Previse Inc.

Products & Services for Bailey DCS systems

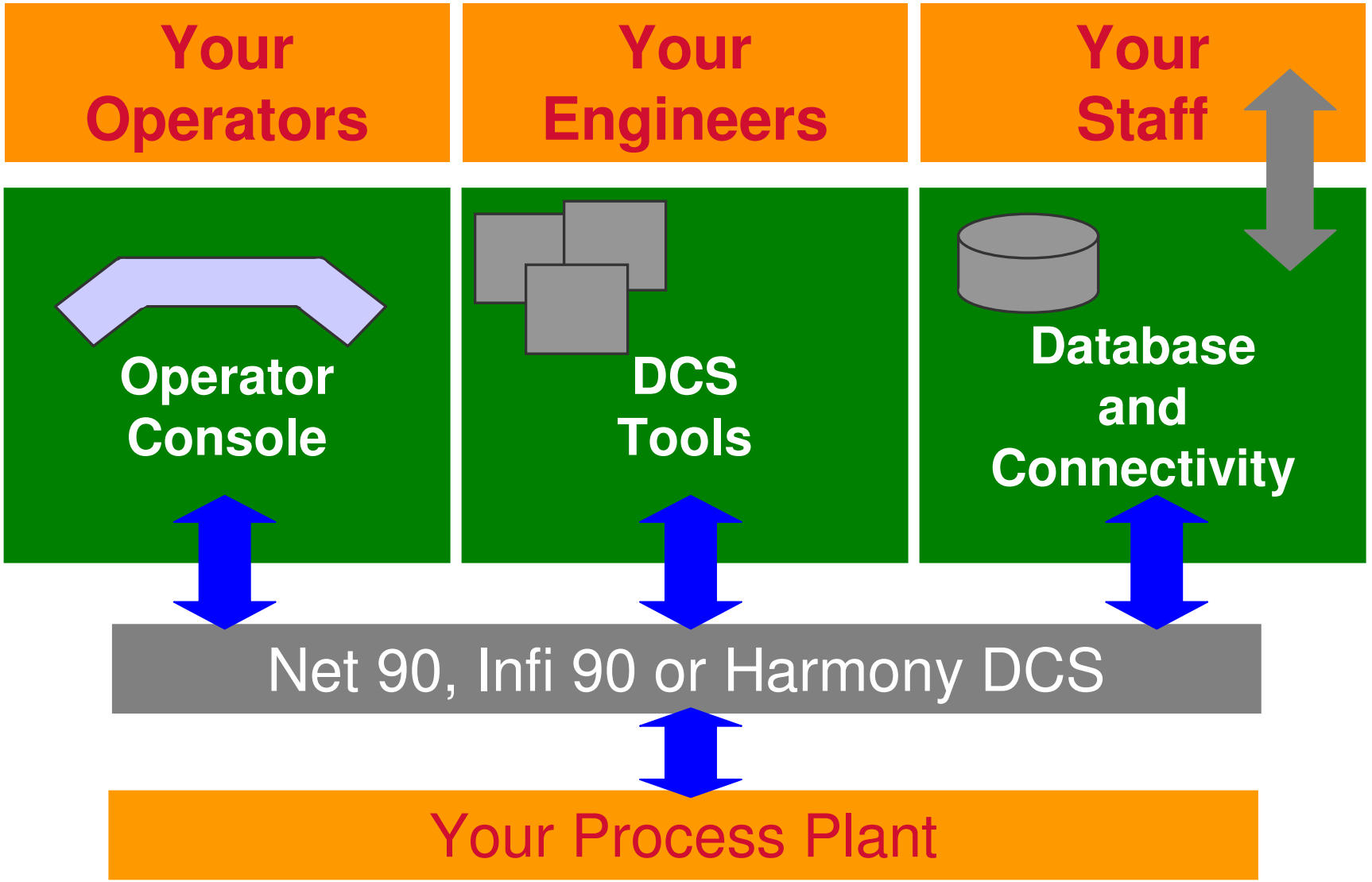
Overview

OPsCon Operators Console

For

ABB/Bailey® Net 90®, Infi 90® & Harmony® DCS

For Each of Your Users



Net 90, Infi 90 & Harmony DCS Sites

- Need Updated Operator Consoles
- Need Modern DCS Tools
- Need Database Support
- Need Internet and Intranet Support
- Need OPEN Connectivity

- The Best Option MAY NOT be from ABB/Bailey!
  - Check the functionality & flexibility
  - Check the connectivity
  - Check the cost

What is OPsCon ?

- Builds on GE Proficy iFIX Product Line
  - iFIX HMI, Historian, Web Portal
- Provides
  - In-kind console replacement
    - Full operators console function
  - Provides Information System
    - From the DCS to your browser if needed
  - For Net 90, Infi 90 & Harmony DCS Systems
- Over 350 servers & 900+ consoles installed
  - All on Bailey DCS systems

Operators Console Replacement

- Replace ABB/Bailey Console Model:
  - OIU
  - MCS & MCS Plus
  - PCV (Process Control View)
  - LAN 90
  - OIS 10, 11, 12
  - OIS 20, 21, 22, 25
  - OIS 40, 41, 42, 43, 45
  - Conductor NT & Conductor VMS
  - Operate^{IT} Process Portal A or B

Full Function Operators Console

- Supports 300, 10,000 or 30,000 Bailey Tags
- Operator Displays
  - Unlimited pages of high resolution process graphics
  - Customizable alarm and trend displays
  - Object based graphics with VBA scripting
  - Flexible page/object linking
- Various Interface types
  - Mouse or Touch Screen or Trackball
  - Keyboard (inc. OPsCon Membrane Keyboard)
- Flexible Security & Redundancy Options
- Comprehensive DCS Utilities
- Component in larger IT system
  - Long term historian plus information to any browser

Hosting Platform

Standard, Widely Used and Robust

The Platform Components

- A firm foundation upon which to build
  - Your console
  - Your process information system

Computer and Network Hardware

- Standard Off-the-Shelf Platform Components
  - Computer
    - Standard "PC" equipment
      - Typically 2+ GHz, 2GB+ RAM, minimum
    - Mouse, touch screen, track ball
  - Network
    - Standard network components
    - 100baseT Ethernet minimum
    - Console supports dual redundant network
  - Detailed platform specification available
- Benefit
  - Package components to rack, pedestal or table top mount
  - Easy to source, easy to repair

Microsoft Operating System

- OPsCon operator console platform
  - Microsoft Windows XP Pro latest SP
  - Microsoft Windows 2003/2008
  - Microsoft Windows 7 Pro 32 bit & 64 bit
- For other GE Proficy components
  - Generally the same
  - May be dependant on your specific requirements
- Committed to keeping pace with new releases

The Relevant GE Proficy iFIX Product Line

- Human Machine Interface
  - GE Proficy iFIX HMI (Human Machine Interface)
    - Displays, trends, alarms [networking, security]
- Historian
  - Classic historian
    - Free within iFIX
  - Proficy Historian
- Internet/Intranet
  - Proficy Real Time Information Portal
    - DCS information and more to any browser

GE Proficy iFIX HMI Platform

- GE Proficy iFIX HMI software
  - 20+ year product history with over 300,000 licenses sold
  - OPsCon accounts for almost 900 of these HMI installs
    - ALL on Bailey Net 90, Infi 90 and Harmony DCS systems
    - From 1996 to present
  - Well supported, robust and stable product
  - Proficy HMI products at 75% of Fortune 100 companies
- Benefit
  - Longer product life than typical Bailey console
    - Oldest OPsCon installs still operating since 1990's
  - Wide support availability
  - 7 X 24 phone/web support availability
  - Easy to learn.. Easy to use !!
  - Commitment from one of the worlds largest firms

General Historian Selector Guide

Classic Historian	Proficy Historian[1]
Standard Performance	High Performance
Nominally to ~2500 tags	500 to 500,000+ tags
Store every few seconds or longer	Store faster
Store for 120 days	Store for years
Data from iFIX	Data from iFIX, OPC sources, lab data and others
Slower retrieval	High speed retrieval
Support trends	Same plus better for large systems, regulatory data, long term storage, faster acquisition
N/A	Perform calculations and annotate data with notes
Free with iFIX	Additional cost
Less features	More features

[1] Ask for more information if you wish to consider Proficy Historian

Previse OPsCon

- Connection to your ABB/Bailey DCS
- The broad console function your operators need
- Specialized functions required for DCS
  - E.g. Tuning, module status, time synchronization
- Customizes GE Proficy iFIX
  - Adds the Bailey “character” to iFIX

Platform

Firm Foundation to Build On
Meets Console Requirement
Basis for process IT system
Build on GE Commitment

Field Equipment Connection

Robust ABB/Bailey DCS Connection

Plus your other equipment too

Broad DCS Connectivity Support

- The same connections used by native ABB consoles
- All common CIU interfaces to DCS
  - Via Serial RS-232:
    - CIC01, NCIU01, NCIU02, NCIU03, NCIU04, INICI01, INICI03/13, INICT03/13[1], IIMCP01, IIMCP02, INPCI02, INICI12
  - Via High Speed SCSI:
    - INICI03/03A/13/13A[1], INICT03/03A/13/13A, IIMCP02
- Connect to Previse Bailey DCS Simulator
  - Via Serial RS-232 or TCP/IP
  - For console testing or operator training
- Capacity to 30,000 tags

Note 1 – All INICT03 firmware versions supported except F0,F1

Specific Support for the Tag Types You Need

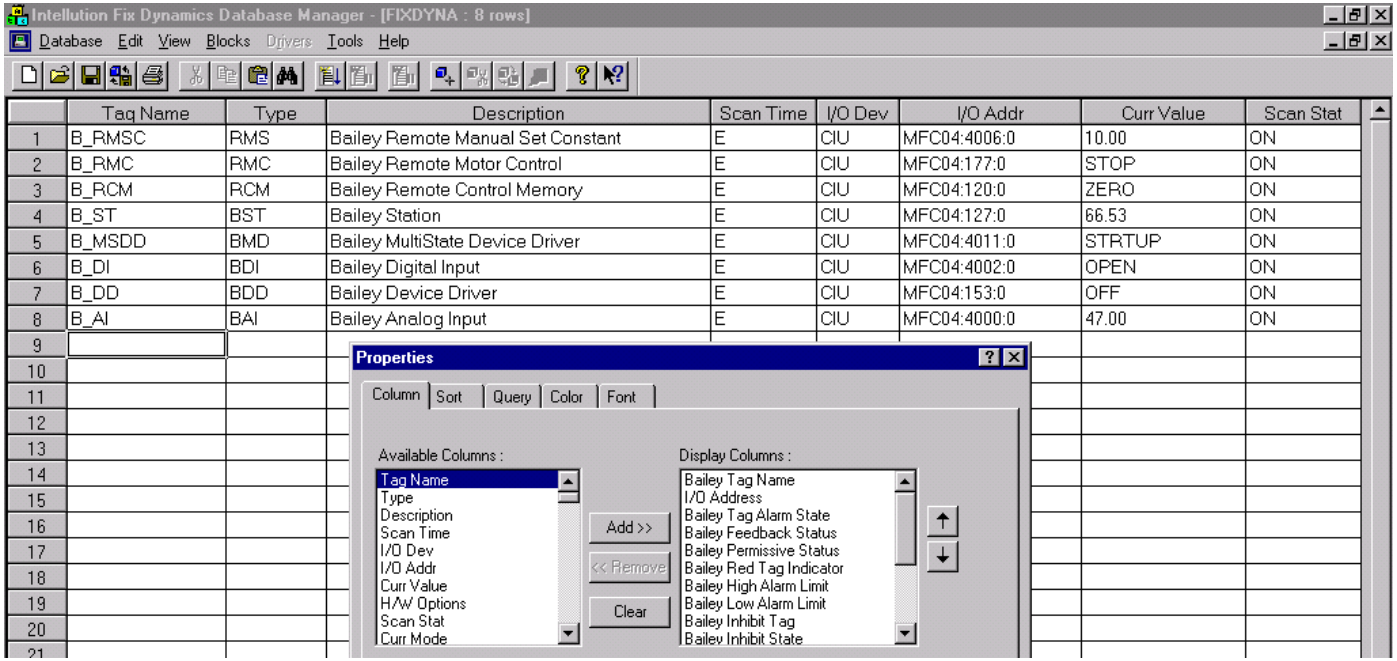
- ANALOG (e.g. FC30 and others)
- DIGITAL (e.g. FC45 and others)
- RCM (e.g. FC62 and others)
- RMSC (e.g. FC68)
- STATION (e.g. FC80, 21, 22, 23)
- DD (e.g. FC123)
- MSDD (e.g. FC129)
- RMCB (e.g. FC136)
- TEXT BLOCK (FC151)
- DAANG (FC177)
- UDE (FC194)
- Harmony IO (FC222,Fc223, FC224, FC225)

Standard Bailey Communication Methods

- By Exception
  - Fully supported
  - As fast as native Bailey DCS communications
    - Round trip command/response time matches Bailey
    - Over 1,400 exceptions/second recorded with SCSI
- By Polling
  - Any block address
  - Module status
- Module activities
  - Supports module status, mode control, load/unload and more
  - Supports time synchronization
  - Supports redundant controllers

One to One Mapping from Bailey to iFIX

- One iFIX Tag for each Bailey Tag
  - Name and address don't change
  - Easy to understand database
  - iFIX tag has all DCS data, direct from DCS



	Tag Name	Type	Description	Scan Time	I/O Dev	I/O Addr	Curr Value	Scan Stat
1	B_RMSC	RMS	Bailey Remote Manual Set Constant	E	CIU	MFC04:4006:0	10.00	ON
2	B_RMC	RMC	Bailey Remote Motor Control	E	CIU	MFC04:177:0	STOP	ON
3	B_RCM	RCM	Bailey Remote Control Memory	E	CIU	MFC04:120:0	ZERO	ON
4	B_ST	BST	Bailey Station	E	CIU	MFC04:127:0	66.53	ON
5	B_MSDD	BMD	Bailey MultiState Device Driver	E	CIU	MFC04:4011:0	STRTUP	ON
6	B_DI	BDI	Bailey Digital Input	E	CIU	MFC04:4002:0	OPEN	ON
7	B_DD	BDD	Bailey Device Driver	E	CIU	MFC04:153:0	OFF	ON
8	B_AI	BAI	Bailey Analog Input	E	CIU	MFC04:4000:0	47.00	ON
9								
10								
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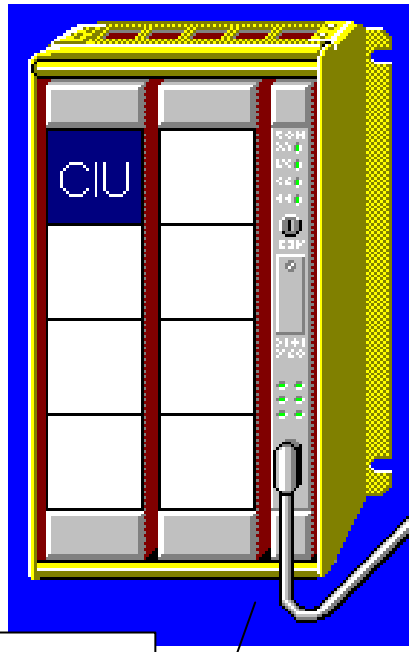
18								
19								
20								
21								

One Operator Console for All Your Equipment

- iFIX Supports Up to 8 Drivers
  - One "Equipment Slot" used by OPsCon
  - Use the other 7 for other equipment
- Benefit
  - One console serves multiple equipment
  - Same trends, alarms, and graphics
  - One historical storage
  - E.g.
    - Bailey + Siemens PLC + Rockwell PLC
    - One slot can support many networked PLC



Standard iFIX configuration

Summary Field Equipment Connection

- Bailey DCS Communications
  - All common serial and SCSI CIU types
  - All the function code types you need
  - Full communications protocol
  - Performs like native Bailey
  - iFIX database updated continuously with DCS data
  - Very reliable
- PLUS supports 100's of other field equipment
- One console to serve your control room needs

Bailey DCS Specific Console

Specifically designed to meet

Net 90, Infi 90, and Harmony Requirements

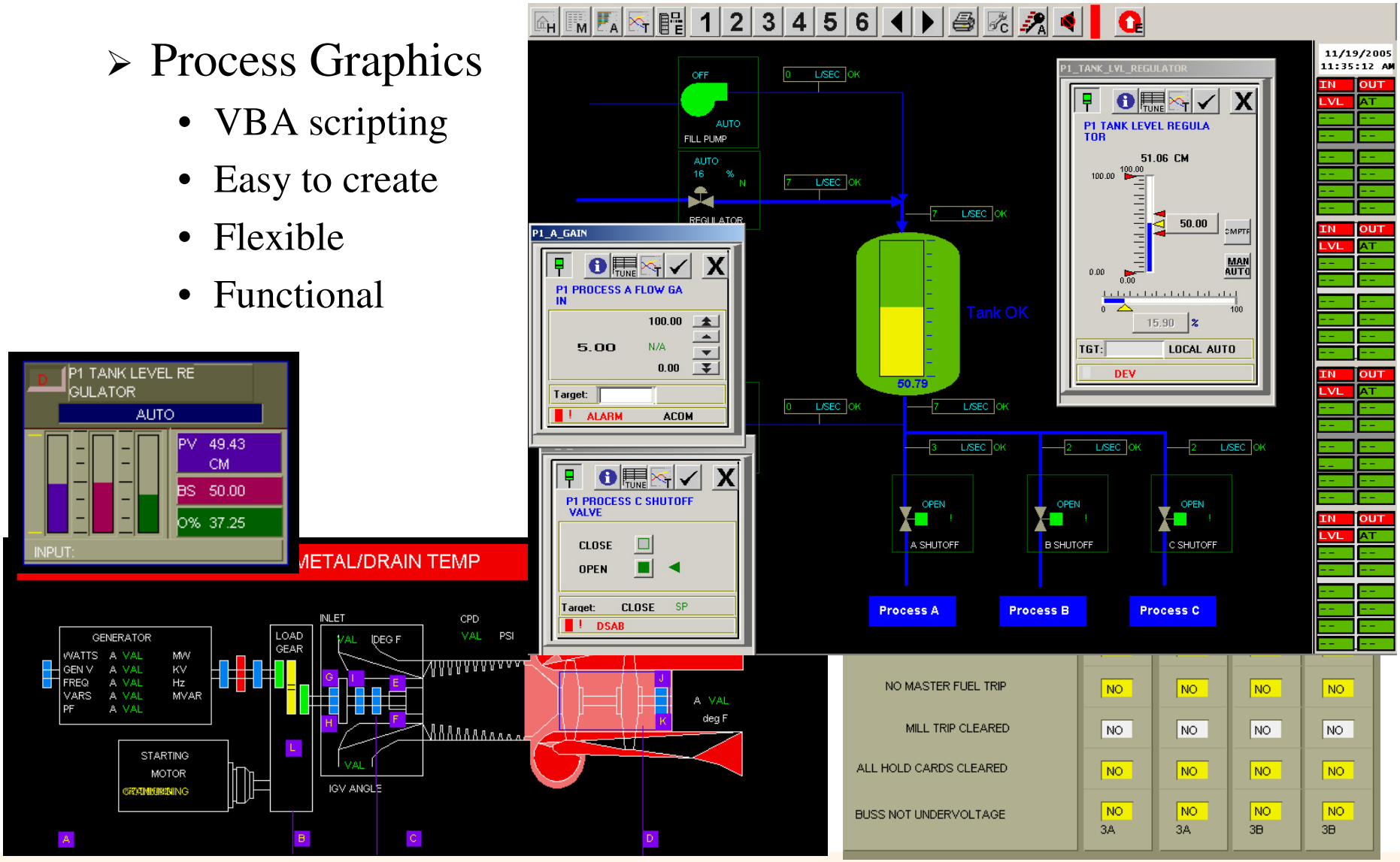
Featured here with our optional standard screen system for iFIX

Supports Key Bailey Console Features

- Graphics
- Control Pop-Ups
- Operating Parameters
- Alarms
- Alarm History
- Alarm Display Panel
- Trends
- Change Tunable Specifications
- Station Tuning
- Review Module Status
- Security System
- Reports and Logs

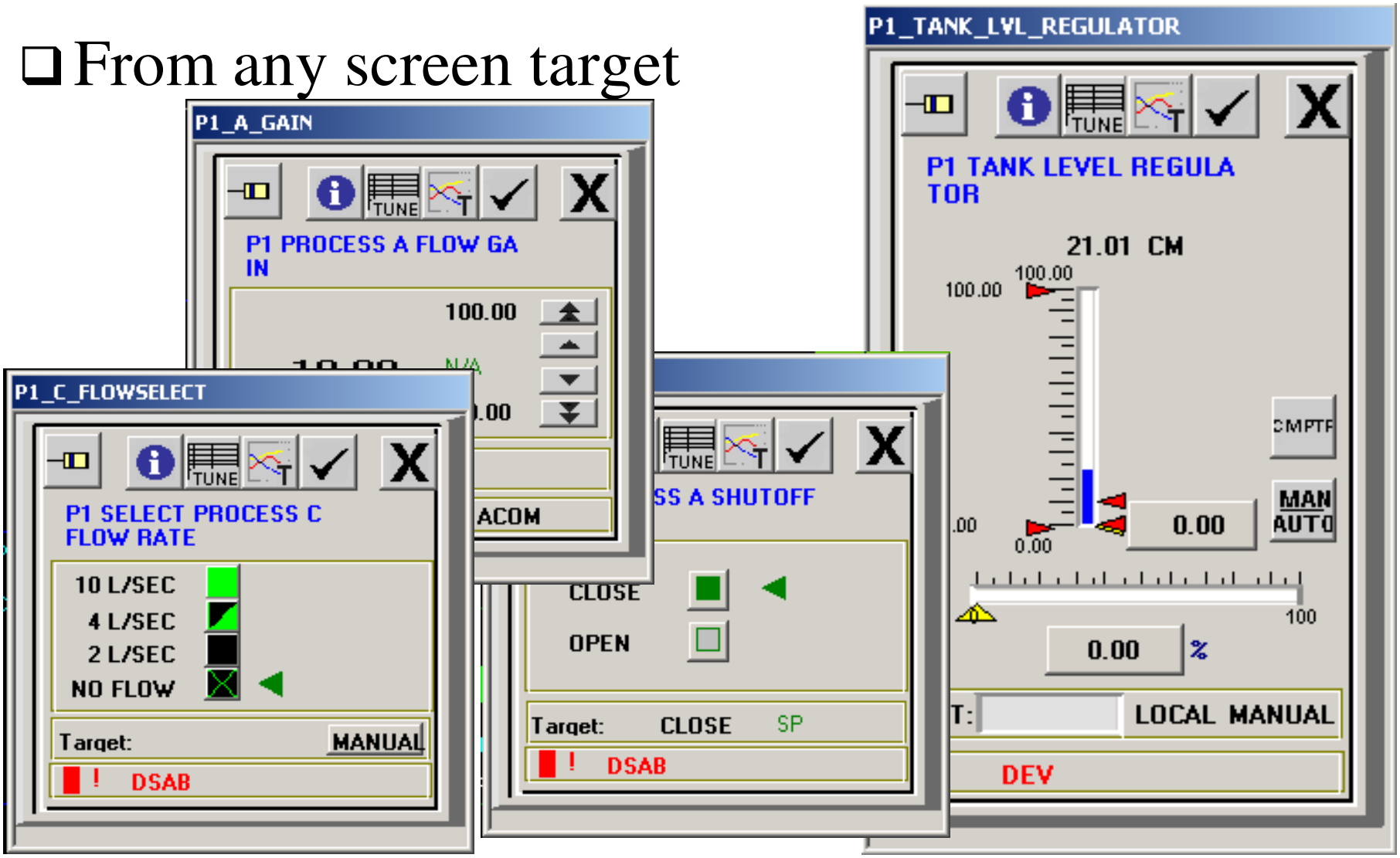
Graphics

- Process Graphics
  - VBA scripting
  - Easy to create
  - Flexible
  - Functional



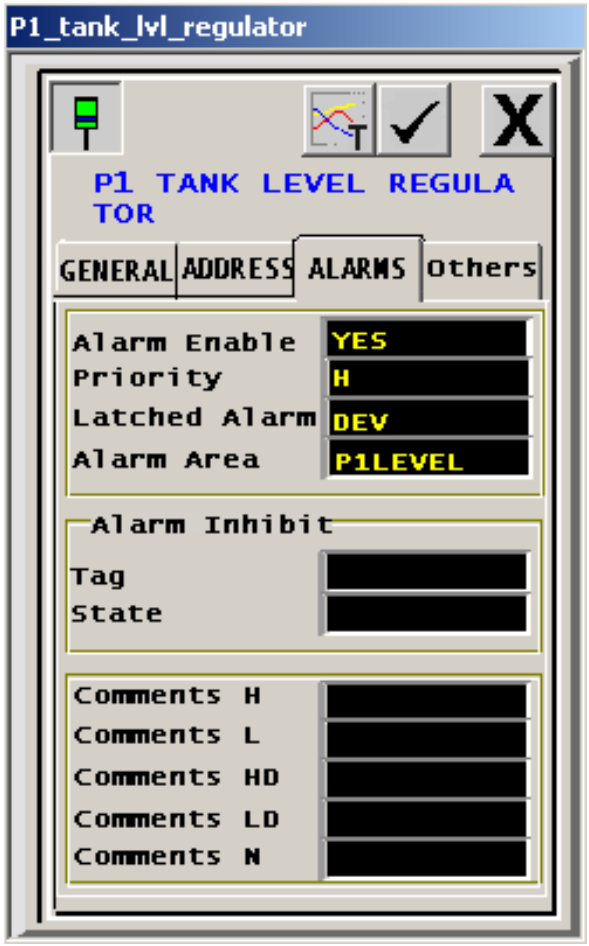
Control Pop-ups

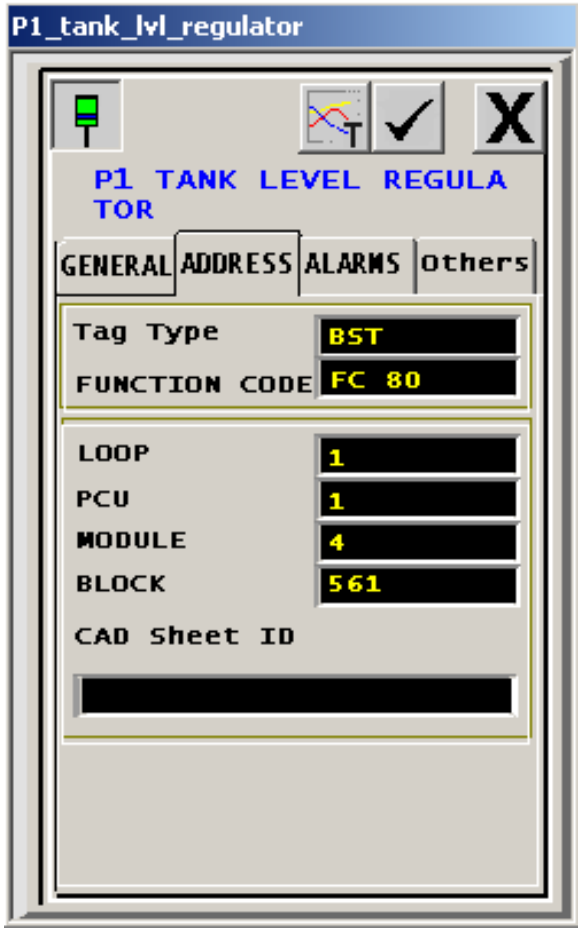
- From any screen target



Operating Parameters

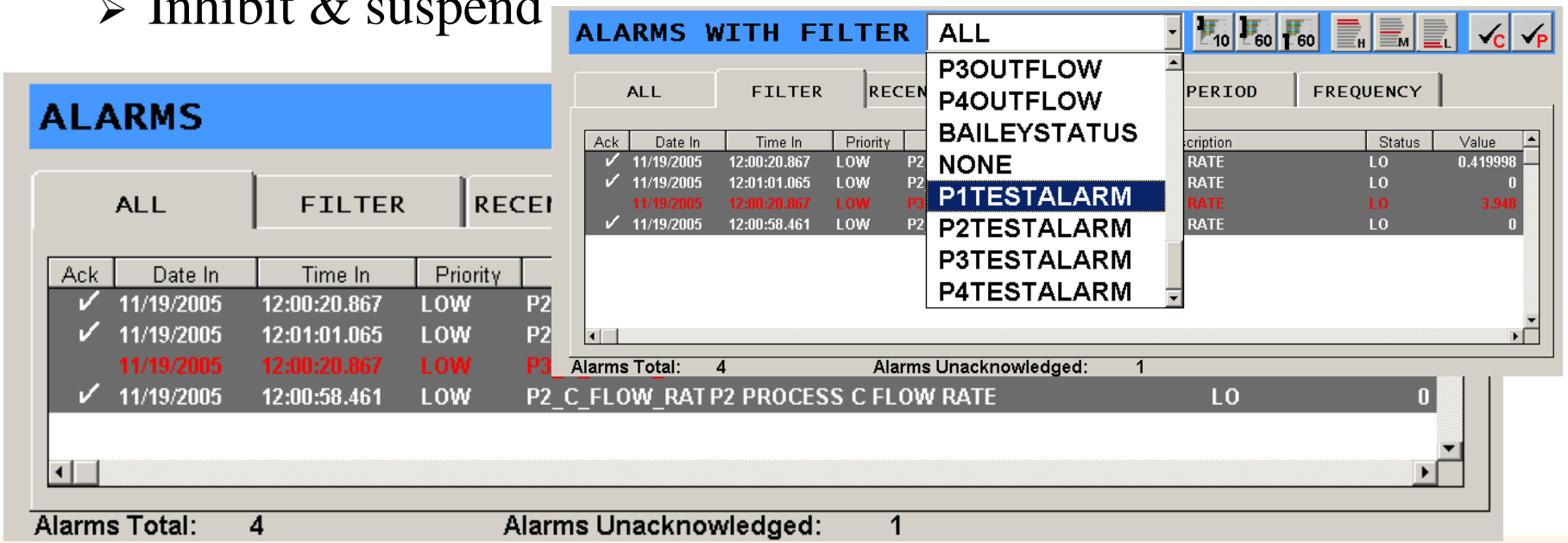
- From any screen target





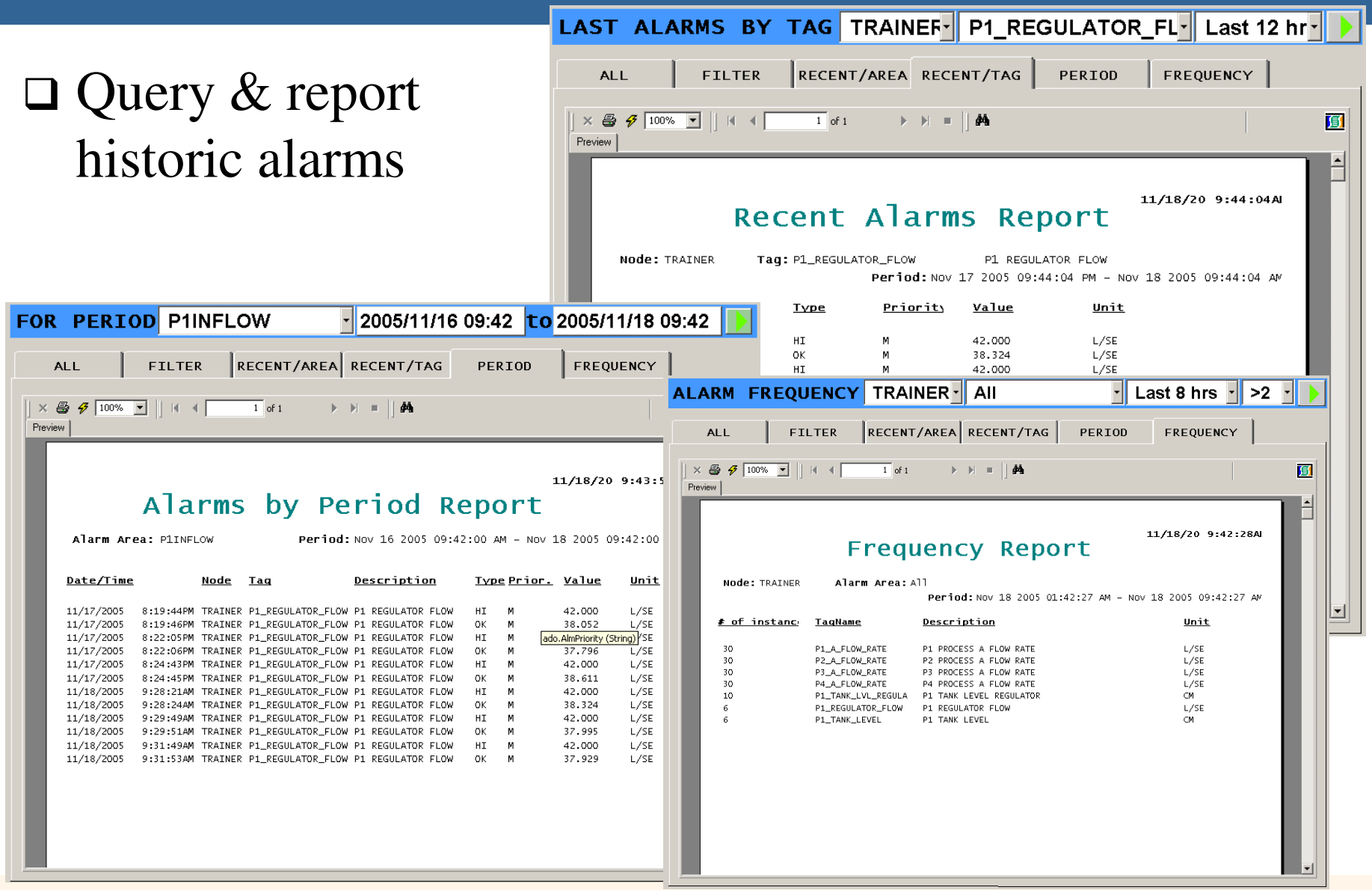
Full Alarm Management System

- All alarms determined in DCS
- Implements:
  - Priority and Alarm Area/Group
  - ACK and page ACK
  - Alarm comments
  - Inhibit & suspend



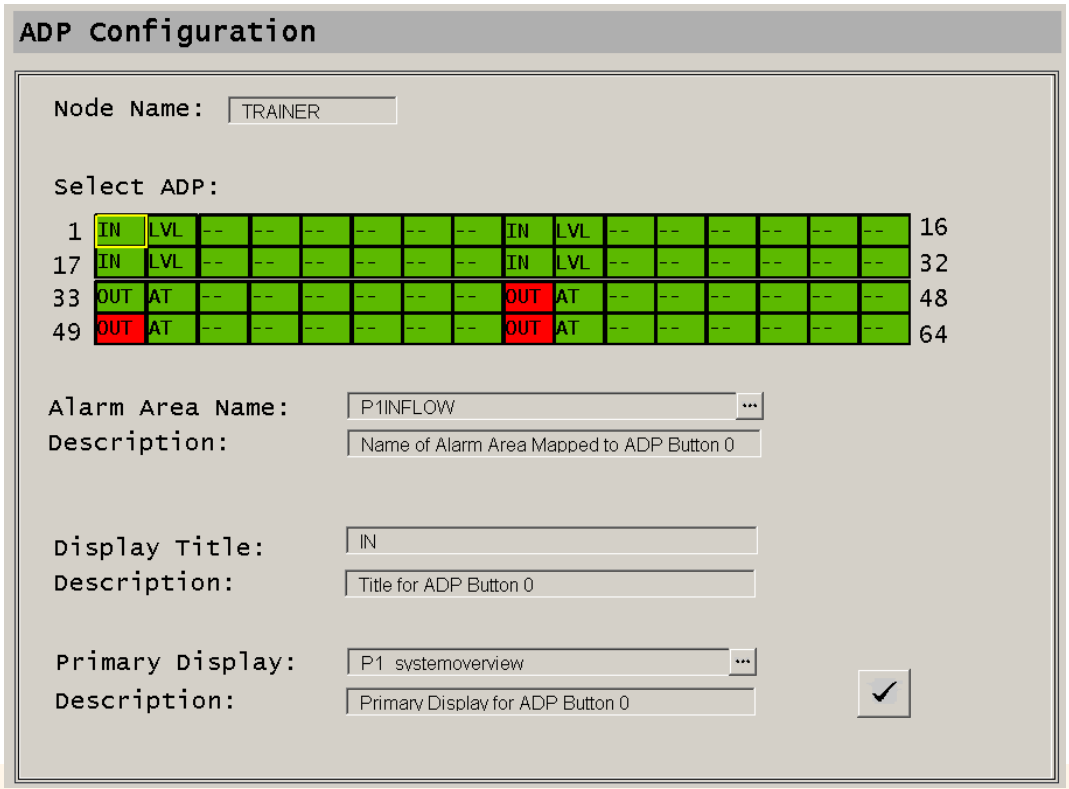
Alarm History

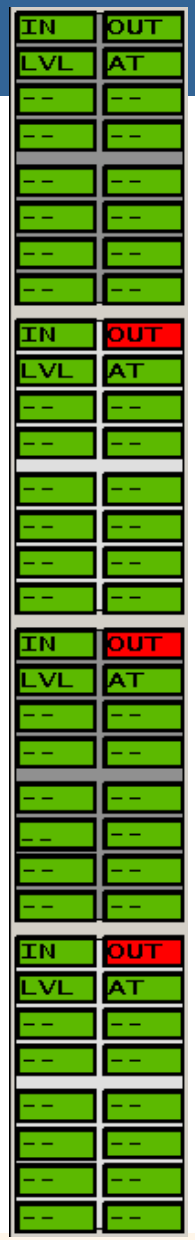
- Query & report historic alarms



Alarm Display Panel

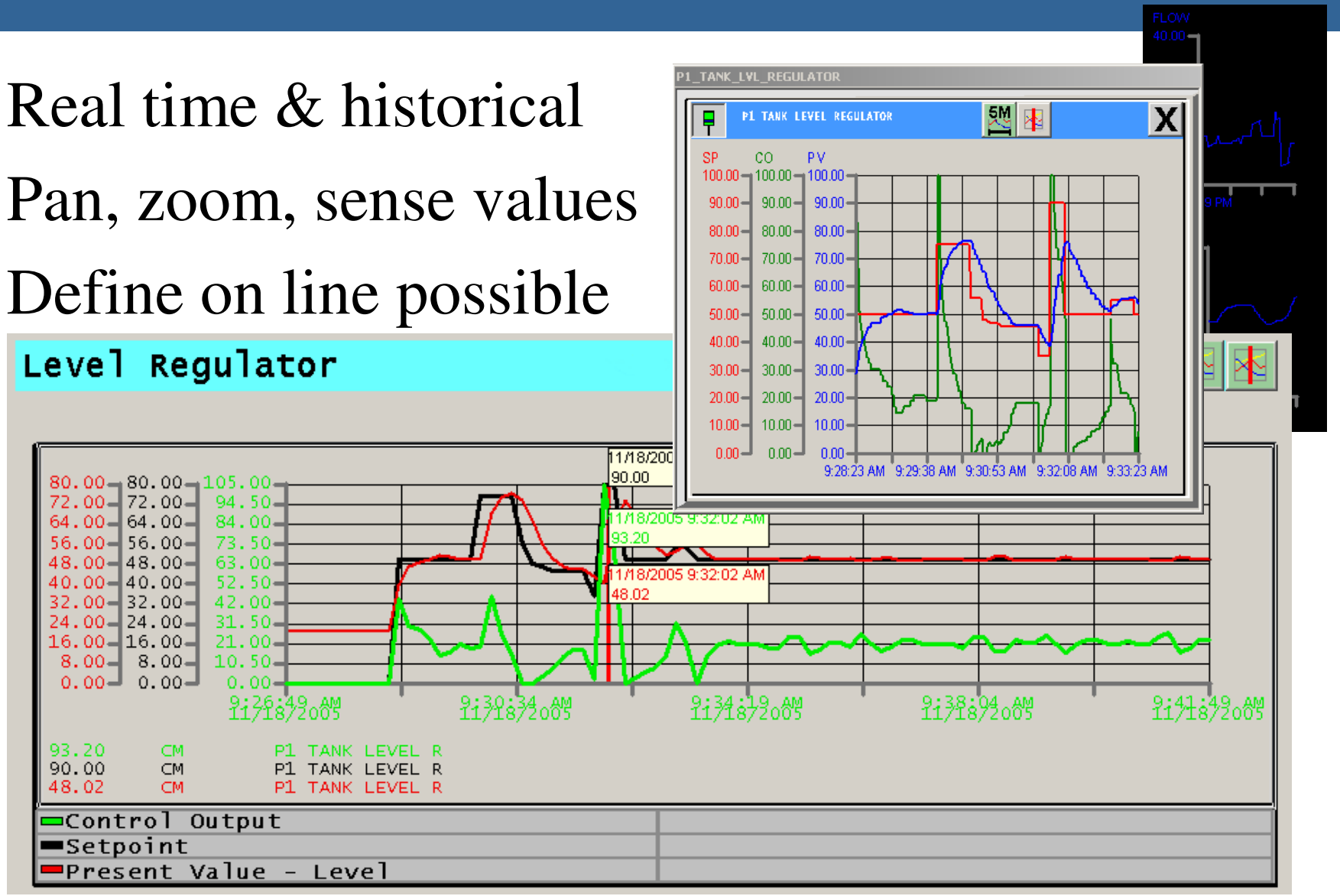
- On screen ADP
  - With 12, 20, 32 or 64 buttons
- On line ADP Administration





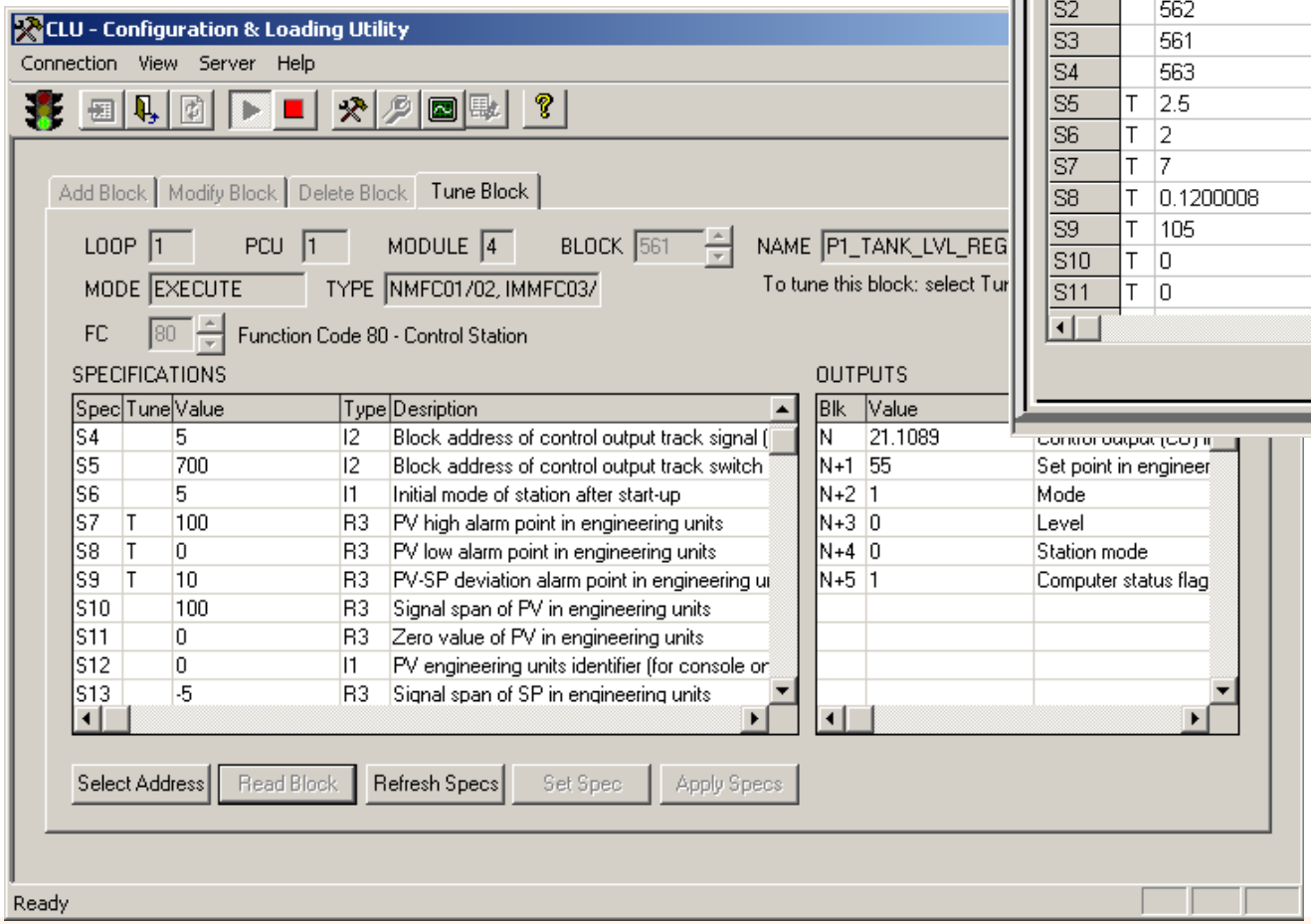
Trends

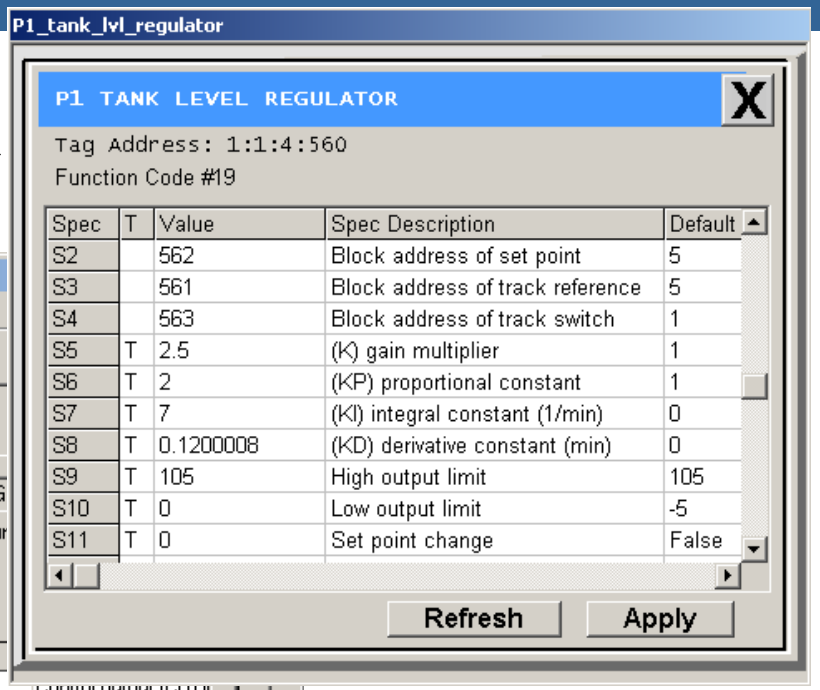
- Real time & historical
- Pan, zoom, sense values
- Define on line possible



Change Tunable Specifications

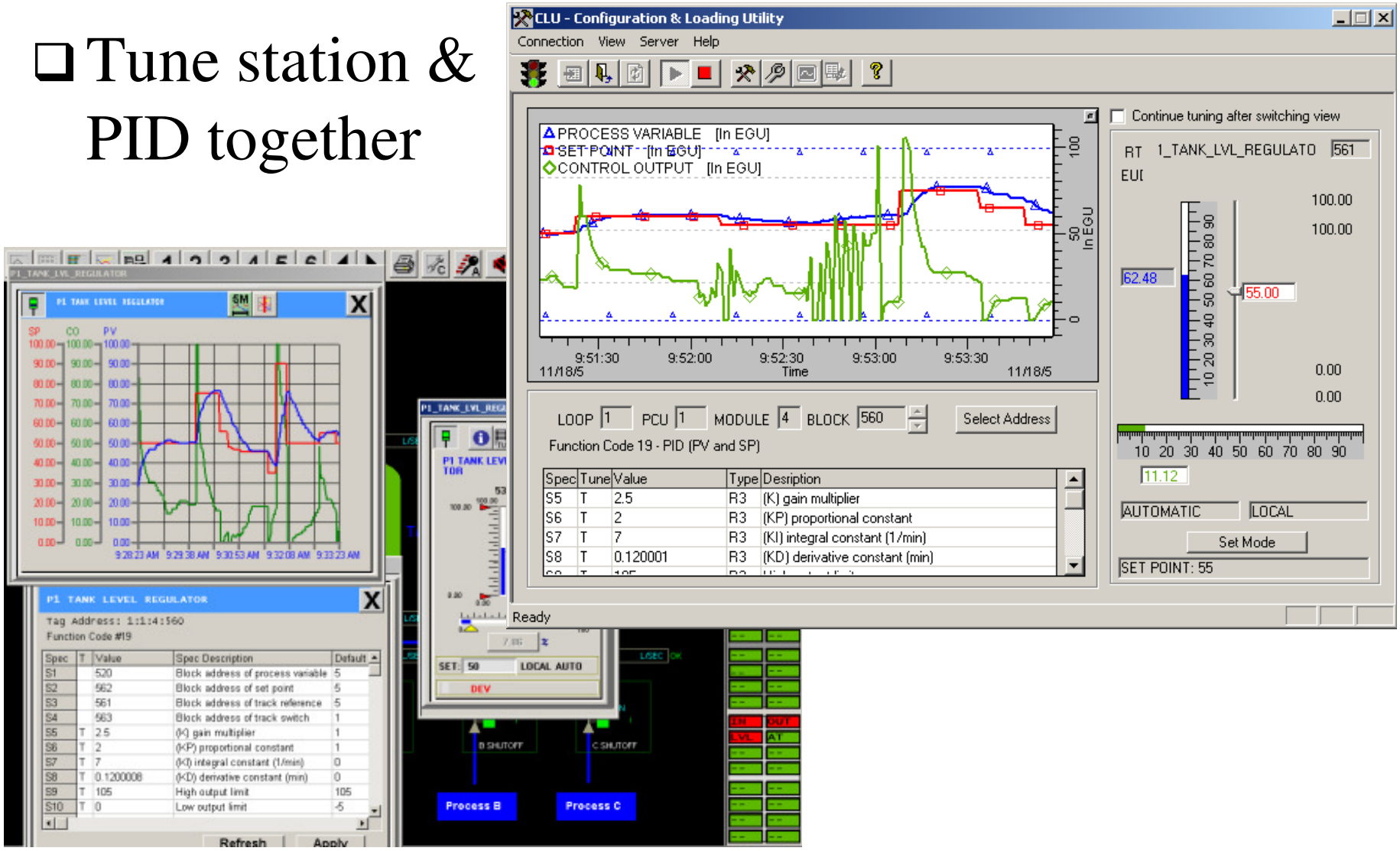
- Tune & monitor any block



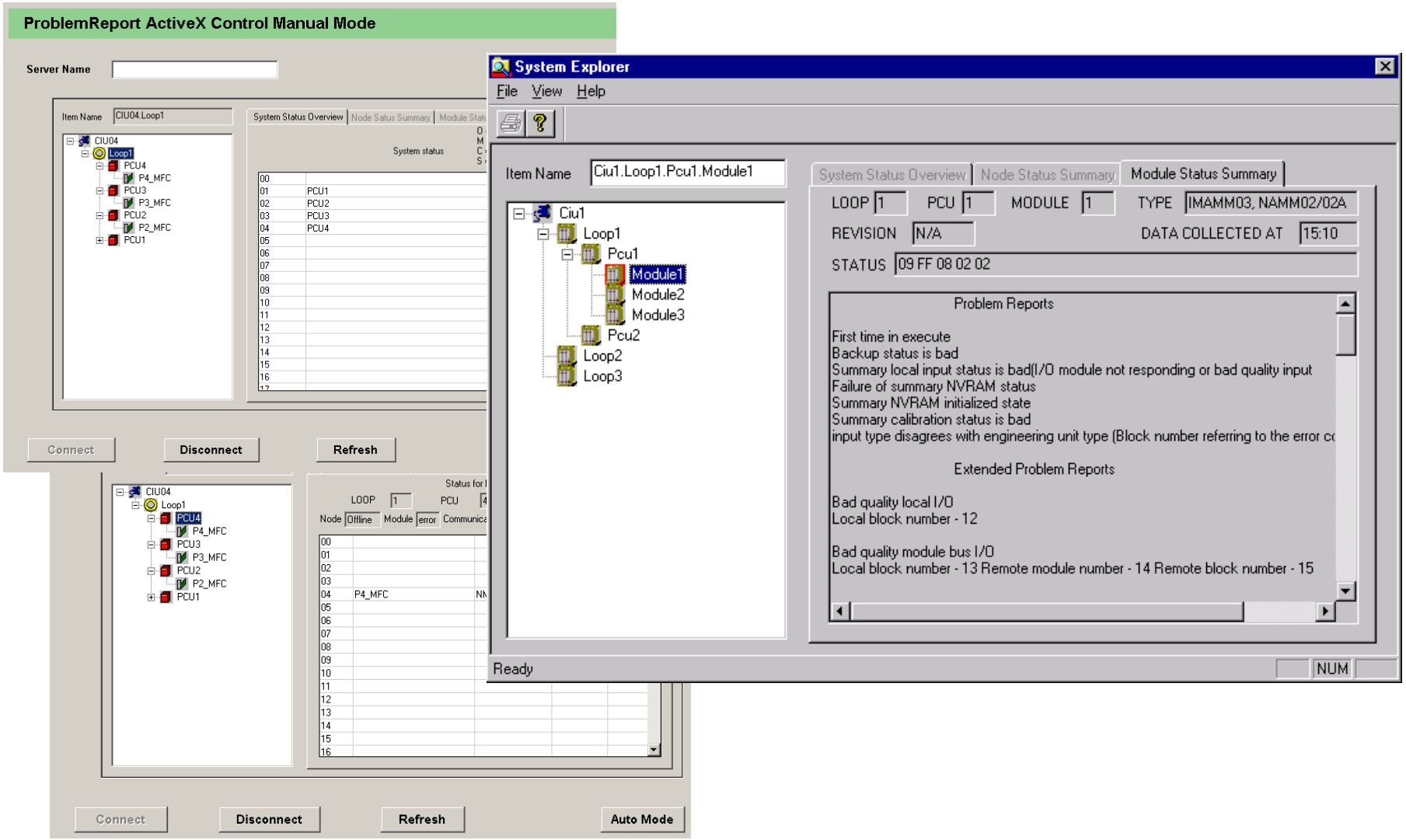


Station Tuning

- Tune station & PID together

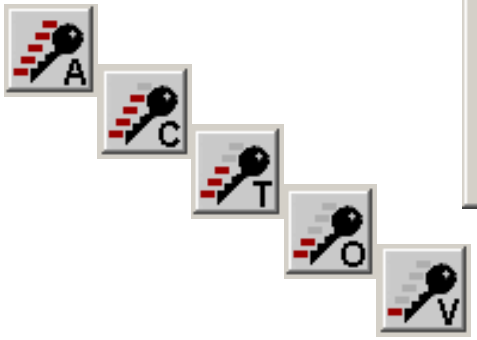


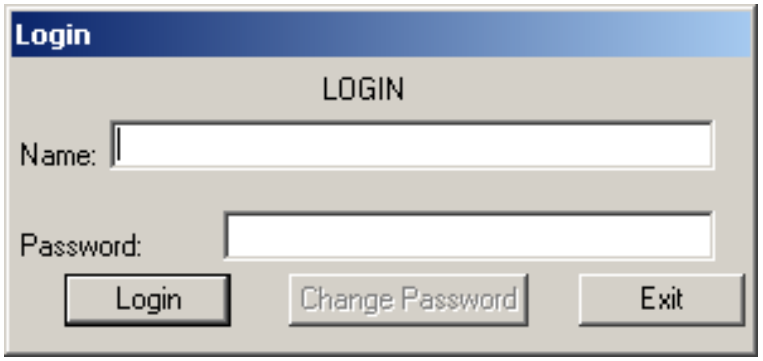
Review Module Status



Security System

- Standard Security System
  - Five levels
    - Administer
    - Configure
    - Tune
    - Operate
    - View





  - Create Username & Password for any user
    - Assign User to specific security level
  - Auto-Login any level
- Optional to define additional levels
- Optional security by plant area
- Enable disable features at any level

Reports and Logs

- Shift and period reports
  - Easily added via
    - EXCEL
    - Access
    - Crystal Reports

Full Featured Operators Console

- Graphics
- Control Pop-Ups
- Operating Parameters
- Alarms
- Alarm History
- Alarm Display Panel
- Trends
- Change Tunable Specifications
- Station Tuning
- Review Module Status
- Security System
- Reports and Logs

Maintainability

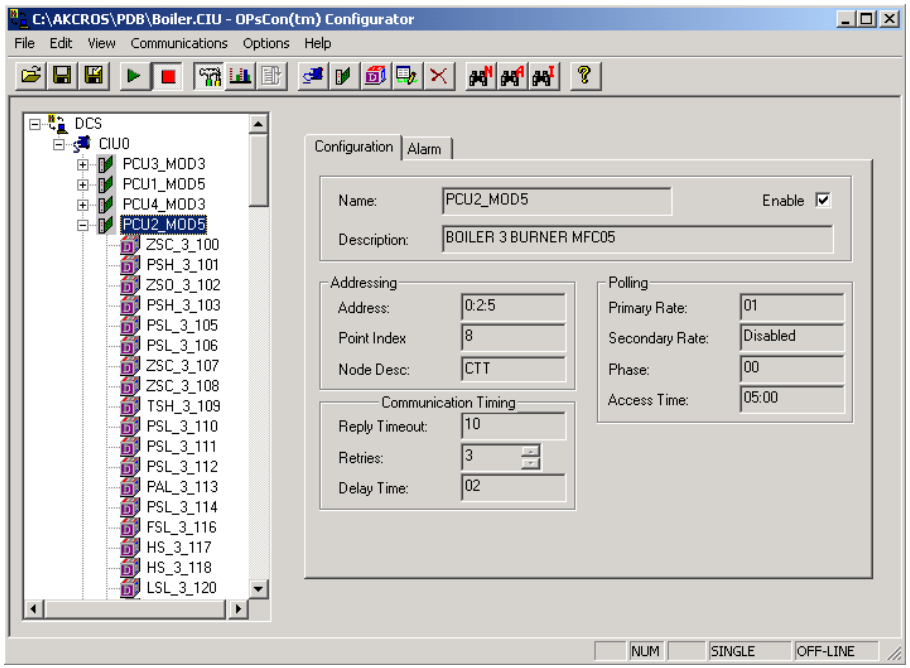
Simple Maintenance Tools

Get the Job Done

Without Headaches

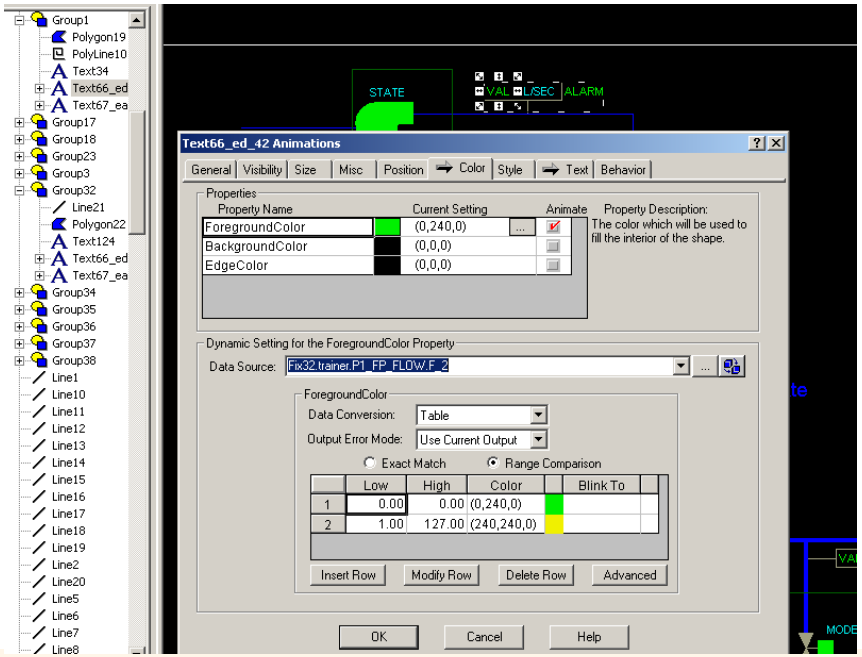
Tag Database Maintenance

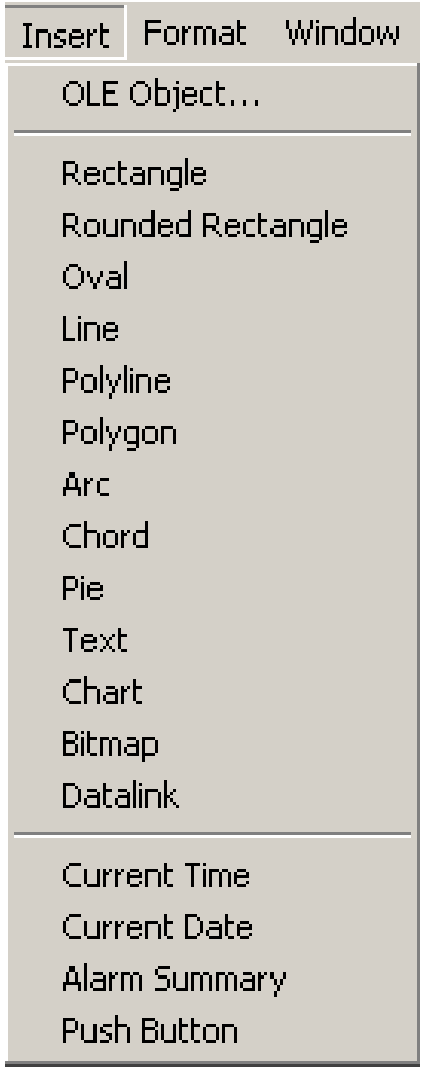
- Functional
  - Add tags on-line from any workstation
  - Add tags once only
  - Standard Configurator application
- Benefit
  - Simple
  - Intuitive
  - Easy to use



Graphics Maintenance

- Flexible graphics
  - VBA scripted, easily animated, intuitive
- Benefit
  - Easier to use than native ABB tools





Intuitive Tools

The power of a mass market product

Customized specific to Bailey

Other Features and Benefits

Making this the best console solution

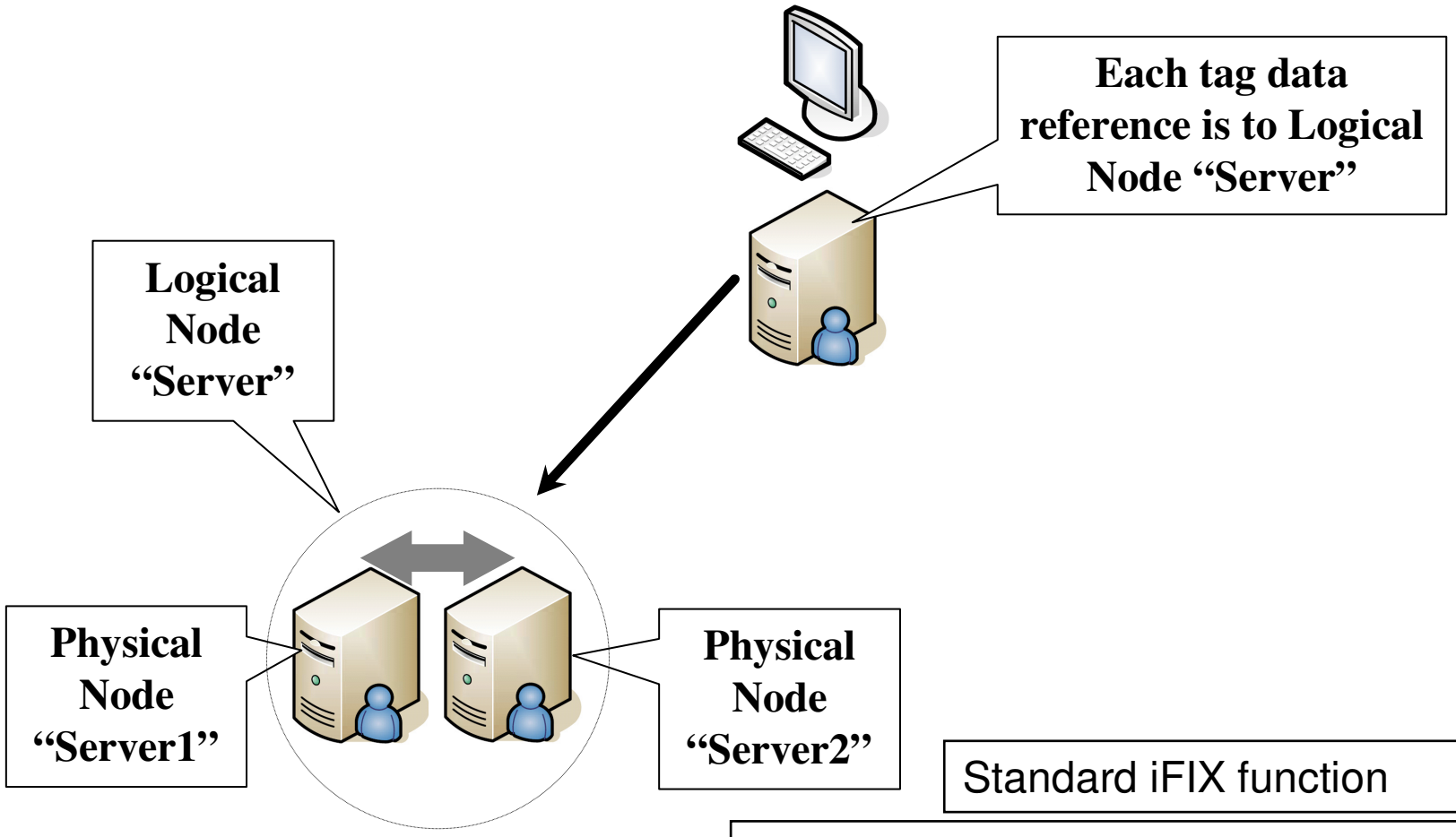
Conversion Support Available

- Automated Tools Based Conversion
  - Tag Database Conversion
    - Retain existing tag database
  - Alarm System Conversion
    - Alarm priority, groups, ADP, alarm comments and more
  - Graphics Conversion
    - Reuse your existing graphics if you wish
- Benefit
  - Reduced conversion and commissioning costs
    - Previous installations in one week on site with no outage
  - Reduced operator training requirement

Factory or Site Acceptance Test Available

- Review Prior to Install
  - Use our Bailey DCS Simulator
  - Set up FAT or SAT tests in a day
  - Use your controller files with simulated data
  - Test fully integrated consoles before installation
- Benefit
  - Reduced issues at actual installation
  - Risk mitigation

Fault Tolerance Via Client Failover



Standard iFIX function

When Active Server Fails the Backup Server becomes the Active Server, and tag data connections are auto switched

Embrace Open Standards

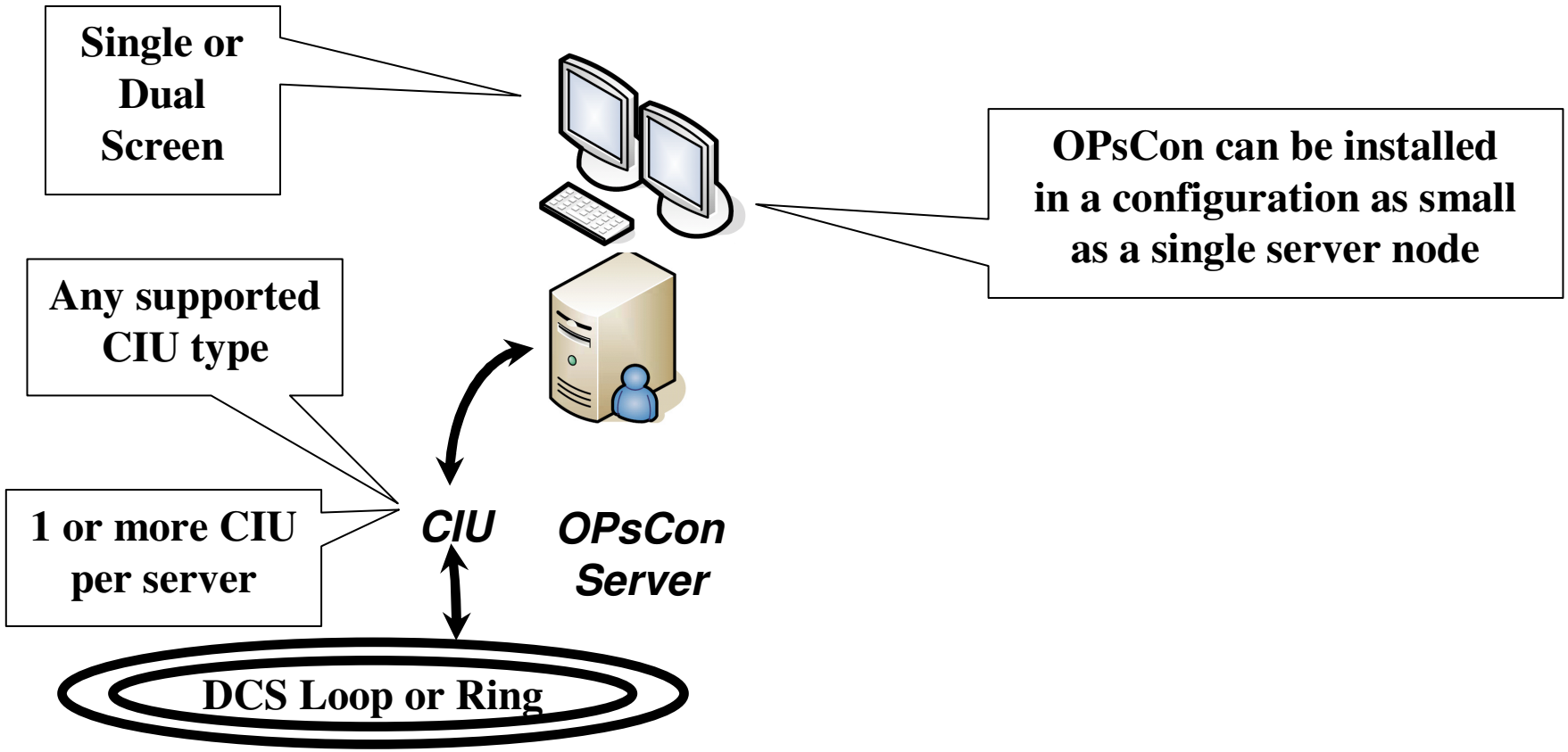
- Supports industry standards
  - Standard Intel PC
  - OPC, TCP/IP, ODBC and SQL
  - Client Server and Internet/Intranet Capability
  - Microsoft standards including:
    - COM/DCOM/ADO/OLEDB/ActiveX
    - Visual Basic for Applications
    - Support for recent Microsoft OS
    - Terminal Server options available
- Benefit
  - Long product life assured via standards adherence
  - Unbeaten data connectivity via fully open standards

Network Structures

Flexible System Structure

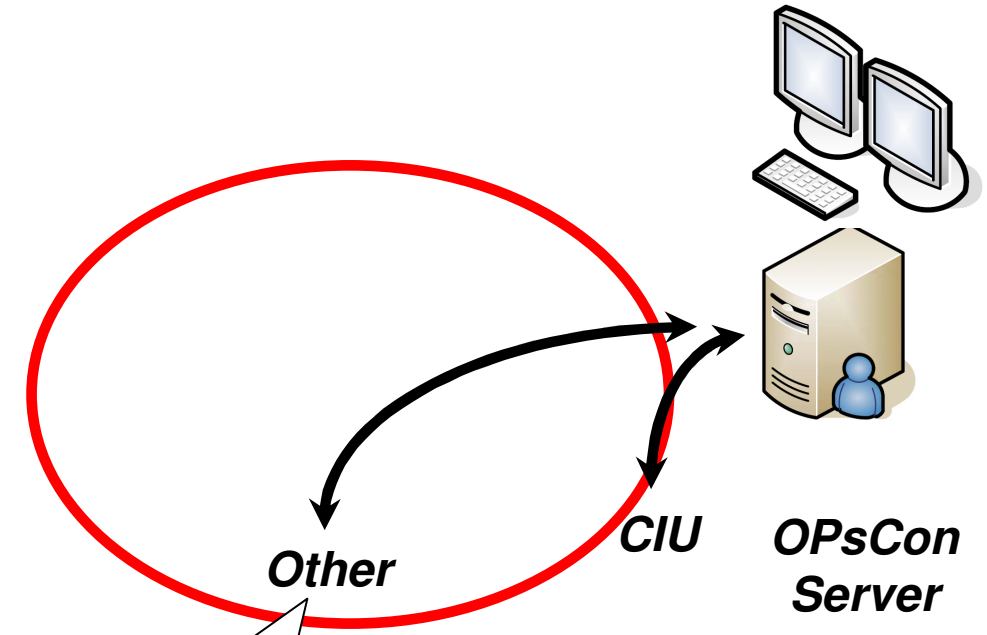
To Meet your Needs

Single Standalone Console



The first node must be an OPsCon Server, configured with an iFIX server + OPsCon

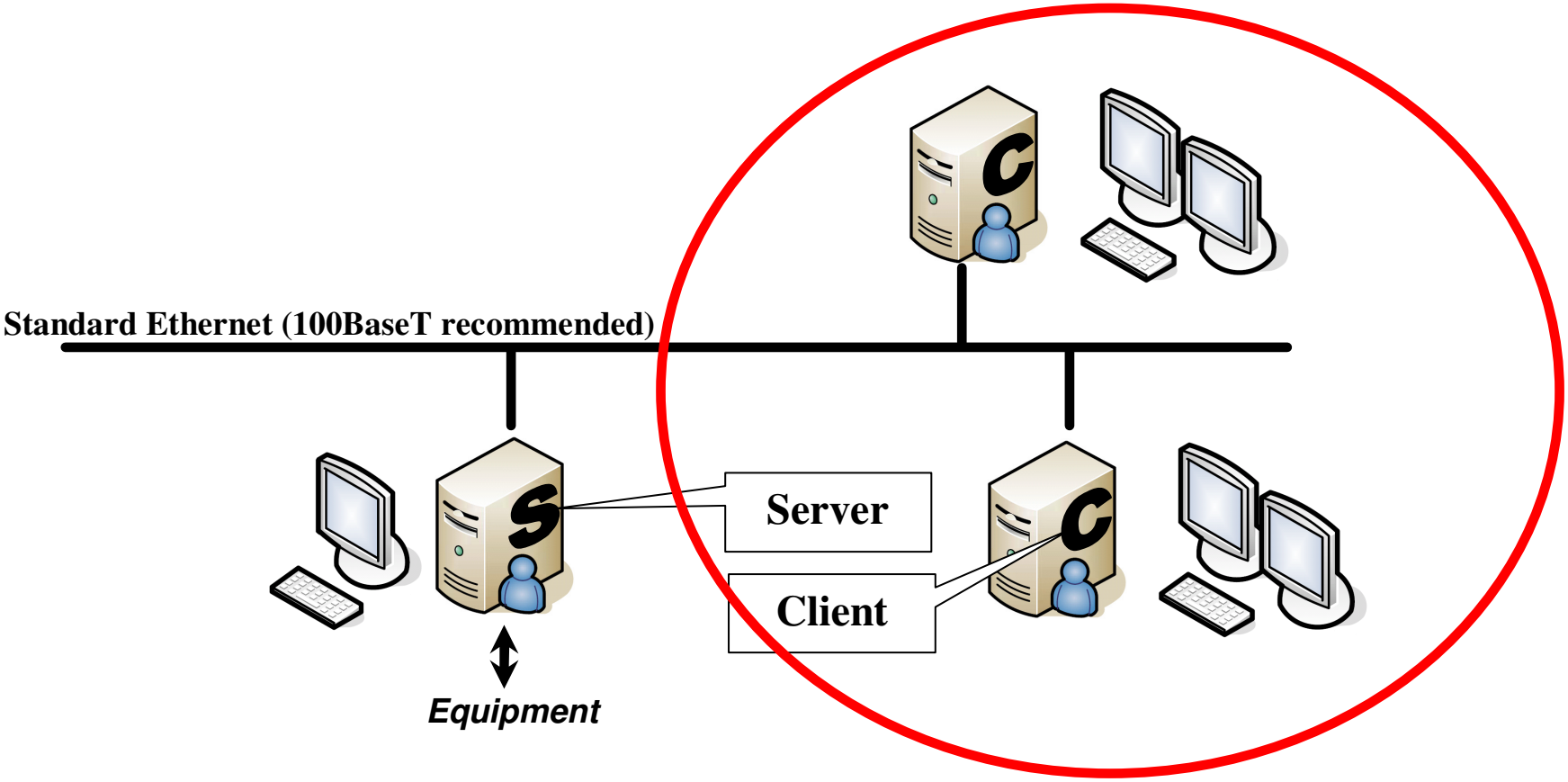
Connect Additional Field Hardware



Connect any other supported Field Equipment

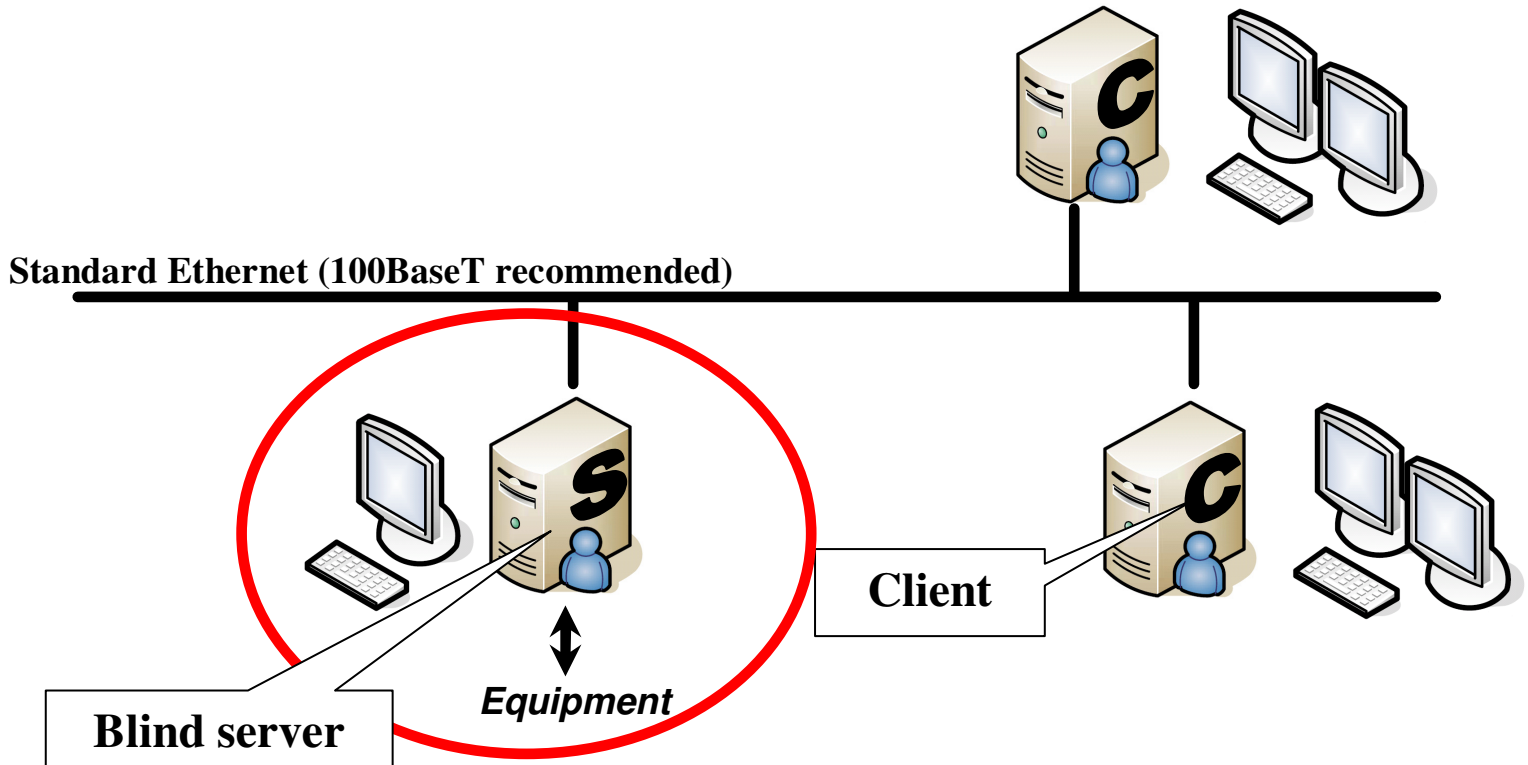
Up to 8 slots available with support for hundreds of devices

Add Clients to Single Server



Each server can supply process data to much more than 20 clients.

Blind or Non-Blind Server

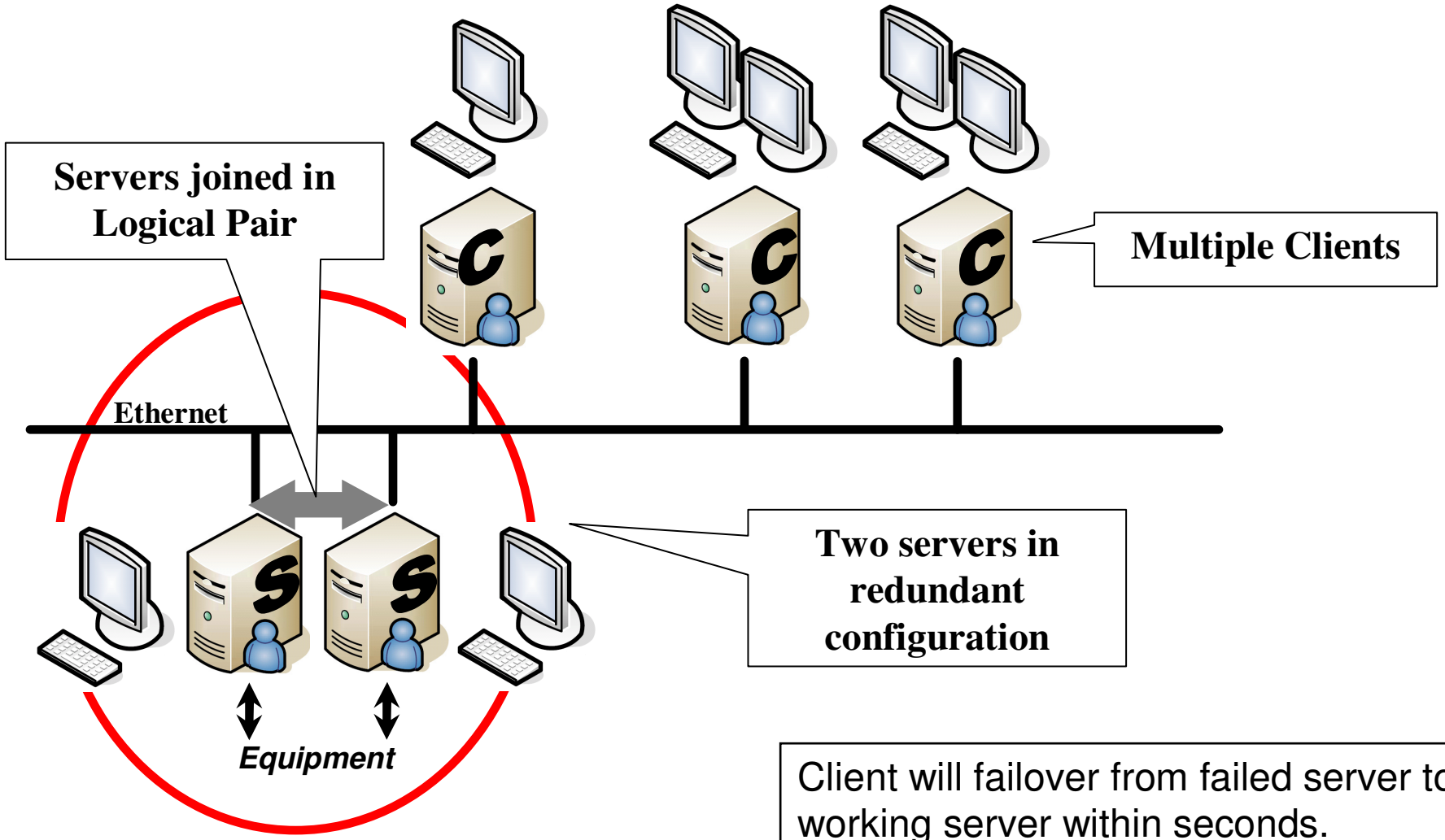


Use a blind server if you wish to rack mount the server in a cabinets

Eliminate Single Point of Failure

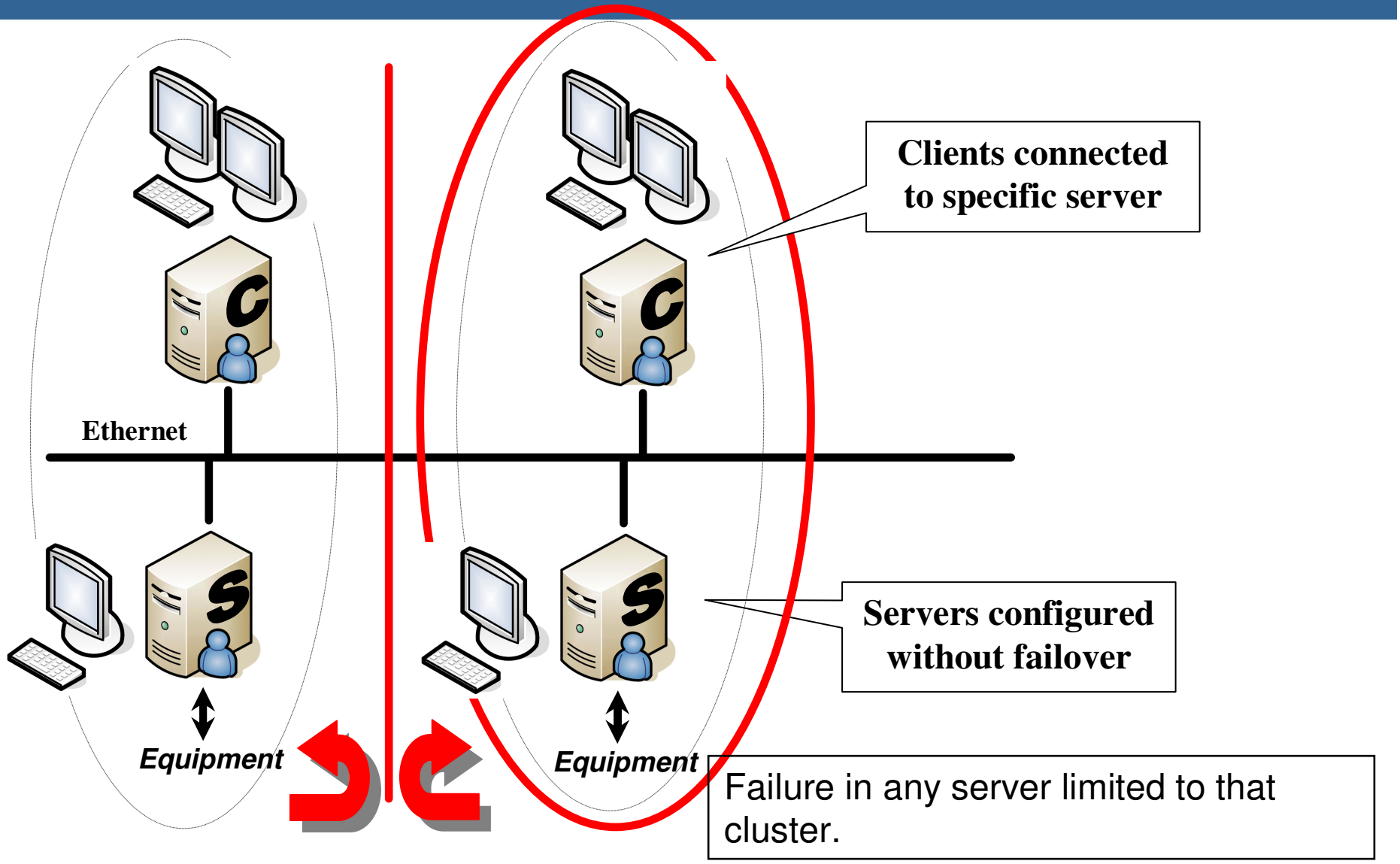
- Redundant Servers
  - WITH Client Failover
  - WITHOUT Client Failover

Redundant Servers with Client Failover



Client will failover from failed server to working server within seconds.

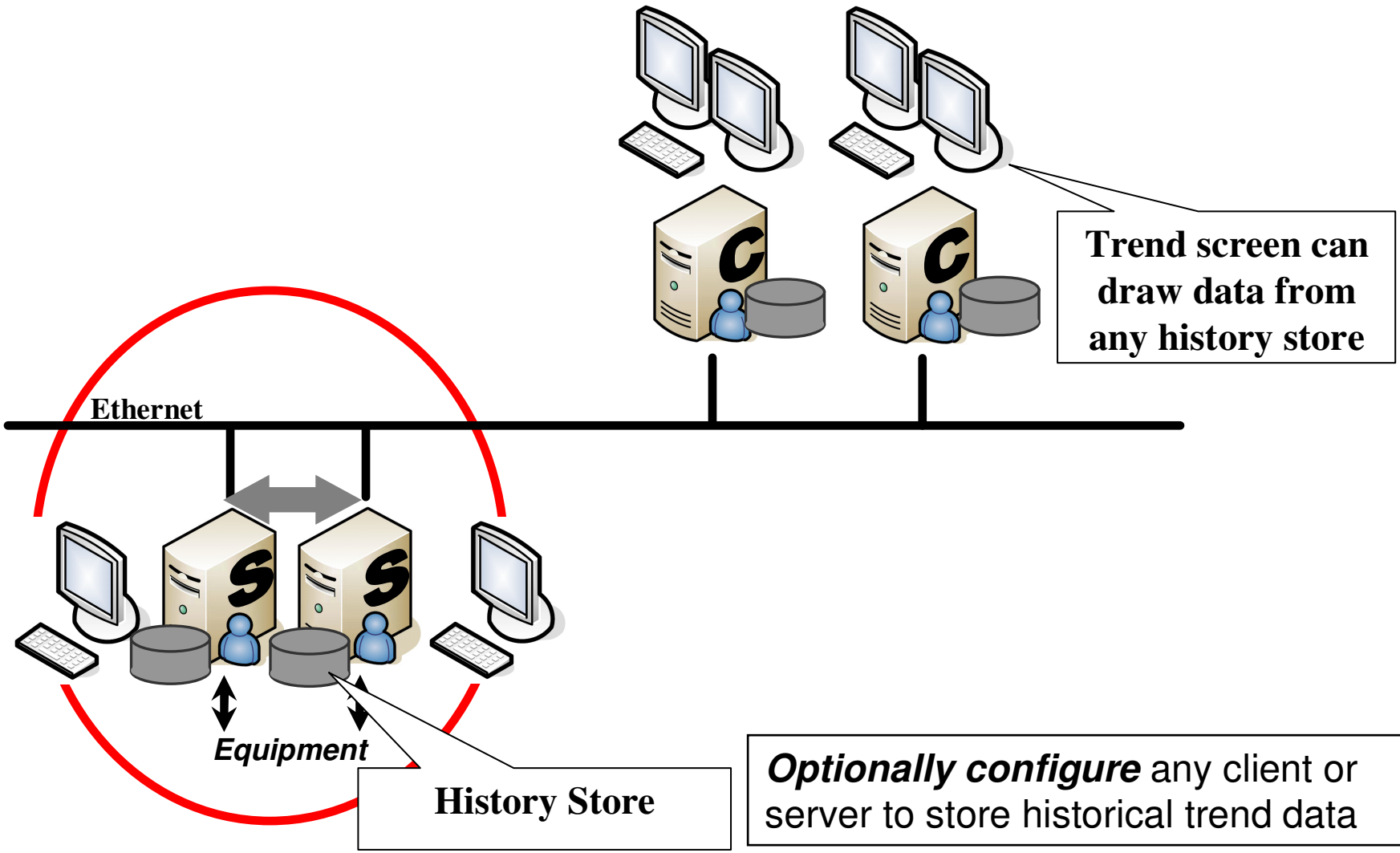
Redundant Servers without Client Failover



A Choice of Historians

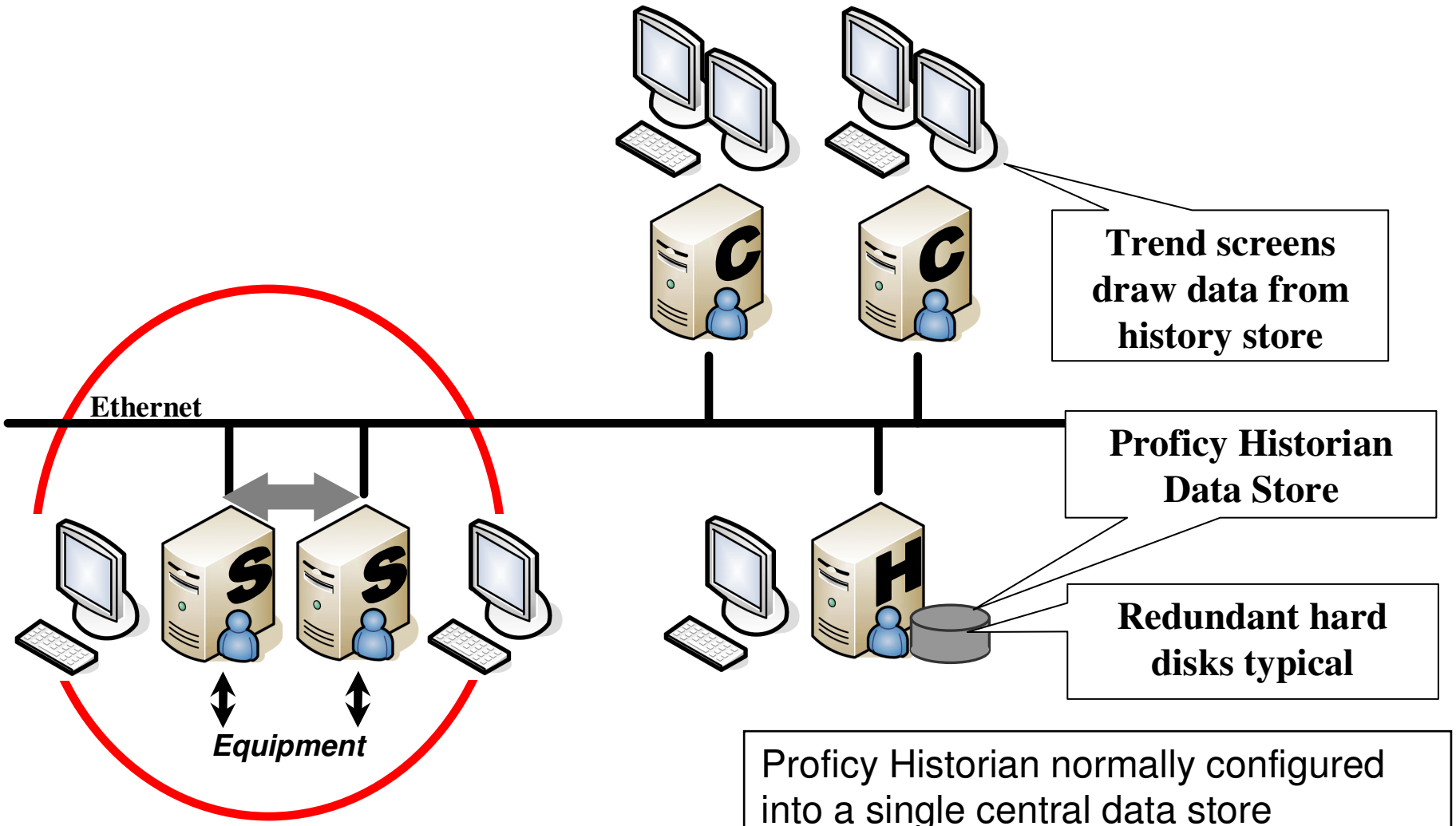
- GE Proficy offers Two Standard Historians
  - Classic Historian ships ***Free*** with iFIX
  - Proficy Historian Offers Maximum
    - Performance
    - IT System Flexibility

Classic Historian



Optionally configure any client or server to store historical trend data

Proficy Historian



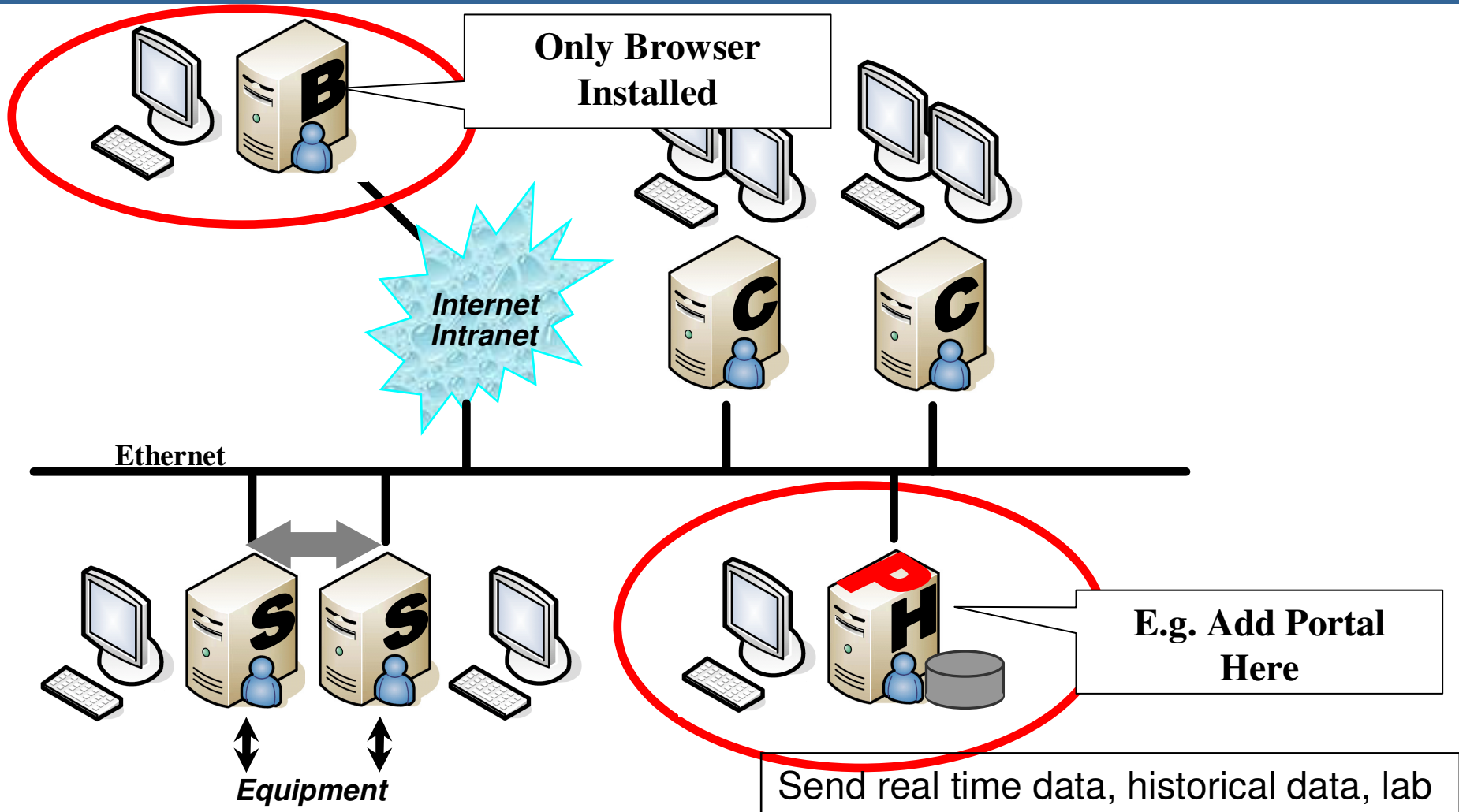
Proficy Historian normally configured into a single central data store

The Internet or Intranet

- GE Proficy Real Time Information Portal[1]
  - Bring almost any data to almost any browser
    - DCS data
      - From Classic or Proficy Historian
    - OPC data from anywhere
    - Most common ODBC or SQL data sources
    - And much more
  - View the data in any form
    - Trends, graphics, tables
    - Mixed real time and historic
    - Calculated Performance Indicators

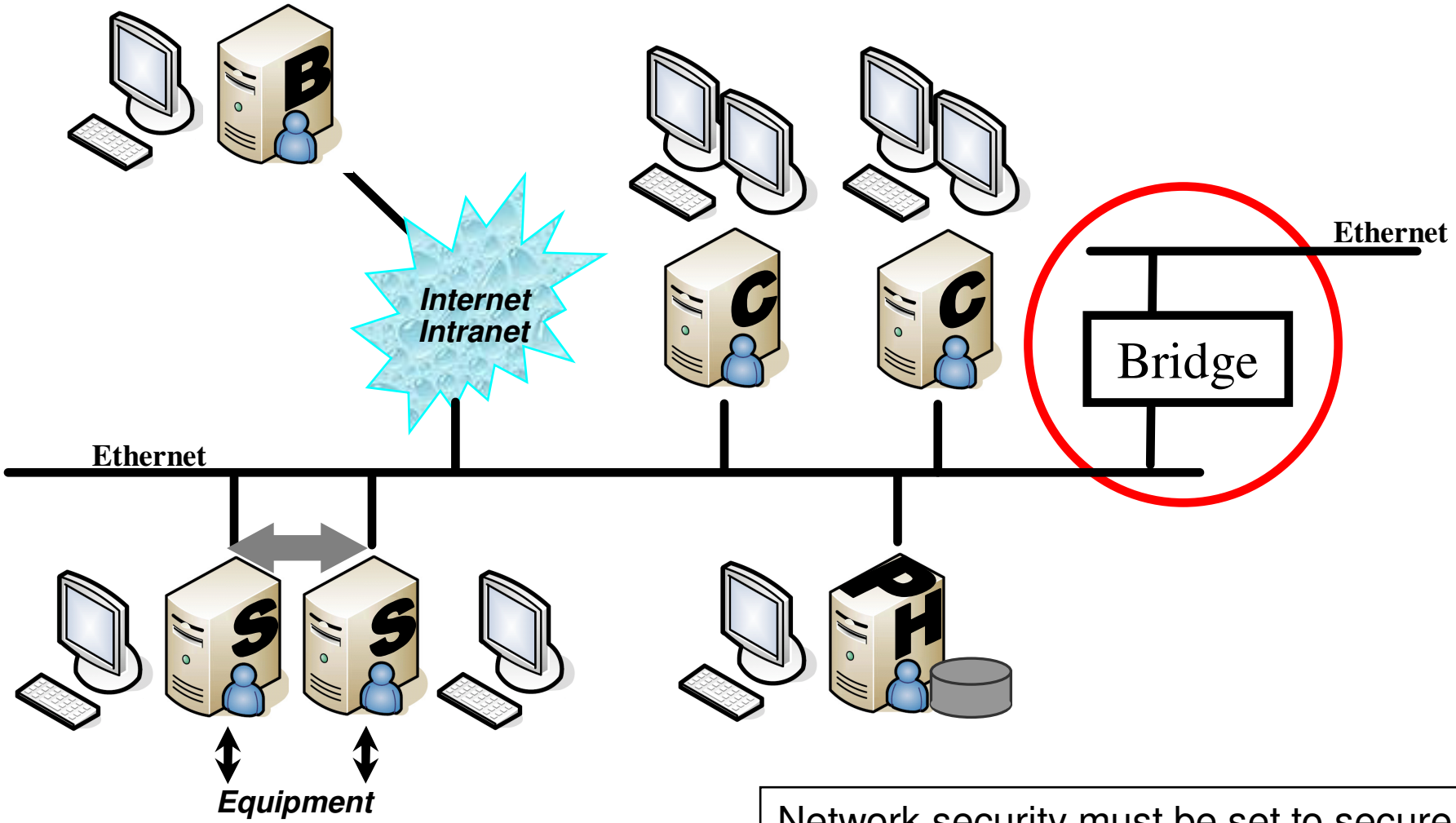
[1] Ask for more information about Proficy Real Time Information Portal

Add Real Time Information Portal



Send real time data, historical data, lab data and data from your corporate databases to your Intranet users

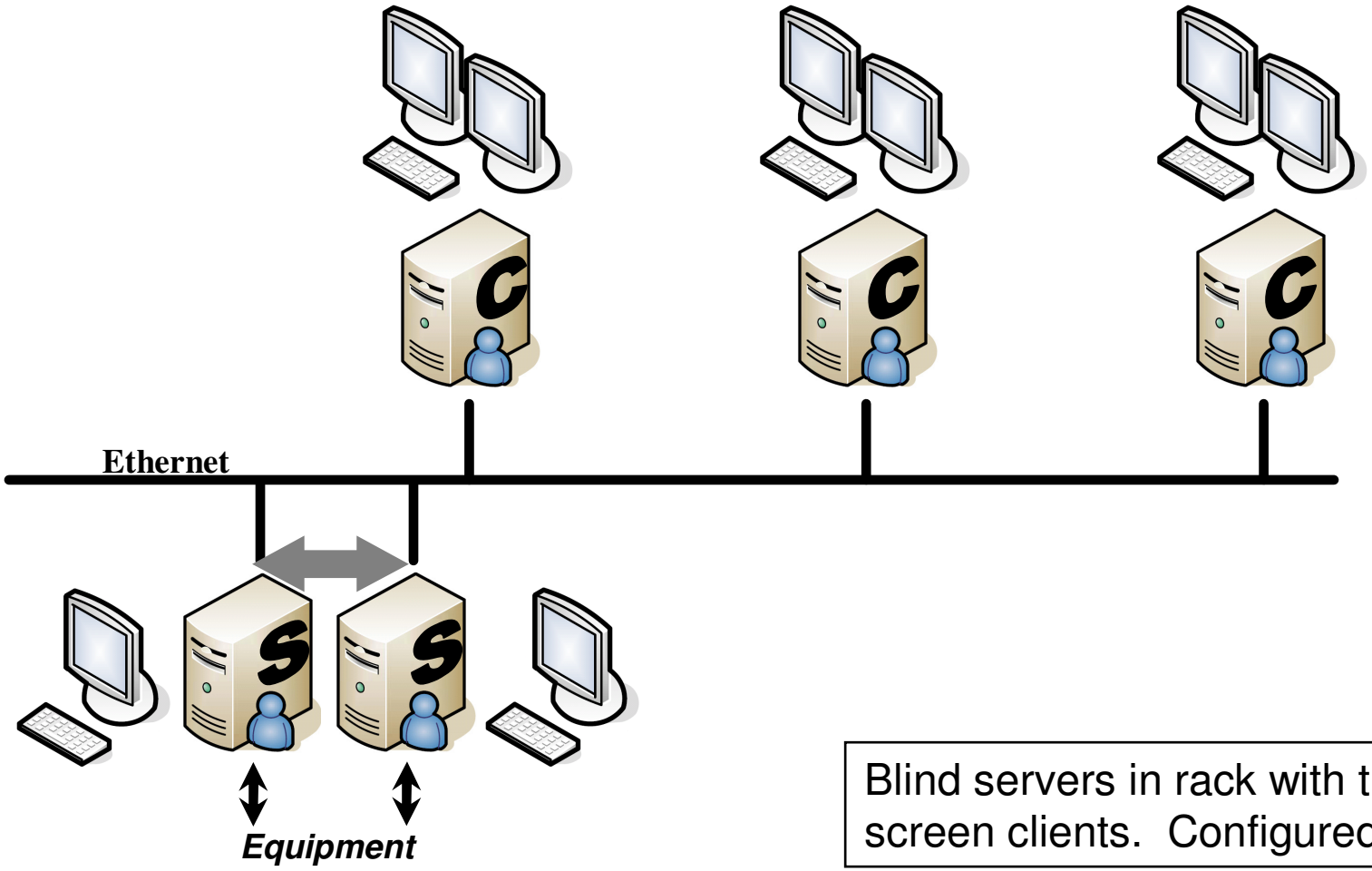
Bridge to the Plant wide Network



Network security must be set to secure your console network

Typical Configuration # 1

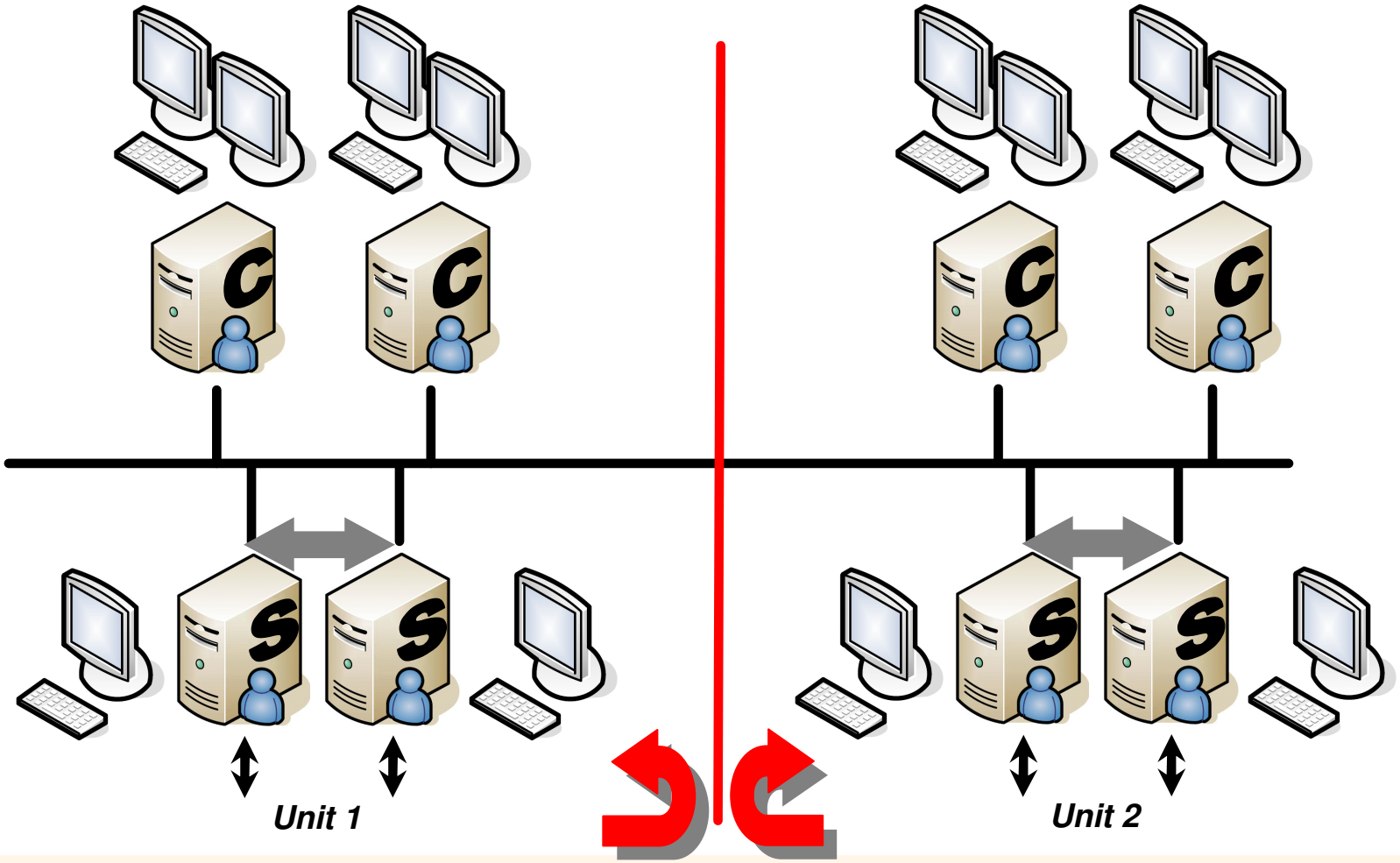
- Suits a single unit power plant or cement plant



Blind servers in rack with three dual screen clients. Configured for failover.

Typical Configuration # 2

- Suits a two unit power plant with unitization



Summary - Network Structures

- Size to meet your requirements
- Grow as you do

- A firm foundation upon which to build

Services Available

Flexible Service Offering

To Meet Your Need

Support Levels

- First Level
  - Your local contractor or integrator
    - Assisted by Previse
- Second Level
  - Previse resolves most issues
    - Assisted by GE and Microsoft
- Third Level
  - GE and Microsoft

Project Services by Previse

- Network Planning
- Projects
  - From D.I.Y. through to full turnkey install
  - Project Management
  - Optionally via local Engineering/Integration firm
- Integration
  - Single Source Procurement
    - GE and OPsCon components and services
    - Other components as required
  - System assembly, configuration, checkout
  - Automated graphics and database conversion

Project Services by Previse

- FAT/SAT as required
  - Acceptance test support
  - Based on Previse Bailey DCS Simulator
- Installation
  - Bailey DCS Upgrades as required
    - Typically no outage required for new console install
    - Depends on scope of DCS upgrades required.
  - Install and commission system
  - Follow-up on any issues or problems
- Training
  - Standard prepared operator & technical training
  - At your site !
- Other assistance as required

Post Installation Support Services

- Deal with Previse for problem resolution
- Annual Support
  - Bundled annual support for GE and OPsCon components
    - GE iGlobalCare program
      - Version updates, phone/web/email support, knowledge base
    - Previse Extended Support Program
      - Version updates, phone/web/email support
- On site services
  - Periodic maintenance
  - Installation of updates & HMI changes
- Web Services
  - Seminars and web based topical training

Services

As much or as little as you need

Designed to be helpful

We help ensure success

Wrapping Up

Next Steps

Additional Information Available

- Have we answered your questions ?
- Ask us for more about:
  - Standard screen system for iFIX
  - Proficy Historian
  - Proficy Real Time Information Portal
  - Remote support
  - Bailey DCS Simulator
- If you need further information please ask

Next Steps?

- Available now !
- If you need to know more:
  - Questions to ***support@previse.com***
  - Ask us for a conference call to review your need
    - With web based product demonstration if requested
  - Ask us to quote your specific requirements
    - Just call us.. We'll walk you through the rest
- Free assessment of your application
  - To see what additional support you may require
  - To ensure our quote to you is 100% complete
- If you want to work with existing suppliers
  - Just ask us.. We'll be happy to work with existing suppliers
    - E.g. Existing controls engineers or integrator.
    - E.g. Turnkey installation by your local integrator

Thank You

Question & Answer