

Enterprise Security Technical Brief

General Overview

Tridium's Enterprise Security is a comprehensive access control and security management solution, built on a truly open, IP based platform. Developed using the Niagara^{AX} Framework, Enterprise Security provides unparalleled interoperability not only within traditional security environments, but also extending seamlessly to create a unified, intelligent building by integrating with today's diverse facility systems including environmental controls, lighting, energy management, fire and video.

With Niagara deployed worldwide, the core architecture of Enterprise Security is proven and designed to solve the complexities of integrating disparate systems in real world scenarios. Enterprise Security provides scalability ranging from single door solutions to multi-building/multi-campus deployments. Entirely accessible from any standard web browser, the solution provides flexible anytime, anywhere access into the system while liberating end users from dedicated client workstations in the traditional client /server model. Enterprise Security is open—open architecture, open framework, open distribution and support for open protocols.

By integrating today's diverse building systems such as environmental controls, security, lighting, energy, fire and video, the Niagara^{AX} Framework is creating better buildings—ones that are smarter, use less energy, are more efficient, have lower operating costs, are safer and contribute to a sustainable environment.

The Enterprise Security system is first and foremost a modular, highly scaleable security management and access control system, providing key functions as follows:

- Web based - easily managed via a standard browser
- Highly distributed architecture assuring high availability & reliability
- Enterprise-wide, single action credential management, zone assignment, PIN synchronization, and alarm notification
- Powerful, easy to use User tool kit featuring credential management, access zoning/assignment, user grouping, calendar functions and scheduling tools
- Flexible zoning allowing zone definition across any number of Security Controllers that provide for central zone alarming, alarm monitoring, and intrusion
- Graphical display providing real-time data on graphical floor plans, historical data, events in tables and customized reports
- On-demand, ad-hoc reporting for on-screen viewing of Historical data, alarm data or event tracking, exportable via PDF or CSV format
- Comprehensive occupancy restriction; occupancy counting
- Live, synchronized credential enrollment from connected card readers

- Simultaneous support for multiple access card formats
- Supports all Niagara Security Controllers
- Integrated video with bi-directional alarm trigger
- Elevator control
- Comprehensive diagnostics and provisioning tools for servicing Enterprise Security – available remotely as well as locally
- Supports open solution-connectivity via oBIX, BACnet, SNMP, Modbus, and other nonproprietary protocols and database connectivity to MS SQL Server and MySQL

Additionally, the Enterprise Security system is a full-fledged Niagara^{AX} application allowing integration with AX Supervisory products and third party Niagara^{AX} applications to create a unified, intelligent building by integrating with today's diverse facility systems including environmental controls, lighting, energy management, fire and video.

Key Features	Benefits
Web Services – Enterprise Security encompasses full featured Web servers capable of serving up full graphic web pages to common industry standard Browsers (Microsoft Internet Explorer, Mozilla Firefox, etc.)	<ul style="list-style-type: none"> • Unlimited user seats reduce cost compared to traditional “per seat” client applications • Users interface to control system in a familiar manner • Access from anywhere • Operational Efficiency – users can interface with control system via common Web interface devices (PDAs, Cell phones, public access computers)
Modular, highly scaleable, expandable system	<ul style="list-style-type: none"> • Saves cost by allowing you to buy only what you need today • Reduces cost to expand/upgrade • Futureproof - can easily expand as your business and security needs grow
Enterprise-wide, single action credential management, zone assignment, PIN synchronization, and alarm notification	<ul style="list-style-type: none"> • Reduces data input time • Assures consistency & security throughout system • Provides ability to instantaneously react to critical situations on an enterprise-wide, or any part thereof, basis
Centrally managed card holder & credential database	<ul style="list-style-type: none"> • Reduces set-up time • Assures consistency - reduces input errors - increases user satisfaction
Allows multiple access cards per person	<ul style="list-style-type: none"> • Provides flexibility to set-up system as required to meet business needs • Allows for multiple cards with common credentials for visitors & infrequent visitors • Minimizes data entry
Powerful, easy to use User tool kit featuring credential management, access zoning/assignment, user grouping, calendar functions and scheduling tools	<ul style="list-style-type: none"> • Reduces set-up time • Allows visualization of actions • Provides ability to easily reconfigure zones, schedules & user groups

Key Features	Benefits
Flexible zoning allowing zone definition across any number of Security Controllers that provide for central zone alarming, alarm monitoring, and intrusion detection	<ul style="list-style-type: none"> • Provides flexibility to set-up zones, access rights and alarm notifications any way needed to meet business requirements • Reduces need for users to carry multiple cards for access as they travel from site to site (or zone to zone)
Graphical display providing real-time data on graphical floor plans, historical data, events in tables and customized reports	<ul style="list-style-type: none"> • Allows customer to represent data any way they wish to meet business goals • Reduces system specific training costs • Facilitates quick look into system by non-expert users
On-demand, ad-hoc reporting for on-screen viewing of Historical data, alarm data or event tracking, exportable via PDF or CSV format	<ul style="list-style-type: none"> • Provides ability to easily investigate events, employee traffic, or false/nuisance alarms on a moments notice • Provides paper trail and links to other software applications
Live, synchronized credential enrollment from connected card readers	<ul style="list-style-type: none"> • Reduces new user credential set-up time • Provides flexibility to manage credentials at a convenient location (or at multiple locations)
Comprehensive occupancy restriction	<ul style="list-style-type: none"> • Protects data, inventory, or personnel from unauthorized access • Limits authorized access based on time, state or event
Occupancy Counting	<ul style="list-style-type: none"> • Enhances security by insuring all occupants have left designated critical areas • Provides useful data for environmental system interfaces
Simultaneous support for multiple access card formats	<ul style="list-style-type: none"> • Allows flexibility in choice of card manufacturers & technologies • Facilitates business expansion by adapting to acquired properties/systems
Comprehensive diagnostics and provisioning tools for servicing Enterprise Security – available remotely as well as locally	<ul style="list-style-type: none"> • Save time by troubleshooting issues quickly & conveniently • Facilitates remote troubleshooting – saves time, travel & money
All-in-one Controller option providing HVAC, Access Control & Video from single device	<ul style="list-style-type: none"> • Saves energy by providing tight local loop control • Saves energy with coordinated global control strategies • Reduces operating costs by managing subsystems automatically & systematically • Saves time & money by consolidating data • Easy to deploy and install

Key Features	Benefits
Integrated video with bi-directional alarm trigger	<ul style="list-style-type: none"> • Immediate event verification • Facilitates quick response, fast issue resolution • (Please review Niagara Video Product Release Kit for additional feature/benefit discussion)
Support for multiple manufacturers card readers, video devices and alarming devices	<ul style="list-style-type: none"> • Allows flexibility in choice of subsystem manufacturers & technologies • Facilitates business expansion by adapting to acquired properties/systems
Elevator Control	<ul style="list-style-type: none"> • Prevents unauthorized access to key areas • Captures elevators upon critical events to assure safety & security
Supports common industry standard communication protocols – BACnet®, LonWorks®, Modbus® and oBix® as well as select legacy protocols	<ul style="list-style-type: none"> • Provides flexibility to choose best products and best suppliers regardless of underlying technology • Reduces dependency on single supplier or installer • Facilitates open bid strategy
Supports database connectivity to MS SQL Server and MySQL.	<ul style="list-style-type: none"> • Facilitates integration with common business enterprise platforms • Allows users to export data into their business operational reporting structure to streamline operational costs & facilitate analysis
Common Object Model – morphs all system & subsystem data into one common format	<ul style="list-style-type: none"> • Reduces cost of operations by providing consistent view into all data • Facilitates connectivity and interoperability
Flexible architecture that adapts as technologies emerge	<ul style="list-style-type: none"> • Assurance that today's investment will be capable of easily adapting to new, un-invented products & technologies
Subsystem Integration – supports many legacy systems via optional drivers. Flexible driver development environment available to extend reach	<ul style="list-style-type: none"> • Extends life of existing control systems • Minimizes cost of upgrade to new technologies • Reduces operating costs by creating a single seat look into critical subsystems
UL294 & CE Listed	<ul style="list-style-type: none"> • End User Reassurance – system has been built & tested to industry standard safety & system operational standards • May lower insurance costs

System Requirements

Enterprise Security requires release Niagara^{AX} 3.4 or higher.

Server Platform Minimum Requirements

Component	Number of Controllers	
	1 to 250	251+
Processor	Pentium IV @ 2GHz	Core 2 Duo 2 GHz
Memory	2 GB	4 GB
Disk Capacity	100 GB	250 GB
Operating System	Windows XP	Windows XP 64 or Linux 64

System Capacities

Maximum Number of	Enterprise Server	T-SEC-601	T-SEC-201
Personnel	1,000,000	20,000	5,000
Card Readers	10,000	32	16
Access Rights	25,000	250	100
Schedules	25,000	100	25
Access Zones	25,000	50	10
Intrusion Zones	N/A	25	5
Intrusion Keypads	N/A	6	2
On-line Historical Records	25,000,000	50,000	10,000
Simultaneous System Users	25	10	5
Area Controllers	500	NA	NA

Catalog Numbers

Enterprise Security Server Applications

Part Number	Description
T-SEC-MYS	Security AX Supervisor bundled part. Includes enterprise security application with 32 reader license, security AX Supervisor and MySQL database driver. Supervisor limited to security JACEs and drivers only and cannot be licensed for BAS JACE connections or drivers. Platform for systems greater than 64 readers. Includes OBIX client/server driver for connecting to Niagara based controllers only.
T-SEC-SBS-MYS	Security AX Small Building Supervisor bundled part. Includes enterprise security application with 32 reader license, security AX Supervisor and MySQL database driver. Supervisor limited to security JACEs and drivers only and can not be licensed for BAS JACE connections or drivers. SBS limited to max of 6 security JACE connections and 64 readers. Includes OBIX client/server driver for connecting to Niagara based controllers only.
T-SEC-SQL	Security AX Supervisor bundled part. Includes enterprise security application with 32 reader license, security AX Supervisor and SQL database driver. Supervisor limited to security JACEs and drivers only and can not be licensed for BAS JACE connections or drivers. Platform for systems greater than 64 readers. Includes OBIX client/server driver for connecting to Niagara based controllers only.
T-SEC-SBS-SQL	Security AX Small Building Supervisor bundled part. Includes enterprise security application with 32 reader license, security AX Supervisor and SQL database driver. Supervisor limited to security JACEs and drivers only and can not be licensed for BAS JACE connections or drivers. SBS limited to max of 6 security JACE connections and 64 readers. Includes OBIX client/server driver for connecting to Niagara based controllers only.

Additional reader licenses to expand security server reader capacity

Part Number	Description
T-SEC-R-16	Expands enterprise security license by 16 readers.
T-SEC-R-64	Expands enterprise security license by 64 readers.
T-SEC-R-256	Expands enterprise security license by 256 readers.
T-SEC-R-1024	Expands enterprise security license by 1024 readers.

Enterprise security upgrade part numbers for existing Tridium Supervisors

Part Number	Description
T-SEC-SBS-U	Security SBS upgrade. Removes 64 reader and 6 JACE connection limits. Supervisor requires additional reader licenses to expand system capacity.
T-SEC-BAS-U	Upgrade security supervisor to allow BAS driver and connection functionality. Allows the addition of non-security controllers to be integrated into the same enterprise security supervisor.
T-SEC-ENT-MYS	Base enterprise security software license to upgrade an existing AX Supervisor, including reader license for 32 readers, enterprise security application and MySQL database driver. Requires AX Supervisor software or small building AX Supervisor software.
T-SEC-ENT-SQL	Base enterprise security software license to upgrade an existing AX Supervisor, including reader license for 32 readers, enterprise security application and SQL database driver. Requires AX Supervisor software or small building AX Supervisor software.

Additional Resources

- Enterprise Security Data Sheet
- Enterprise Security Guide
- Niagara Security Controllers Data Sheet
- Niagara Security Appliance Guide

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