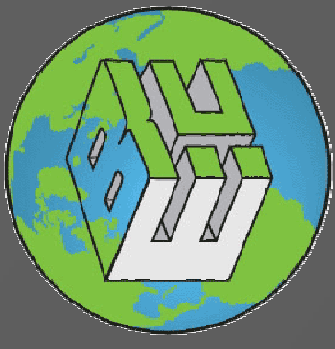
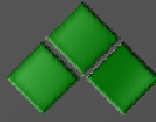


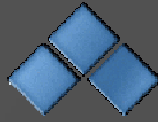
inductive  
AUTOMATION



Complete **CONTROL SYSTEM** Freedom



FactoryPMI™



FactorySQL™

A new paradigm in control systems and software

# THE FEATURES AND BENEFITS OF USING OPC TECHNOLOGY vs. INSTALLING DDC EQUIPMENT

## THE PAST

### MANUFACTURERS DDC SOFTWARE ISSUES

1. NEW VERSIONS NOT COMPATIBLE WITH EXISTING HARDWARE
2. OWNERSHIP OF SOFTWARE AND CODE TO OBSOLETE EXISTING HARDWARE
4. LIMITED TO PRODUCT VENDOR
5. PROPRIETARY SOFTWARE KEYS (KEPT WITH VENDOR)
6. FLEXIBILITY AND INTEGRATION ISSUES WITH OTHER SYSTEMS (CUSTOM SOFTWARE)



### Manufactured Equipment

**NO DATA PORTS**  
 CHILLERS  
 ROOFTOPS  
 BOILERS  
 VAV UNITS  
 ACTUATORS  
 VFDS  
 UPS'S  
 PDU'S  
 GENERATORS  
 ELEC PANELS  
 ETC

**MUST ADD**  
 CONTROLLERS, WIRING, RELAYS,  
 SENSORS, ACTUATORS, ETC



## THE PRESENT

### Manufacturers of OPC Software Benefits

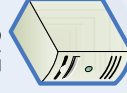
1. NEW VERSIONS COMPATIBLE WITH EXISTING HARDWARE
2. YOU HAVE OWNERSHIP OF SOFTWARE AND CODE
3. NEW PRODUCT WILL NOT OBSOLETE EXISTING HARDWARE
4. NOT LIMITED TO PRODUCT VENDOR
5. NON PROPRIETARY SOFTWARE KEYS (KEPT WITH YOU)
6. FLEXIBILITY AND INTEGRATION WITH OTHER SYSTEMS (NO CUSTOM SOFTWARE)

No Software Needed  
 Just your Web browser



### ALL DATA POINTS COLLECTED AND ORGANIZED

ON/OFF, START/STOP  
 TEMPERATURE, PRESSURE, FLOW  
 ALARMS/PARAMETERS  
 SETPOINTS  
 SAFETIES  
 RUNTIMES  
 CONSUMPTION  
 ETC



Data Base & Application Server  
 See applications below

### Manufactured Equipment

#### WITH DATA PORTS

LONWORKS  
 BACNET  
 MODBUS  
 ETC

#### PART OF EQUIPMENT WHEN ORDERED

Controllers, Wiring,  
 Relays, Sensors,  
 Actuators, etc  
 JUST ADD DATA CABLE

CHILLERS  
 ROOFTOPS  
 BOILERS  
 VAV UNITS  
 ACTUATORS  
 VFDS  
 UPS'S  
 PDU'S  
 GENERATORS  
 ELECTRICAL PANELS  
 ETC

# Factory SQL/PMI Feature List

- **Process/Building Systems:**
- The controller is the heart of the system, allowing building/plant managers to monitor and control facilities locally or over the Internet. Controllers communicate among each other using the BACnet, Lonworks, over standard Ethernet.
- **BACnet** has been accepted as the standard protocol for building automation across the world.
- **BACnet & OPC** technology will open an entirely new world of possibilities for control & automation.
- **FEATURES & BENEFITS:**
- A. Maintaining Product Vendor Neutrality
- B. Scaleable building control & monitoring systems
- C. Interoperability with no custom interfaces
- D. Your choice “Best of Breed” products (Software & Hardware)
  1. Building – System Control, Automation, & Optimization
  2. Tenant Override & Billing Package
  3. Metering & Sub Metering Package
  4. Commissioning Package
  5. Operational & Equipment Assessment Package
  6. Operation & Maintenance Package
  7. Building Score Card system Package
- E. Local/Globally connect facility and systems together in a centralized system
- **Control System Hardware vs. OPC Interface:**
- Why should you use commercial/industrial controllers and instrumentation on your building equipment? When you consider your equipment has all the control logic and instrumentation right from the factory. With OPC technology you eliminate the cost of the “**Control System Layer**” and **reduce the cost of TOTAL ownership and operation.**

# FactoryPMI™

## Web-Launched SCADA

- Realtime status and control
- Historical data trending
- Monitoring & Alarming
- Create your own Graphics
- Configure your own points
- Eliminate expensive phone lines and equipment
- Eliminate expensive software for remote access

# FactorySQL™

- A. Realtime status and control
- B. Historical data logging
- C. Sharing of Database for other applications
- D. Scheduled notice alerts
- E. Maintenance Tracking
- F. Energy/Metering Management
- G. Seamlessly work with multiple brands
- H. Multiple Application Packages on the same Database

# Factory SQL Feature List

- A. Easy to use
  - 1. Simple visualization
  - 2. OPC Browsing with multiple OPC Servers (local or remote).
  - 3. Drag and drop configuration
- B. Programmable/flexible
  - 1. Action items can evaluate expressions or run SQL queries
  - 2. Store results to PLC or SQL database
  - 3. Triggers create event based operations (batching, downtime, etc)
- C. Alerting
  - 1. Analog or digital alarms. Unlimited alarm states.
  - 2. Supports multiple email distribution lists (text messages or alphanumeric pages)
- D. Powerful Backend
  - 1. Communicates easily with multiple SQL databases, PLCs, and OPC Servers.
  - 2. Works with ODBC or native .NET driver compatible SQL database
  - 3. Supports redundant configuration
  - 4. Supports data caching of historical data when connection to SQL database is lost.
  - 5. Aggregate SQL database connections (primary, secondary connections)
  - 6. Remote configuration over TCP/IP

# IT Benefits

## A. SQL Database Centric

1. Works with standard database vendors (MS SQL Server, Oracle, MySQL, PostgreSQL, etc) with Native .NET/ODBC/JDBC support.
2. IT department can backup/maintain/administer just like any other SQL database.

## B. Standard Networking Technologies

1. Uses single user defined TCP port for all communication. Transport level security can be set up with routers and firewalls. Preventing access is just like securing web browsing.
2. Secure remote access is simple with VPNs.
3. Active Directory or SQL Database Authentication options

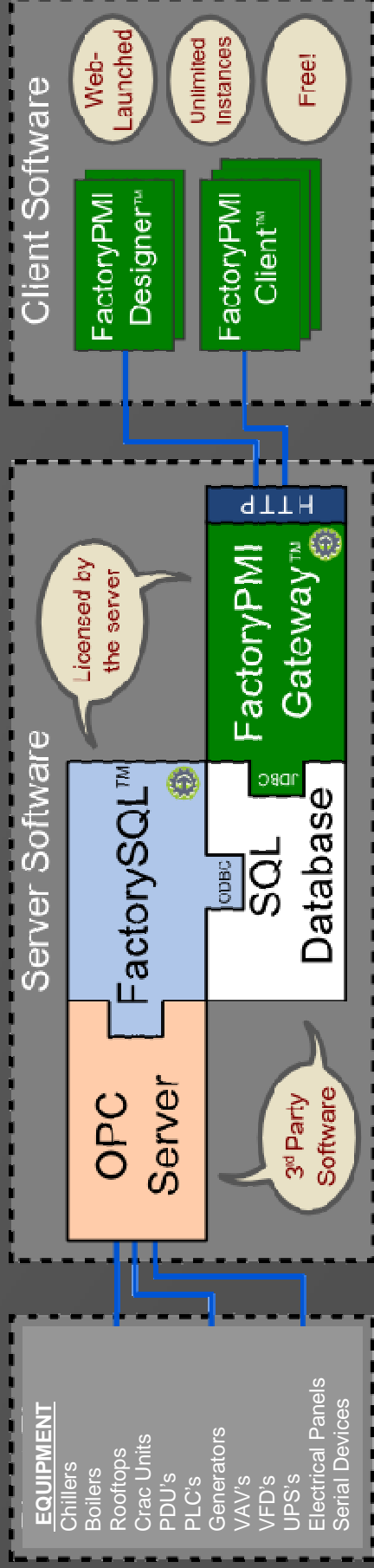
## C. Client side Java support

1. Clients only require the JRE (Java Runtime Environment), distributed with most operating systems and bundled on the FactoryPMI Gateway.
2. Operating system independent. Runs on PCs, Macs, Linux, etc.

## D. OPC based

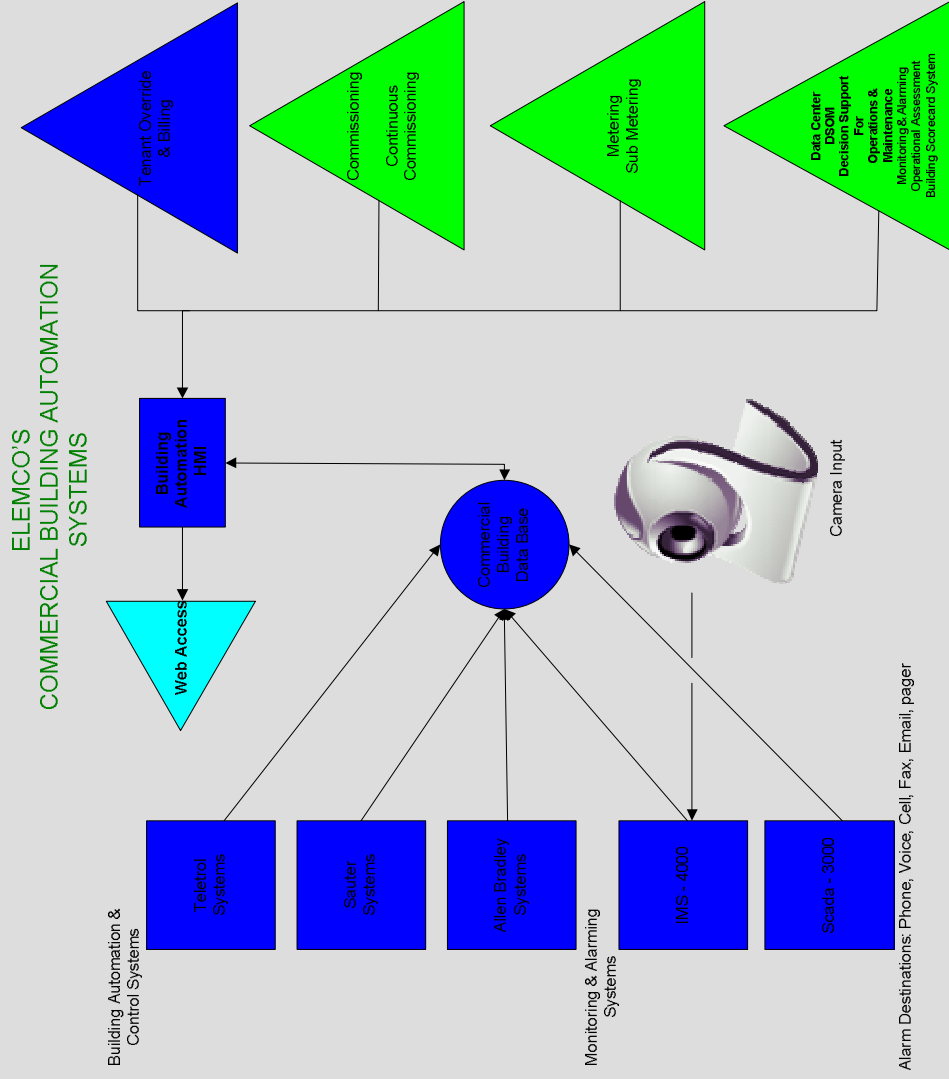
1. Communication to field devices is standards based and minimized to a single point. Clients only communicate with SQL databases.

# Software Detail Diagram

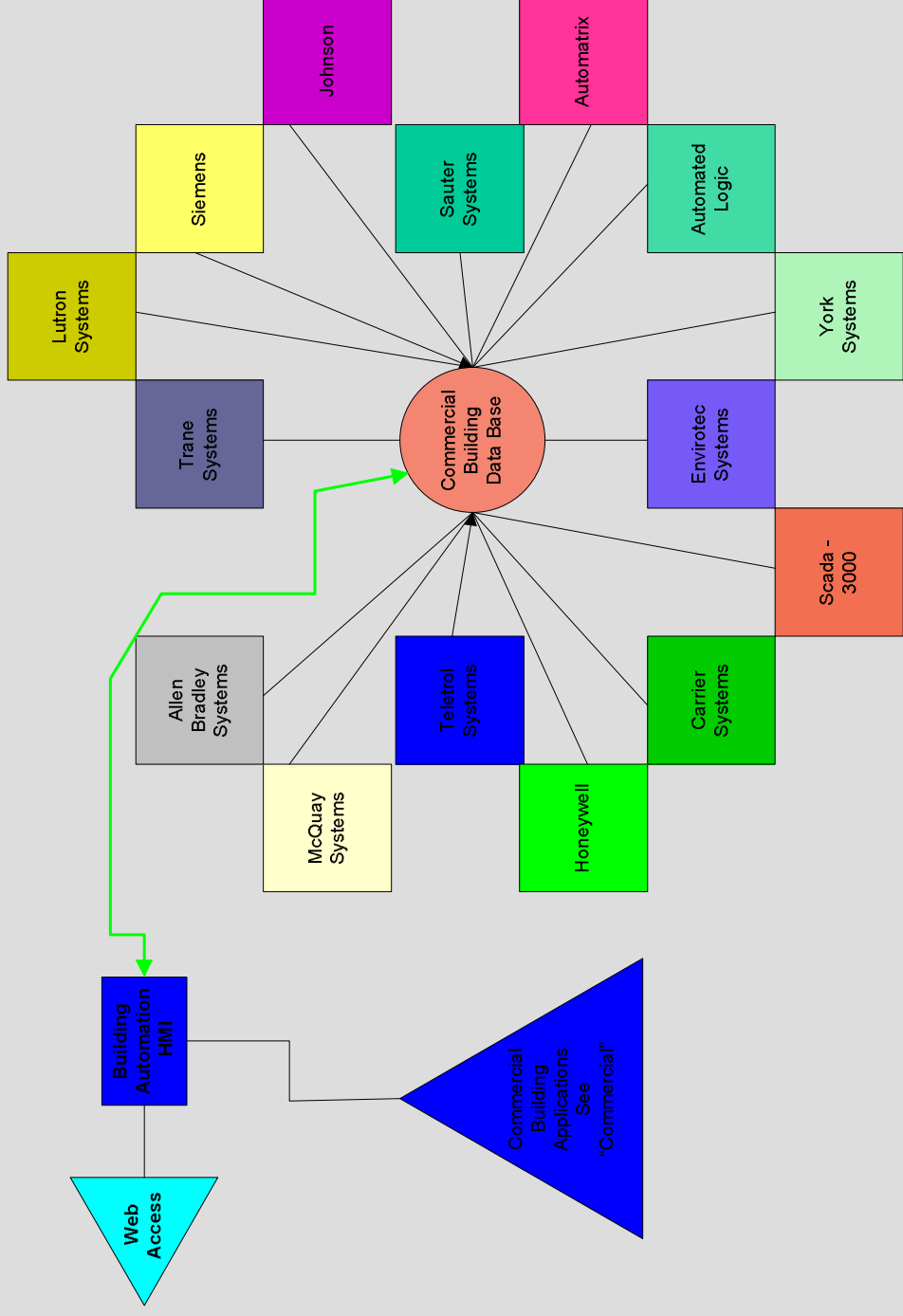




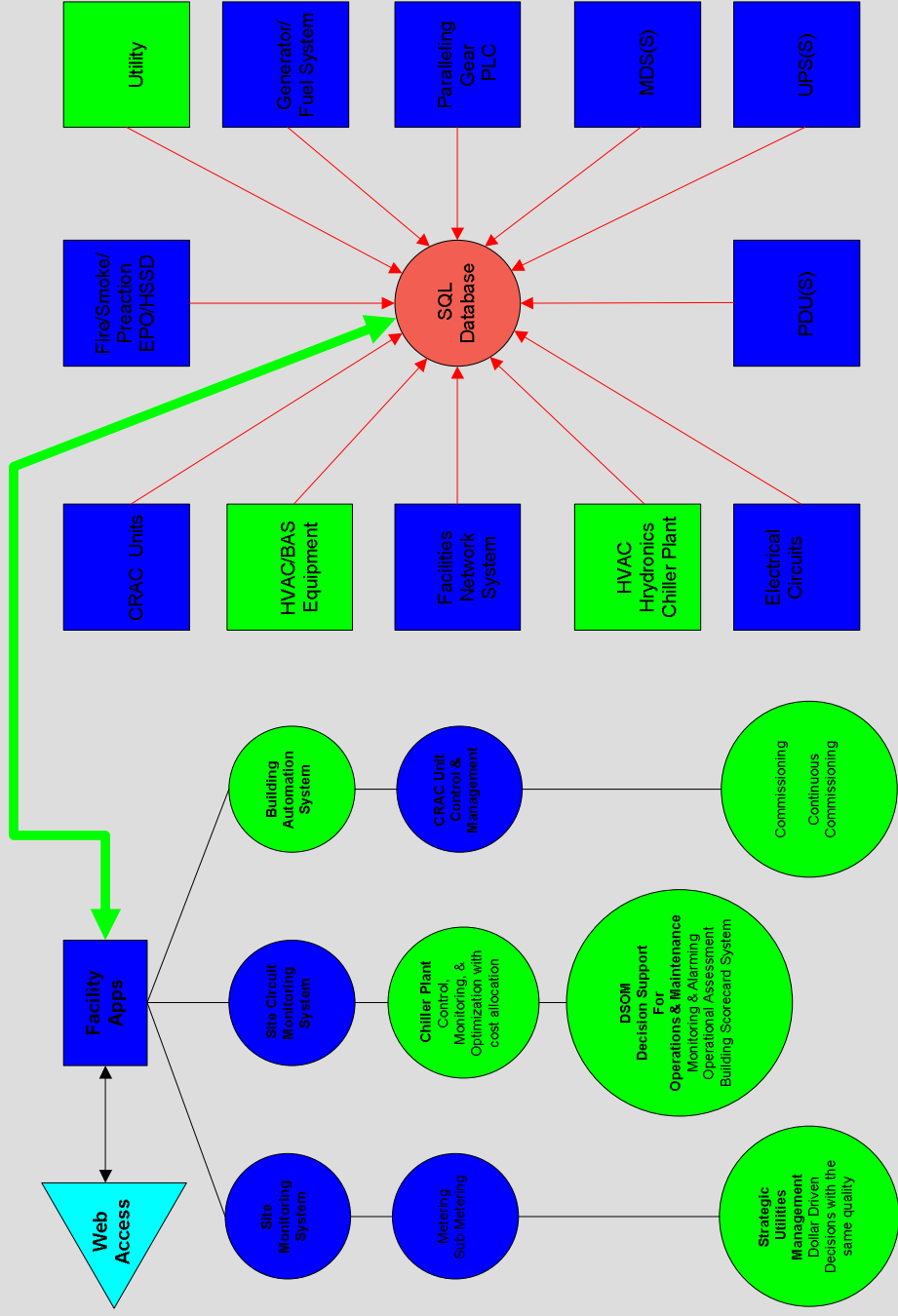
# Commercial Architecture Diagram



# OPC Interoperability Architecture Diagram



# Manufacturing Process, Data Center OPC Architecture

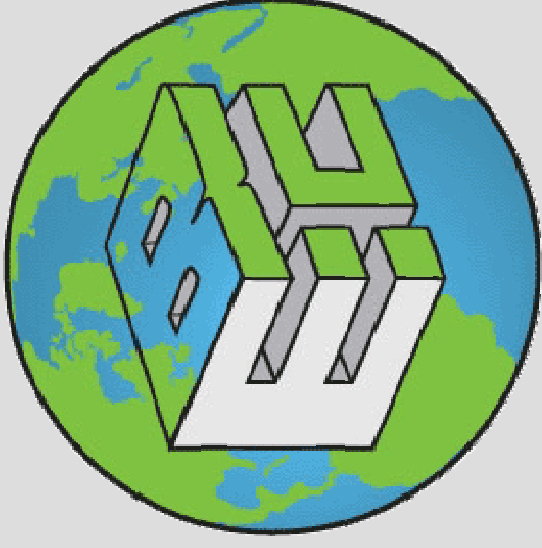


# Licensing

## A. Per server licensing

1. Unlimited concurrent clients, screens, data points. Scales with your enterprise.

# Conclusion



## A. Web launched

1. Unlimited clients and designers
2. No installation
3. Platform independent
4. Equally suited for building operators terminal or managers desk

## B. Standards Based

1. SQL Database centric
2. OPC for RTU communication
3. TCP/IP communication

## C. Licensing

1. No nonsense, expandable, per server licensing
2. Free evaluation
3. Reasonably priced

Call **Elemco Building Controls**  
908-281-2201