



## Experion LX – Purpose-built DCS

**Honeywell**

## Honeywell's New DCS

### Experion LX



**Purpose-Built**

**On Honeywell's  
Reliable  
DCS Platform**

**Delivered Through Authorized Partners**

## Experion LX: Proven Technology

### Purpose Built DCS

- Specialty chemicals
- Industrial power
- Bio-fuels / alternate energy
- Food & beverage
- Water
- Metals

Derived from Experion PKS  
with Many Leading Technologies

# Innovation that Unlocks Your Business Potential

## Modern Platform



Flexible, scalable, modern technology

## Safety



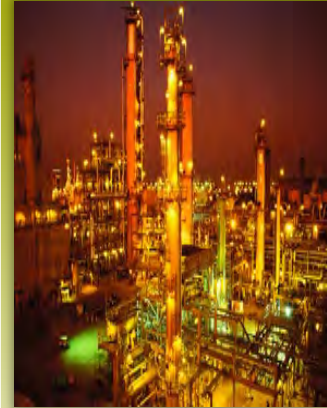
Avoid process incidents

## Reliability



Maximize asset availability

## Efficiency



Easy to use from implementation to operations

## Continuous Evolution



Purpose built from Honeywell's core technology of Experion PKS

## Leading Technology for

Industrial Power, Batch Chemicals, Bio-fuels, F&B, Metals, Water

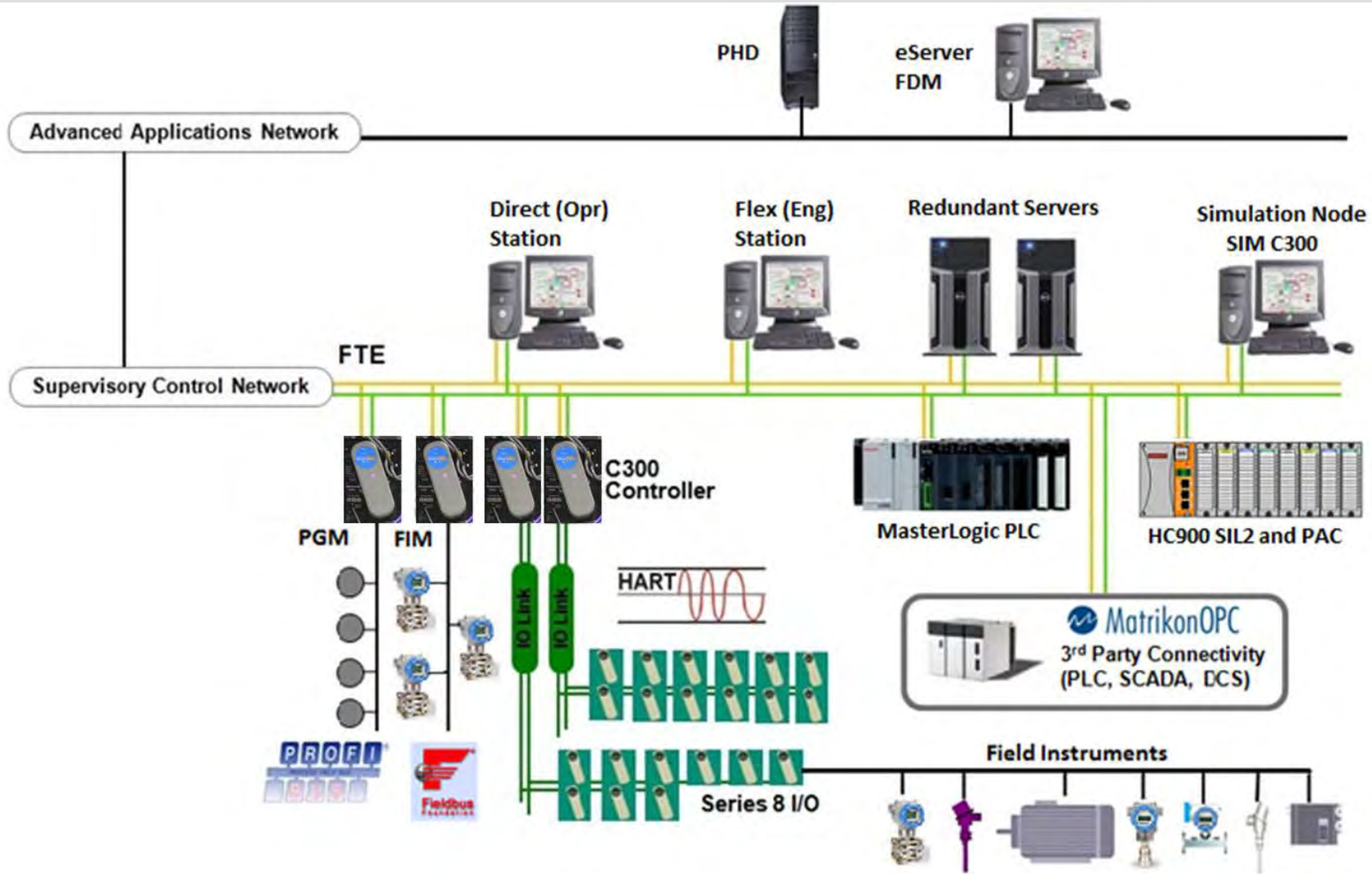




*Introducing*  
**Experion LX**

**Leading  
Technology**

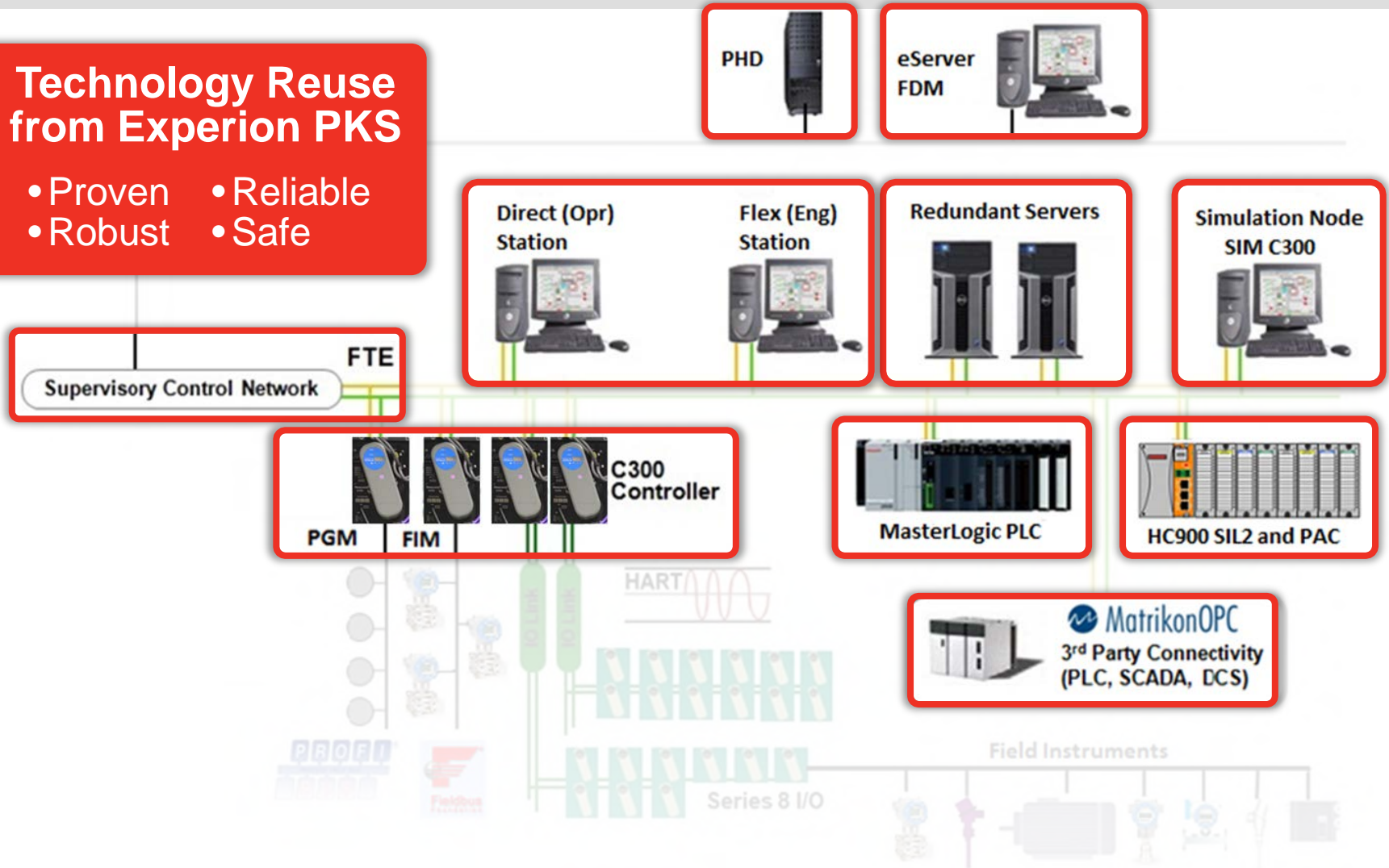
## Experion LX



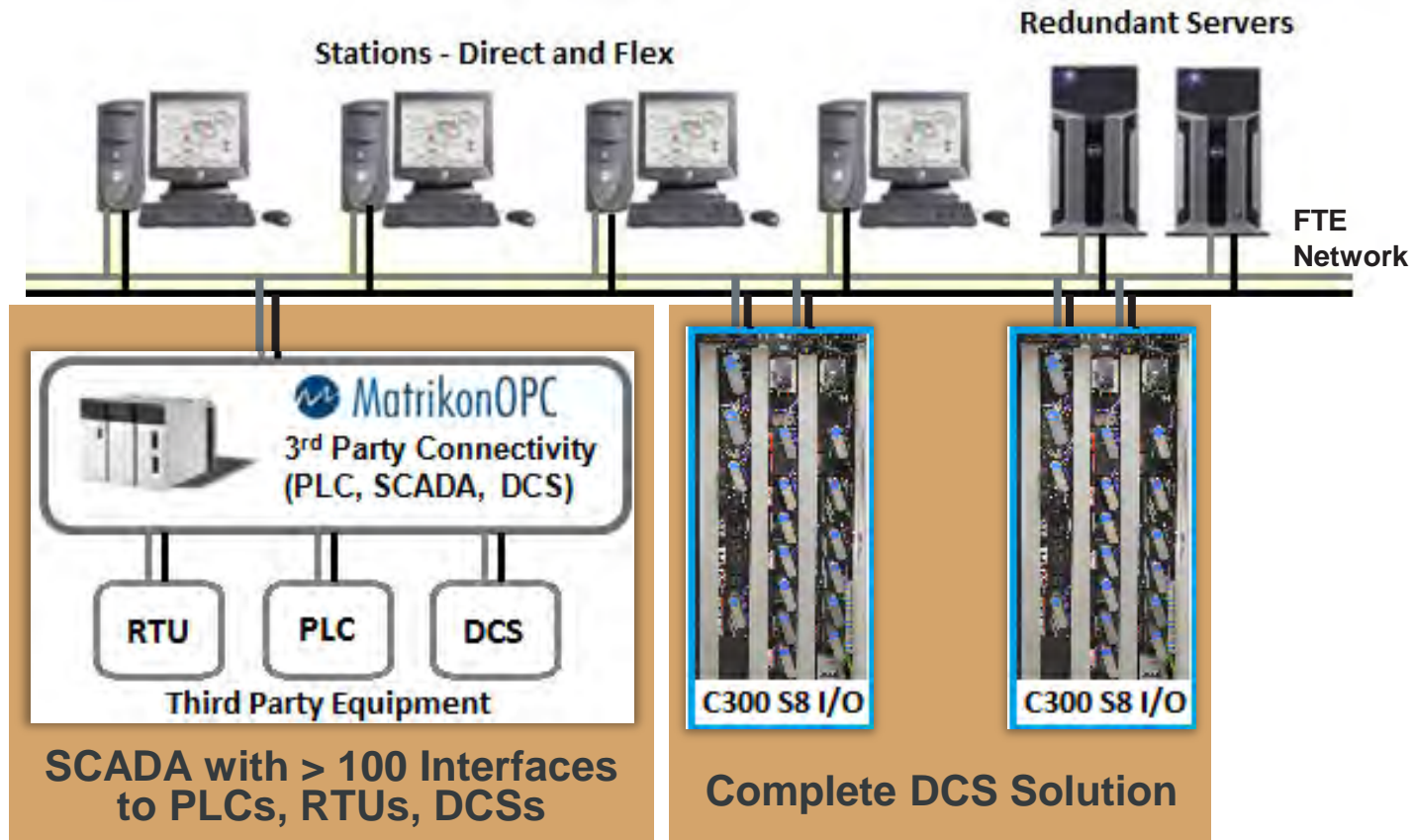
## Proven & Reliable Technology

### Technology Reuse from Experion PKS

- Proven
- Robust
- Reliable
- Safe



## Complete DCS and SCADA



**Full integration of subsystems or migration of 3<sup>rd</sup> party PLC / DCS to a complete DCS solution with Experion LX**



## Scalable and Expandable

Full  
DCS

### Single C300 and Station

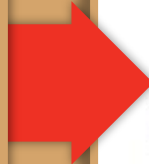
Station on  
Server



FTE Network



C300 S8 I/O



### Many C300s and Many Stations

Stations - Direct and Flex



Redundant Servers



FTE  
Network



C300 S8 I/O



C300 S8 I/O



C300 S8 I/O

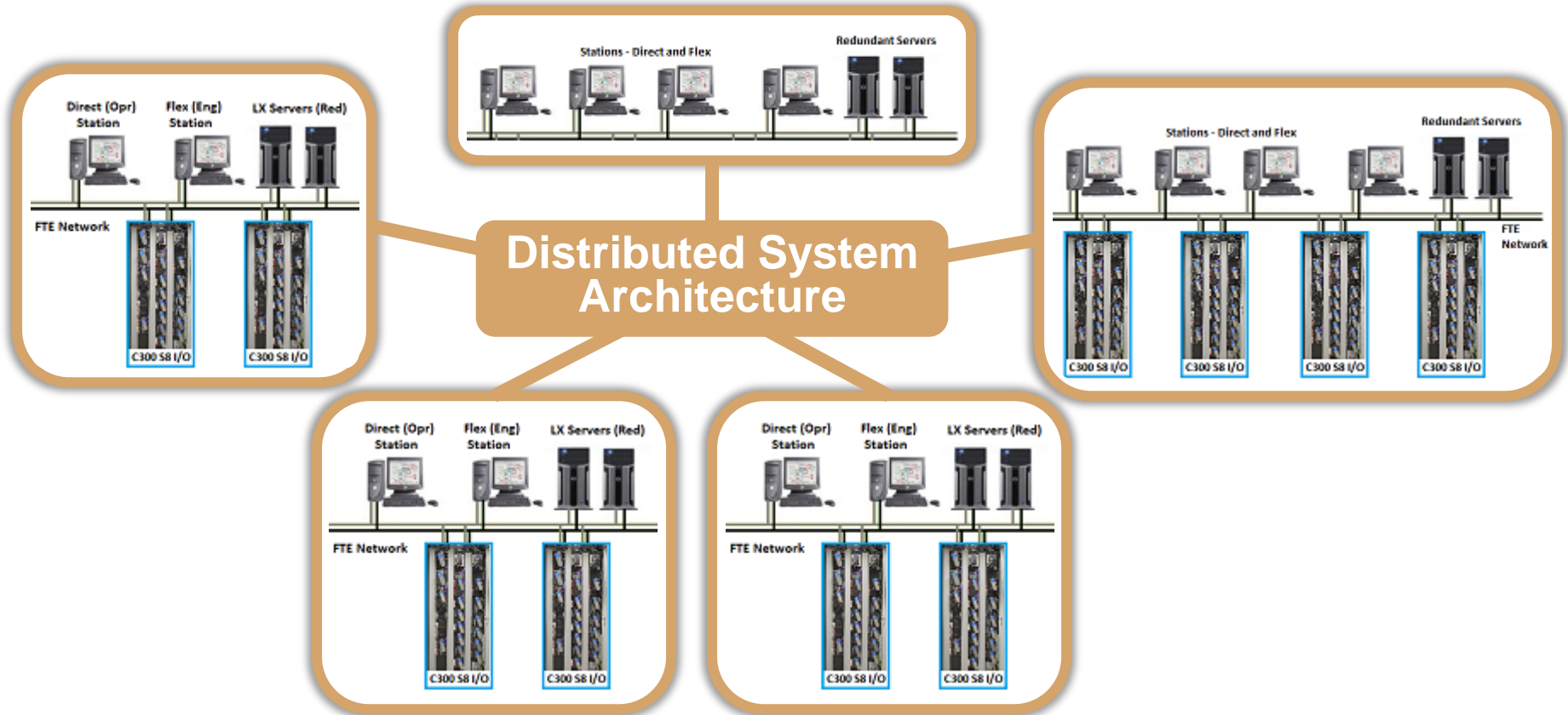


C300 S8 I/O

Scalable and expandable...a perfect **fit**

## Scalable and Expandable

Connect up to 5 Experion LX Systems Together Using DSA



Scalable and expandable...a perfect **fit**

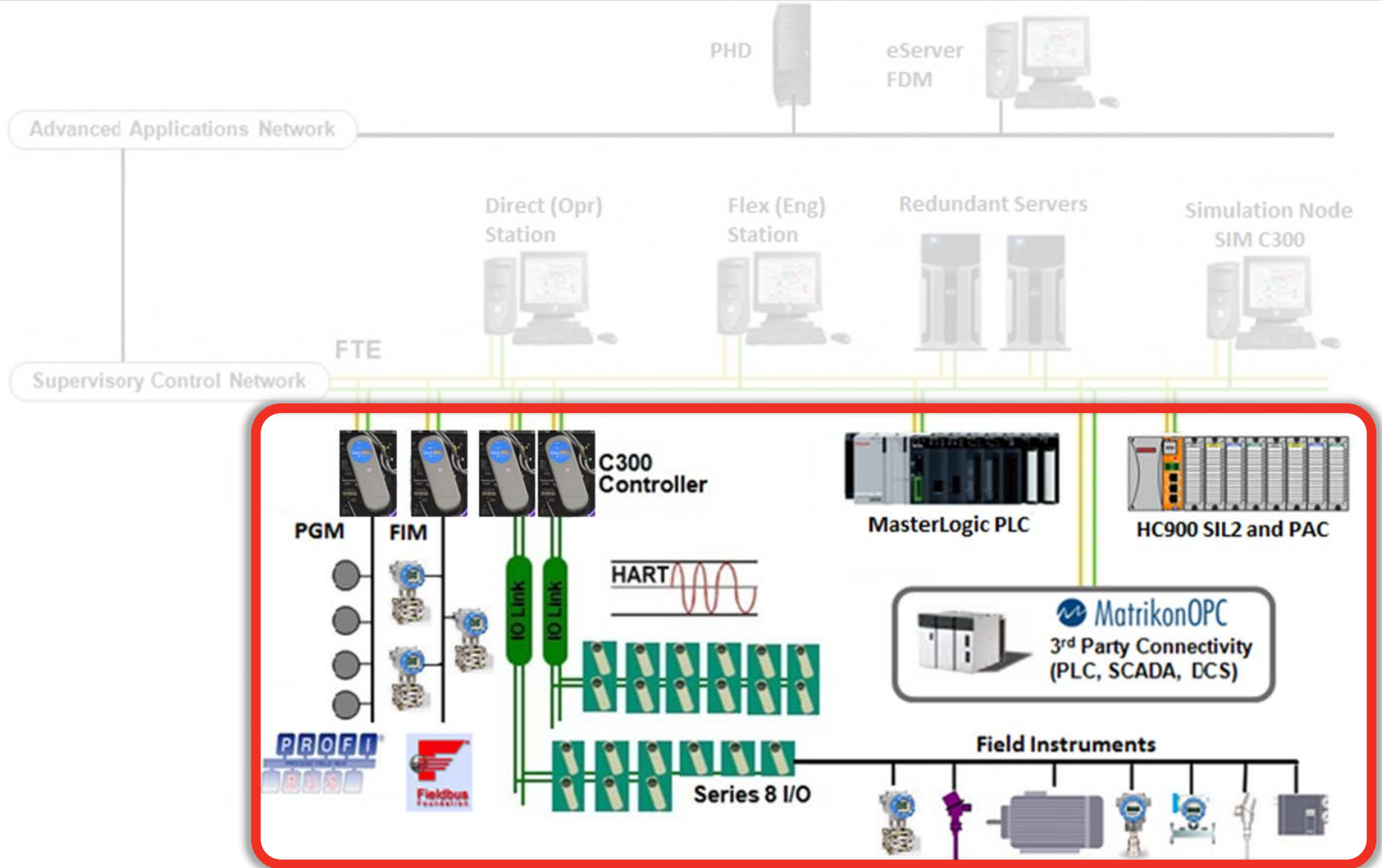
## Experion LX Overview – Comparison

		Experion LS Small	Experion LX Medium	Experion PKS Very large
<b>STATIONS</b>	Qty & Type	10 Flex	15 Direct or Flex	60 Flex 20 Direct
	# of Displays per Station	2	4	4
	Station on Server	YES	YES	NO
	Tags – Process	2,000	<b>10,000</b>	25,000
	Tags – SCADA	8,050	<b>50,000</b>	300,000

**Purpose-Built DCS**  
for delivery by  
Honeywell Authorized Channel Partners

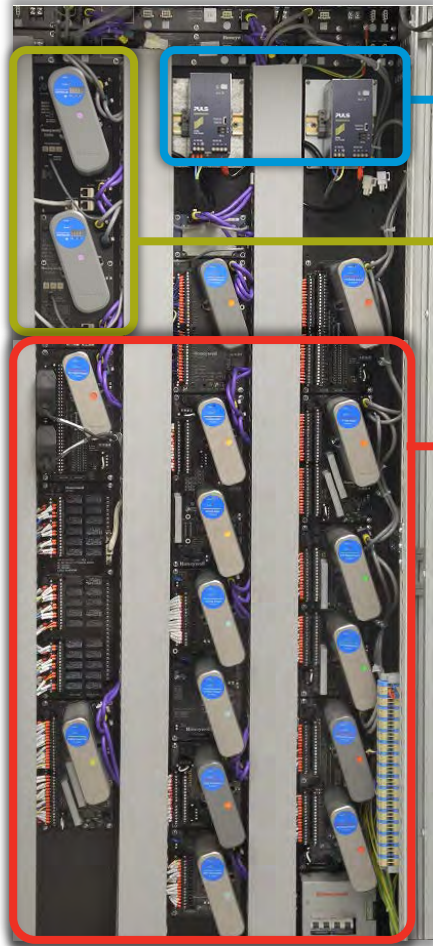
	Controllers C300	NO	<b>YES</b>	YES
	ACE / Soft Controllers	YES	NO	YES
<b>COMMUNICATION</b>	Supervisory Network	FTE & ControlNet	FTE	FTE & ControlNet
	Smart Device Protocols	HART, Profibus, DeviceNet, Modbus	HART, Profibus, Foundation Fieldbus, Modbus	HART, Profibus, Foundation Fieldbus, DeviceNet, Modbus

## Experion LX Architecture





## C300 Controller and Series 8 I/O



### Power Supply System

- Redundant / non redundant
- Power supplies & power control module

### C300 Controller

### Series 8 I/O

- Redundant / Simplex
- LLAI, AI & AI HART
- AO, AO HART
- DI, DI SOE, Pulse, DO

### Terminals

- Integrated
- Removable
- Easy to wire



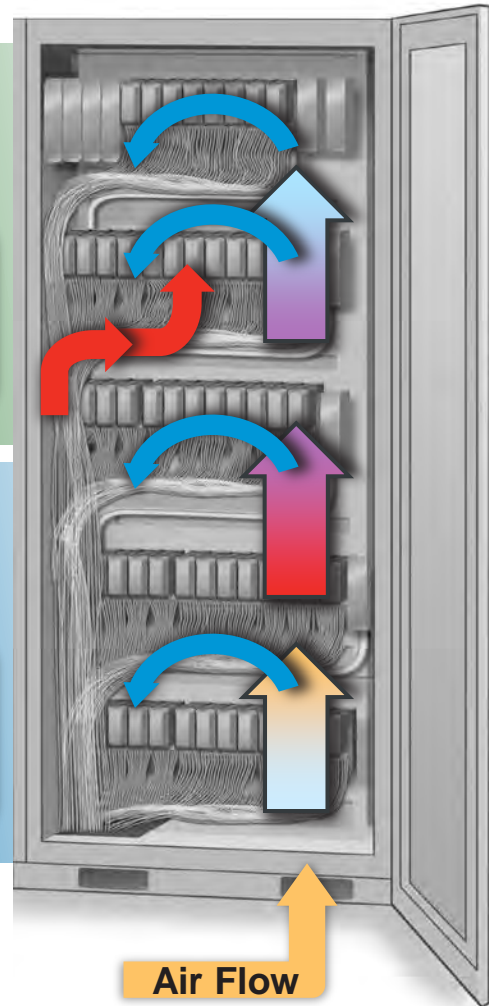
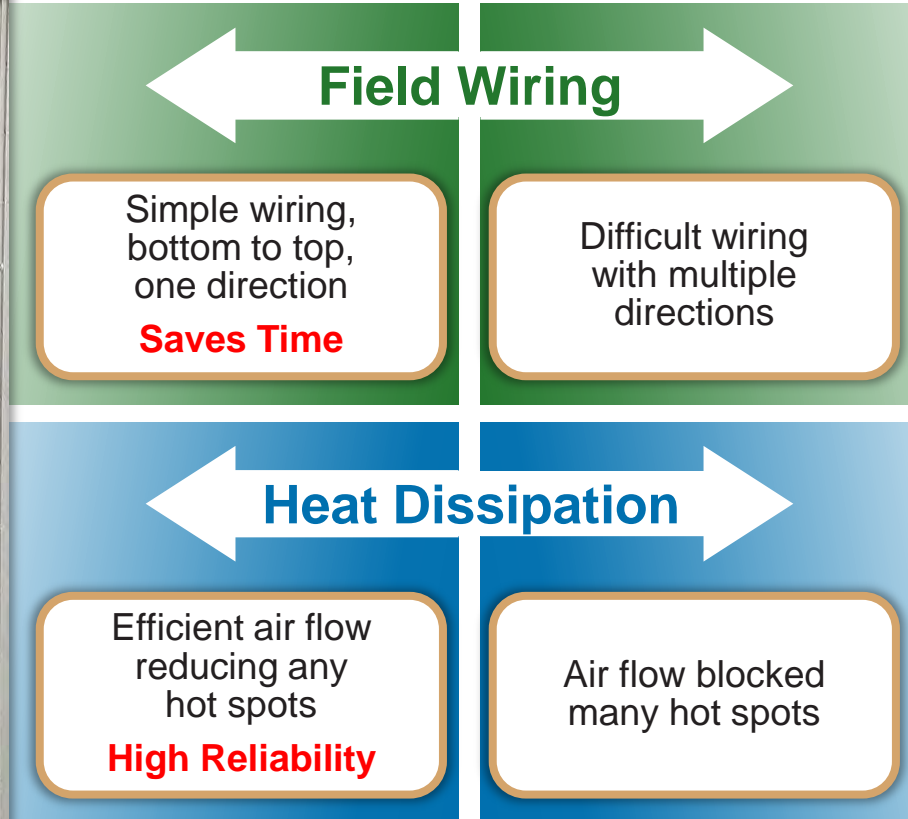
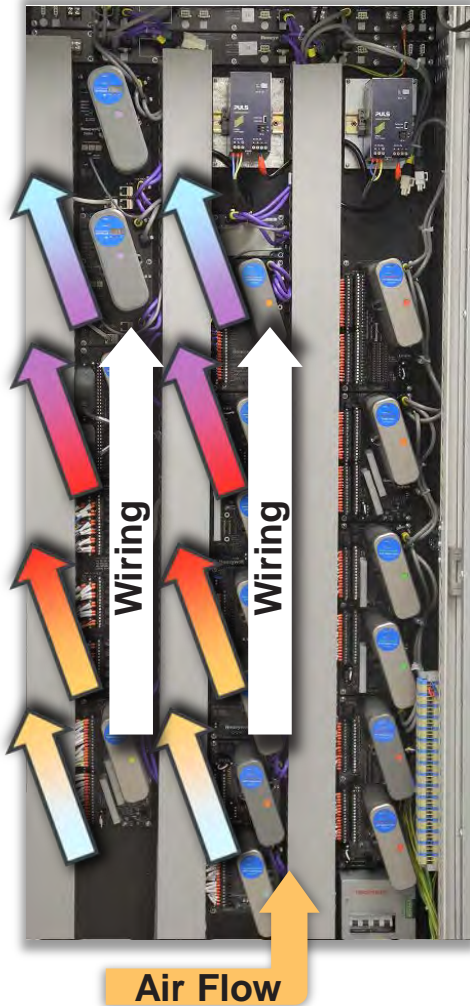
### Module

- Slanted for heat removal

### IOTA

- I/O termination assembly

## Cabinet Layout



**Reduces Your Time to Wire & Maintain**



**Series C**  
HPS factory built



**Series 8**  
Assembled by SI  
or Panel Shop

## Series 8

### Designed for easy assembly

- Modules mount to back panel or DIN rail
- Modules plug onto IOTA and connect with prefab cable
- Integral power distribution for modules and field devices
- Product certification can be mounted in customer cabinets
- No special mounting hardware, power rails or cabinet infrastructure, just IOMs, IOTAs, power, I/O link cable

## C300 Controller



**Powerful, fast, robust control**

**Executes Honeywell's field proven, deterministic, Control Execution Environment (CEE) process, logic, sequences, batch and scheduling**

**Redundant or single**

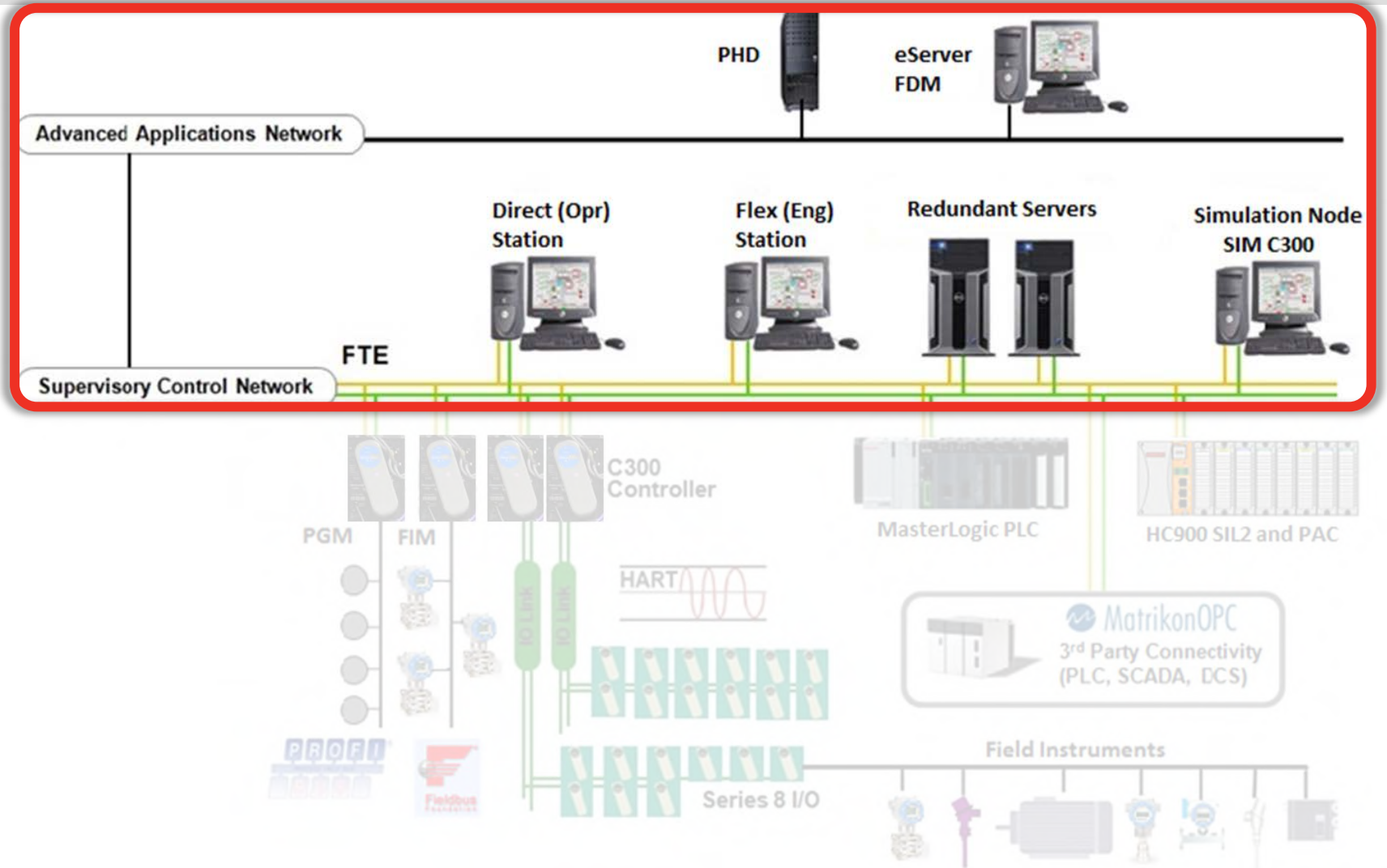
**Redundant I/O links to Series 8 I/O modules (80 modules)**

**Fault tolerant Ethernet**

- Supervisory
- Peer to peer
- 3rd party devices



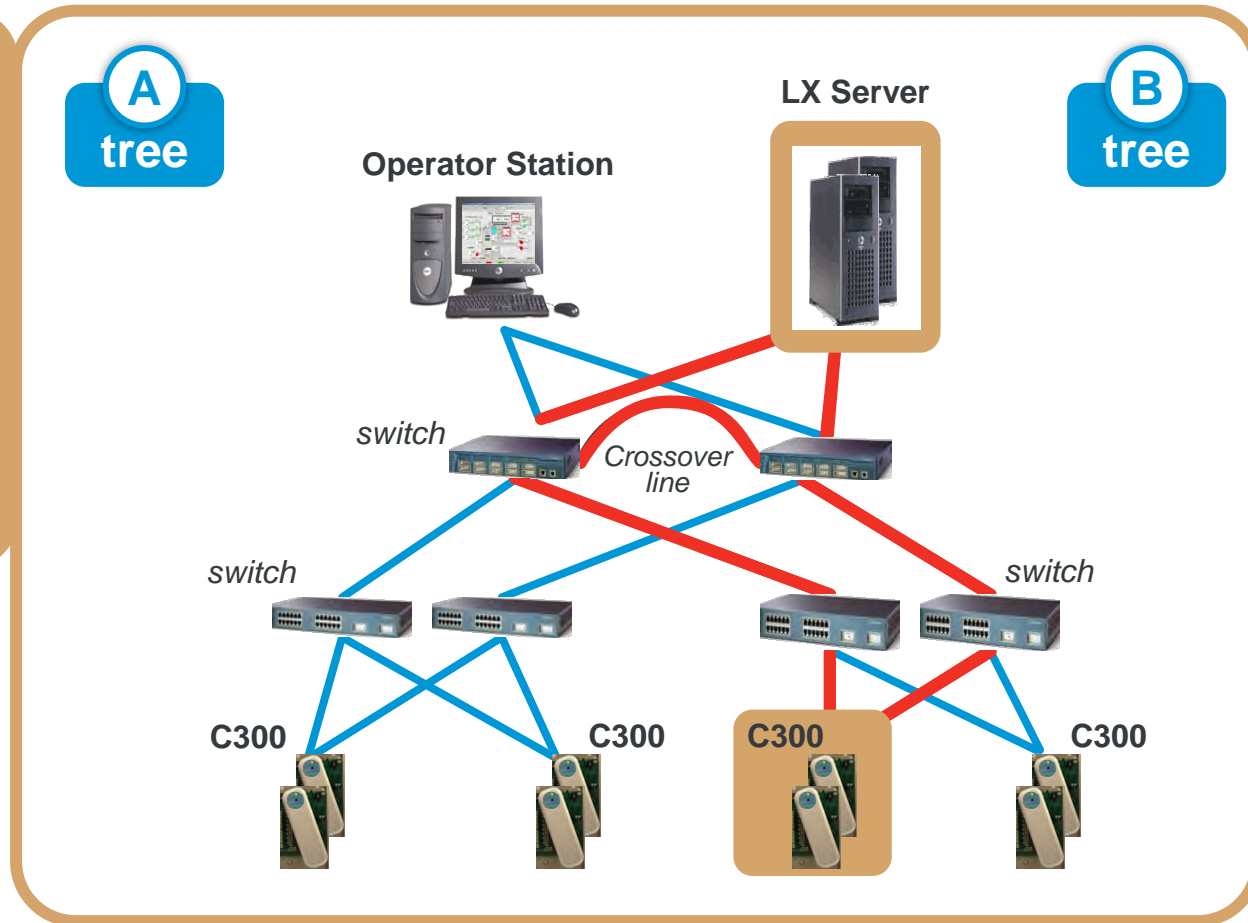
## Experion LX Architecture



# Patented Fault Tolerant Ethernet

- Redundant physical device
- Single logic network
- Auto path selection by FTE node
- Single point and multi-point fault-tolerant

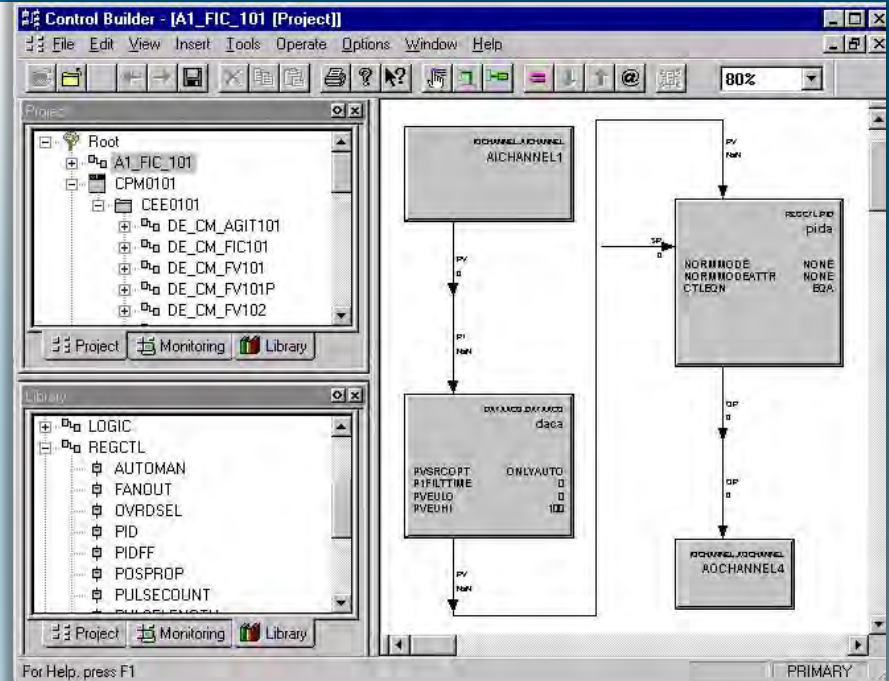
High **B** to **A** Data Access



## Engineering Tools – Control Builder

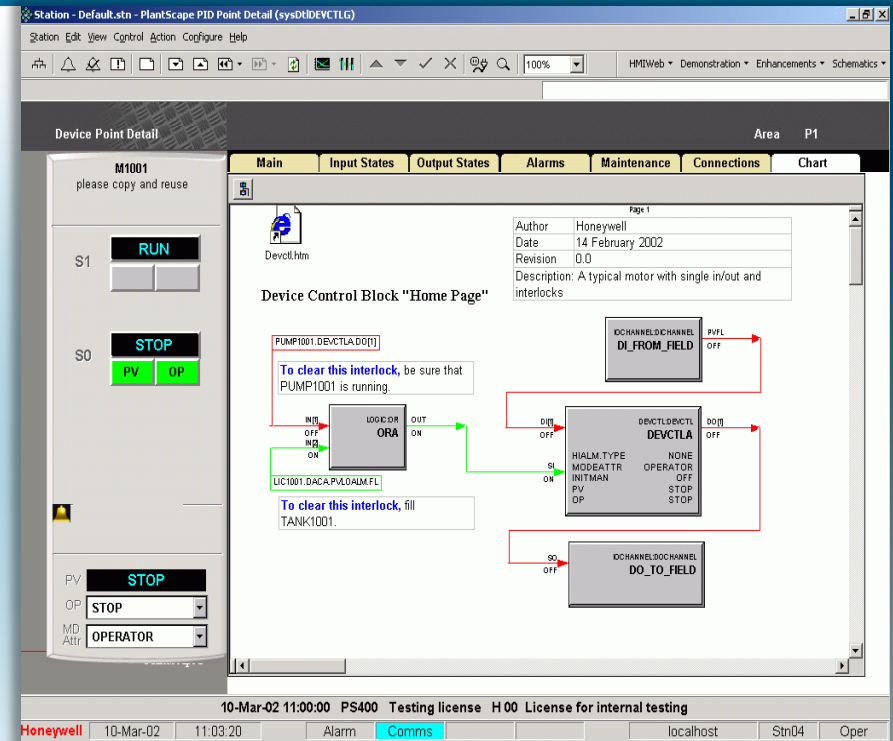
### Configuration / Monitoring

- Flexible configuration environment
- Control loop configuration, modify online
- Graphical modular configuration, real-time monitoring and debugging environment
- S88 modular batch automation
- Hierarchical classification management
- Builds common global database for all system nodes (Controller & HMI)



## Typical Control Module

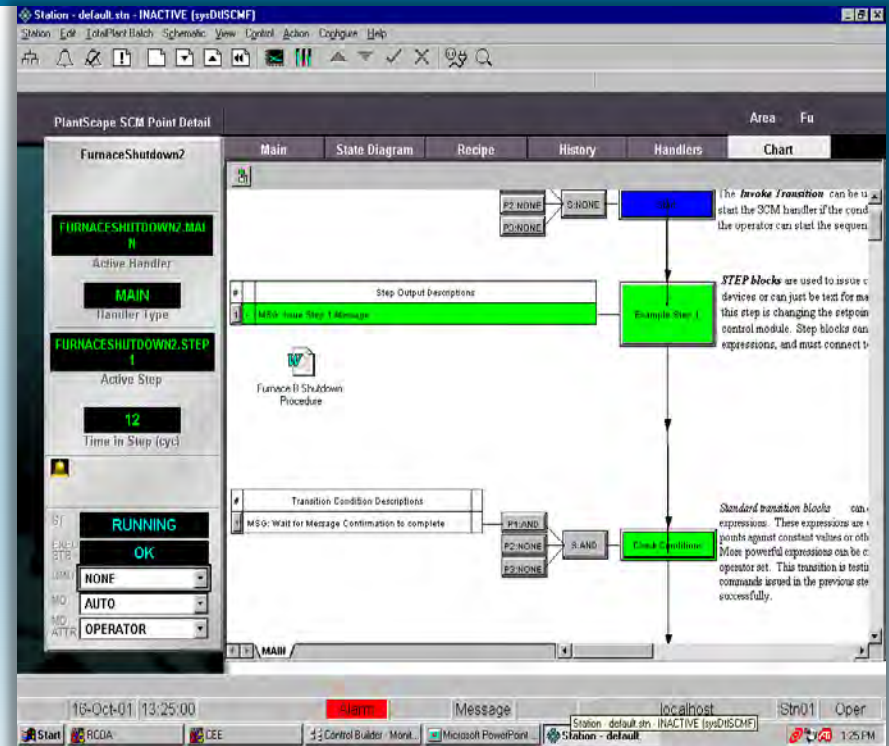
- Graphical building with extensive function block library
- Visual identification of active interlocks and outputs
- Operator instructions
- Embedded links to documentation
- Advanced loop control
  - Model based control in C300
  - Much less sensitive to measurement noise and simpler tuning than PID
  - Adapts to a wide range of process dynamics and material variability





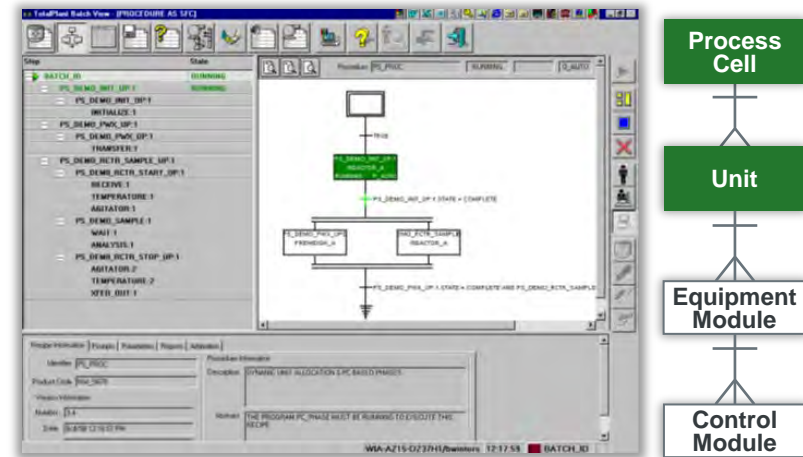
## Typical Sequential Control Module

- Graphical building of phase logic
- Visual identification of active steps and transitions
- Can display to the operator
- Embedded links to documentation
- Parallel execution of steps and branching support
- Recipe parameter changes via alias table

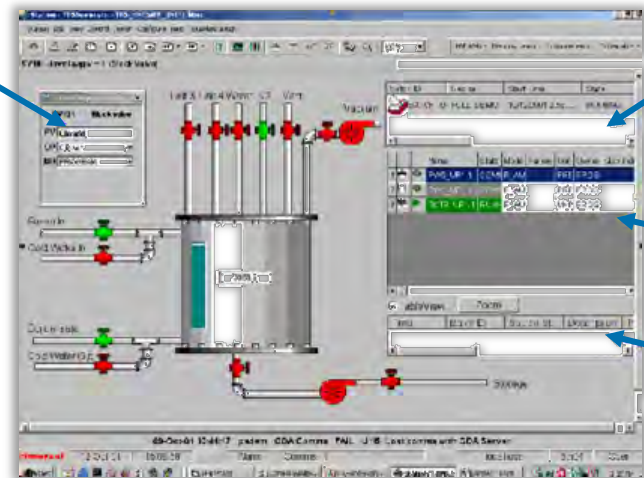


## Experion Batch Automation

- S88 batch model compliance
- Recipe management
- Recipe execution
- Equipment definition
- Equipment arbitration
- Controller integration
- Recipe simulation
- Security / access control
- Unified operating environment



Popup Window



**Batch execution in C300:**

**Faster** – increased production  
**Reliability** – reduced scrap

## Experion Batch Automation

Direct (Opr)  
Station

Flex (Eng)  
Station

LX Servers (Red)

**NO  
Batch  
here**

- No batch server
- No server to controller batch instructions
- Robust / reliable
- Reduced batch cycle time for higher production



**Batch lives here**

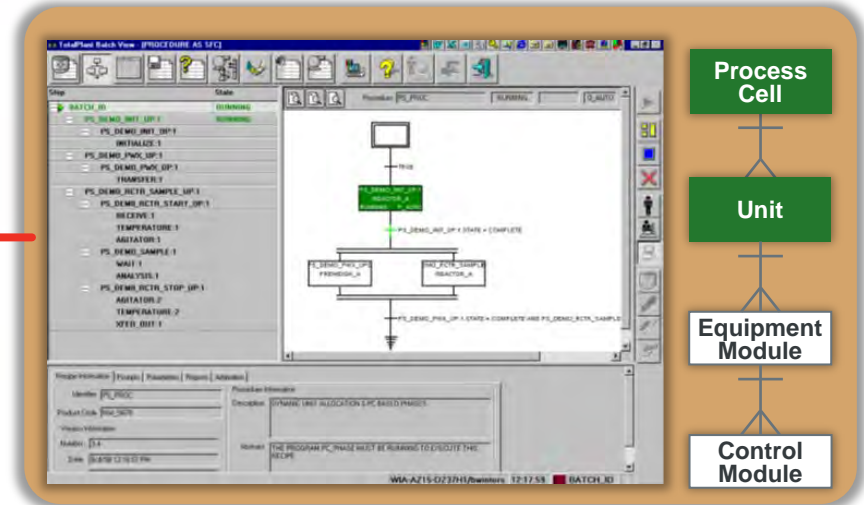
FTE Network



C300 S8 I/O



C300 S8 I/O



## HMIWeb Display Builder

- Creates custom display pages
- Creates files in .htm format that can be viewed in Station or via Internet Explorer using eServer

The screenshot shows the HMIWeb Display Builder software interface. The main window displays a process diagram for 'Boiler 1 Operations' with various data points and trends. Several components are highlighted with red callouts:

- Script Editor Icon**: Located in the top toolbar.
- Shape Library Icon**: Located in the top toolbar.
- Dockable Tool Bars**: Located on the right side of the interface.
- New Trend Object**: Located in the top toolbar.
- Object Explorer**: A panel on the left side showing a tree view of objects like 'checkbox001', 'combobox001', etc.
- Point Browser**: A panel at the bottom left showing a list of points like 'AIR\_FLOW', 'BOILER1', etc.
- Property Sheet**: A panel on the right side showing configuration options for a selected object, such as 'Type of database link', 'Database link', and 'Parameter'.
- Standard Dynamic Objects**: A red box at the bottom center pointing to various elements in the process diagram.

## Alarm Summary Display

Filters can be applied to columns

Columns can be customized to suit operator requirements

Station - Default - Alarm Summary(sysAlarmSummary.htm)

Station Edit View Control Action Configure Help

Alarms

Location View: (all alarms) \* (Filter applied) Clear All Filters Reset View

Date & Time	Location Tag	Source	Condition	Priority	Description	Trip Value	Live Value
3/23/2007 12:34:36	Furnace2	F2-ZONE1 PVHH	U 00	F2 ZONE1 TEMP	1,456.00	1,456.00	
3/23/2007 12:26:02	Furnace2	F2-ZONE1 PVHI	H 00	F2 ZONE1 TEMP	1,406.47	1,456.00	

Location Pane

- Show All Locations
- Alarm Groups
- Assets (5)
  - A2 (2)
    - Furnace1
    - Furnace2 (2)**
    - Boiler1
  - Unassigned Items (3)

Location Pane shows alarm location summary and # of alarms

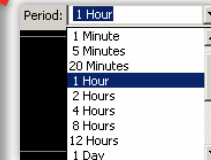
Alarms and their severity listed clearly for a defined asset (unit process, equipment, etc.)



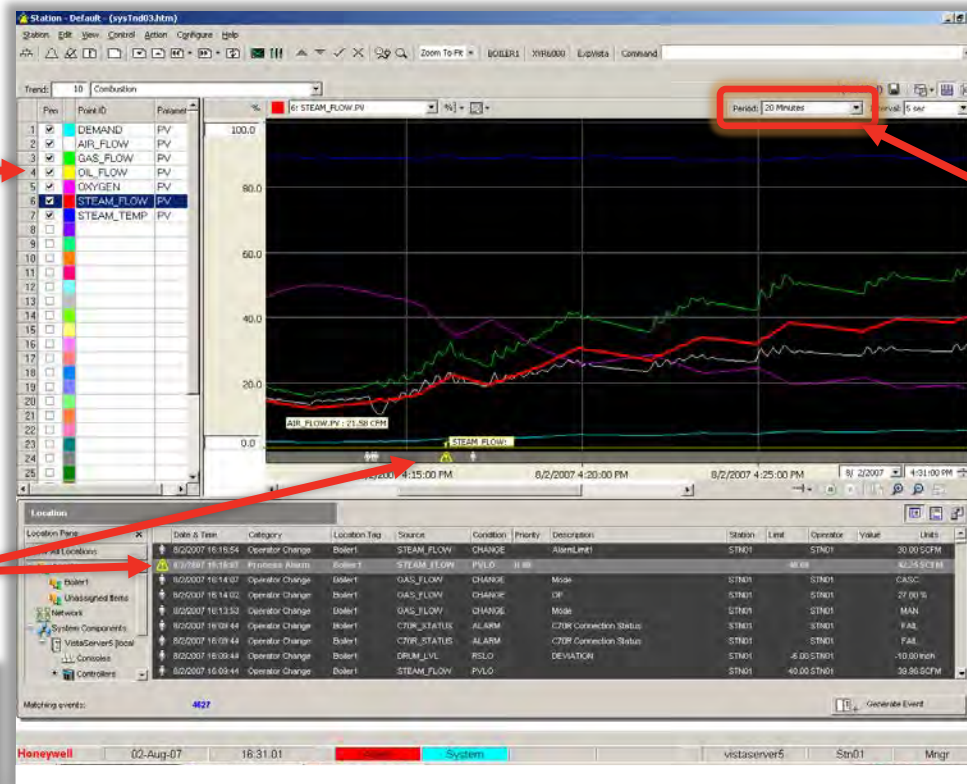
## Trending Displays

Pen legend may be shown or hidden for larger graph. Operators may add pens on-line, un-check pens for declutter or highlight (bold) a selected pen

Time range selections



Icons represent each type of event at time of occurrence



Use the splitter bar to show as much event data as necessary

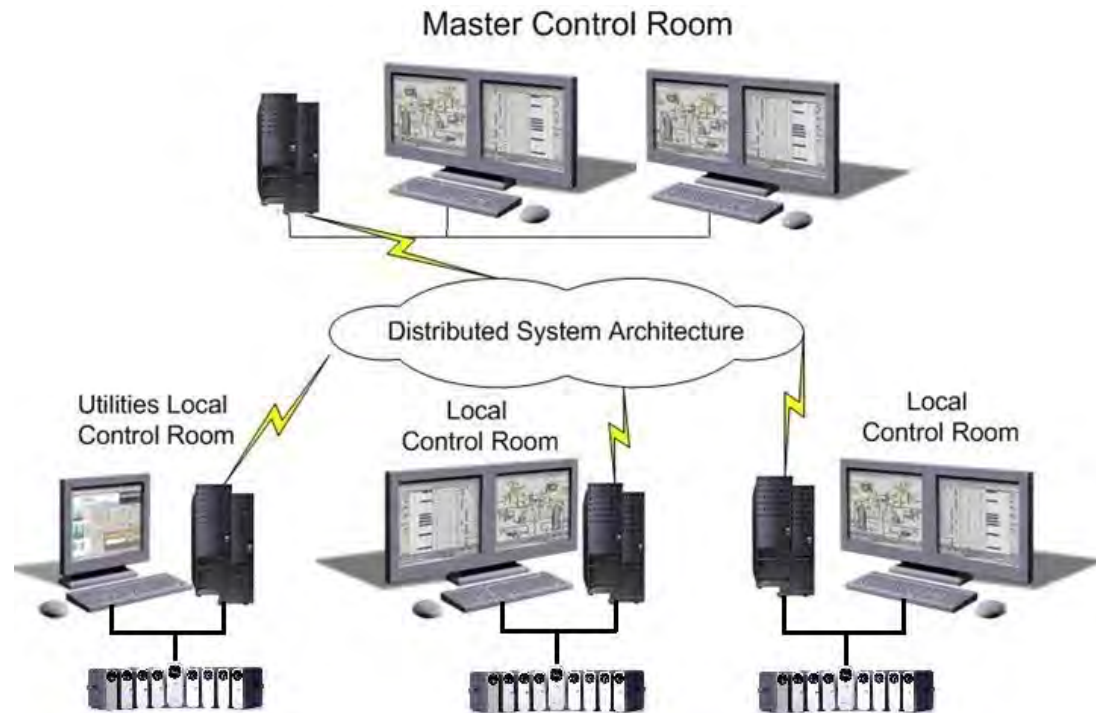
- Easy configuration
- Event integration
- Max 32 curves

## Distributed System Architecture (DSA)

### Central Control Room – Add / Maintain Subsystems

**DSA enables multiple systems to share data, alarms, messages, and history without the need for duplicate configuration on any system**

- Configured using existing displays
- Global name space for access to all point information
- Supports redundant networks and servers



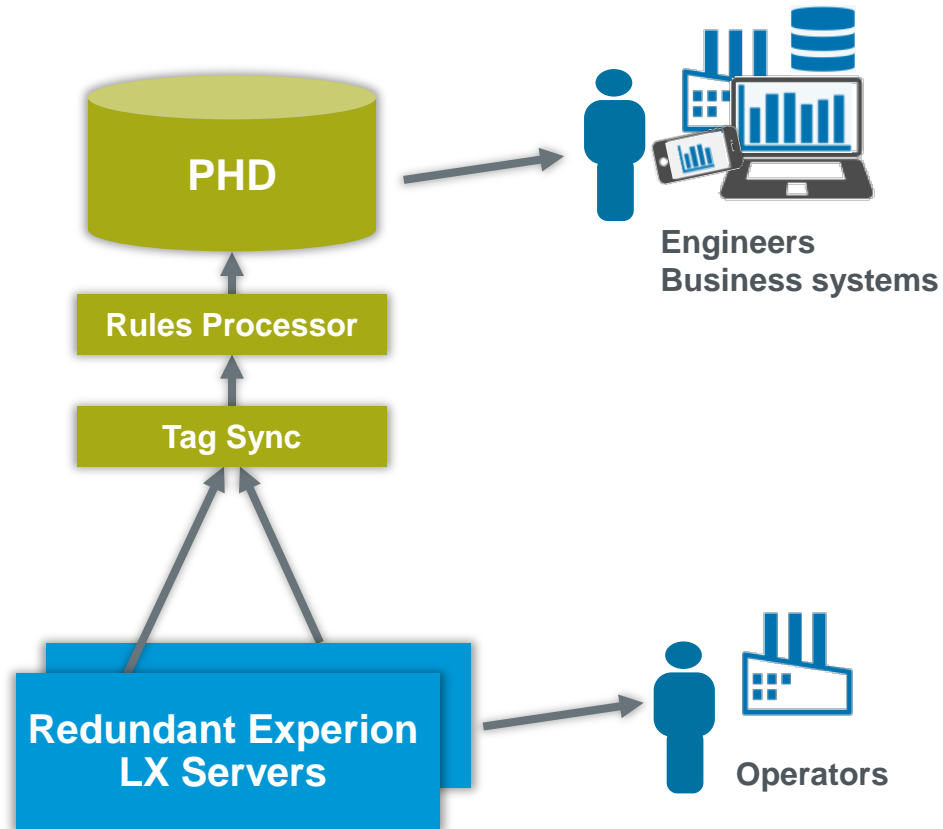
## Seamless Integration with PHD Historian

### Secure and Scalable History

- Secures the PCN. No load on the controllers from casual information users
- Engineer-focused analysis at their desktops
- Enables long-term (years) of storage
- Integration platform for multiple control systems

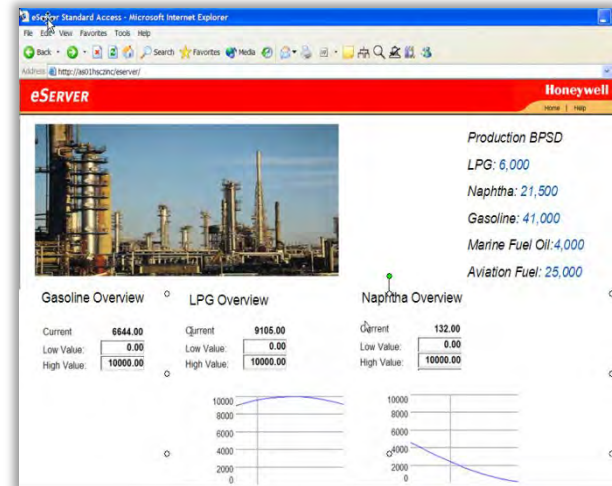
### Auto Point Synchronization

- Self-configuring point database
- Timely automated updates
- Flexible and customizable

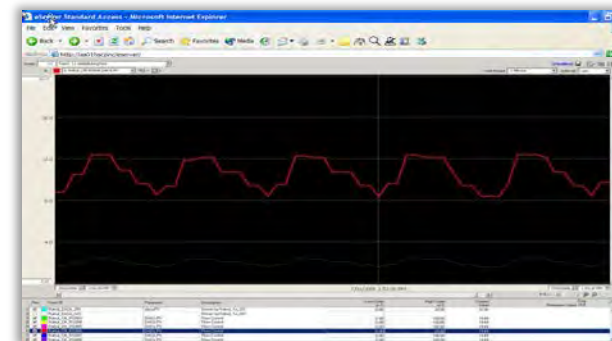


## eServer

- Secure view only of system displays from desktop using your browser
  - Access to real-time and historical values
  - Browse reports, trends and custom displays
- Focus is low cost of ownership
- Standard Access – ‘unlimited’ casual user license
- Premium Access – up to 38 concurrent premium users per eServer



**eServer Standard Access**



**eServer Premium Access**

## Key Benefits

### ✓ Purpose-built

### ✓ Easy to use

- Modern tools / advanced functionality
- Batch in C300: faster throughput, higher yields
- Bulk build and edit for quick implementation saving you time
- Series 8 design: easy to install and wire, saving implementation time

### ✓ Proven and reliable

- C300 controller is field proven
- Direct station – no loss of view / no loss of control
- FTE – multiple paths to maintain communications
- Optional redundancy at all levels
- Safe operations built in – alarm mgt, procedural operations





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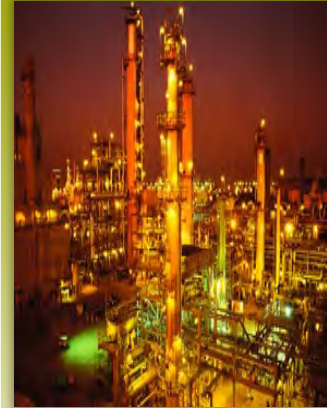
Avoid process incidents

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