



... 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)**

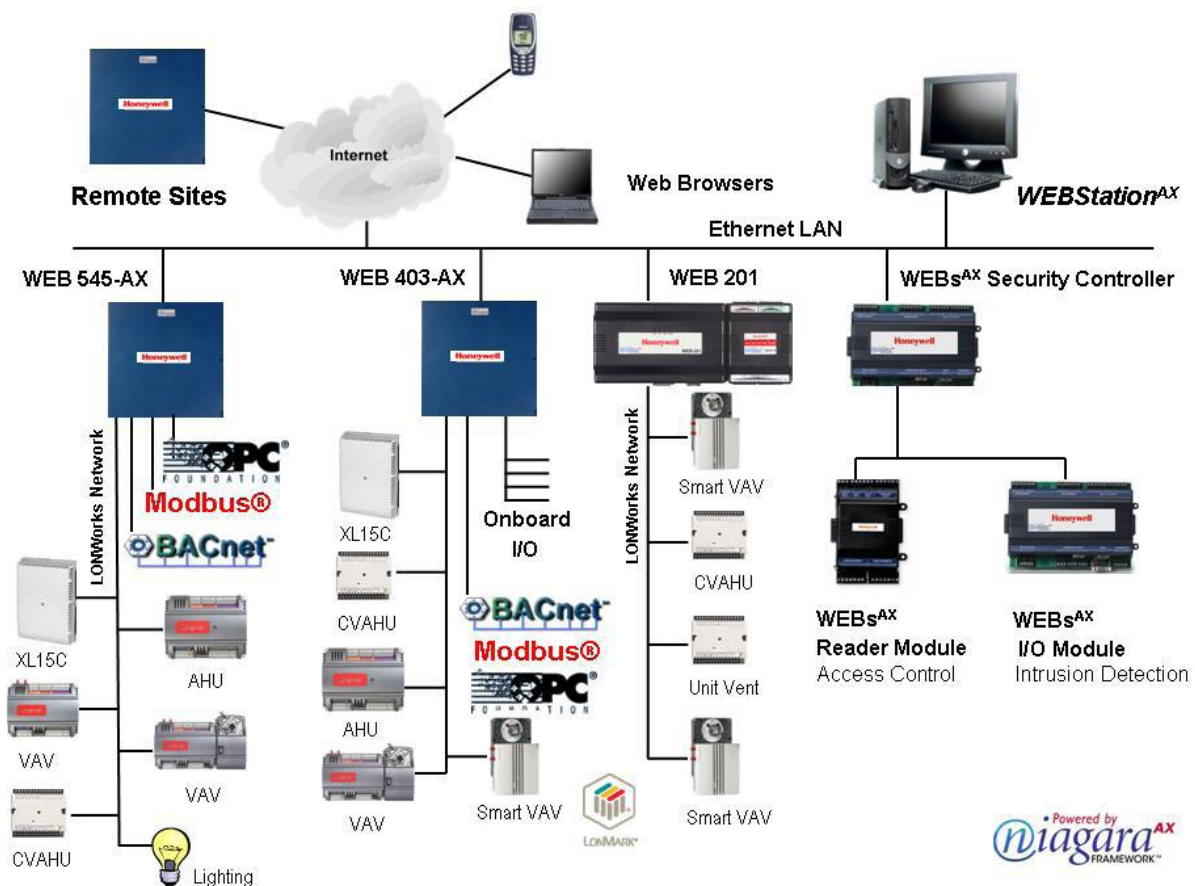
- Browser based user interface and network management
- Supports multiple, simultaneous Web Browser client workstations over Ethernet LAN or the Internet
- Archiving of data and alarms
- Alarm Service for delivery of alarms to remote PCs without need of a browser

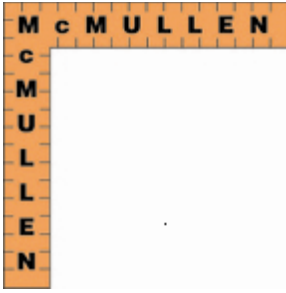
• **WEBProAX Programming tool (Included in WEBStationAX)**

- Engineering over the internet

WEBSAX Architecture

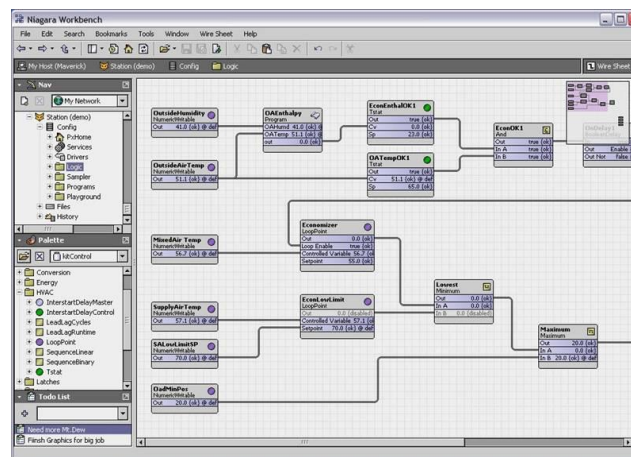
- Single Programming Tool via WEBProAX w/programming wizards for XL15C & XL10s
- Flat LON architecture using XL10s and 3rd party Lon products
- Multi protocol integration via BACnet, ModBus and OPC drivers





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

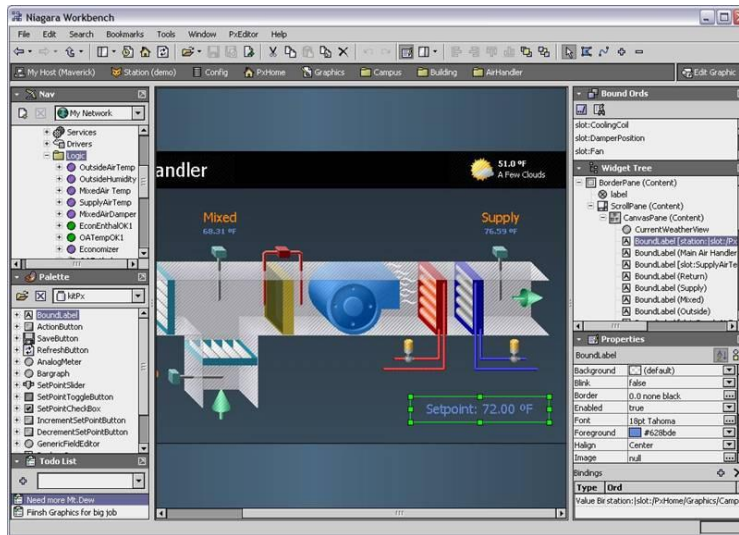




WEBStationAX

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

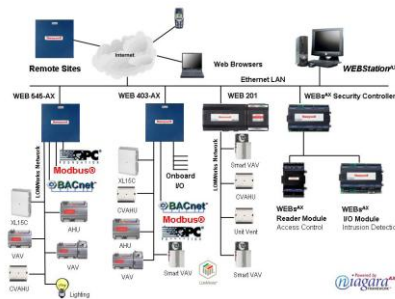


Network Management

- Auto discovery of connected

Intelligent Devices, Open & Legacy

- LON Network Management
- BACnet Routing
- SNMP support for IT network management
- Enterprise Connectivity

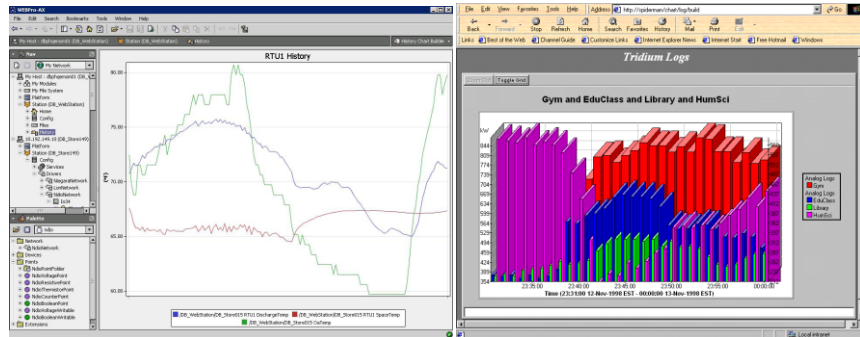


Real Time Control

- 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

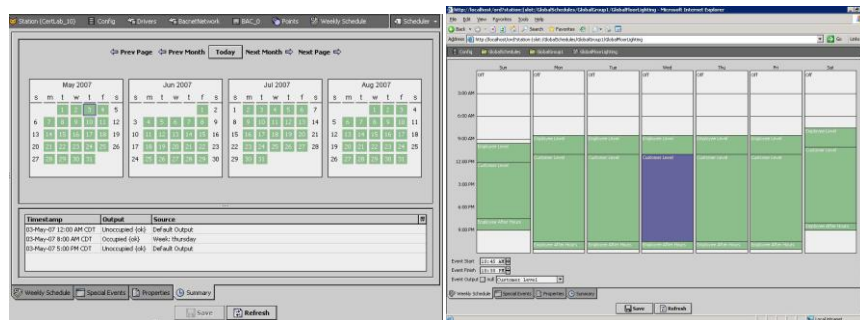


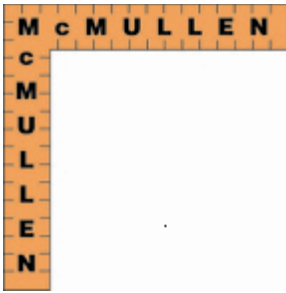
Monitoring & Logging Objects



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

Source Name	Source State	Ack State	Source	Alarm Class
17-Apr-07 8:31:20 AM EDT	Normal	0 Active / 3 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
17-Apr-07 8:12:53 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor100 DB_Sensor100 EmployedByPassive	BypassAlarmC1
16-Apr-07 11:00:00 PM EDT	Normal	0 Active / 4 Unacked	DB_Sensor100 DB_Sensor100 CustomerBypassive	BypassAlarmC1
16-Apr-07 11:26:38 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor104 DB_Sensor104 EmployedByPassive	BypassAlarmC1
16-Apr-07 11:17:56 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor104 DB_Sensor104 EmployedByPassive	BypassAlarmC1
16-Apr-07 10:58:24 AM EDT	Normal	0 Active / 5 Unacked	DB_Sensor102 DB_Sensor102 EmployedByPassive	BypassAlarmC1
16-Apr-07 9:39:25 AM EDT	Normal	0 Active / 2 Unacked	DB_Sensor102 DB_Sensor102 EmployedByPassive	BypassAlarmC1
16-Apr-07 9:09:36 AM EDT	Normal	0 Active / 3 Unacked	DB_Sensor104 DB_Sensor104 EmployedByPassive	BypassAlarmC1
16-Apr-07 8:59:32 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor102 DB_Sensor102 EmployedByPassive	BypassAlarmC1
16-Apr-07 8:31:40 AM EDT	Normal	0 Active / 2 Unacked	DB_Sensor107 DB_Sensor107 EmployedByPassive	BypassAlarmC1
16-Apr-07 8:28:08 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor107 DB_Sensor107 EmployedByPassive	BypassAlarmC1
15-Apr-07 11:25:02 PM EDT	Normal	1 Active / 4 Unacked	DB_Sensor100 DB_Sensor100 CustomerBypassive	BypassAlarmC1
15-Apr-07 11:05:02 PM EDT	Normal	0 Active / 1 Unacked	DB_Sensor100 DB_Sensor100 EmployedByPassive	BypassAlarmC1
15-Apr-07 10:37:42 PM EDT	Normal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
15-Apr-07 7:32:19 PM EDT	Normal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
13-Apr-07 9:46:14 PM EDT	Normal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 CustomerBypassive	BypassAlarmC1
13-Apr-07 9:46:12 PM EDT	Normal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
13-Apr-07 9:13:17 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
13-Apr-07 7:15:48 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor104 DB_Sensor104 CustomerBypassive	BypassAlarmC1
12-Apr-07 1:40:29 PM EDT	Normal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
11-Apr-07 1:20:51 PM EDT	Offnormal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
11-Apr-07 10:07:12 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
07-Apr-07 10:56:41 AM EDT	Normal	0 Active / 0 Unacked / 1 Ack-Pending	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
20-Apr-07 10:56:24 AM EDT	Normal	0 Active / 1 Unacked	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
30-May-07 9:44:24 AM EDT	Normal	0 Active / 0 Unacked / 1 Ack-Pending	DB_Sensor101 DB_Sensor101 EmployedByPassive	BypassAlarmC1
29-May-07 11:30:56 AM EDT	Offnormal	1 Active / 0 Unacked	DB_Sensor101 DB_Sensor101 CustomerBypassive	BypassAlarmC1
29-May-07 12:45:25 PM EDT	Offnormal	0 Active / 0 Unacked / 1 Ack-Pending	DB_Sensor101 DB_Sensor101 CustomerBypassive	BypassAlarmC1

Yikon Alarm Service

10.10.30.50
10.10.30.70

Alarm from 10.10.30.70

ID: 19085
EVENTSWID: /vas/Container/AnalogOutput
TSTAMP: 2002-05-07 13:29:56.73
TOSTATE: high_limit
MESSAGETEXT: Alarm Message text.
FROMSTATE: normal

Acknowledge Review Data Go to URL Hide



Increased Satisfaction & Services

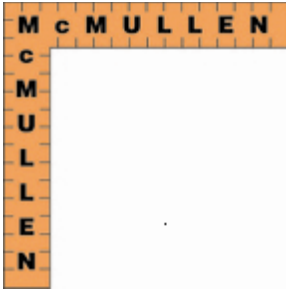
- Tenants, employees, etc. use browser for easy override of lights & hvac
- Tenants, employees etc. can easily contribute to energy management
- Tenants, employees receive faster response to problems due to immediate internet access to site by maintenance
- Integral part of an “Energy Awareness” program

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 identify 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

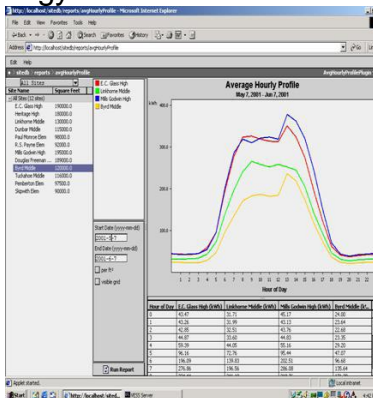


Modbus



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!**