...Supporting ANY PRODUCT employing

-BackNet -LonWorks

-ModBus - XML

-SNMP -OPC

WEB controllers (JACE-Java Application Control Engine)

- Provides server and internet power at the building level
- Open & legacy protocols
- Simple browser interface for unlimited users

UI option - User Interface

• WEBStationAX (Workstation Supervisor)

- Browser based user interface and network management
- Supports multiple, simultaneous Web Browser client workstations over Ethernet LAN or the Internet

Archiving of data and alarms

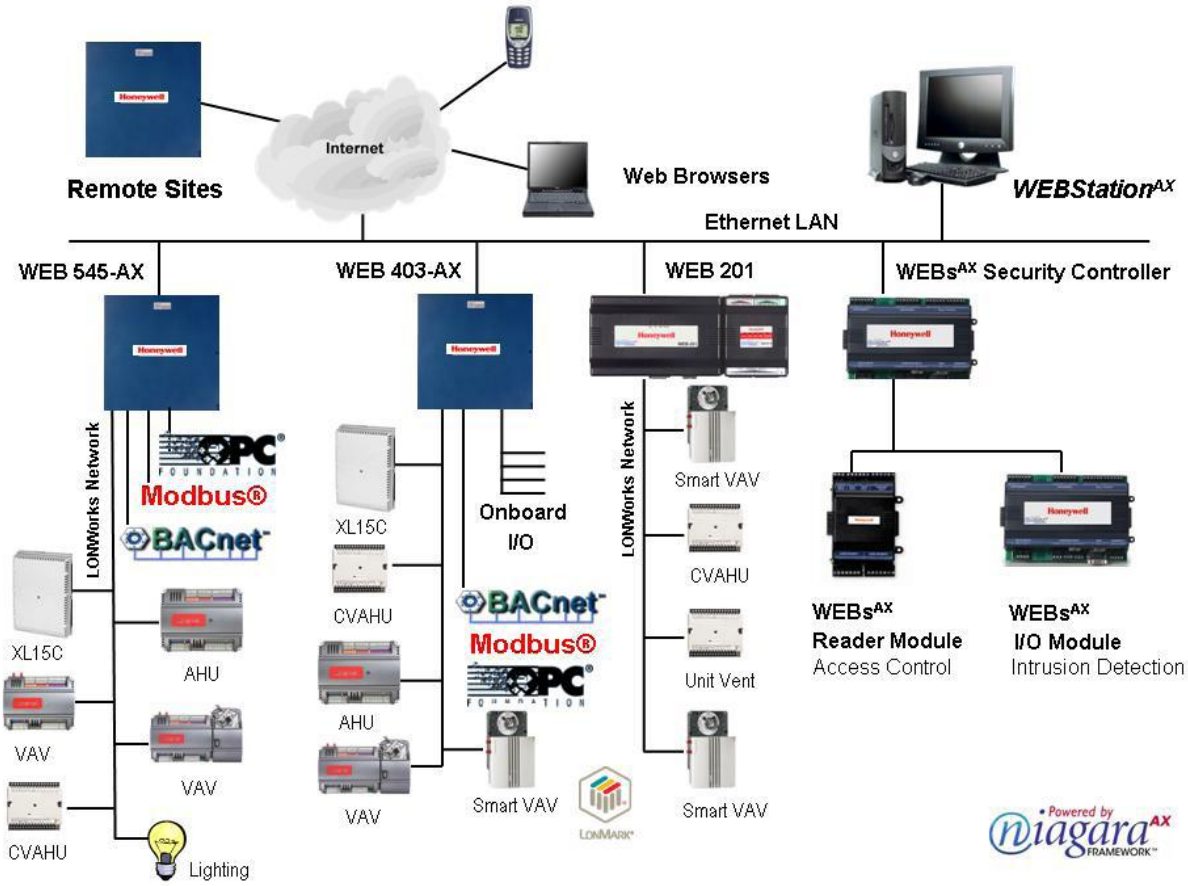
- Alarm Service for delivery of alarms to remote PCs without need of a browser

• WEBProAX Programming tool (Included in WEBStationAX)

- Engineering over the internet

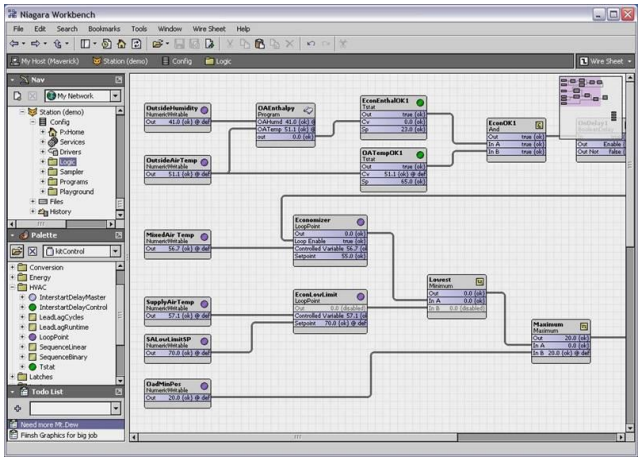
*WEBs*AX Architecture

- Single Programming Tool via WEBProAX w/programming wizards for XL15C & XL10s
- Flat LON architecture using XL10s and 3rd party Lon products
- Multi protocol integration via BACnet, ModBus and OPC drivers



WEBProAX

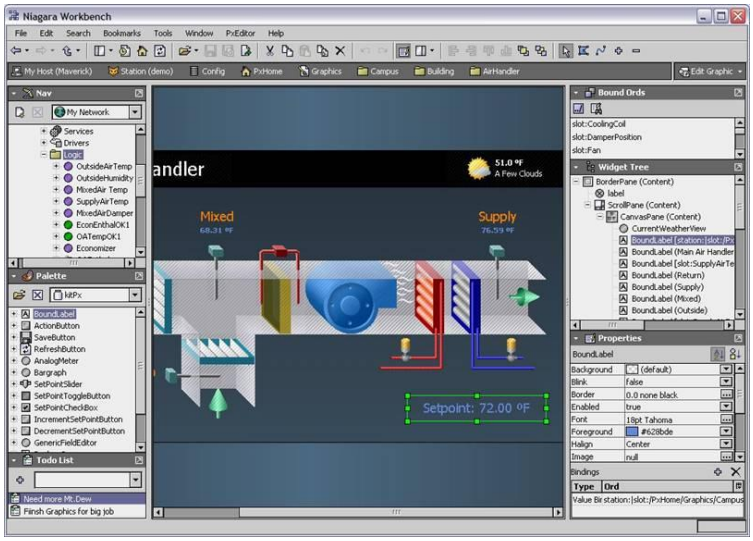
- Browser-like graphical user interface
- Complete, full-function application development environment
  - Graphically create, configure and test control system application logic and user interface screens
  - Simple linking mechanism allows data to be shared by devices of different protocols transparently
  - Build graphics for use with the user interface and Web Browser, one graphic works with both
- Integral LonWorks, BACnet, and Modbus network management
  - Create, add, or learn LonWorks networks
  - Manages devices and bindings



WEBStationAX

Supports multiple, simultaneous Web Browser client workstations *over Ethernet LAN or the Internet*

- Provides database administration for the object database and relational database in all WEBsAX panels
- Manages global control functions
- Time, scheduling, energy management, alarms, data collection and trending
- Supports global data passing over multiple networks
- Includes WEBProAX Engineering Tool
- User interface
- Application development environment



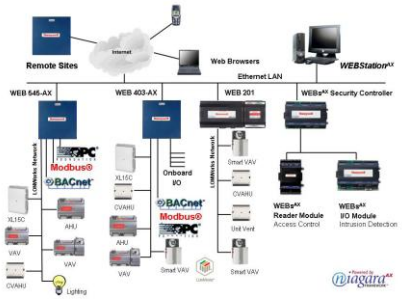
Open Drivers

- LonWorks
- BACnet Ethernet, IP, MSTP
- MODBUS RTU, TCP
- OPC
- SNMP
- XML
- Many other industry specific open drivers can be developed
- Niagara can also be a Modbus or BACnet sever while also being a Client

Network Management

- Auto discovery of connected

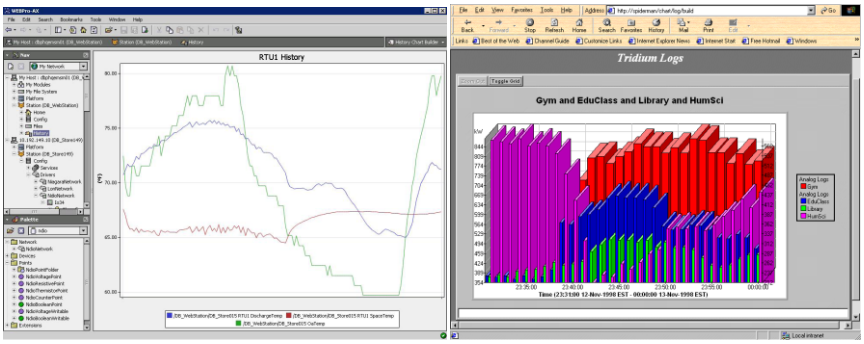
  Intelligent Devices, Open & Legacy
- LON Network Management
- BACnet Routing
- SNMP support for IT network management
- Enterprise Connectivity



Real Time Control

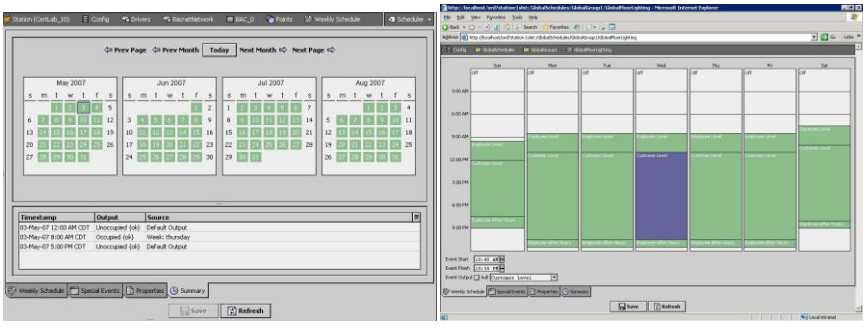
- Control
- Logic
- PID loop
- Math functions
- Data logging
- Scheduling
- Alarms
- Energy Management
- Graphical display objects
- Custom programming
- Communications & control between devices and protocols
- Example-LON sensor input to BACnet controller with output to a Modbus

Monitoring & Logging Objects



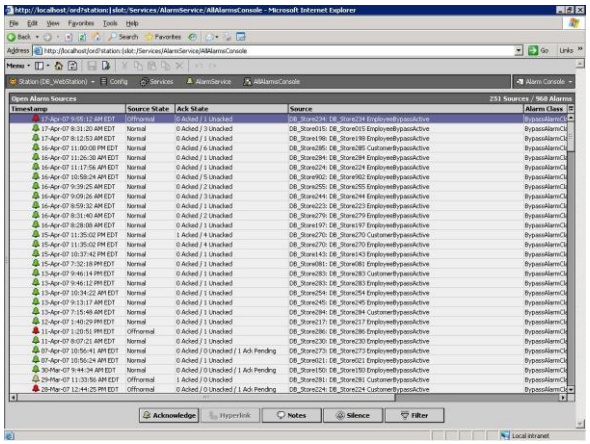
Real Time Control

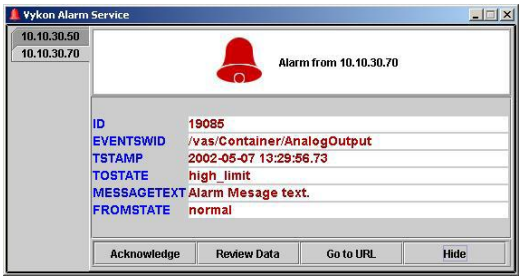
Common scheduler and calendar for all devices and protocols



Alarming

- Control Objects generate Alarms and Alerts
- Each Alarm given a notification class
  - Maintenance, safety etc.
- Alarm notification options by Notification class
  - Printer, pager, email
- Alarm and Alert Recipients
  - E-mail
  - Web Browser
  - Local printer
  - Remote printer
  - Enterprise Application Program
  - SNMP to Network Manager
  - BACnet alarm recipient
  - Cell Phone
  - PDA
  - Information Routed to Wherever It Is Needed





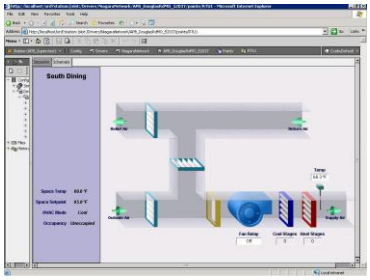
Increased Satisfaction & Services

- Tenants, employees, etc. use browser for easy override of lights & hvac
- Tenants, employees etc. can easily contribute to energy management
- Tenants, employees receive faster response to problems due to immediate internet access to site by maintenance
- Integral part of an “Energy Awareness” program

Reduced Operation Costs

Maintenance uses web appliances to monitor, perform remote engineering & troubleshoot minimizing travel time and accelerating response

- All legacy systems are accessed with a common web browser user interface
- Maintenance resources from anywhere in the world can access any system and help i dentify and correct problems
- Alarms can be emailed to directly to maintenance subcontractors depending on system types
- No special computers for on-call staff, just access to the internet.



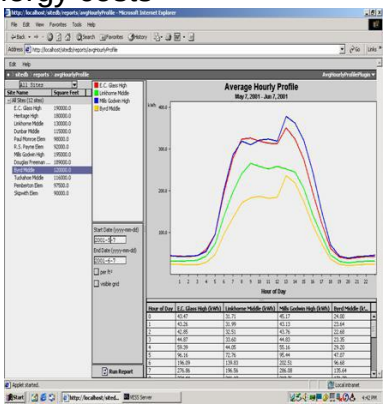
Reduced Construction & Renovation Costs

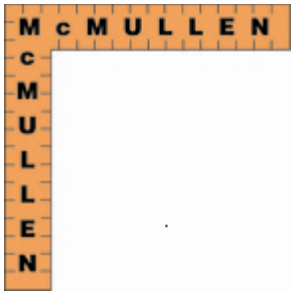
- No ties to an incumbent control system
- Choose the best value/vendor for every project without having to Choose a particular protocol
- System engineering via the internet
- Lower cost of integration of lighting, fire, generators etc.
- Construction team can use web browser to monitor systems during Installation, startup, commissioning, and warranty

ECHELON® THE LONWORKS® COMPANY BACnet™ Modbus Honeywell

Energy, Equipment Profiling

- Identify inefficiencies by comparing sites
- Normalize data for weather, production, and square footage for valid comparisons
- Improve commodity negotiations and reduce the amount paid for energy
- Reduce the amount of energy consumed
- Understand how building characteristics affect energy costs





A UNIVERSAL SOFTWARE infrastructure that allows
Businesses to EASILY BUILD software applications for
Accessing, Automating & Controlling smart Devices
Over the Internet!