.

Automation & Control



JACE[®]-6 CONTROLLER

The JACE[®]-6 serves data and rich graphical displays to a standard Web browser via an Ethernet LAN or remotely over the Internet or dial-up modem. In larger facilities, multi-building applications and large-scale control system integrations Niagara^{AX} Supervisor software can be used to aggregate information (real-time data, history, alarms, etc.) from large numbers of JACEs into a single unified application.

The unit supports a wide range of field busses for connection to remote I/O and standalone controllers. Optional input/output modules can be plugged in for applications where local control is required.

128 MB RAM/128 MB Flash, (2)10/100 MB Ethernet ports, (1) RS-485 serial port, (1) RS-232 serial port, NDIO port and (2) communication card option slots. Standard features include Niagara station and Web User Interface. Standard drivers include oBIX Client/Server and Niagara Network (Fox) Client/Server. The JACE[®]-6 is designed for DIN rail mounting.



Automation & Control



JACE[®]-5R-AX CONTROLLER

A rack-mounted solution specifically designed for commercial and data center applications, the JACE[®]-5R-AX is ideally suited for users who require a compact controller that can be 19-inch rack or wall mounted. A single JACE-5R-AX controller supports a network of devices via the LONWORKS[®] port, or through the four RS-485 ports or the two RS-232 ports with the appropriate protocol driver. The JACE-5R-AX can integrate a combination of LON[®], Modbus[®], BACnet[®] or legacy devices with the appropriate optional drivers.



256 MB Ram/128 MB Flash, 10/100 MB Ethernet port, (2) RS-232 serial port, (4) RS-485 isolated ports, (1) LONWORKS FTT 10 port (supports maximum of 124 devices subject to memory constraints, driver must be purchased separately). Standard features include Niagara station and Web User Interface. Requires Niagara^{AX} 3.2 or higher.

Automation & Control



JACE[®]-202-XPR CONTROLLER

An embedded controller/server platform designed for remote monitoring and control applications. The unit combines integrated control, supervision, data logging, alarming scheduling and network management functions, integrated I/O and optional GPRS modem connectivity with Internet connectivity and Web serving capabilities.

IBM Power PC platform @ 250MHz, 128 MB SDRAM and 64 MB Serial flash, 128 KB Static RAM, (2) 10/100 MB Ethernet ports, (1) RS-232 Port, (1) RS-485 non-isolated port, (1) socket for optional communications card, (1) socket for optional GPRS modem, onboard 16 point I/O.



Automation & Control



JACE®-NXS CONTROLLER

The JACE®-NXS is ideally suited for integration, monitoring and control in commercial and light industrial installations. It has greater computing power with 512 MB RAM standard, 1 GB Flash drive, optional hard drive and a 650 MHz Celeron processor in a fanless cabinet.

JACE-NXS-AX-FL has no moving parts which provide increased reliability. The JACE-NXS-AX-FL includes an integral UPS. This superior computing and processing power make it ideal for installations where large amounts of archives and graphics are required. Because it has a PC processor platform with hard disk and is offered with either full or embedded Microsoft™ Windows XP, the JACE-NXS is ideal for organizations whose IT policies dictate Microsoft products or when applications such as OPC require a Windows-based operating system.

Unit includes (1) 10/100 Ethernet port and (1) RS-232 port, (1) isolated RS-485 port, (1) FTT10 A LONWORKS interface, 650 MHz Celeron processor, 512 MB RAM, a 1 GB Flash drive, and also includes a UPS with universal input power supply (90 – 263 volts AC; 50/60 Hz.). Includes Windows XP embedded only. Requires AX Release 3.1 or higher. Standard features include Niagara station and Web User Interface. Standard drivers include oBIX Client/Server, Niagara Network (Fox) Client/Server and LON® over twisted pair.

Automation & Control



JACE[®]-870 CONTROLLER

The JACE[®]-870 is a panel mount embedded JACE with integral 10-inch touch screen display. The unit supports multiple independent applications such as building automation and security all on the same platform. The JACE-870 provides user interface functionality and JACE control functions in a complete package.

440Epx Power PC processor @ 667 MHz, 512 MB DDR-2 333 MHz RAM field upgradable to 1 GB, (1) GB NAND flash memory, (2) 1 GB Ethernet ports, (2) USB 2.0 ports, (1), RS-232 and (1) RS-485 port, PCI option slot for WiFi support for 802.11g, 10-inch 800 x 600 pixel color LCD.



Automation & Control



GPRS MODEM

The GPRS Modem option allows JACE®-2 and JACE®-6 controllers to communicate via cellular communications where connectivity to an Internet Service Provider (ISP) is unavailable or may not be practical. The GPRS Modem also allows these controllers to integrate with other system components via VPNs (Virtual Private Networks) for system expansion by combining LAN/WAN connectivity with cellular connectivity.

In addition, the GPRS Modem allows for quick deployment of a Niagara^{AX} solution in places previously not accessible and gives system integrators the ability to quickly provide temporary monitoring and alarming services, monitor critical control strategies on a temporary basis and instantly provide a controlled environment during construction, before the LAN/WAN is installed.



Security

Security

NIAGARA SECURITY

Niagara Security is an open architecture framework for security device manufacturers. Built on Niagara^{AX}, Niagara Security Solutions extend the intelligent building concept into the physical security management world with a comprehensive, open system that integrates all common building functions — environmental control, intrusion detection, access control, lighting and energy management systems.



Security



SECURITY JACE[®]-201

Connections for 2 Card Readers, 6 Supervised Inputs, 4 Form C Relay Outputs, and 3 Digital Inputs. Includes 128 MB RAM/64 MB Flash, (2) 10/100 MB Ethernet ports, (1) RS-485 serial port, (1) RS-232 serial port, and (2) communication card option slots. Contains removable screw terminal connectors and status indication LEDs. The Security JACE[®]-201 is designed for DIN rail mounting and supports up to 16 card readers, 2,500 personnel records and 5,000 transactional history records.



Security



SECURITY JACE®-601

Connections for 2 Card Readers, 6 Supervised Inputs, 4 Form C Relay Outputs, and 3 Digital Inputs. Includes 256 MB RAM/128 MB Flash, (2) 10/100 MB Ethernet ports, (1) RS-485 serial port, (1) RS-232 serial port and (2) communication card option slots. Contains removable screw terminal connectors and status indication LEDs. The Security JACE®-601 is designed for DIN rail mounting and supports up to 32 card readers, 10,000 personnel records, 50,000 transactional history records and security/BAS from single controller.



Security



REMOTE READER MODULE

Connections for 2 Card Readers, 4 Supervised Inputs,
2 Form C Relay Outputs and 2 Digital Inputs.
Contains removable screw terminal connectors
and status indication LEDs.



Security



NIAGARA VIDEO

Niagara Video provides seamless integration between today's building applications and digital video recorders, IP cameras, network video recorders, and video management solutions. Built on the Niagara Framework, Niagara Video can integrate with other security and video products to provide a complete building automation, card access and video monitoring system, or it can be used as a standalone system providing a video window that identifies an incident and notifies the proper personnel who can manage the response from anywhere. Niagara Video works with local and remote buildings equally as well.





Energy



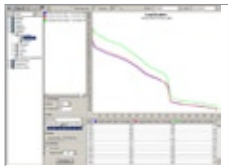
Energy



NIAGARA ENERGY

Niagara Energy is an intelligent, Web-based energy infrastructure that provides greater visibility into the energy consumption patterns of buildings, equipment and systems.

The solution is a flexible suite of applications that enable users to connect, monitor and gather up-to-date energy information. It includes tools to analyze and aggregate loads, benchmark facilities and determine how building characteristics such as size, equipment type, schedules and climate correlate with energy.





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