T65 - Integrated Architecture
Contemporary Technologies Enhance The Connected Enterprise

SMART ASSETS ARE SELF-AWARE & SYSTEM AWARE
Smarter Machines & Equipment

Real-time Data
Voltage, Kwh, Running Time, Temperature

Information
CONTEXTUALIZATION
Energy/Product, OEE

Knowledge
ANALYTICS
Predict bearing will fail in 10 hours

Wisdom
OPTIMIZE
More efficient process workflows
Integrated Architecture® is …

A High Performance Architecture
Built Upon Contemporary Technologies

Scalable Multidiscipline Control

Manufacturing Intelligence

Machines & Process Safety

Diagnostics & Prognostics

Secure Reference Architecture

Track / Trace, Genealogy

INTEGRATED CONTROL AND INFORMATION

Unleash the data inherent in your machines/equipment
The Rockwell Automation Integrated Architecture®
Built Upon Contemporary Technologies

Smart.  Productive.  Secure.

TRUSTED REFERENCE ARCHITECTURE
SELF-AWARE, SYSTEM-AWARE SMART ASSETS
Future-Proof Integrated Architecture Delivers Business Value Across the Entire Automation Investment Lifecycle

**Design**
Integration and data exchange with third party PLM, PDM, electrical and mechanical CAD, simulation tools

**Operate**
Operational intelligence, real-time analytics, productivity tools and optimized user experience with mobility / cloud

**Maintain**
Common device management, Automatic Device Replacement, data-driven services
Integrated Architecture
Integrated Architecture Enablers

**Smart**
- FactoryTalk Cloud
- Adaptive Tuning
- Energy Saving
- Enhanced Integration
- Application Libraries
- Device Specific Features
- High Performance Controller

**Productive**
- Manufacturing Intelligence
- FactoryTalk TeamONE
- FactoryTalk Analytics
- Enhanced Diagnostics
- Rapid Application Development
- Application Code Manager
- Integrated Development Environment

**Secure**
- Device Security
- Application Security
- Network
- Physical
- Policies & Procedures
Integrated Architecture

Value attributes

- Improved system performance for increased throughput, flexibility, and reduced waste
  - Multi-core controllers providing high speed deterministic control increases machine throughput and productivity
  - Scalable high performance controllers to allow customers to right-size their applications
  - High performance I/O with common data structures, time stamping for sequence of events, scheduled outputs etc. increase machine throughput and reduce scrap

- Enhanced diagnostics for improved asset utilization
  - Embedded diagnostics and prognostics increase equipment uptime

- Integrated Development Environment offering a common framework that simplifies the design, installation, management and maintenance of a system
  - Device management for quicker downtime recovery (Automatic Device Replacement)
  - Multi-user collaboration online and offline
  - Intuitive workflows and ease of use features
Integrated Architecture

Value attributes

- Rapid development and deployment
  - Modular design and library management tools for design reuse
  - Machine builder application libraries
  - Adaptive tuning with Load observer and tracking notch filter enables tuningless operation
  - Enhanced Logix integration with PanelView™ 5000

- Energy efficient and smaller footprint solutions
  - Energy savings through energy efficient drives/motors
  - Footprint reduction due to compact size

- Secure Infrastructure
  - Authentication and Policy management
  - Source Protection (IP protection)
  - Tamper protection and content protection
Integrated Architecture
Key Product Introductions
CompactLogix™ 5380 and ControlLogix 5580 Controllers

- Increased productivity
  - Optimized for communications performance without impacting controller performance
  - Faster code execution time
  - Enhanced diagnostics
- Simplified, flexible architectures
  - Embedded 1-Gb communications help future-proof machines
  - Configurable dual-IP or Faster code execution time
- Enhanced security as part of a defense-in-depth approach
Multi-disciple high performance controller
- Multi-discipline Logix controller with commercial operating system for 3rd party applications
- Commercially available CPU for highest performance

Enhanced Security Features
- Digitally-signed and encrypted firmware
- Controller change detection
- Controller Audit logging
- Role-based access control
- License-based content protection

Secure Digital Card
- Optional nonvolatile memory storage for the Logix user program and tag data

USB Ports
- USB device port for easy access for programming, troubleshooting, online edits and updating the controller firmware
- (2) USB 3.0 Host ports (OS)

Gb EtherNet/IP Ports
- (3) Logix GbE ports. 2 ports configurable for Dual IP or DLR
- (1) Host GbE port (OS)

Monitor Interface
- DisplayPort supports standard converters for HDMI, DVI, VGA displays
5069 Compact I/O™

- High speed backplane of packet transfer rate
  - Approx. 13x performance increase compared to 5570 or 5370 + Point I/O
- Common I/O Architecture enabling consistent user experience, common data structures
- Enhanced functions in Basic modules
  - Change of State
  - Scheduled output
  - Simple counting
  - Time stamping
  - Optimized data processing
Stratix® 5400/5410

- Layer 2 switching
- Layer 3 routing
- GE fiber ports
- Network Address Translation (NAT)
- All gig port options
- Power over Ethernet (PoE)
- Embedded Cisco technology
- FactoryTalk® View Faceplates for status monitoring and alarming
- Studio 5000® Add-on Profiles for configuration and monitoring
- Predefined Logix 5000™ tags for monitoring and alarming
Kinetix® 5000 Family of Servo Drives

- Kinetix 5500 and Kinetix 5700 enables system integration
  - Common programming and user experience
  - Consistent behavior, status and diagnostics
  - Common baseline firmware across drive family
- Features that create value
  - High performance EtherNet/IP integrated motion control
  - Common single-cable technology reduces wiring by 60%
  - Power dense designs for small cabinet footprint
- Advanced Technology Integration
  - Load Observer and Adaptive Tuning for tuning-less control – faster machine commissioning
  - Vector Control Algorithms
  - EtherNet/IP Integrated Safety - Safe Torque Off – for safer, more flexible machines
PowerFlex® 755T Drive Solutions

The next step in Powerful Performance. Flexible Control.

- New drives offer more precise and responsive motor control with TotalFORCE™ control technology
- Scalable solutions for regeneration, low harmonics and flexible drive system configurations
- Adaptive Tuning and Load Observer capabilities to help keep your productions up and running

- Advanced predictive maintenance for IGBTs, bus capacitors, & fans/blowers
- Advanced diagnostics provides status on blown fuse and surge suppression
PanelView™ 5000 Family

- Enhanced integration with Logix
  - Logix-based alarms automatically available
  - Shared controller tags
  - High speed HMI button control
  - Extended tag properties
- Modern graphic capabilities
  - Scalable vector graphics
  - Intuitive design environment
- Enhanced diagnostics
VersaView® Platform

- VersaView® 5100 Monitors
- VersaView® 5200 Thin Clients
  - Display panel and non-display box thin clients
- VersaView® 5400 PCs
  - Integrated display panel PCs and non-display box PCs
Integrated Development Environment

Single software platform:

- Scalability
- Multi-Disciplined
- Common Infrastructure
- Intuitive Workflow
SHARE DATA
- Start from other design artifacts
- Incorporate existing control and visualization projects
- Reduce configuration time by leveraging automation system project templates and content

LAYOUT & CONFIGURE
- Layout your control, visualization, and communications network
- Configure devices from central location
- Build automation projects

MANAGE & VIEW
- Centrally manage your automation system
- Launch your control and visualization projects
- Quickly search across your automation system

Central place to configure and manage your system
Supports comprehensive design and maintenance of the automation control system. Focused on delivering automation productivity, ease of use, and simplified workflows.
New design editor focused on ease of use.
Includes simplify alarming, shared tags, and high speed jog control.

Logix-View integration simplifies development and improves runtime.
**DESIGN**
- Library Designer is integrated into Logix Designer
- Flexible library authoring, structuring reusable content the way you want

**PUBLISH**
- Combine control, visualization, historical and alarm management into one library object
- Centralized repository for easy access and version management

**BUILD**
- Easily generate your standardized application code
- Bulk configure projects
- Leverage Rockwell Automation provided libraries (OEM building blocks)

Maximize reuse and quickly build projects
Validate, test, and optimize application code independent of physical hardware

Simplify troubleshooting by using advanced debugging to support code validation and virtual commissioning

Integrate into high fidelity process simulation systems for operator and situational based training

Simulate your system in a safe, virtual environment
APPLICATION CONTENT
STANDARDIZED, LIFECYCLE MANAGED, APPLICATION-FOCUSED LIBRARIES
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Thank You!