Migrating Your Legacy DCS to PlantPAx®
PLC-5® & 3rd party PLC Migration Capability
PlantPAx

The Modern DCS

PLANT-WIDE
Control and Optimization

SCALABLE
and Modular

SECURE
Open and Information-enabled

FLEXIBLE
Delivery and Support
Agenda

Legacy DCS Market Outlook

Migration Tools – Reduce Risk & Cost

Migration Methods: Phased, Vertical, or Rip & Replace

PLC-5® & 3rd Party PLC Migration Capability

How We Can Help
Global DCS Migrations Market Outlook

$65B
Process Automation Systems are nearing End of Life

$12B
Systems are >25 Years Old

20%
Of experts with legacy systems are Retired

3rd
Party contractors often required & High Risk

In NA/EMEA, >75% of DCS revenues come from expansion, maintenance, repair or overhaul (MRO) of existing process systems

End-User Challenges
• Financial Justification (Economics)
• Limited Downtime (JIT Inventory Strategies)
• Loss Of Technical Resources

End-User Persona
• Risk Averse
End user Challenges: Financial Justification

**Typical Total lifecycle Costs**
- HW, SW, Networks (multi-systems PLC, Drives, DCS)
- Engineering, Consulting
- Simulation
- Commissioning/Decommissioning
- Support contracts
- Energy
- Spare Parts (multi-systems)
- Floor Space
- Training - Operator, Maint, IT
- Upgrade, Expansion
- Off-spec product
- EPA Compliance
- Unplanned downtime
- Obsolescence Planning

**Benefits of a DCS Migration**
- Enhanced Optimization capabilities
- Reduced lifecycle costs
- Increase yield and quality
- Decrease product variability
- Digital Bus Enabled
- More data – faster decision making
- Easier integration with third-party (OEMs, ERP, MES, etc)
- PWC Scalable (10 to 10K I/O)
- Integrated Power

*Users Require High Value Upgrades to justify DCS migrations*
Industries where we are engaged…

Metals • Water/Wastewater • Mining • Specialty Chemical • Power • Oil & Gas
Agenda

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Migration Methods: Phased, Vertical, or Rip & Replace

PLC-5® & 3rd Party PLC Migration Capability

How We Can Help
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<th>Custom Cable Solutions</th>
<th>Engineered Interface (SAM)</th>
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<th>Dedicated Interface</th>
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OPC Servers

• Commercially available – Field proven

• Use in architectures as “Whitebox” PCs, or SAMs (PC in a ControlLogix® rack)

• FactoryTalk® View Server can Host
Database Conversion Tools

- Converts Legacy DCS DB tags to FactoryTalk® View OPC tags or ControlLogix® tags
- Used in conjunction with OPC Servers, whitebox PCs, or the Softing “SAM”
Cable Solutions

Provox
Integrated Gateway Solutions

Benefits

• Peer-to-peer communication
• Increases performance
• Same environmental specs as ControlLogix®
• ControlLogix® controller is data repository
• Integrated solution
• Optimized data server
APACS I/O Scanner
CLX-APX module from ProSoft

Benefits
• 2 modes – Shadow & Scanner
• Significantly reduces up-front costs by retaining legacy I/O
• Fast, low risk legacy controller cutover
• Redundant or Simplex
PROVOX I/O Scanner
CLX-PVX module from ProSoft

Benefits

• 2 modes – Shadow & Scanner
• Significantly reduces up-front costs by retaining legacy I/O
• Fast, low risk legacy controller cutover
• Redundant or Simplex

Includes SMART™ I/O
IPC620 I/O Scanner
CLX-IPC module from ProSoft

Benefits

• 2 modes – Shadow & Scanner
• Significantly reduces up-front costs by retaining legacy I/O
• Fast, low risk legacy controller cutover
• Redundant or Simplex
Dedicated Interface for Bailey
RA56-cATM-BLY90

Benefits

• Peer-to-peer Communication
• Increases Performance
• ControlLogix® Environmental Specs
• Data Repository → ControlLogix® Controller
• Data Native to FactoryTalk® Applications
• Integrated Solution
• Optimized Data Server
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Legacy DCS Market Outlook

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Migration Methods: Phased, Vertical, or Rip & Replace

PLC-5® & 3rd Party PLC Migration Capability

How We Can Help
## Conversion Strategy Comparison

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<th>Phased</th>
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<td><strong>No required shutdown</strong> for HMI replacement</td>
<td><strong>Requires extended shutdown</strong> for entire project</td>
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<td><strong>Can be funded</strong> with maintenance $</td>
<td><strong>Requires capital expense</strong> $ approval (full system)</td>
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<tr>
<td>Considered <strong>low risk</strong> to customer</td>
<td><strong>Can be funded</strong> with maintenance $ (vertical slice or by area)</td>
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<tr>
<td><strong>Can take multiple years</strong> to migrate entire system (higher TCO)</td>
<td>**Considered <strong>high risk</strong> to customer</td>
</tr>
<tr>
<td><strong>Requires more</strong> legacy DCS expertise for delivery engineering</td>
<td><strong>Can replace entire system in weeks</strong> (lower TCO)</td>
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<tr>
<td><strong>Can be easily switched</strong> back to the legacy system as a contingency plan</td>
<td><strong>Requires less</strong> legacy DCS expertise for delivery engineering team</td>
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Bailey Net90 / Infi90 Existing Architecture

OIS Op Station 1  
Bailey EWS  
OIS Op Station 2

CIU  
CIU  
CIU

Plant Loop or Infi Loop

PCU 1  
PCU 2

TU  
TU
Bailey Net90 / Infi90 Migration – Phase 1

Op Station 1

PAx EWS

Redundant Servers

Op Station 2

Bailey Gateway

OIS Op Station1

Bailey EWS

OIS Op Station2

CIU

CIU

CIU

Plant Loop or Infi Loop

PCU 1

TU

TU

PCU 2
Bailey Net90 / Infi90 Migration – Phase 2

- Op Station 1
- Op Station 2
- PAx EWS
- Redundant Servers
- Bailey Gateway
- Bailey EWS
- Plant Loop or Infi Loop
- CIU
- CLX 1
- PCU 1
- PCU 2
- TU
- Ethernet
Bailey Net90 / Infi90 Migration – Phase 3

Op Station 1 → Bailey Gateway → CIU

PAx EWS

Redundant Servers

Op Station 2

Ethemet

Plant Loop or Infi Loop

CLX 1

TU

CLX 2

TU
Bailey Net90 / Infi90 – Vertical Migration

Op Station 1

PAx EWS

Redundant Servers

Ethernet

Bailey Gateway

OIS Op Station1

Bailey EWS

OIS Op Station2

Plant Loop or Infi Loop

CLX 1

PCU 2

TU

TU
Rip & Replace Example: Foxboro I/A

1. Create/Test graphics & controller configuration
2. Power-down & decommission legacy DCS
3. Deploy new DCS Technology
Agenda

- Legacy DCS Market Outlook
- Migration Tools – Reduce Risk & Cost
- Migration Methods: Phased, Vertical, or Rip & Replace
- PLC-5® & 3rd Party PLC Migration Capability
- How We Can Help
PLC-5® Migration Tools & Utilities

RSLogix™ Project Migrator:
- Converts legacy RSLogix™ 5 or 500 project export file to Logix project for MicroLogix™, SLC and PLC-5®
- Free download
- 7 step conversion

Integrated Architecture® Builder:
- Graphical, user-friendly software tool that automatically defines and configures a contemporary ControlLogix® based architecture based on your legacy PLC-5® system
- Builds a detailed bill of materials based on your current PLC-5® based control system

Equipment and Wiring Conversion:
- Seamless conversion without removing any field wires in minutes
3rd party PLC: Swing-arm Solutions from Emphatec

- Modicon 984
- Modicon Quantum
- GE Series Six
- GE 90/70
- Honeywell IPC620

emphatec.com Link
Third-party PLC I/O Scanners from ProSoft

Modicon

Enet/IP > S908

AN-X-MOD

Texas Instruments

Enet/IP > TI RIO

AN-X-TI

General Electric

Enet/IP > Genius

AN-X-GENI

Square D

Enet/IP > SQD RIO

AN-X-SQD
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Global Process Tech Consultants (GPTCs)

Main Customer Types

LARGE END USERS
Consult work with corporate engineers to establish standard for operations

PROCESS OEMS
Work with the OEM to rewrite their application on a Rockwell Automation® Platform

SOLUTION PROVIDER
Train on the best practices of using PlantPAx®

A&E
Develop specifications for firms to establish a Rockwell Automation platform

Help customers understand how we can migrate from legacy DCS to Rockwell Automation

Work with delivery partners to assist in the technology adoption to the Rockwell Automation® process control application

Work across global regions and key customers to assist in project implementation (A&E, contractor, SI, and end user)
Global Process Tech Consultants (GPTCs)
Who should you contact?

- Your Regional Process Pursuit Leader
- Your Local Distributor Sales Representative
- Your Local Rockwell Automation® Sales Representative
- Your Local Systems Integrator or Solution Partner
DCS Migration Collateral Published...

DCS Migration Collateral available on Literature Library

http://Literature.rockwellautomation.com > Support > Product Resources >

Honeywell Migration Profile MIGDCS-PP005B-EN-E
Bailey Migration Profile MIGDCS-PP006B-EN-E
PROVOX Migration Profile MIGDCS-PP007B-EN-E
Foxboro Migration Profile MIGDCS-PP008B-EN-E
APACS Migration Profile MIGDCS-PP009A-EN-E
White Papers Published…

DCS Migration White Papers available on Literature Library

http://Literature.rockwellautomation.com > Support > Product Resources >

- Justification for a Legacy Control System Migration
  PROCES-WP005A-EN-P

- DCS Migration Strategy and Project Implementation
  PROCES-WP006A-EN-P

- Optimization after Migration
  PROCES-WP008A-EN-P
Thank You!