SIEMENS

Multiple buildings. Single system interface. Unlimited power.

Powerful integration capabilities ensure your options remain open

APOGEE® Building Automation

www.siemens.com/apogee

Open System Architecture

Access a facility's information from anywhere

BTL (BACnet Testing Laboratories) listed components give you the assurance that controllers are certified as interoperable and compliant with the BACnet protocol. Full programmability and flexibility of applications provides a complete, adaptable, and scalable Web-based solution that focuses your investment on value-added capabilities.

Simplify the complex with cost-effective, efficient, and customizable solutions

Expand, upgrade, and optimize your facility systems with a comprehensive, customized solution that makes buildings more comfortable, safe, productive, efficient... and less costly to operate. The APOGEE Automation System's open architecture gives you control of your systems and equipment — from any location — and allows you to realize the full advantages of integrated systems.

Preserving the past, preparing for the future

Now and into the future, building operations are driven by higher energy costs, simplification of climate control, and the promise of wireless and digital communications. You need a system that delivers facility management solutions today and tomorrow. The APOGEE System's backward and forward compatibility will help you to continually improve performance, expand functionality and adapt to the future, while protecting past investments and your bottom line.

Interoperability and adaptability at every level

The APOGEE Automation System offers the functionality of a BACnet Web-based system. The BACnet protocol performs across multiple systems, providing the necessary foundation for future expansion. BACnet is the Heating, Ventilation and Air Conditioning (HVAC) industry standard protocol, according to its founding and sponsoring organizations, American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE), International Standards Organization (ISO), and American National Standards Institute (ANSI). Its reputation and growing use make it the best choice for a standard protocol across a system, or to use as an interoperability tool to help knit together a cohesive, tightly integrated system despite disparate technologies or vendor systems.

Monitor, manage, and control — from anywhere in the world

By incorporating the APOGEE Automation System into your facility systems and equipment, you'll have a system that's loaded with time-saving features and functions:

- Manage and control your facility with the Insight® workstation and Energy Performance Dashboard to gain facility-wide efficiencies and cost effective information sharing.

- Monitor critical environments with remote notification by pager, phone or e-mail.

- Cost-effectively customize your system by combining multiple systems into one and eliminate the need to pay for features your building does not need.
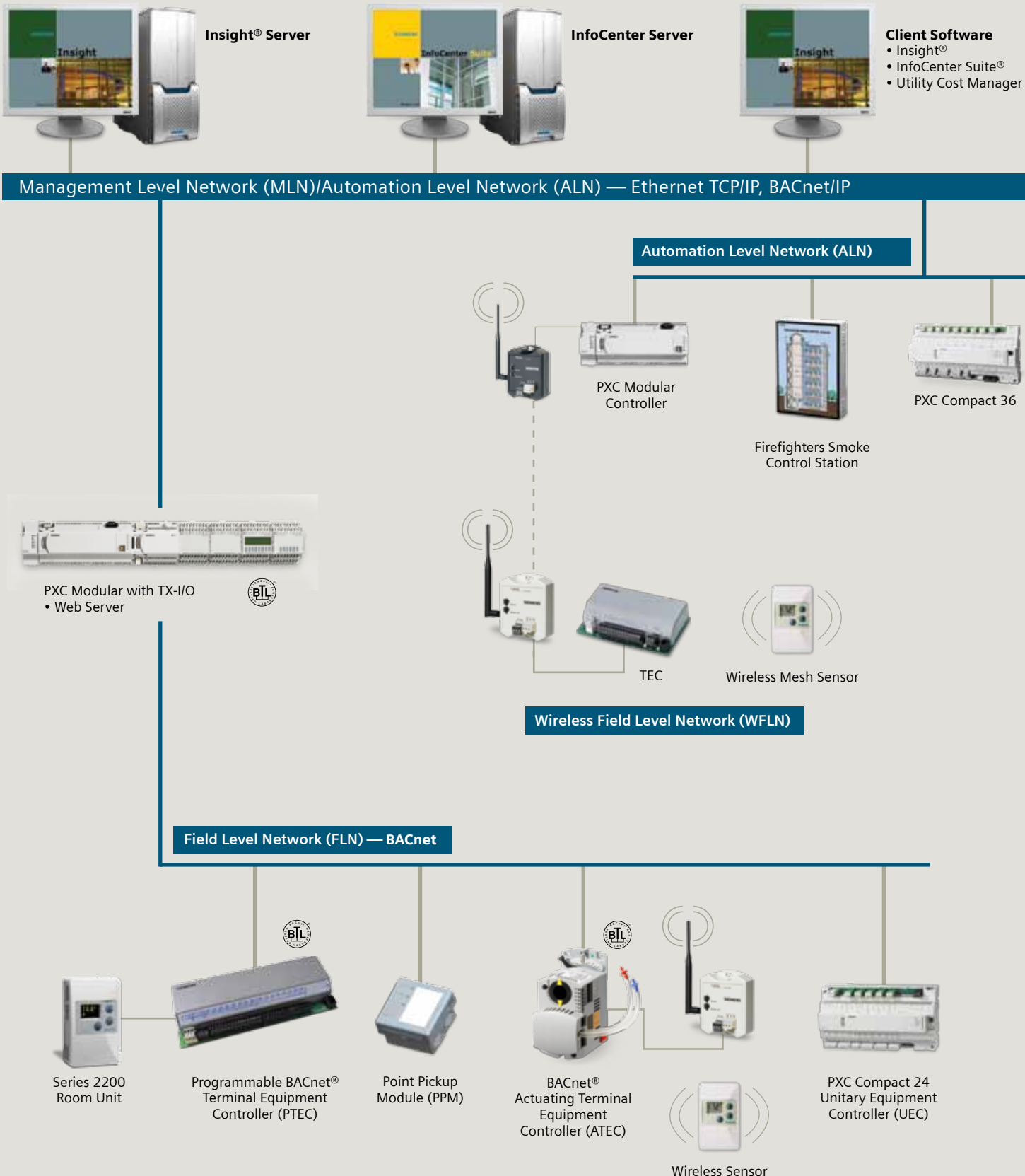
- Easily integrate controllers with a wide range of other building automation products.

- Modernize outdated or ineffective energy management systems easily and economically with APOGEE wireless devices.

- Compile, organize and analyze information with automated data archiving and reporting.

- Take advantage of new technologies each time you want to upgrade or expand.

With the Enhanced Graphics Option (EGO), and imported gauges and charts, building operating parameters can be visualized in real-time.

Multiple building systems, one solution.

Improve performance, expand functionality, and adapt to the future

Insight® Server

InfoCenter Server

Client Software
• Insight®
• InfoCenter Suite®
• Utility Cost Manager

Management Level Network (MLN)/Automation Level Network (ALN) — Ethernet TCP/IP, BACnet/IP

Automation Level Network (ALN)

PXC Modular
Controller

Firefighters Smoke
Control Station

PXC Compact 36

PXC Modular with TX-I/O
• Web Server

TEC

Wireless Mesh Sensor

Wireless Field Level Network (WFLN)

Field Level Network (FLN) — BACnet

Series 2200
Room Unit

Programmable BACnet®
Terminal Equipment
Controller (PTEC)

Point Pickup
Module (PPM)

BACnet®
Actuating Terminal
Equipment
Controller (ATEC)

PXC Compact 24
Unitary Equipment
Controller (UEC)

Wireless Sensor

Web Access
- APOGEE GO® for Insight®
- APOGEE GO® for InfoCenter Suite®
- Field Panel Web Server
- Terminal Services Client
- Tenant Override System

Mobile Apps
- Smartphone Apps
- Pager
- SMS
- E-mail
- Voice Notification
- Browsers
- Text Messaging

**Insight®
UL Listed
Life Safety
Workstation**

PXC Modular Controller
- Web Server

Integrated Systems

PXC Modular Controller

APOGEE® ANYWHERE

HVAC

Fuel Tanks

Lighting

Elevators

Critical Environments

Air Compressors

Fire / Life Safety

Power & Energy

Building Automation Systems

Security / Access Management

Variable Frequency Drives

Operator Workstations

Hotel Systems

Industrial

Fire Alarm Panel

Field Level Network (FLN)

Lab Room Controller Factory-Mounted on Terminal Unit

Lab Room Controller Factory-Mounted on Venturi Air Valve

Variable Frequency Drives and Other Third-Party Devices

Point Pickup Module (PPM)

Bus Interface Module (BIM) with TX-I/O™

Terminal Equipment Controllers (TEC)

Room Pressurization Monitor (RPM)

Digital Energy Monitor (DEM)

Room Unit

Fume Hood Monitor

Supports open standards

Freedom to add the functions and features needed for today and tomorrow

With the APOGEE Automation System as the backbone of your integration plan you have the flexibility to choose the best solutions for the future of your facility, subsystems and equipment.

Our compatibility partners include the leading names in fire, life safety, security, electrical, lighting, mechanical and industrial systems. Your options include more than 700 systems/devices, representing 200 different vendors and more than 70 different proprietary and standard protocols — all certified to be compatible within an APOGEE Automation System enabled structure and proven in more than 4,000 integration installations.

Management Level Networks (MLN) /Automation Level Networks (ALN)

- BACnet®
- Browser-based Web Access
- Modbus® TCP/IP
- SOAP/XML
- OPC® over TCP/IP
- Terminal Services
- SNMP
- SMTP

Field Level Network (FLN)

- Modbus®
- LonWorks®
- BACnet®

APOGEE Automation System Scalability

- Unlimited users with the Web server solution.

- Multiple client options match your user's needs. Simple solutions can grow into advanced by adding workstation applications.

- Each workstation supports up to 6400 primary controllers.

- Up to 127 LonWorks nodes per controller with LonWorks option.

- Sophisticated facility-wide control applications with an enterprise network.

- Accommodate future expansion with flexible I/O point options.

- Custom control sequences for any unique facility need.

- Application specific controllers tailored to your specifications.

PXC Modular and PXC Compact Web Server

- Anywhere, anytime Web-based system application interaction and configuration, including full configuration of alarms, trends, schedules, programs and database.

- Allows unlimited users.

- Graphical representation of system information over the Internet.

- PXC Compact and Modular Controllers are BTL certified as a B-BC (Building Controller) to leverage standard protocol networks for interoperability and provide assurance in meeting strict BACnet protocol implementation.

- Controllers feature integrated on-board universal I/O (Inputs/Outputs), based on state-of-the-art TX I/O technology to assure the right mix of I/O.

Wireless products

- Wireless components eliminate the need for interconnecting wiring and utilize low-power designs.

- Modernize facilities; outdated or ineffective energy management systems can be replaced or updated quickly, easily and economically.

- Use significantly less wire and materials, both today and when reconfiguring space in the future.

- Speed up installation and minimize disruption to business operations and occupants.

- Quickly and easily move sensors in frequently redesigned spaces.

The APOGEE Automation System's open platform gives you options that include more than 700 systems/devices, representing 200 different vendors and more than 70 different proprietary and standard protocols.

Customizable solutions to enhance performance

Sophisticated tools meet the unique needs of any facility

Insight® Workstation and Energy Performance Dashboard

The Insight workstation helps manage and control a facility with a comprehensive suite of graphical controls, configuration and engineering tools.

- This easy-to-use interface enables facility-wide efficiencies and cost effective information sharing, while giving you a comprehensive integration platform for connectivity to third party products and systems.

- Insight workstation graphics provide the capability for facility operators and engineers to import pre-programmed gauges and charts, or create user-defined ones. This helps visualize optimal building operating parameters in real-time, or can be used to support the creation of a dynamic, realistic-looking energy dashboard.

- The Energy Performance Dashboard integrates point data in the APOGEE Automation System to determine when and where you need to make adjustments for maximized day-to-day operations. The dashboard package comes with a standard toolkit that includes programs, point database, and background templates.

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**Remote Communication Options
with Insight Workstation**

- Centralize programming throughout architecture

- Access remote sites simultaneously from anywhere.

- Insight workstations report alarms or upload performance data from remote sites.

- Monitor and command every level of the system remotely using the Web and plug & play controllers.

- Secure access using SSL.

- Use existing intranet or Internet for MLN's and ALN's.

- Send critical alarms and system event notifications through e-mail, text message, phones, and pagers.

Systems Integration

- Communicate with hundreds of other building systems, devices, controllers and networks, available from a variety of different third-party suppliers.

- Multiple options for integration to third-party systems, including:
  — Direct connect FLN and LonTalk FLN solutions
  — Vendor-specific protocol drivers available via an ALN controller
  — IT-level integration via the Insight workstation

- Integrated points monitor and control just like native APOGEE Automation System points and can utilize the full range of APOGEE facility management applications and remote communication options.

- Proven track record of thousands of successful integration project implementations. Look for the APOGEE® Anywhere trademark to ensure APOGEE compatibility.

The APOGEE® Anywhere symbol tells you that the equipment and systems it appears with are compatible with the APOGEE integration platform. Only devices and systems that have been formally certified by Siemens may use the APOGEE® Anywhere trademark. This symbol is your assurance that the supplier followed a rigorous process of validation and certification with our Integration Development Team, and that the product will function within our open architecture.

APOGEE®
ANYWHERE

Expert advice for optimized buildings

One source for integrated automation, fire, security, energy and service solutions

As a single-source provider of integrated automation, fire, security, energy and service solutions, we take immense pride in not only getting the job done, but getting the job done exceedingly well.

Information Management with Insight Workstation

• Integrate point data within the Insight workstation to help determine when and where you need to make adjustments for maximized day-to-day operations.

• Create and automatically schedule reports to any Ethernet printer, file or e-mail.

• Achieve long-term, enterprise-wide data processing and archiving, including a wide range of applications designed to give the right people the right information, at the right time.

• Maintain accreditation, regulatory and energy conservation goals.

• Manage the entire life cycle of an alarm issue through tracking and enforcing mandatory operator actions toward alarm resolution.

Facility Management

• Monitor, command and program system controllers from anywhere.

• Quickly schedule and modify facility usage with the Insight Scheduler.

• Provide a complete log of commands, overrides and system changes made by system operators.

• Locate and troubleshoot problems quickly using extensive reporting and viewing applications.

• Use site-wide licensing solutions to cost effectively add clients and users.

• Assign each user unique system-wide access privileges based on domain name and password.

• Incorporate UL Listed® fire alarm monitoring, control, and integration with Insight Life Safety option.

• Use the Insight redundancy solution for mission critical facilities.

- Manage your own system configuration using a complete suite of built-in design and commissioning tools.

- Reliably control critical areas such as laboratories, clean rooms and operating suites within precise operating parameters.

Green Building Certification: energy efficiency and the environment

Certification and labeling programs provide a scale that allows your organization to set and measure your energy savings and environmental goals. Whether it is the United States Green Building Council's Leadership in Energy and Environmental Design (LEED®) program or the Environmental Protection Agency's ENERGY STAR® label, our Energy and Environmental Solutions team delivers energy efficient, high performance green buildings with established green practices. Siemens will help you navigate your organization through the LEED programs and certification processes.
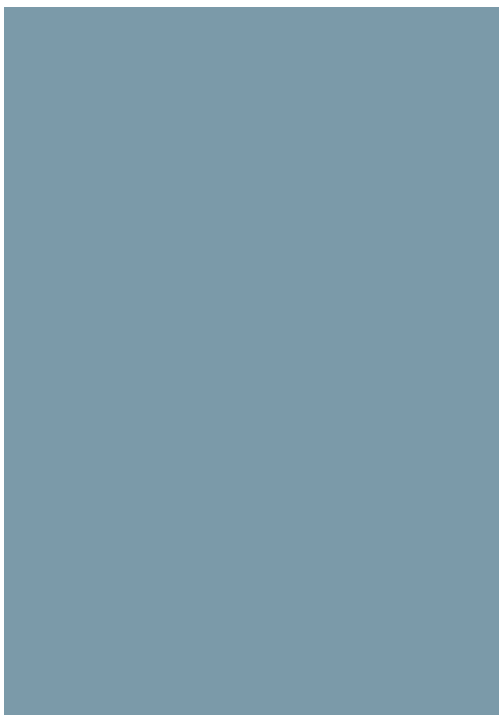
Energy-efficient products

The design and construction of energy-smart buildings offers tangible benefits. Building owners can lower their energy costs by 50% or more while lessening maintenance and capital costs. Building occupants realize increased comfort, health and productivity.

The APOGEE Automation System and HVAC field devices help you achieve your building performance goals:

- LEED credits assistance.

- Engineered and proven control applications with extensive libraries limit rework and uncertainty.

- Programmability at field level controller for quick and simple control application changes to meet the needs for advanced control capabilities.

- Adaptive control algorithms for smarter control solutions which adapt to changing conditions quickly and automatically.

From schools and office buildings to complex, mission-critical environments like data centers and labs, Siemens expertise extends to a broad range of markets and facilities. By developing an intimate understanding of your organization, we design solutions that meet specific facility and business requirements. From building education programs to meeting 21 CFR Part 11 requirements, our solutions contribute to your success.

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