

Allen-Bradley Upgrades

with SoftPLC Controllers

**THE Best Solutions
to upgrade A-B PLC's & HMI's**

Minimizing cost, downtime, training & re-engineering

Allen-Bradley PLC Upgrades

- Motivation:
 - Product/programming software obsolescence
 - Older technology lacks desired features/communications
- Why upgrade vs replace?
 - Cost/downtime to replace entire system prohibitive
 - I/O typically not an issue, only the CPU

“80% of end users surveyed were upgrading their control systems only, leaving field devices 'as is'.” *Larry O'Brien, ARC Advisory Group*

Allen-Bradley PLC Upgrades

➤ Models Supported

- PLC-5/SoftLogic5
- SLC-500
- PLC-2, 1774 PLC
- PLC-3, PLC-5/250

➤ Multiple I/O Types Supported

- RIO (*eg: 1771, 1747, Flex, Block, etc.*)
- DeviceNet, Profibus, etc. also supported via interfaces in SoftPLC CPU

Allen-Bradley PLC Upgrades

- Process
 - Convert logic/documentation
 - Replace A-B PLC CPU with SoftPLC Controller
- Existing I/O can remain virtually untouched
 - Many options for future upgrades/expansion
- Existing HMI/SCADA can remain, if desired
- Existing communication networks can remain or be upgraded to Ethernet

Allen-Bradley PLC Upgrades

SoftPLC Hardware Options

SoftPLC Hardware Options

- Smart SoftPLC with internal A-B RIO and/or DH+ interfaces
 - Supports up to 2 channels
 - RIO Master (*32 adapters each*) or RIO Slave
 - DH+
 - CPU includes Ethernet switch, multiple serial ports for DF1 or other protocols



“blue hose” connection points

SoftPLC Hardware Options

- Hardbook SoftPLC w/ A-B Interface(s)
 - Interface is via a PCI slot card
 - 1 or 2 port cards available
 - Ports can be A-B RIO (*master only*) or Data Highway Plus protocol
 - Up to 8 cards are supported in a single SoftPLC



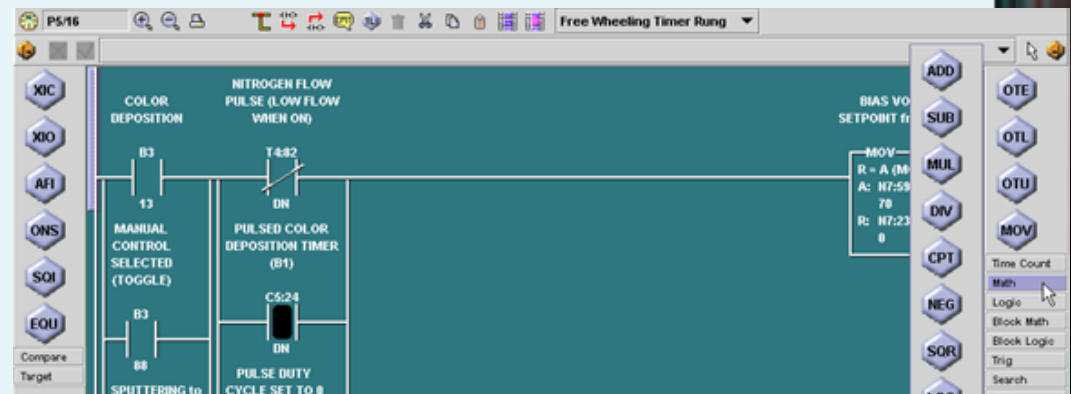
Allen-Bradley PLC Upgrades

Upgrade Process

A-B PLC-5 Upgrades

- SoftPLC logic/data table is a superset of the PLC-5
 - Automated program conversion utility (*more of an import than a conversion*) normally 98% or better
 - Resulting logic looks nearly identical to users
 - HMI/SCADA does not normally need any changes (*unless network type changes*)

Datable Navigator	
File Manager	Bookmarks
Datable Files	
O:	128
I:	128
S:	32
B0003:	282
T0004:	117
C0005:	101
R0006:	2
N0007:	6854
F0008:	9999
N0009:	48
N0010:	103
N0011:	66
N0012:	47
N0013:	32



A-B PLC-5 Upgrades

➤ Hardware Changes

- Exchange PLC-5 CPU with Remote I/O Adapter
(or configure it as an adapter)
- Add SoftPLC Controller w/ A-B RIO interface



A-B SoftLogic5, PLC-5/250

- Similar to PLC-5, but text output may need to be “tweaked” before import
- Add-on functions may require manual intervention, but can usually be supported with a SoftPLC TLM (*loadable add-on*) function

A-B PLC-2 Upgrades

- Automated conversion from PLC-2 logic to SoftPLC logic
 - Program conversion normally 95% or better
 - Converts from TOPDOC PLC-2 format
 - Conversion cost includes loan of TOPDOC PLC-2 to upload program
 - Documentation conversions available from most PLC-2 software programs
- HMI/SCADA
 - SoftPLC has a PLC-2 compatibility mode to minimize changes required

A-B PLC-2 Upgrades

➤ Hardware Changes

- PLC-2/30, -2/20, -2
 - Replace PLC-2 CPU with SoftPLC Controller w/ A-B RIO interface
 - If remote I/O, no changes required
 - If local I/O, replace local adapters (1771-AL) with remote adapters (1771-ASB/ASC)
- Mini PLC-2's
 - Replace PLC-2 CPU with remote I/O adapter
 - Add SoftPLC Controller w/ A-B RIO interface

A-B SLC-500 Upgrades

- Automated conversion utility normally 95% or better
 - Converts logic & documentation
 - Provides text file identifying what conversion process did & any areas of concern
 - Also provides list of equivalent Tealware I/O modules
 - HMI/SCADA does not normally need any changes *(except for I & O addresses, or if network type changes)*
 - Resulting logic looks nearly identical to users *(except for I and O addresses)*

A-B SLC-500 Upgrades



- **Hardware Changes** *(if keeping A-B I/O desired)*
 - Replace SLC-500 CPU with 1747-ASB remote I/O adapter
 - Add SoftPLC Controller w/ A-B RIO interface
- **Or, replace entire system** *(if retaining IP the main desire)*



A-B PLC-3 Upgrades

➤ Semi-Automated Conversion Utility

- Standard logic/documentation converts 90% or better
- Pointers, GA Basic, etc. must be manually converted (*by user or SoftPLC can quote on per program basis*)
- HMI/SCADA does not normally need any changes (*if PLC-2 compatibility mode was originally used*)

➤ Hardware

- Replace PLC-3 CPU w/ SoftPLC Controller w/ A-B RIO Interface

Allen-Bradley PLC Upgrades

**Why SoftPLC
instead of A-B
Upgrade Solutions?**

Why SoftPLC vs A-B

- A-B document on PLC-5 logic conversion to Logix is 80 pages
 - 53 pages (67%) discuss conversion “issues”, items that need to be manually reviewed, etc.
 - 27 pages (34%) are index, TOC, and instructions on export/import of logic and running the conversion utility program
- SoftPLC list of potential issues is 1 page

Why SoftPLC vs A-B

- Resulting system more similar to old system
 - Little training needed for maintenance personnel or operators
 - Less risk of problems after conversion
- Advanced features at no cost
 - Ethernet/routing is standard feature
 - Minimum user memory per SoftPLC is 64MB
 - PAC functions standard (*logging, email, internal database, Modbus/other drivers, more*)
 - More...

Why SoftPLC vs A-B

- Hardware Cost Savings
 - Smart SoftPLC w/ A-B RIO interface \$1140-\$2500
 - ControlLogix CPU, rack, P/S plus 1756-RIO minimum \$7000
- Common Solution for all applications
 - Same SoftPLC products can range from smallest to largest applications (*reduces inventory, training, software, etc cost*)
 - A-B has different product levels (*MicroLogix, CompactLogix, ControlLogix*)

Why SoftPLC vs A-B

- Freedom! Many options for future
 - SoftPLC is open architecture, lots of vendor choices for I/O, networks, drives, etc.
 - Rockwell solutions drive customer to all Rockwell products long term
- Reduce automation costs long term



Thanks for your time!

Contact SoftPLC for more information at

1-800-SoftPLC

<http://softplc.com>

