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Control System Disaster Recovery

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Control System Disaster Recovery:
Session Agenda

1. Automation Asset Management Today
2. FactoryTalk AssetCentre Core & Add-on Capabilities
3. Technical Architecture Example
4. Summary, Question & Answer

(Notes) Next Steps for Deploying FactoryTalk AssetCentre

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Control System Disaster Recovery

Section 1:
Automation Asset Management Today

Section 1: Automation Asset Management
Common Business Problems – Questions to Ask!

Power Failure

- Has your organization ever experienced a power loss which resulted in the loss of a program in a controller due to a dead battery?

Production Environment Change

- Have “temporary” changes to programs caused problems in your production environment (adverse impact on performance, quality, and maintainability)?

Unauthorized and Undocumented Access

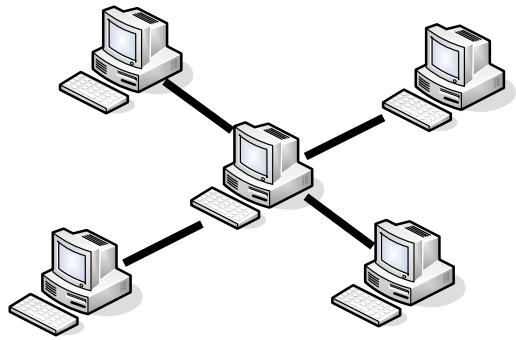
- Have untrained/unauthorized employees accessed devices in the production environment and made unauthorized changes?

These are examples of common business challenges faced by Operations, Maintenance, and Engineering. What about IT?

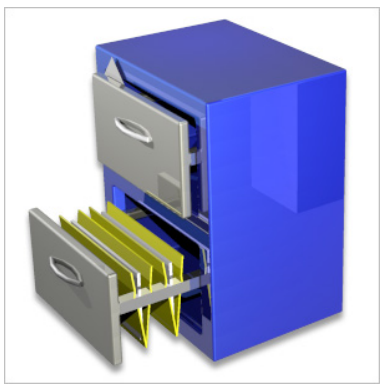
Section 1: Automation Asset Management
Traditional Configuration Backup & Versioning

- Local media

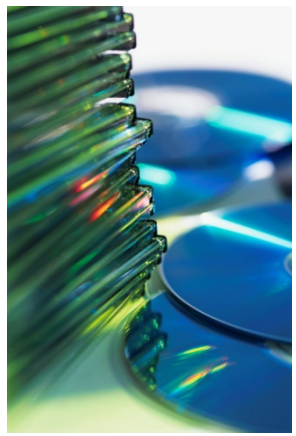
- File server



- Storage cabinet



- Versioning software (SourceSafe)



Section 1: Automation Asset Management
Traditional Change Tracking

- Embedded documentation

```
************************************************
************************************************
************************************************
***    4.Jun.05 RWhite - Changed XIC to XIO     ***
***     for sensor Line1_Conv_Bypass_LS         ***
***                                             ***
************************************************
***    29.Dec.04 JWalker – Add rungs 95 thru 98, ***
***    and modified preset of timer T30:12      ***
***    CHAIN_LUBE_CYCLE on rung 94 in PF3 while ***
***    installing replace chain lube system     ***
***    following system crash 1.Dec.04          ***
************************************************
************************************************
```

- Log book

Section 1: Automation Asset Management
Traditional Access Control

- Security guard procedure

- Processor passwords

- Panel/MCC access

Section 1: Automation Assets & IT
Common IT Challenges

Governance – License Management

- Do you own the licenses you use in production?
- How do you prove this to auditors?

Remote Access

- Is remote access to your IT infrastructure secure?
- Can 3rd-parties access necessary network assets in a controlled fashion?

Business Continuity & Disaster Recovery

- Do you currently backup at-risk legacy systems?
- Do you implement standardized images and backups for Servers & Workstations within the Enterprise?

IT Departments spend a significant portion of their budgets on Business Continuity. Do your Business Continuity activities include automation systems?

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Section 2:
FactoryTalk AssetCentre Core & Add-on Capabilities

Section 2: FactoryTalk AssetCentre
Core Features & Capabilities

Archive

- Secure electronic document repository

Audit

- Records individual user activity and logs information to a secure database

Security

- User security and access privileges

Product Demonstration – Core Features

Section 2: FactoryTalk AssetCentre
Add-on Features & Capabilities

Disaster Recovery

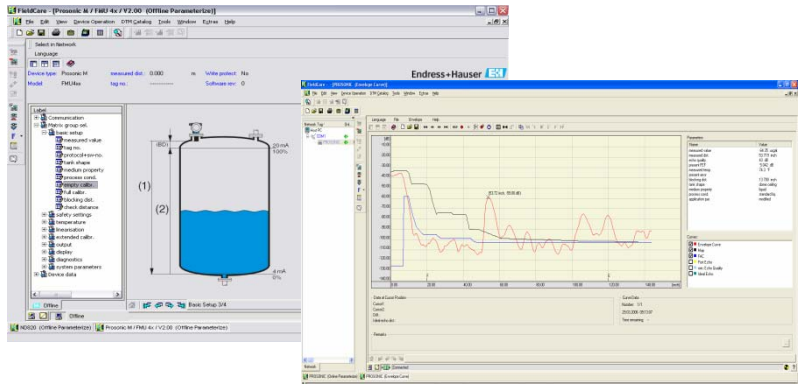
- Provides a scheduled upload and compare of automation device configurations and reports changes.
- Supported Vendors include:
  - Rockwell Automation
  - ABB, Motoman & Fanuc Robots

Process Device

- Calibration Management
- Device Configuration *(support FDT/DTM standards)*

Disaster Recovery – Explanation & Example

Section 2: FactoryTalk AssetCentre
Process Device Configuration



The Field Device Tool (FDT) Frame Application

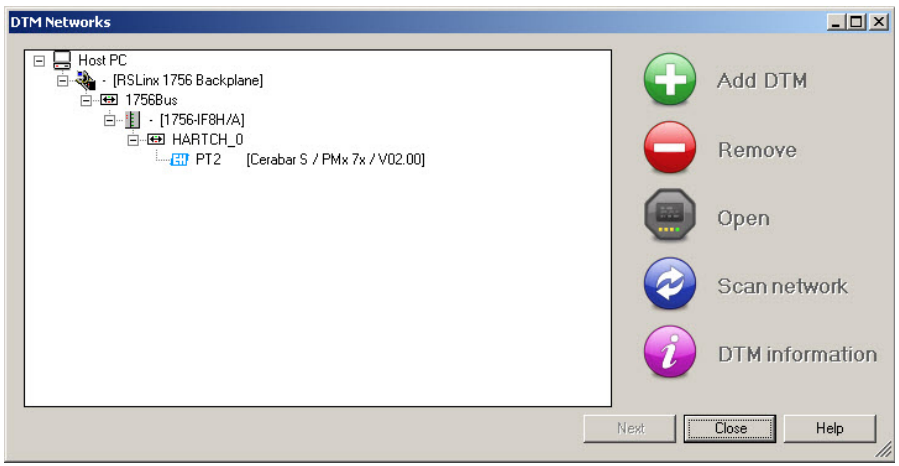
- Common Environment
- Network Configuration
- Navigation
- User Management
- Device Management
- Database Storage

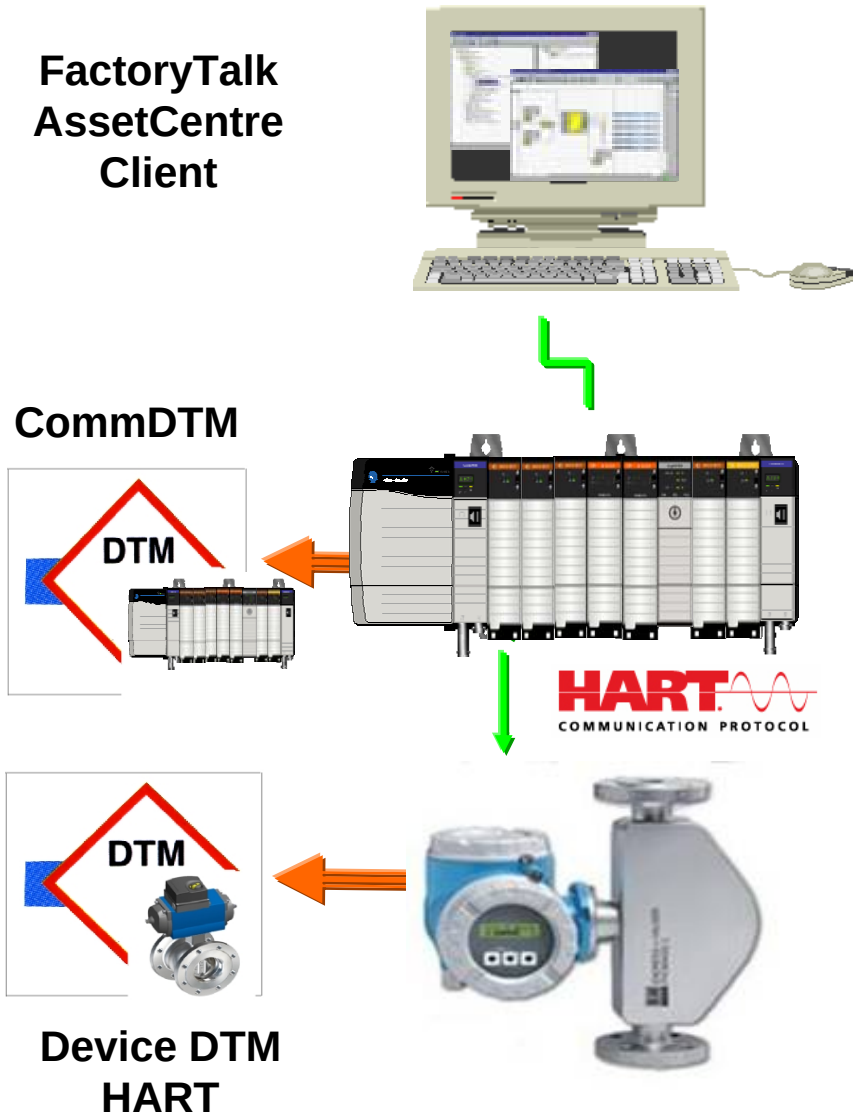
The Device Type Manager (DTM)

- is the device driver
- provided by device manufacturer
- loaded on any Frame Application
- has a standardized interface to the Frame Application
- has the graphical user interface
- includes the complete parameters of the device

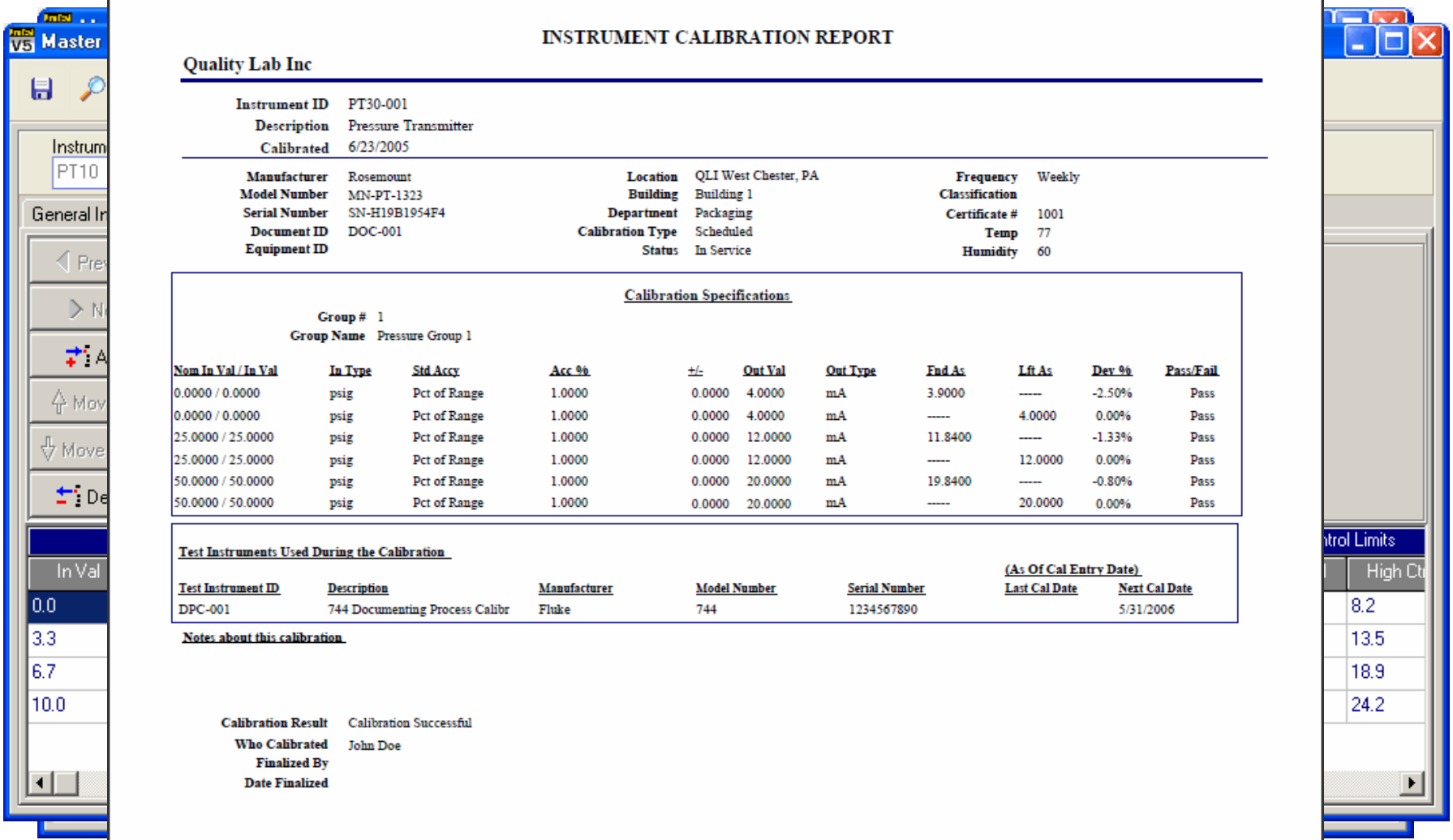
Section 2: FactoryTalk AssetCentre
Process Device Configuration

- Path from the FactoryTalk Client to the device
- Assemble one or more communications DTMs together , 1756-Chassis > 1756-IE8H
- Device is the last DTM in the path i.e. Endress+Hauser iTemp 162





Section 2: FactoryTalk AssetCentre
Calibration Management



INSTRUMENT CALIBRATION REPORT

Quality Lab Inc

Instrument ID	PT30-001
Description	Pressure Transmitter
Calibrated	6/23/2005

Manufacturer	Rosemount	**Location**	QLI West Chester, PA	**Frequency**	Weekly
Model Number	MN-PT-1323	**Building**	Building 1	**Classification**	
Serial Number	SN-H19B1954F4	**Department**	Packaging	**Certificate #**	1001
Document ID	DOC-001	**Calibration Type**	Scheduled	**Temp**	77
Equipment ID		**Status**	In Service	**Humidity**	60

Calibration Specifications

Group # 1
Group Name Pressure Group 1

Nom In Val / In Val	In Type	Std Accy	Acc %	+/-	Out Val	Out Type	Fnd As	Lft As	Dev %	Pass/Fail
0.0000 / 0.0000	psig	Pct of Range	1.0000	0.0000	4.0000	mA	3.9000	-----	-2.50%	Pass
0.0000 / 0.0000	psig	Pct of Range	1.0000	0.0000	4.0000	mA	-----	4.0000	0.00%	Pass
25.0000 / 25.0000	psig	Pct of Range	1.0000	0.0000	12.0000	mA	11.8400	-----	-1.33%	Pass
25.0000 / 25.0000	psig	Pct of Range	1.0000	0.0000	12.0000	mA	-----	12.0000	0.00%	Pass
50.0000 / 50.0000	psig	Pct of Range	1.0000	0.0000	20.0000	mA	19.8400	-----	-0.80%	Pass
50.0000 / 50.0000	psig	Pct of Range	1.0000	0.0000	20.0000	mA	-----	20.0000	0.00%	Pass

Test Instruments Used During the Calibration

Test Instrument ID	Description	Manufacturer	Model Number	Serial Number	(As Of Cal Entry Date) Last Cal Date	Next Cal Date
DPC-001	744 Documenting Process Calibr	Fluke	744	1234567890		5/31/2006

Notes about this calibration

Calibration Result	Calibration Successful
Who Calibrated	John Doe
Finalized By	
Date Finalized	

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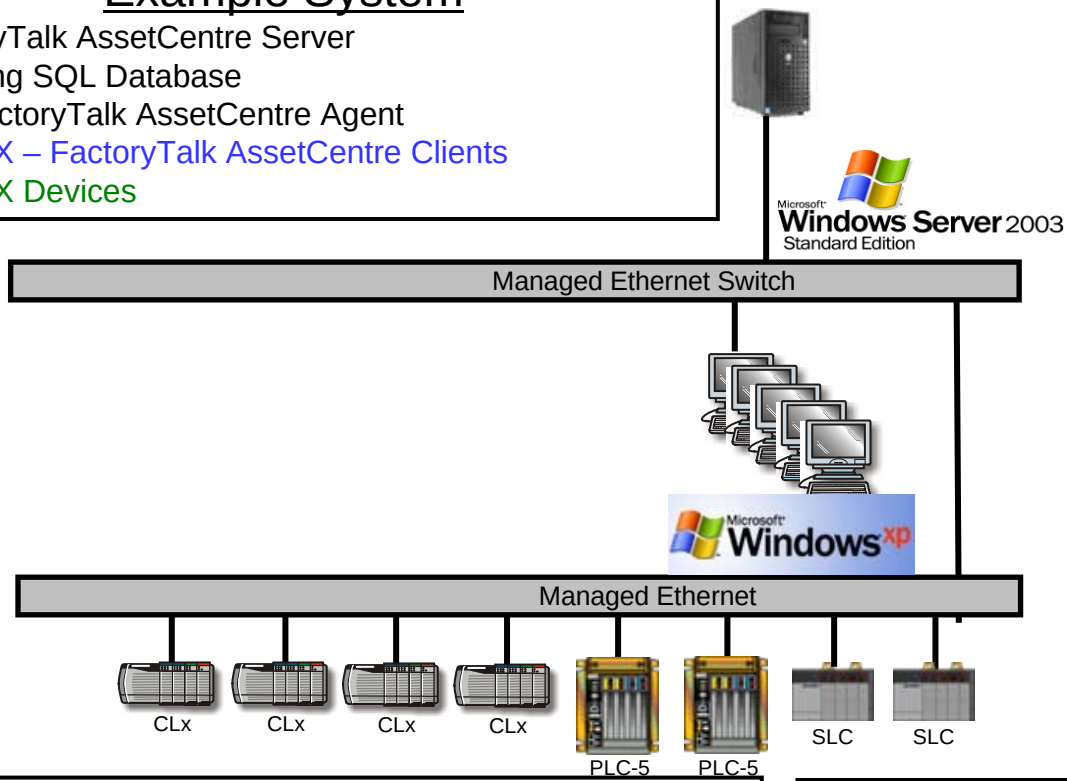
Section 3:
Technical Architecture Example

Section 3: FactoryTalk AssetCentre
Technical Architectures & Business Problems

Example System
- FactoryTalk AssetCentre Server including SQL Database and FactoryTalk AssetCentre Agent
- *Qty. XX – FactoryTalk AssetCentre Clients
- *Qty. XX Devices



FactoryTalk AssetCentre Server
- Windows Server 2003 Operating System
- FactoryTalk Services Platform
- FactoryTalk AssetCentre Software Server, Agent, Disaster Recovery, Client
- Microsoft SQL Server 2005
- RSLinx Classic
- RSLogix 5/500/5000 (no activation required)

FactoryTalk AssetCentre Client
- Windows XP Operating System
- FactoryTalk Services Platform
- FactoryTalk AssetCentre Client
- RSLinx Classic
- RSLogix 5/500/5000

Example System Notes #1
- Client Computers are existing Workstations
- FactoryTalk AssetCentre Server Core
  - *Includes necessary licensing for client computers
  - *Includes Microsoft SQL Server License
  - Includes Audit, Archive, and Security features
  - RSLogix Editor Activations are not required on Server
  - Server License has low entry cost

Example System Notes #2
- FactoryTalk AssetCentre Server Add-on(s)
  - Disaster Recovery based on vendor (ex. Rockwell)
  - *Licensing required for each vendor
  - *Licensing required for total devices used in **scheduled** tasks

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Section 4:
Summary, Question & Answer

Section 4: FactoryTalk AssetCentre Summary

FactoryTalk AssetCentre Server Core

- Archive
- Security
- Audit
- Reports

FactoryTalk AssetCentre Add-On Capabilities

- Disaster Recovery
- Process Device Configuration
- Calibration Management

FactoryTalk AssetCentre Assists in Addressing Common Scenarios!

- Recovery from Power Failure
- "Temporary Changes" that become Permanent
- Unauthorized/Untrained Access

Thank you for participating!

Questions?

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FactoryTalk AssetCentre: Change Management & Disaster Recovery

Optional Section:
Next Steps for Deploying

Next Steps: Ensuring Success
Resources to Utilize (in order)

- Rockwell Automation Discover Portal
  - http://discover.rockwellautomation.com/IS_EN_Asset_Asset_Management.aspx
- Rockwell Automation Knowledgebase
  - http://www.rockwellautomation.com/knowledgebase/
  - Rockwell Automation Software Compatibility Matrix Technote: 42682
  - Microsoft Patch Qualification Technote: 35530
  - FactoryTalk AssetCentre Tips & Best Practices Technote: 56049
  - FactoryTalk AssetCentre System Design Considerations Technote: 57483
  - Architecting FactoryTalk AssetCentre Technote: 60057
- Product Documentation
  - Installation & Getting Results Guides
- RSTechEd
  - Tips, Best Practices, and Troubleshooting Session(s) & Hands-on Labs
- Instructor Led Training
  - http://www.rockwellautomation.com/services/training/
  - Course Name: RS-FTACC, FactoryTalk AssetCentre Configuration (2 Days)

Next Steps: Scoping an Application
Questions to Ask!

- How many controllers does the you have?
- What types of controllers are they (model, firmware, etc.)?
- What networks are used (network diagram with addressing information)?
- How many users access the control programs (maintenance, engineering, ops)?
- How many computers access the control system (network diagram with addressing information)?
- Are these computers part of Domain or Workgroup (Network diagram with addressing information)?
- How are these computers managed today (IT, individually)?
- What Logix editors do you currently own (version, package)?
- Do users utilize Domain credentials or local credentials?
- Are network services (ADS, DNS, SMTP (for report email)) available locally (site level)?
- Is security at the controller level required? (Ex. Maintenance role can go online but can't edit.)
- Do you need to prevent/allow third-party access locally or remote (SIs/OEMs/Contractors)?
- Can you define role based access levels and permissions (administrator, maintenance, engineer, etc)?
- Can you define use-cases? (Ex. How would a maintenance person force an output?)
- Can you provide procedure workflow examples? (Ex. How would a version be incremented in the archive?)

Note: Functional Requirements would be a formal first step for larger applications and strongly recommended for applications requiring advanced security configuration