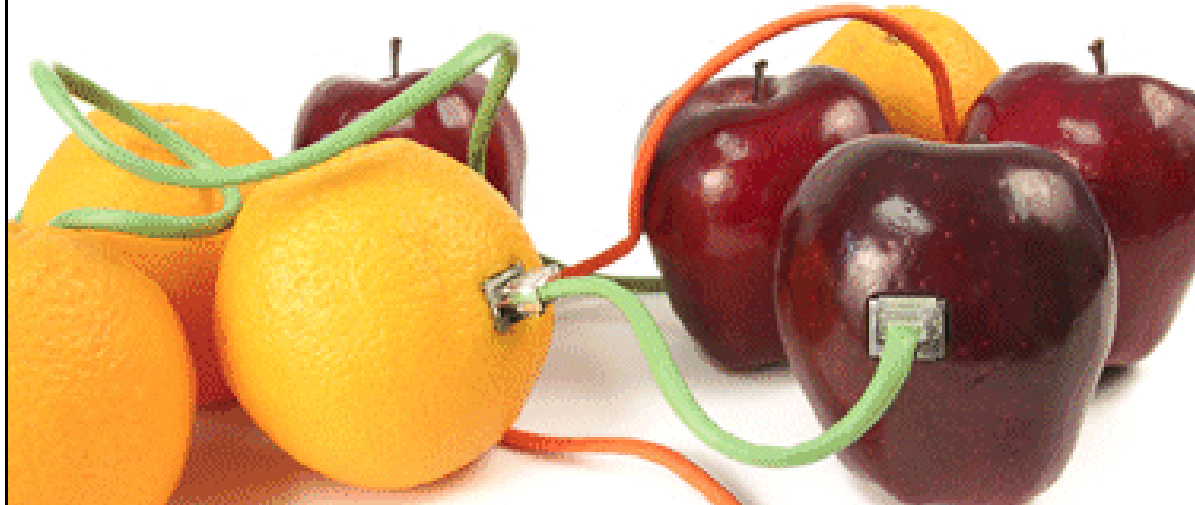


Connecting **Apples** to **Oranges**
just got a whole lot easier!

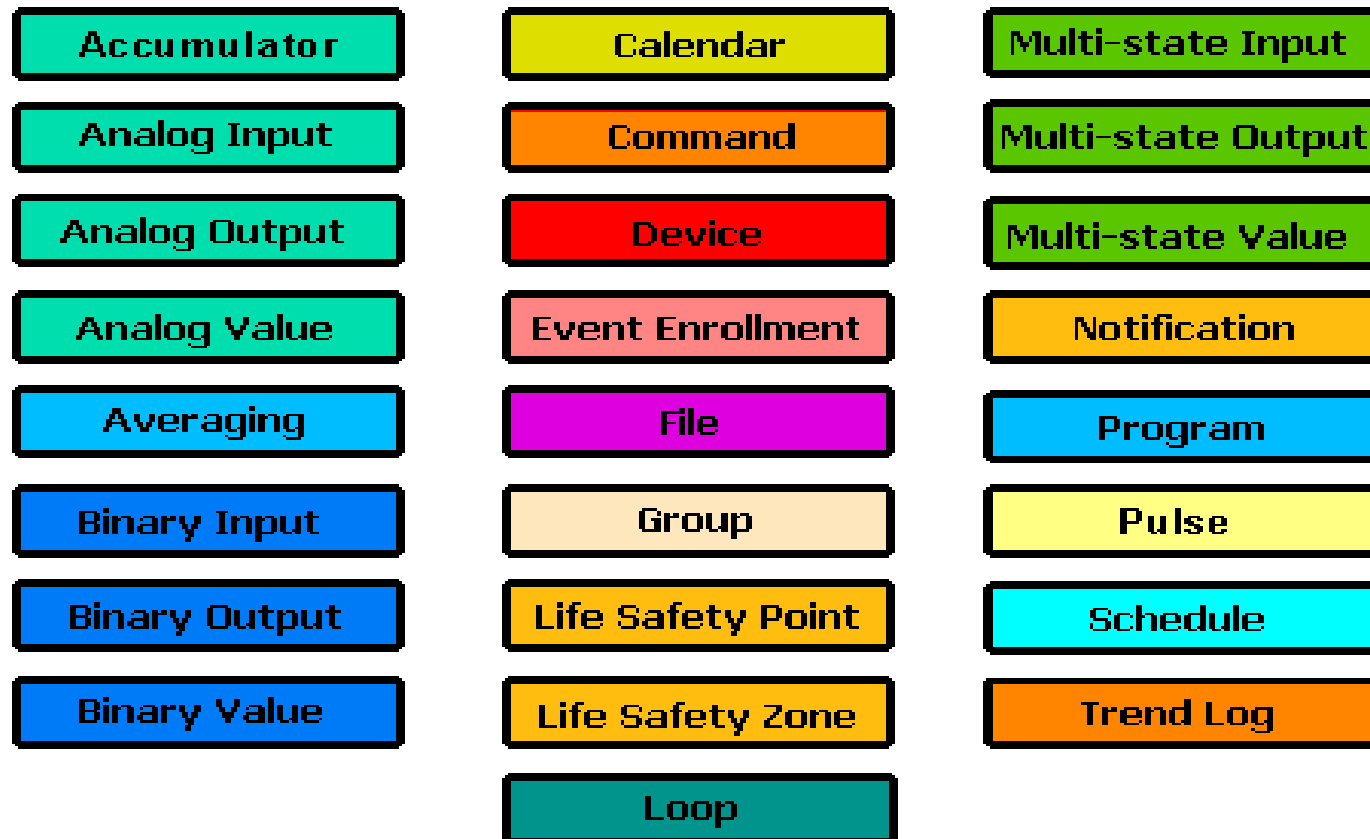


Bob Ofenstein
V.P. Products Group
Cimetrics Inc.

“BACground”

- **Interoperability**
- **Open specification**
- **Many vendors**
- **ISO stamp of approval**

BACnet defines a collection of 25 standard objects



and 3 more currently in public review



Device Object

Device	
Property	Value
Vendor Name	<enter vendor name>
Vendor ID	0
Model Name	<enter model name>
Firmware Revision	<enter firmware revision>
Application Software Version	<enter application software version>
Database Revision	1

Analog Input Object

Analog Input	
Property	Value
Instance Number	1
Object Name	<enter object name>
Units	degrees-Fahrenheit
Description	<enter description>
Device Type	<enter device type>
Min Present Value	0
Max Present Value	0
Resolution	0

ampere-square-meters
amperes
amperes-per-meter
amperes-per-square-meter
bars
btus
btus-per-hour
btus-per-pound
btus-per-pound-dry-air
candelas
candelas-per-square-meter
centimeters
centimeters-of-mercury
centimeters-of-water
cubic-feet
cubic-feet-per-minute
cubic-feet-per-second
cubic-meters
cubic-meters-per-hour
cubic-meters-per-minute

currency
cycles-per-hour
cycles-per-minute
days
degree-days-Celsius
degree-days-Fahrenheit
degrees-angular
degrees-Celsius
degrees-Celsius-per-hour
degrees-Celsius-per-minute
degrees-Fahrenheit
degrees-Fahrenheit-per-hour
degrees-Fahrenheit-per-minute
degrees-Kelvin
degrees-Kelvin-per-hour
degrees-Kelvin-per-minute
degrees-phase
delta-degrees-Fahrenheit
delta-degrees-Kelvin

Binary Input Object

Binary Input	
Property	Value
Instance Number	1
Object Name	<enter object name>
Polarity	NORMAL
Description	<enter description>
Device Type	<enter device type>
Inactive Text	<enter inactive text>
Active Text	<enter active text>

Multistate Input Object

Multistate Input	
Property	Value
Instance Number	1
Object Name	<enter object name>
Number Of States	1
Description	<enter description>
Device Type	<enter device type>

**“Thousands of people are
involved”**

BACnet Timeline

- Original creators – 81 Contributors – 12 Countries
- ASHRAE / ANSI standard – 1995
- ISO standard 2003
- BACnet / Web Services (1st review 2004)

BACnet Committees

- **Applications**
- **Lighting Applications**
- **Life Safety and Security**
- **Network Security**
- **Objects and Services**
- **Utility Integration**
- **XML – Web Services**
- **Wireless**
- **Utility Integration**
- **XML – Web Services**
- **Wireless**
- **MS/TP enhance**
- **IP v6 transition**



BACnet Plugfests



208 BACnet Vendor ID's

SIEMENS

Reliable®
controls

AndoverControls

ALERTON®

 **TRANE®**
It's Hard To Stop A Trane.®

Honeywell

Teletrol
Building Automation Technology

McQuay®
International

 **cimetrics™**

AUTOMATEDLOGIC®
CORPORATION

 **Delta™**
C O N T R O L S

 **Carrier**

JOHNSON
CONTROLS

BACnet Organizations

- BACnet International
- BIG-EU Europe
- BIG-AA Australia & Asian Countries
- BIG-ME Middle East
- IEIEJ – Japan BACnet Group
- BIG-RU - Russia

**“The Web Services
initiative”**

- Identify Web Services use cases (16 identified)
- Identify “Actors” and “Services Required” for each
- Prioritize use case groups based on need and difficulty
- Define the scope of BACnet/WS version #1
- Design discussions – weekly conference calls + face to face meetings every quarter

- Automation Protocol independent
- Scalable from simple Client applications to full featured Enterprise applications
- Able to read and write to any point
- Support for multiple points and arrays
- Support for Trending suitable for immediate presentation
- Support for multiple languages and locales

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- **Nodes** = Values + Attributes
- **Paths** = “/building 1/director office/temp”
- **Normalized Points** = any protocol
- **Localization** = date / time / numbers
- **Security** = basic authentication or SSL
- **Sessions** = not required
- **Services** = enterprise read / write to building

READ COMMANDS

- **getValue**
- **getValues**
- **getArray**
- **getArraySize**
- **getHistoryPeriodic**
- **getDefaultLocale**
- **getSupportedLocales**

WRITE COMMANDS

- **setValue**
- **setValues**

**More in the afternoon
session !**