



FactoryTalk[®] Network Manager[™] Migration Guide

expanding **human possibility**[®]



PUBLIC

FactoryTalk® Network Manager™ – Lifecycle Status

- Current Lifecycle Status: **Discontinued** as of January 2023
- New product license not available for sale
 - Software will remain available for downloading through January 2024 to support license operation
- No direct replacement, but similar features are available in other products
 - Device Level Ring (DLR) Faceplate - DLR topology, diagnostics and alarms
 - Stratix® Faceplate - switch level alarming / monitoring
 - FactoryTalk® AssetCentre - backup and compare Stratix® configurations
 - FactoryTalk® Linx, FactoryTalk® AssetCentre, ControlFLASH Plus™, third-party tools (for example, Claroty, Cisco® DNA Center) - asset discovery and inventory
 - Link Layer Discovery Protocol (LLDP) neighbor tables in FactoryTalk® Linx Network Browser - mapping of connected devices
 - Stratix® Automatic Diagnostics in ControlLogix® and CompactLogix™ controllers - Switch level alarming using FactoryTalk® Alarms and Events
 - Third-party Network Management Software (NMS) with support for Cisco IOS-based products - various capabilities

Document Purpose

This document offers an overview of the network management features available in both Rockwell Automation products and third-party solutions. Its purpose is to assist customers who are seeking a migration path from FactoryTalk® Network Manager™ or who wish to implement a higher level of network management in their environments.

- Tables in slides 3-8 show support for each feature:

Yes
Yes ⁽¹⁾
No

Fully supported

Partially supported / limitations apply – see a note

Not supported

- Use hyperlinks within the table to navigate to slides with more details

Network Management Solutions

Feature	FactoryTalk® AssetCentre	Network Device Library Faceplates	FactoryTalk® Linx Browser	Device Webpage	Studio 5000 Logix Designer® AOP	Cisco® DNA Center	Cisco CyberVision	Clarity	Enterprise NMS
Switch Discovery and Inventory – IT protocols (SNMP, CDP, LLDP, SSH)	Yes ⁽¹⁾	N/A	Yes ⁽²⁾	N/A	N/A	Yes	Yes	Yes	Yes
Inventory Export – SNMP devices	Yes	N/A	No	N/A	N/A	Yes	Yes	Yes	Yes
Device Discovery and Inventory – CIP	Yes	N/A	Yes	N/A	N/A	No	Yes	Yes	No
Device Discovery – CIP Backplane Bridging	Yes	N/A	Yes	N/A	N/A	No	No ⁽³⁾	Yes	No
Inventory Export – CIP devices	Yes	N/A	Yes ⁽⁴⁾	N/A	N/A	No	Yes	Yes	No
Switch Configuration	No	No	Yes ⁽⁵⁾	Yes	Yes ⁽⁶⁾	Yes ⁽⁷⁾	No	No	Yes ⁽⁸⁾

(1) SNMP v2 only

(2) Supports LLDP discovery in v6.31

(3) Can discover modules in the chassis

(4) Inventory export using ControlFLASH Plus™ v5.0 or later

(5) IP address and port state only

(6) Selected settings

(7) Selected settings using templates

(8) Capabilities vary by vendor

Network Management Solutions

Feature	FactoryTalk® AssetCentre	Network Device Library Faceplates	FactoryTalk® Linx Browser	Device Webpage	Studio 5000 Logix Designer® AOP	Cisco® DNA Center	Cisco CyberVision	Claroty	Enterprise NMS
Topology – List of directly connected devices	No	No	Yes ⁽¹⁾	Yes ⁽²⁾	No	Yes ⁽³⁾	No	No	Yes
Topology – Star, Ring (non-DLR) or Linear for switches	No	No	No	N/A	N/A	Yes	No	No	Yes
Topology – DLR	No	Yes ⁽⁴⁾	No	Yes ⁽⁵⁾	Yes ⁽⁵⁾	No	No	No	No
Topology – REP	No	No	No	Yes ⁽⁶⁾	No	Yes	No	No	No
Topology – PRP	No	No	No	N/A	N/A	No	No	No	No
Topology – VLANs	No	No	No	N/A	N/A	Yes	No	No	Yes
Topology export	No	No	Yes ⁽⁷⁾	N/A	N/A	Yes	No	No	Yes

- (1) Requires LLDP support by connected devices
- (2) LLDP or CDP neighbor information for Stratix® switches
- (3) Connected switches only
- (4) Up to three rings with the same supervisor

- (5) DLR participant list on a Stratix® switch (DLR supervisor)
- (6) List of ring switches per REP segment
- (7) LLDP neighbor table can be exported per device

Network Management Solutions

Feature	FactoryTalk® AssetCentre	Network Device Library Faceplates	FactoryTalk® Linx Browser	Device Webpage	Studio 5000 Logix Designer® AOP	Cisco® DNA Center	Cisco CyberVision	Claroty	Enterprise NMS
Diagnostics / Alarms - switches (HTTPS, SNMP, SSH)	No	No	No	Yes⁽¹⁾	No	Yes	No	No	Yes
Diagnostics / Alarms - CIP	No	Yes⁽¹⁾	Yes⁽²⁾	Yes⁽¹⁾	Yes	No	No	No	No
Diagnostics / Alarms - DLR topology	No	Yes⁽³⁾	Yes⁽⁴⁾	Yes	Yes	No	No	No	No
Diagnostics / Alarms - REP topology	No	No	No	Yes	No	Yes	No	No	No
Diagnostics / Alarms - PTP	No	Yes⁽¹⁾	No	Yes⁽¹⁾	Yes⁽¹⁾	No	No	No	No
Diagnostics / Alarms - PRP topology	No	No ⁽⁵⁾	No	Yes⁽¹⁾	Yes⁽¹⁾	No	No	No	No
Email Notifications	No	No	No	No	No	Yes	No	Yes	Yes
Syslog Server	No	No	No	N/A	No	Yes	No	No	Yes
NetFlow Collector	No	No	No	N/A	No	Yes	No	Yes	Yes

(1) Single device view

(5) Roadmap

(2) Port state and statistics: speed/duplex, counters and errors

(3) Up to three rings with the same supervisor

(4) DLR status only on EtherNet/IP™ modules

Network Management Solutions

Feature	FactoryTalk® AssetCentre	Network Device Library Faceplates	FactoryTalk® Linx Browser	Device Webpage	Studio 5000 Logix Designer® AOP	Cisco® DNA Center	Cisco CyberVision	Claroty	Enterprise NMS
Switch Configuration Backup	Yes	No	No	Yes ⁽²⁾	Yes	Yes	No	No	Yes
Switch Configuration Restore	No ⁽¹⁾	No	No	Yes ⁽²⁾	Yes	Yes	No	No	Yes
Switch Configuration Compare Versions	Yes	No	No	No ⁽³⁾	No	Yes	No	No	Yes
Switch firmware update / downgrade	No	No	No	Yes ⁽²⁾	No	Yes	No	No	Yes
Zero day switch provisioning with Plug-n-Play(PnP)	No	No	No	N/A	N/A	Yes	No	No	No

(1) An archived configuration can be retrieved from the FactoryTalk® AssetCentre archive and restored using the Stratix® switch WebUI or Device Manager

(2) Single switch

(3) Stratix® 5800 and Stratix® 5200 allow comparing changes in the running configuration with the startup configuration before saving

Network Management Solutions

Feature	FactoryTalk® AssetCentre	Network Device Library Faceplates	FactoryTalk® Linx Browser	Device Webpage	Studio 5000 Logix Designer® AOP	Cisco® DNA Center	Cisco CyberVision	Clarity	Enterprise NMS
User role-based access	Yes ⁽¹⁾	Yes ⁽¹⁾	Yes ⁽¹⁾	Yes ⁽³⁾	Yes ⁽¹⁾	Yes	Yes	Yes	Yes
User audit	Yes ⁽¹⁾	Yes ⁽¹⁾	Yes ⁽¹⁾	Yes ⁽⁴⁾	Yes ⁽¹⁾	Yes	Yes	Yes	Yes
External Authentication for users	Yes ⁽²⁾	Yes ⁽²⁾	Yes ⁽²⁾	Yes ⁽⁴⁾	Yes ⁽²⁾	Yes	Yes	Yes	Yes
Device groups and group-based access	Yes ⁽¹⁾	Yes ⁽¹⁾	No	N/A	Yes ⁽¹⁾	Yes	No	Yes	Yes
Integration with IT security tools	No	No	No	No	No	Yes	Yes	Yes	Yes
REST API for programmability	No	N/A	No	N/A	No	Yes	Yes	Yes	Yes

(1) FactoryTalk® Security policies

(2) FactoryTalk® Security accounts linked to Active Directory

(3) Local user roles or AAA on Stratix® switches

(4) Requires AAA on Stratix® switches

FactoryTalk® AssetCentre

Overview and Resources

FactoryTalk® AssetCentre is a comprehensive solution designed to streamline the management of automation-related assets throughout your entire facility. With minimal intervention from management or employees, this centralized platform automates the processes of securing, managing, versioning, tracking, and generating reports on asset information. Using FactoryTalk® AssetCentre, you can improve uptime, productivity, quality, employee safety and regulatory compliance in your organization.

- [Rockwell Automation website - FactoryTalk® AssetCentre](#)
- [FactoryTalk® AssetCentre Getting Results Guide](#)
- [FactoryTalk® AssetCentre Installation Guide](#)
- [FactoryTalk® AssetCentre Utilities User Manual](#)
- [Stratix® Disaster Recovery with FactoryTalk® AssetCentre \(QA56314\)](#)
- [FactoryTalk® AssetCentre Disaster Recovery Device Support \(QA29309\)](#)
- [FactoryTalk® AssetCentre Asset Inventory FAQs \(QA31975\)](#)
- [Rockwell Automation YouTube - FactoryTalk® AssetCentre playlist](#)

FactoryTalk® AssetCentre

Discovery and Inventory using SNMP

- Use an Asset Inventory item to enable Simple Network Management Protocol (SNMP) scanning
 - The Asset Inventory tool will browse the IP address range and request all available SNMP information from responding devices.
 - Configure separate inventory item for each IP range
 - Only SNMP v2 is currently supported. The SNMP community string can only be set globally, not on a per-device level.
 - SNMP inventory scan can be combined with the CIP scan

Scan devices using SNMP

Scan within: IP address range IP subnet

Start IP address: 10 . 22 . 1 . 4

End IP address: 10 . 22 . 1 . 14

Maximum number of hops: 1 Unlimited hops

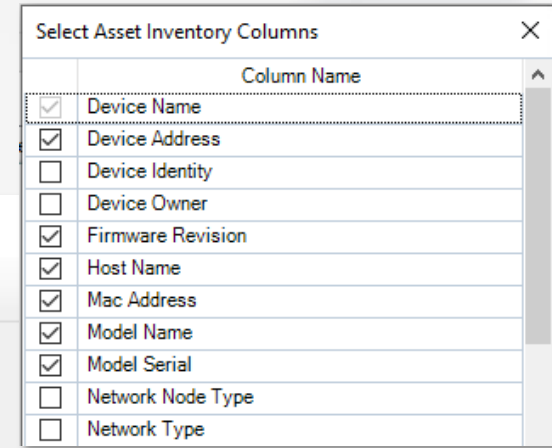
▼ **Scan devices using SNMP**

Community string	TestSNMPstring
Device response timeout [msec]	60000

FactoryTalk® AssetCentre

Discovery and Inventory using SNMP

- View inventory after running a scheduled or on-demand scan
 - Enable columns with relevant SNMP data



Asset Inventory

Search | Columns | Undo | Check In | Export | Add | Update | Help

Start Time: 1/9/2023 12:54:57 PM
End Time: 1/9/2023 12:57:59 PM
Result: Succeed

Devices | Software

Add Update

	Device Name	Device Address	Firmware Revision	Host Name	Mac Address	Model Name	Model Serial	Sntp Device Description
<input type="checkbox"/>	SNMP_10.22.1.4	10.22.1.4	15.2(8)E	PRP-RB1	F45433051E80	1783-HMS8TG8EG4CGN	FDO1841U09U	Cisco IOS Software, S5400...
<input type="checkbox"/>	SNMP_10.22.1.5	10.22.1.5	15.2(8)E	PRP-RB2-DLR	F45433116500	1783-HMS16TG4CGR	FDO1906U071	Cisco IOS Software, S5400...
<input type="checkbox"/>	SNMP_10.22.1.7	10.22.1.7	15.2(8)E	PRP-IES-NAT-A	F45433CE2500	1783-BMS10CGN	FDO2017T0LN	Cisco IOS Software, S5700...
<input type="checkbox"/>	SNMP_10.22.1.8	10.22.1.8	15.2(8)E	PRP-IES-NAT-B	E49069F5A480	1783-BMS10CGN	FDO1807T028	Cisco IOS Software, S5700...
<input type="checkbox"/>	SNMP_10.22.1.11	10.22.1.11	15.2(8)E	PRP-IES-A01	F4543315E000	1783-HMS8TG8EG4CGR	FDO1913U09Y	Cisco IOS Software, S5400...
<input type="checkbox"/>	SNMP_10.22.1.12	10.22.1.12	15.2(8)E	PRP-IES-A02	E490698DD100	1783-BMS10CGN	FDO1727T0T2	Cisco IOS Software, S5700...
<input type="checkbox"/>	SNMP_10.22.1.13	10.22.1.13	15.2(8)E	PRP-IES-A03	E49069899C00	1783-BMS20CGP	FDO1723T0AF	Cisco IOS Software, S5700...
<input type="checkbox"/>	SNMP_10.22.1.14	10.22.1.14	15.2(8)E	PRP-IES-A04	F45433112400	1783-HMS16TG4CGR	FDO1905U0AS	Cisco IOS Software, S5400...

FactoryTalk® AssetCentre

Discovery and Inventory using SNMP

- Export inventory in the CSV or XML format

Device Name	Device Address	Firmware	Host Name	Mac Address	Model Name	Model Serial	Snmp Device Description
SNMP_10.22.1.4	10.22.1.4	15.2(8)E	PRP-RB1	F45433051E80	1783-HMS8TG8EG4CGN	FDO1841U09U	Cisco IOS Software, S5400
SNMP_10.22.1.5	10.22.1.5	15.2(8)E	PRP-RB2-DLR	F45433116500	1783-HMS16TG4CGR	FDO1906U071	Cisco IOS Software, S5400
SNMP_10.22.1.7	10.22.1.7	15.2(8)E	PRP-IES-NAT-A	F45433CE2500	1783-BMS10CGN	FDO2017T0LN	Cisco IOS Software, S5700
SNMP_10.22.1.8	10.22.1.8	15.2(8)E	PRP-IES-NAT-B	E49069F5A480	1783-BMS10CGN	FDO1807T028	Cisco IOS Software, S5700
SNMP_10.22.1.11	10.22.1.11	15.2(8)E	PRP-IES-A01	F4543315E000	1783-HMS8TG8EG4CGR	FDO1913U09Y	Cisco IOS Software, S5400
SNMP_10.22.1.12	10.22.1.12	15.2(8)E	PRP-IES-A02	E490698DD100	1783-BMS10CGN	FDO1727T0T2	Cisco IOS Software, S5700
SNMP_10.22.1.13	10.22.1.13	15.2(8)E	PRP-IES-A03	E49069899C00	1783-BMS20CGP	FDO1723T0AF	Cisco IOS Software, S5700
SNMP_10.22.1.14	10.22.1.14	15.2(8)E	PRP-IES-A04	F45433112400	1783-HMS16TG4CGR	FDO1905U0AS	Cisco IOS Software, S5400

```

</Devices>
  <ScannedLevels>1</ScannedLevels>
  <DetectedDevices>8</DetectedDevices>
  <Device>
    <ID>002ff039-11b8-4831-92cd-3b4fe28ddab1</ID>
    <DeviceAddress>10.22.1.4</DeviceAddress>
    <DeviceName>SNMP_10.22.1.4</DeviceName>
    <FirmwareRevision>15.2(8)E</FirmwareRevision>
    <HostName>PRP-RB1</HostName>
    <MacAddress>F45433051E80</MacAddress>
    <ModelName>1783-HMS8TG8EG4CGN</ModelName>
    <ModelSerial>FDO1841U09U</ModelSerial>
    <NetworkType/>
    <ProductCode>0</ProductCode>
    <ProductTypeCode>0</ProductTypeCode>
    <SnmpDeviceDescription>
      Cisco IOS Software, S5400 Software (S5400-UNIVERSALK9-M), V
    </SnmpDeviceDescription>
    <SoftwareRevision>15.2(8)E</SoftwareRevision>
    <CommisionDate>2/21/2023 12:00:00 AM</CommisionDate>
  </Device>
  <Device>
    <ID>054c8d59-7632-4de6-b433-7c392fda2c26</ID>
    <DeviceAddress>10.22.1.5</DeviceAddress>
    <DeviceName>SNMP_10.22.1.5</DeviceName>
    <FirmwareRevision>15.2(8)E</FirmwareRevision>
    <HostName>PRP-RB2-DLR</HostName>
    <MacAddress>F45433116500</MacAddress>
    <ModelName>1783-HMS16TG4CGR</ModelName>
    <ModelSerial>FDO1906U071</ModelSerial>
    <NetworkType/>
    <ProductCode>0</ProductCode>
    <ProductTypeCode>0</ProductTypeCode>
    <SnmpDeviceDescription>
      Cisco IOS Software, S5400 Software (S5400-UNIVERSALK9-M), V
    </SnmpDeviceDescription>
    <SoftwareRevision>15.2(8)E</SoftwareRevision>
    <CommisionDate>2/21/2023 12:00:00 AM</CommisionDate>
  </Device>
  </Devices>
  
```

FactoryTalk® AssetCentre

Discovery and Inventory using CIP

- Use an Asset Inventory item to enable Common Industrial Protocol (CIP) scanning
 - RSLinx® Classic must be installed on the FactoryTalk® AssetCentre Agent PC
 - EtherNet/IP™ driver type can be used to browse the local or remote subnet
 - To discover devices through the ControlLogix® backplane, CIP routing should be configured for each module in RSLinx® Classic (specify expected IP ranges for the remote subnet)

The image displays three screenshots related to CIP scanning configuration and discovery in FactoryTalk AssetCentre:

- Scanning Configuration:** A dialog box showing the configuration for scanning. The "Scan devices using CIP" checkbox is checked. The "Start scanning with this device:" field is set to "PRP-FTACIOEM_VLAN60". The "Maximum scanning depth:" is set to "1". The "Unlimited scanning" checkbox is also checked.
- Network Tree:** A screenshot of the network tree showing the discovery of devices. The "Ethernet" node is expanded, showing a list of discovered devices with their IP addresses and descriptions, such as "192.168.1.20, 1756-EN2TR" and "192.168.1.21, 1783-ETAP, 1783-ETAP/A".
- OEM_VLAN60\10.17.60.20\Backplane\3\A Properties:** A screenshot of the properties dialog box for the discovered device. The "Configure Browse" tab is active. The "Device IP Address:" is set to "192.168.1.20" and the "Subnet Mask:" is set to "255.255.255.0". The "Available IP Addresses (244):" list shows "192.168.1.1" selected. The "Expected EtherNet/IP Addresses (9):" list shows a range of IP addresses from "192.168.1.21" to "192.168.1.29".

FactoryTalk® AssetCentre

Discovery and Inventory using CIP

- View inventory after running a scheduled or on-demand scan
 - Enable columns with relevant CIP data

The screenshot displays the 'Asset Inventory' window in FactoryTalk AssetCentre. The window shows a table of discovered devices with columns for Device Name, Device IP, Network Name, Network Type, Path, Product Code, Product Name, Revision, and Serial Number. A dialog box titled 'Select Asset Inventory Columns' is open on the right, allowing users to select which columns to display. The dialog box has a list of columns with checkboxes next to them. The following table represents the data shown in the Asset Inventory window:

Device Name	Device...	Network...	Network...	Path	Product Code	Product...	Revision	Serial Numbr
OEM_VLAN60								
1756-EN2TR/C	10.17.60.20	Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20	200	Communicat...	11.1	00E5356D
Backplane (43)		Bus	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20\Backplane	0			
1756-L73S/B LOGIX5573SAFETY		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	148	Programma...	31.11	00A441CA
1756-L7SP/B LOGIXSAFETY		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	146	Programma...	31.11	00A33495
1756-EN2TR/C		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	200	Communicat...	11.1	00E5373F
A (26)		Bus	EtherNet	PRP-FTACIOEM_VLAN60\10.17.60.20...	0			
1783-ETAP/A	192.168.1.21	Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	203	Communicat...	2.2	0081709A
1734-AENT Ethernet Adapter	192.168.1.23	Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	108	Communicat...	3.12	4034FCF0
Backplane (44)		Bus	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	0			
1734-IB8 8 PT 24VDC SINK...		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	216	General...	3.18	4033E91A
1734-OB8 8 PT 24VDC...		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	232	General...	3.18	40337210
Pointbus Port (6)		Bus	DeviceNet	PRP-FTACIOEM_VLAN60\10.17.60.20...	0			
1756-EN2TR/C 217021900	192.168.1.24	Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	200	Communicat...	10.7	00CDACCE
Backplane (45)		Bus	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	0			
1756-EN2T/B		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	166	Communicat...	5.8	0060576C
1756-IB16/A DCIN		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	11	7	3.2	005395E3
1756-OB16E/A DCOUT...		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	16	7	3.3	005420CE
1756-IB16I/A		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	386	7	1.11	008EEF8E
1756-OB16D/A DCOUT DIAG Q01		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	4	7	3.2	C00D3A83
1756-IF4FXOF2/A		Device	Unknown	PRP-FTACIOEM_VLAN60\10.17.60.20...	10	10	1.4	006052A4

FactoryTalk® AssetCentre

Discovery and Inventory using CIP

- Export inventory in the Comma-Separated Values (CSV) or Extensible Markup Language (XML) format

Device Name	Device Address	Network Node T	Network Type	Path	Product Code	Product Type	Revision	Serial Number
OEM_VLAN60		Bus	EtherNet	PRP-FTAC!OEM	0			
1756-EN2TR/C	10.17.60.20	Device	Unknown	PRP-FTAC!OEM	200	Communications	11.1	00E5356D
Backplane (43)		Bus	Unknown	PRP-FTAC!OEM	0			
1756-L73S/B LOGIX5573SAFETY		Device	Unknown	PRP-FTAC!OEM	148	Programmable Lc	31.11	00A441CA
1756-L7SP/B LOGIXSAFETY		Device	Unknown	PRP-FTAC!OEM	146	Programmable Lc	31.11	00A33495
1756-EN2TR/C		Device	Unknown	PRP-FTAC!OEM	200	Communications	11.1	00E5373F
A (26)		Bus	EtherNet	PRP-FTAC!OEM	0			
1783-ETAP/A	192.168.1.21	Device	Unknown	PRP-FTAC!OEM	203	Communications	2.2	0081709A
1734-AENT Ethernet Adapter	192.168.1.23	Device	Unknown	PRP-FTAC!OEM	108	Communications	3.12	4034FCF0
Backplane (44)		Bus	Unknown	PRP-FTAC!OEM	0			
1734-IB8 8 PT 24VDC SINK IN		Device	Unknown	PRP-FTAC!OEM	216	General Purpose	3.18	4033E91A
1734-OB8 8 PT 24VDC SOURCE OUT		Device	Unknown	PRP-FTAC!OEM	232	General Purpose	3.18	40337210
Pointbus Port (6)		Bus	DeviceNet	PRP-FTAC!OEM	0			
1734-IB8 8 PT 24VDC SINK IN		Device	Unknown	PRP-FTAC!OEM	216	General Purpose	3.18	4033E91A
1734-OB8 8 PT 24VDC SOURCE OUT		Device	Unknown	PRP-FTAC!OEM	232	General Purpose	3.18	40337210
1756-EN2TR/C 217021900	192.168.1.24	Device	Unknown	PRP-FTAC!OEM	200	Communications	10.7	00CDACCE

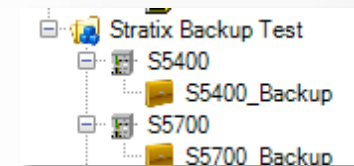
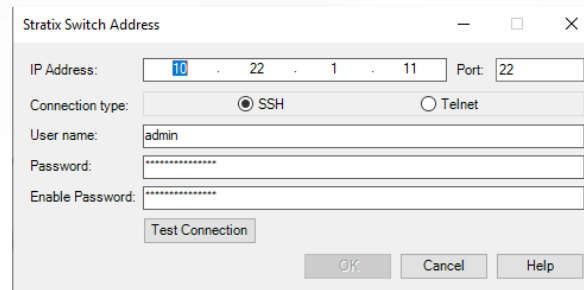
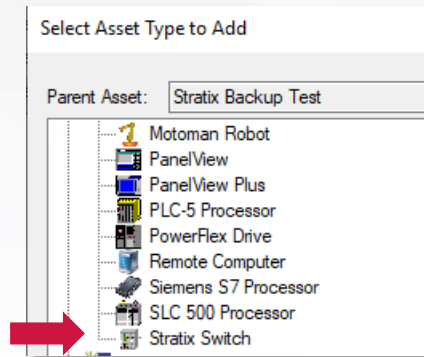
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<-SubNet>
  <-Bus>
    <ID>0a27c976-7091-44fd-a8ac-2822e53f5cef</ID>
    <DeviceName>A (26)</DeviceName>
    <NetworkType>EtherNet</NetworkType>
    <OldPath>PRP-FTAC!OEM_VLAN60\10.17.60.20\Backplane\3\A</OldPath>
    <Path>PRP-FTAC!OEM_VLAN60\10.17.60.20\Backplane\3\A</Path>
    <ProductCode>0</ProductCode>
    <ProductTypeCode>0</ProductTypeCode>
    <CommisionDate>2/23/2023 12:00:00 AM</CommisionDate>
  <-SubNet>
    <-Device>
      <ID>e6d5aea8-16c8-48c1-9b4b-31380ba4c288</ID>
      <DeviceAddress>192.168.1.21</DeviceAddress>
      <DeviceName>1783-ETAP/A</DeviceName>
      <NetworkType>
    <-OldPath>
      PRP-FTAC!OEM_VLAN60\10.17.60.20\Backplane\3\A\192.168.1.21
    </OldPath>
    <-Path>
      PRP-FTAC!OEM_VLAN60\10.17.60.20\Backplane\3\A\192.168.1.21
    </Path>
    <ProductCode>203</ProductCode>
    <ProductName>1783-ETAP</ProductName>
    <ProductTypeCode>12</ProductTypeCode>
    <ProductType>Communications Adapter</ProductType>
    <Revision>2.2</Revision>
    <SerialNumber>0081709A</SerialNumber>
    <VendorId>Rockwell Automation/Allen-Bradley</VendorId>
    <CommisionDate>2/23/2023 12:00:00 AM</CommisionDate>
  </Device>
  <-Device>
    <ID>929d14b2-37b4-48f6-9a3a-fa13c249e250</ID>
    <DeviceAddress>192.168.1.23</DeviceAddress>
    <DeviceName>1734-AENT Ethernet Adapter</DeviceName>
    <NetworkType>
  <-OldPath>
    PRP-FTAC!OEM_VLAN60\10.17.60.20\Backplane\3\A\192.168.1.23
  </OldPath>
  <-Path>
    PRP-FTAC!OEM_VLAN60\10.17.60.20\Backplane\3\A\192.168.1.23
  </Path>
  <ProductCode>108</ProductCode>
  <ProductName>1734-AENT EtherNet/IP Adapter</ProductName>
  <ProductTypeCode>12</ProductTypeCode>
  <ProductType>Communications Adapter</ProductType>
  <Revision>3.12</Revision>
  <SerialNumber>4034FCF0</SerialNumber>
  <VendorId>Rockwell Automation/Allen-Bradley</VendorId>
  <CommisionDate>2/23/2023 12:00:00 AM</CommisionDate>
  
```

FactoryTalk® AssetCentre

Stratix® Switch Backup

- Add Stratix® switches as asset type to archive
 - Stratix® 8000/5400/5700 (FactoryTalk® AssetCentre v9.0 or later)
 - Stratix® 5800 (FactoryTalk® AssetCentre v10.0 or later)
 - Add manually or from the Asset Inventory
- Configure Secure Shell (SSH) connection details
- Create a Backup or Backup and Compare schedules



FactoryTalk® AssetCentre

Stratix® Switch Archive

- Stratix® startup configuration and other files are saved in the archive
- Specific files depend on the switch platform
- A master version can be designated

S5400 Backup

State: The binder is checked in.

Description: Agent Added

Store latest version only

Maximum number of versions: 200

Current version total: 2 Total disk usage: 1 MB

History **Labels**

Range: Most recent 100 records Records from date: 2/27/2023 to: 2/27/2023

Filter: Version-related activities All activities

Version	Time	Action	User	Comments
2	Today, 2:43 PM	Added new version	FactoryTalk Ser...	AgentController: PRP-FTAC Schedule: S5400 Backup Test. Software Version: S5400 Software (S5400-UNIVERSALK9-M), Version 15.2(8)E, P...
1	Today, 10:50 AM	Created binder	FactoryTalk Ser...	Software Version: S5400 Software (S5400-UNIVERSALK9-M), Version 15.2(8)E, RELEASE SOFTWARE (fc3)

Content **Filters**

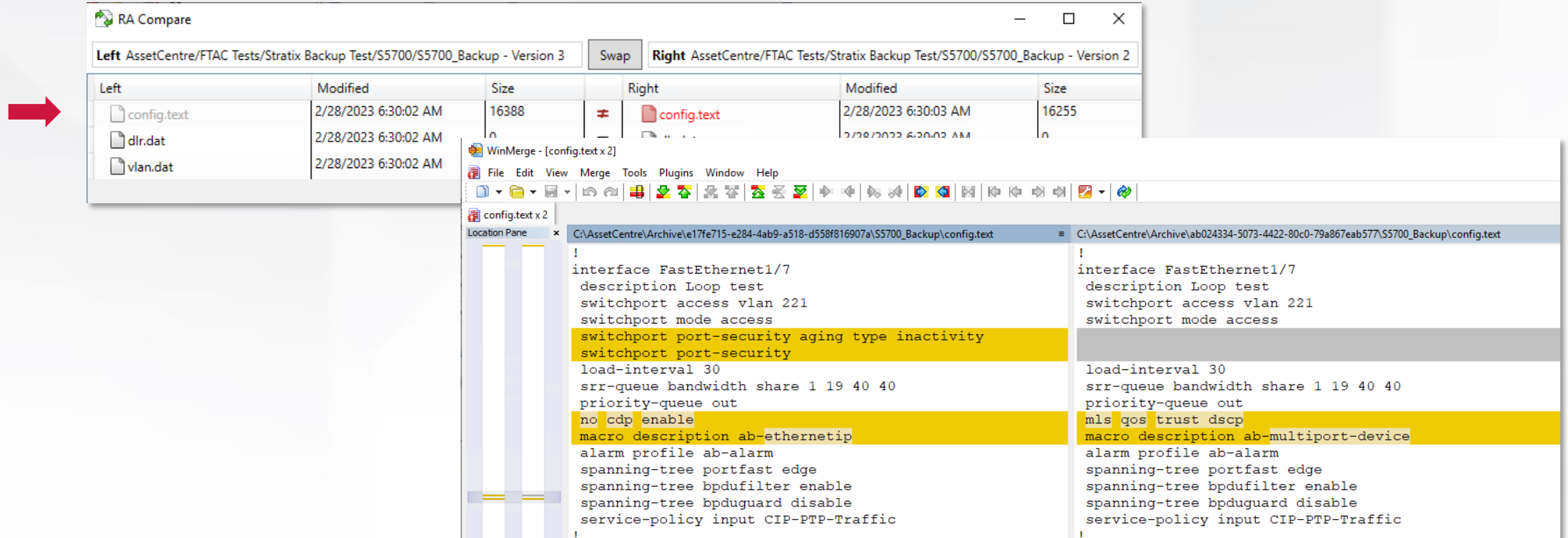
Folders: S5400_Backup

Name	Modified	Size
config.text	2/27/2023 2:43:58 PM	20890
d1r.dat	2/27/2023 10:50:39 AM	0
vlan.dat	2/27/2023 10:50:39 AM	976

FactoryTalk® AssetCentre

Stratix® Switch backup comparison

- Versions can be compared side by side to see differences
 - Detailed compare available for text files only
 - A third-party compare tool must be configured for necessary file extensions in *Tools - Options*



The screenshot displays two windows used for file comparison. The top window, titled "RA Compare", shows a side-by-side comparison of two files: "config.text" (Version 3, 16388 bytes) on the left and "config.text" (Version 2, 16255 bytes) on the right. A red arrow points to the left pane of this window. The bottom window, titled "WinMerge - [config.text x 2]", shows a detailed comparison of the same two files. The left pane shows the content of the newer version (Version 3), and the right pane shows the content of the older version (Version 2). Several lines of configuration text are highlighted in yellow to show differences between the two versions.

Left	Modified	Size	Right	Modified	Size
config.text	2/28/2023 6:30:02 AM	16388	config.text	2/28/2023 6:30:03 AM	16255
d1r.dat	2/28/2023 6:30:02 AM	0			
vlan.dat	2/28/2023 6:30:02 AM	0			

```
!
interface FastEthernet1/7
description Loop test
switchport access vlan 221
switchport mode access
switchport port-security aging type inactivity
switchport port-security
load-interval 30
srr-queue bandwidth share 1 19 40 40
priority-queue out
no cdp enable
macro description ab-ethernetip
alarm profile ab-alarm
spanning-tree portfast edge
spanning-tree bpduguard disable
service-policy input CIP-PTP-Traffic

!
interface FastEthernet1/7
description Loop test
switchport access vlan 221
switchport mode access
load-interval 30
srr-queue bandwidth share 1 19 40 40
priority-queue out
mls qos trust dscp
macro description ab-multiport-device
alarm profile ab-alarm
spanning-tree portfast edge
spanning-tree bpduguard disable
service-policy input CIP-PTP-Traffic
```

FactoryTalk® AssetCentre

Additional features (not available in FactoryTalk® Network Manager™)

- Asset Lifecycle status
- Backup and Compare for controllers and other device types

FactoryTalk® View Faceplates

Network Device Library - Overview

- Faceplates are simple graphic displays that can be added into a FactoryTalk® View Site Edition, FactoryTalk® Machine Edition or a PanelView™ 5000 application
- Faceplates provide real-time data from a network device or a topology on a single screen in an organized manner, with preconfigured status and diagnostic displays
- Network Device Library package can be downloaded for free from the Rockwell Automation Product Compatibility and Download Center (PCDC):

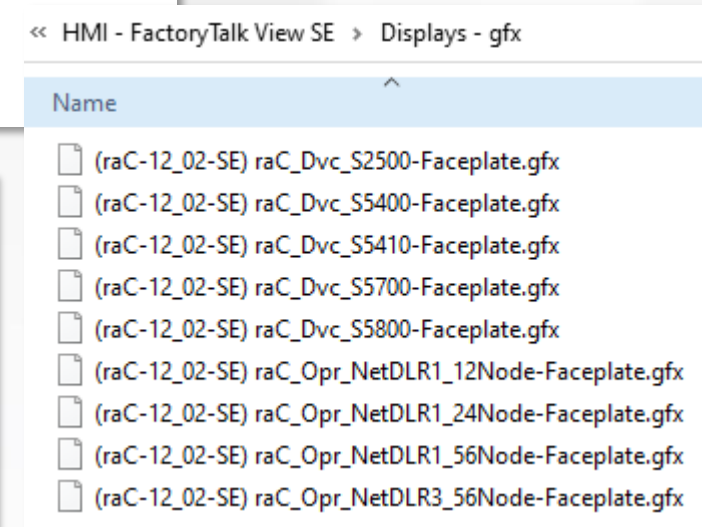
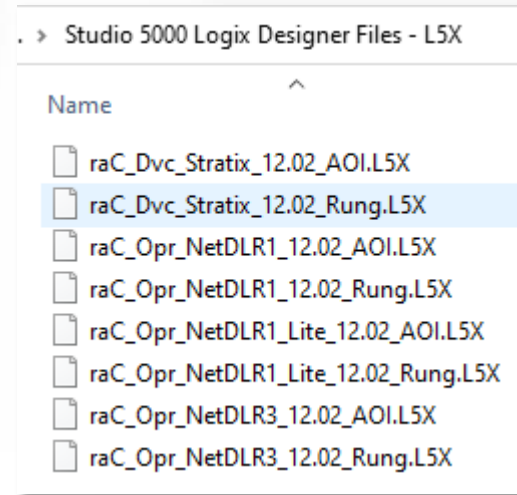
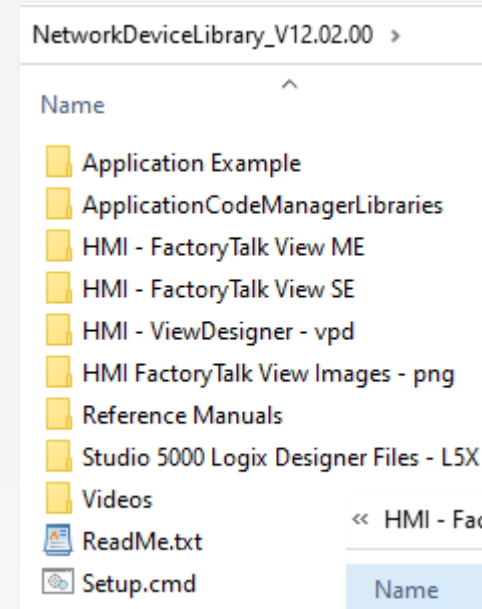
<https://compatibility.rockwellautomation.com/Pages/MultiProductDownload.aspx>

<p>Network Device Library</p>	<p><i>The Network Device Library is a tested, documented, and life cycle managed object library. The Device Library provides pre-configured status and diagnostic HMI faceplates for Stratix® Switches and Device Level Ring (DLR) networks. HMI faceplates are provided for FactoryTalk View ME, FactoryTalk View SE and Studio 5000 View Designer. Studio 5000 Application Code Manager Switch Module objects and Stratix®/DLR instructions are included. Supports Stratix® 2500/5400/5410/5700/5800 switch families. (Accessories/Engineering Libraries)</i></p>	<p>Network Device Library 12.02.00 </p>
-------------------------------	---	--

FactoryTalk® View Faceplates

Network Device Library - Components

- The Network Device Library version 12.02 supports:
 - Stratix® 2500/5400/5410/5700/5800 switches
 - One or three ring DLR topologies with up to 56 nodes
- The library contains:
 - An Add-On Instruction (AOI) that brings device data into the Studio 5000 Logix Designer® program
 - Pre-configured screens, images and other objects for FactoryTalk® View or PanelView™ 5000
 - Release notes, instructional PDFs or short videos



FactoryTalk® View Faceplates

Switch Information

- The Stratix® switch faceplates provide inventory and diagnostic data using CIP
- View switch information such as port status, IP/MAC addresses, feature support, VLANs

The screenshot displays the Stratix 5800 switch faceplate interface. The main window shows a port status diagram with 10 ports (1-10) and a 'Not Ready' indicator. The 'General' tab is selected, showing the following information:

Model:	1783-MMS10EA
Serial Number:	600FA03D
Software Version:	S5800-UNIVERSALK9-M, Version 17.5.1
CIP Revision:	6.002
Firmware Type:	Layer 2 Switch
PTP:	Supported
NAT:	Not Supported
DLR:	Not Supported

The 'Configuration' tab is also visible, showing the following network settings:

IP Address:	10.10.10.3
Subnet Mask:	255.255.255.0
Default Gateway:	10.10.10.1
Name Server 1:	0.0.0.0
Name Server 2:	0.0.0.0
Domain Name:	
Spanning Tree:	RSTP/MST

The 'VLANs' tab is also visible, showing the following VLAN configuration:

1	default
10	SUP_NET
20	IO_NET
999	Native

FactoryTalk® View Faceplates

Port Diagnostics

- Port status, mode, Smartport role, assigned VLANs
- Port utilization, media counters and errors

The image displays four overlapping FactoryTalk View faceplates for port diagnostics. Each faceplate has a dropdown menu at the top for selecting a port.

- Status (Gi1/4):** Shows link status (Active), speed/duplex (100/Full), auto-negotiation (Ok), smartport role (Switch for Automation), mode (Trunk), native VLAN (999), and utilization (0%).
- Statistics (Gi1/3):** Shows input and output statistics for octets, unicast, non-unicast, discards, errors, and unknown protocols.
- Media Counters (Gi1/5):** Shows various error counters such as alignment errors, FCS errors, single collisions, multiple collisions, SQE test errors, deferred transmissions, late collisions, excessive collisions, and MAC TX errors.
- Port Alarms (Gi1/2):** Shows a list of port alarms with checkboxes, including Unauthorized Device, SFP Disabled, Native VLAN Mismatch, MAC Address Flap, Port Security Violation, Threshold Exceeded, Error Disable, Port Not Forwarding, Port Not Operating, and FCS Bit Error Rate. The Link Fault alarm is currently active and highlighted in yellow.

FactoryTalk® View Faceplates

Switch Alarms

- Global switch alarms: SD card, power supply, temperature, relay status
- Port alarms: link fault, traffic thresholds, excessive errors, MAC flaps, security violations
- Alarm descriptions and suggested actions

The image displays three overlapping screenshots of the FactoryTalk View Faceplate for a Stratix 5700 switch, illustrating the alarm management interface.

Left Screenshot (Global Alarms): Shows the 'Global Alarms' tab. A status bar at the top indicates 'Not Ready' and prompts to 'Check Alarm Tab for Details'. A list of global alarms is shown, with 'Power Supply' highlighted. Other visible alarms include SD Card, License File, Primary Temperature, Secondary Temperature, Major Output, Input 1 Event, and Input 2 Event.

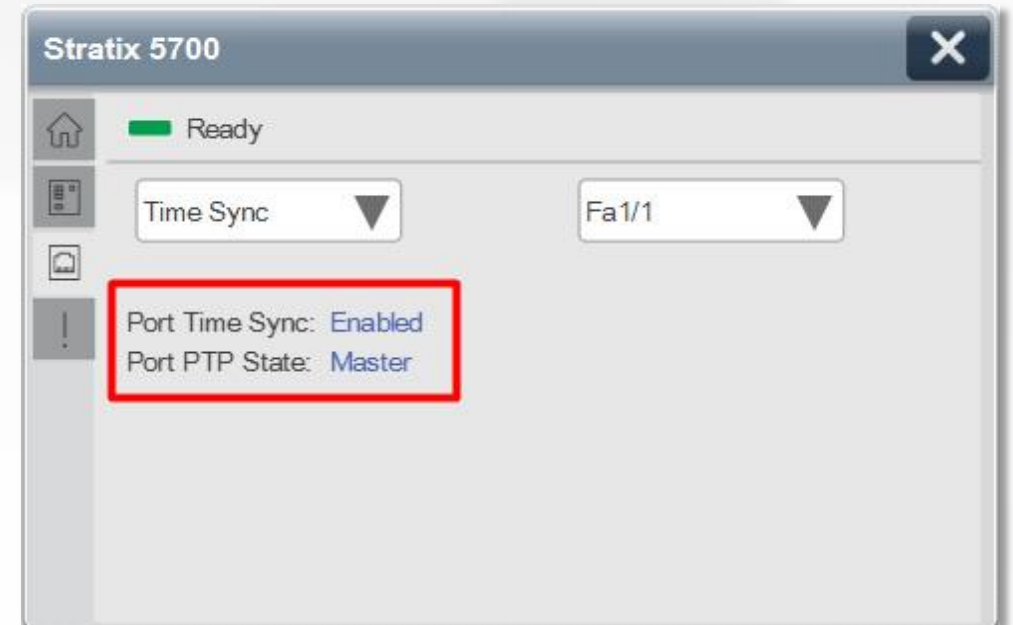
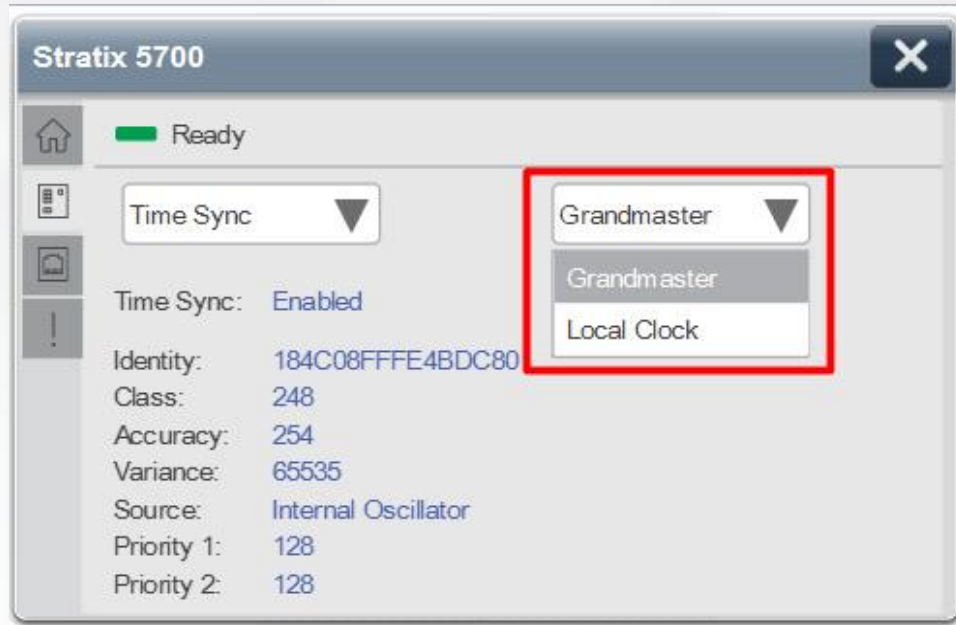
Middle Screenshot (Port Alarms): Shows the 'Port Alarms' tab for port 'Fa1/1'. A status bar at the top indicates 'Not Ready' and prompts to 'Check Alarm Tab for Details'. A list of port-specific alarms is shown, with 'Link Fault' highlighted. Other visible alarms include Unauthorized Device, Port Not Forwarding, Port Not Operating, FCS Bit Error Rate, Error Disable, SFP Disabled, Native VLAN Mismatch, MAC Address Flap, and Port Security Violation.

Right Screenshot (Details): Shows the 'Details' window for the 'Link Fault' alarm. The description reads: 'Port physical layer cause unreliable data transmission. A typical link fault condition is loss of signal or clock. The link fault alarm is cleared automatically when the link fault condition is cleared.'

FactoryTalk® View Faceplates

PTP Information

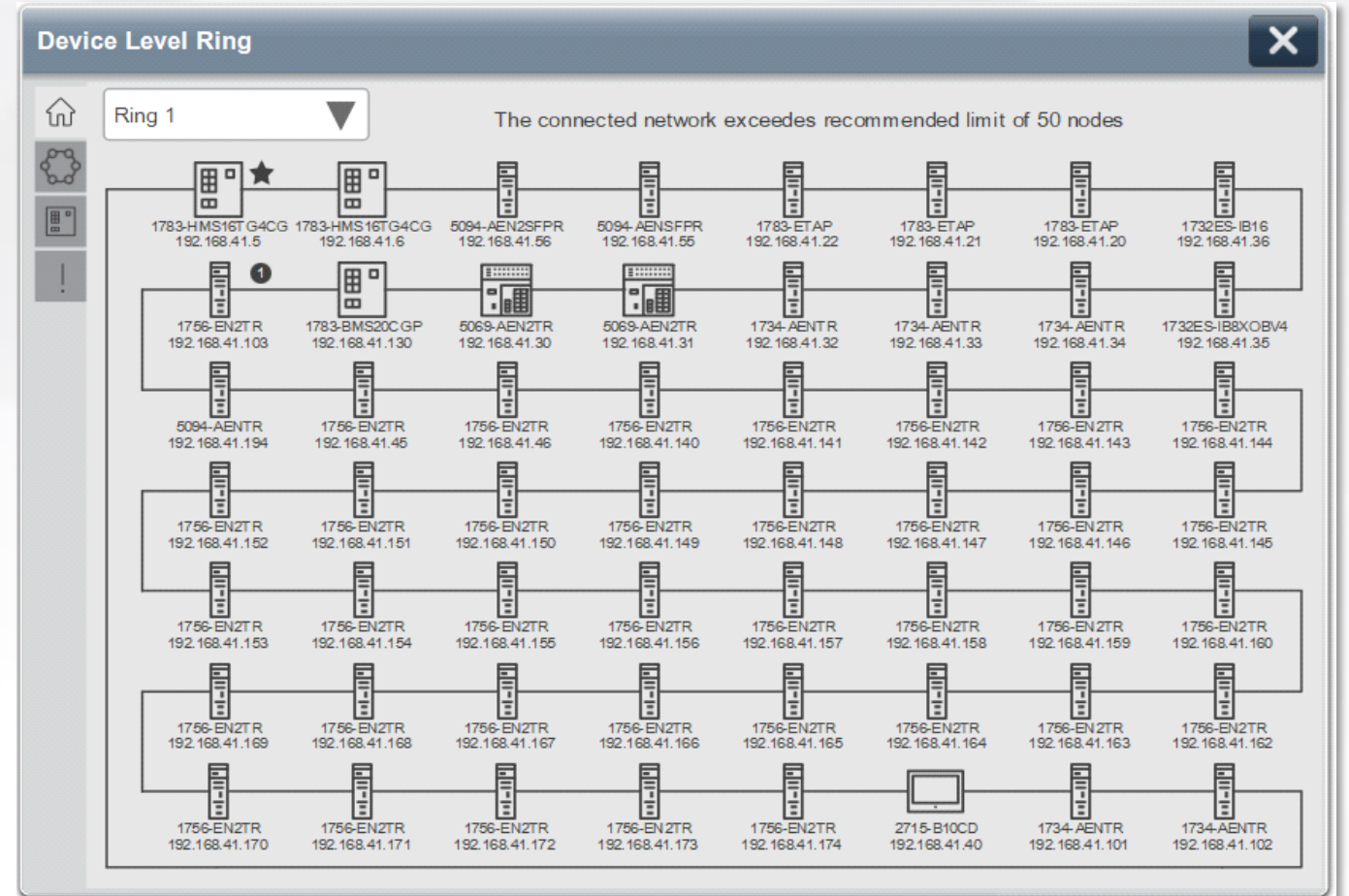
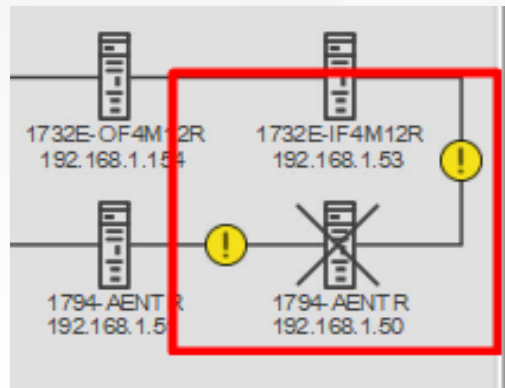
- View Precision Time Protocol (PTP) information
 - Clock information for the local switch or the Grandmaster
 - Time sync status and state per port



FactoryTalk® View Faceplates

DLR - Layout

- Ring layout, node catalog numbers and IP addresses
- Fault location
- Choice of faceplate objects to reduce resource consumption:
 - 1 or 3 rings
 - 12 or 56 nodes



FactoryTalk® View Faceplates

DLR - Information

- Ring status, fault count and details
- Supervisor and gateway information
- Node information

Device Level Ring

Ring 1

Active Supervisor Identity

MAC Address	34:C0:F9:84:52:85
IP Address	192.168.41.5
Catalog Number	1783-HMS 16TG4CGN
Vendor	Rockwell Automation
Device Type	Switch
Product Code	10
Serial Number	E0102ED6
Firmware Revision	7.003

Device Level Ring

Ring 1

Ring Information

Network Topology	Ring
Network Status	Normal
Number of Participants	56
Supervisor Precedence	230
Beacon Interval	400 µsec
Beacon Timeout	1960 µsec
Ring VLAN ID	10
Ring Fault Count	43

Device Level Ring

Ring 1

Node Information

192.168.41.5

Catalog Number	1783-HMS 16TG4CGN
MAC Address	34:C0:F9:84:52:85
IP Address	192.168.41.5
Vendor	Rockwell Automation
Device Type	Switch
Product Code	10
Serial Number	E0102ED6
Firmware Revision	7.003

FactoryTalk® View Faceplates

DLR – Fault Detection

- DLR alarms: ring fault, unexpected loop, partial fault, rapid fault/restore
- Fault location

The screenshot shows the 'Device Level Ring' faceplate. At the top, there are two dropdown menus: 'Ring 2' and 'Network Faults'. Below these are four rows of information:

Network Topology	Ring
Network Status	Ring Fault
Ring Fault Count	4

The 'Network Status' row is highlighted with a red border, and the 'Ring Fault Count' row has a yellow warning icon.

The screenshot shows the 'Device Level Ring' faceplate with detailed fault location information. At the top, there are two dropdown menus: 'Ring 2' and 'Fault Location'. Below these are two sections of information:

Last Node on Port 1	
MAC Address	5C:88:16:F3:18:F3
IP Address	192.168.42.141
Catalog Number	1756-EN2TR
Serial Number	011C82C1
Last Node on Port 2	
MAC Address	5C:88:16:F3:18:CF
IP Address	192.168.42.140
Catalog Number	1756-EN2TR
Serial Number	011C829D

The left side of the faceplate has a vertical navigation bar with icons for Home, Network Topology, Network Status, and a warning icon. The 'Network Status' icon is highlighted with a yellow box.

FactoryTalk® Linx Network Browser

Overview and Resources

FactoryTalk® Linx is the premier communication platform software that provides one access point to your data, allowing both FactoryTalk® and third-party software shared access to control equipment.

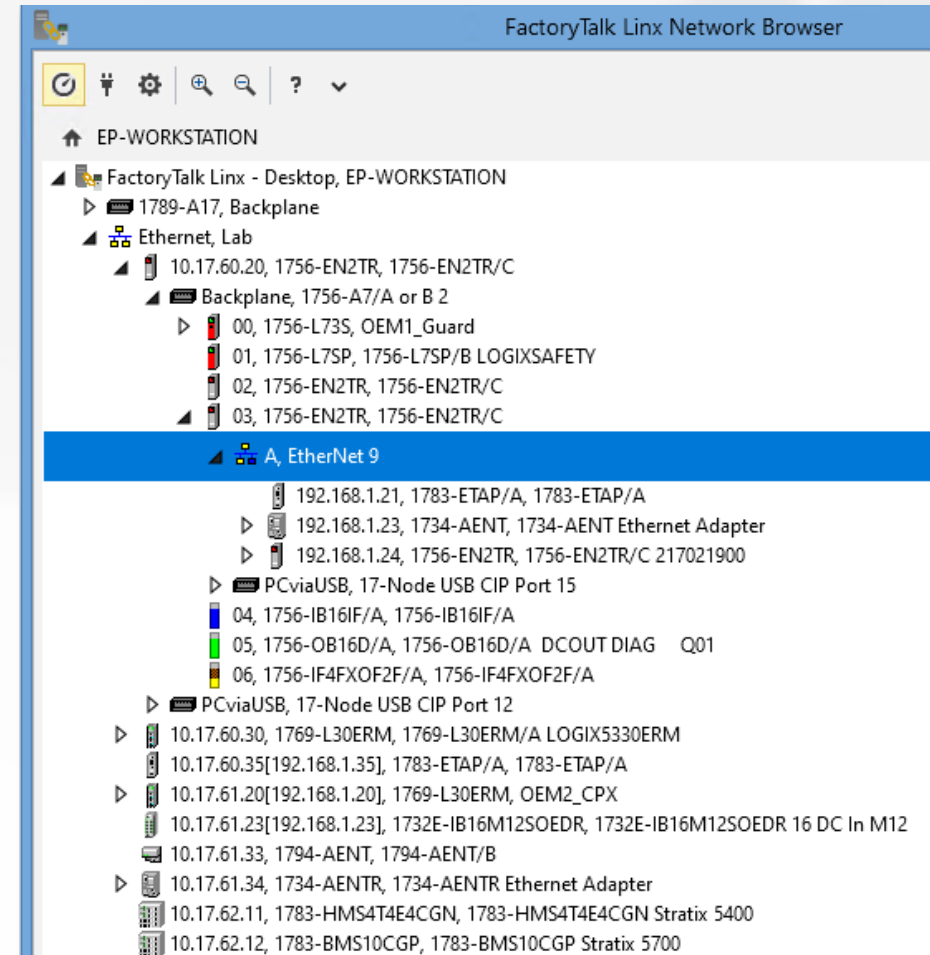
The FactoryTalk® Linx Network browser provides a simple user interface to view and navigate an automation system topology and access device properties.

- [Rockwell Automation website - FactoryTalk Linx](#)
- [FactoryTalk® Linx Getting Results Guide](#)
- [Rockwell Automation YouTube - Industrial Communications](#)
- [FactoryTalk® Linx Gateway: Remote Proxy Service \(QA65401\)](#)

FactoryTalk® Linx Network Browser

Device Discovery

- Discover EtherNet/IP devices on the network
 - Browse local or remote IP subnet
 - Add IP addresses manually
 - Browse the backplane
- Use Remote Devices via Proxy Service to bridge through a FactoryTalk® Linx Gateway workstation
 - Allows communicating with devices on another network
 - FactoryTalk® Linx v6.31 or later



FactoryTalk® Linx Network Browser

Device Inventory

- View inventory data for EtherNet/IP devices and Stratix® switches
- Browse the backplane to see modules in the chassis

1783-MMS10EA-MMX8EA, Stratix 5800 - MMS10EA+MMX8EA

General	Device Locator
Device Name:	Stratix 5800 - MMS10EA+MMX8EA
Vendor:	Rockwell Automation/Allen-Bradley
Product Type:	44
Product Code:	68
Revision:	7.002
Serial Number:	600FA073
Catalog Number:	1783-MMS10EA
Manufacture Date:	2021/05/01
Hardware Revision:	1.003

1756-EN4TR, 1756-EN4TR/A

General	Device Locator
Device Name:	1756-EN4TR/A
Vendor:	Rockwell Automation/Allen-Bradley
Product Type:	12
Product Code:	258
Revision:	4.001
Serial Number:	011D2318
Catalog Number:	
Manufacture Date:	
Hardware Revision:	2.001

10.22.4.55, 1756-EN4TR, 1756-EN4TR/A

Backplane, 1756-A7/A or B 4

- ▶ 00, 1756-L84ES, CLX_D
- ▶ 01, 1756-EN4TR, 1756-EN4TR/A
- ▶ 02, 1756-IB16IF/A, 1756-IB16IF/A
- ▶ 04, 1756-EN4TR, 1756-EN4TR/A

FactoryTalk® Linx and ControlFLASH Plus™

Lifecycle Status and Inventory Export

- View inventory data and lifecycle status for EtherNet/IP™ devices and Stratix® switches
 - ControlFLASH Plus™ v5.0 or later
- Create a product inventory report and export as CSV file or send to your Rockwell Automation account

ControlFLASH Plus Hardware Inventory 2023_3_22_13_23_31 created from path: EP-WORKSTATION!PRP_VL221_Auto
43 products are found.
Click **Send Inventory** to send it as a list to your Rockwell Automation account.
To open the CSV inventory, click **View full inventory**.

Catalog Number	Warranty Number	CIP Serial Number	Product Name	Vendor Name	Manufacture Date	Hardware Lifecycle State	Firmware Revision	Firmware Lifecycle State
1783-HMS8TG8EG4CGR		60158E28	1783-HMS8TG8EG4CGR St...	Rockwell Automation/Alle...	04/01/2015	Active	8.003	
		00E68734	1756-EN2TP/A	Rockwell Automation/Alle...		Active	11.003	▲ Preferred
		00FD7924	1756-EN4TR/A	Rockwell Automation/Alle...		Active	5.001	▲ Preferred
		0080C07C	1783-ETAP1F/A	Rockwell Automation/Alle...		Active Mature	2.002	▲ Limited
		00FB0AFB	1756-L85E/B	Rockwell Automation/Alle...		Active	34.011	▲ Preferred
1783-HMS16TG4CGR		60155F56	1783-HMS16TG4CGR Strat...	Rockwell Automation/Alle...	01/01/2015	Active	8.003	
		00E68744	1756-EN2TP/A	Rockwell Automation/Alle...		Active	11.003	▲ Preferred
5094-AEN2TR	64704173	60CD2216	5094-AEN2TR/A	Rockwell Automation/Alle...	08/27/2018	Active	5.012	▲ Preferred
		E01010D5	1783-BMS20CGP Stratix 5...	Rockwell Automation/Alle...		Active Mature	12.005	
		00E6872E	1756-EN2TP/A	Rockwell Automation/Alle...		Active	11.003	▲ Preferred

FactoryTalk® Linx Network Browser

Connected Devices (LLDP)

- Use Link Layer Discovery Protocol (LLDP) to view the table of directly connected devices
- Requires CIP LLDP object support on Stratix® switches and EtherNet/IP™ modules
 - Enable LLDP on Stratix® switches after Express Setup
- Supported firmware revisions:
 - Stratix® 5400/5410/5700/8000 IOS 15.2(8)E1
 - Stratix® 5800/5200 IOS XE 17.9 or later
 - ControlLogix® 5580 version 34 (front port)
 - CompactLogix™ 5380 version 34
 - 1756-EN4TR v5.001
 - Other products: roadmap

The screenshot shows the configuration page for LLDP in the FactoryTalk Linx Network Browser. The breadcrumb navigation is Configuration > Layer2 > Discovery Protocols. The LLDP tab is selected, and the LLDP status is shown as ENABLE with a green toggle switch. The main content area is titled 'LLDP' and contains the following information:

- Link Layer Discovery Protocol (LLDP) permits detection of connected device(s).
- Global Configuration and Information**
- Global LLDP Status: Enabled
- LLDP Datastore: LLDP Data Table Object
- Parameter Configuration**
- Transmit Interval (5-32768 s): 30
- Hold Multiplier (1-100): 4

FactoryTalk® Linx Network Browser

Connected Devices (LLDP)

- The LLDP table shows directly connected devices
 - View neighbors on Stratix® switches or EtherNet/IP™ modules
 - Allows mapping linear topologies by looking at each device in the chain
 - Module information: IP/MAC, catalog number, revision
- Export as a table

Port Configuration and Device Connected

Port	Outgoing Enabled	Neighbor Information					
		IP Address	Port	Device Name	Revision	Mac Address	Vendor
Gi1/6	<input checked="" type="checkbox"/>						
Gi1/7	<input checked="" type="checkbox"/>	10.22.1.51	1	1756-EN4TR	5.001	34-C0-F9-FE-8A-6A	Rockwell Automation...
Gi1/8	<input checked="" type="checkbox"/>						
Gi1/9	<input checked="" type="checkbox"/>						
Gi1/10	<input checked="" type="checkbox"/>						
Gi1/11	<input checked="" type="checkbox"/>						
Gi1/12	<input checked="" type="checkbox"/>						
Gi1/13	<input checked="" type="checkbox"/>	10.22.1.235	1	1756-EN4TR	5.001	5C-88-16-EE-38-A0	
Gi1/14	<input checked="" type="checkbox"/>						

Port Configuration and Device Connected

Port	Outgoing Enabled	Neighbor Information				
		IP Address	Port	Device Name	Revision	Mac Address
1	<input checked="" type="checkbox"/>	10.22.1.235	2	1756-EN4TR	5.001	5C-88-16-EE-38-A0
2	<input checked="" type="checkbox"/>	10.22.1.238	1	1756-L85E LO...	35.011	00-1D-9C-D9-69-8E

	A	B	C	D	E	F	G	H
1	Port	Outgoing	IP Address	Port	Device Name	Revision	Mac Address	Vendor
5	Gi1/4	TRUE						
6	Gi1/5	TRUE						
7	Gi1/6	TRUE						
8	Gi1/7	TRUE	10.22.1.51	1	1756-EN4TR	5.001	34-C0-F9-FE-8A-6A	Rockwell Automation/Allen-Bradley
9	Gi1/8	TRUE						
10	Gi1/9	TRUE						
11	Gi1/10	TRUE						
12	Gi1/11	TRUE						
13	Gi1/12	TRUE						
14	Gi1/13	TRUE	10.22.1.235	1	1756-EN4TR	5.001	5C-88-16-EE-38-A0	Rockwell Automation/Allen-Bradley
15	Gi1/14	TRUE						

FactoryTalk® Linx Network Browser

Device Diagnostics

- View port information for Stratix® switches and EtherNet/IP™ modules
 - Port state, speed and duplex
 - Port statistics, media counters and errors
 - CIP connection data
- View DLR status

Port Connection Manager

Interface Counters

In Octets:	2817926136	Out Octets:	3485154284
In Ucast Packets:	70448968	Out Ucast Packets:	551888177
In NUcast Packets:	113287110	Out NUcast Packets:	70094240
In Discards:	0	Out Discards:	0
In Errors:	0	Out Errors:	0
In Unknown Protos:	0		

Media Counters

Current Port:
Gi1/8

Alignment Errors:	0	Late Collisions:	0
FCS Errors:	0	Excessive Collisions:	0
Single Collisions:	0	MAC Transmit Errors:	0
Multiple Collisions:	0	Carrier Sense Errors:	0
SQE Test Errors:	0	Frame Too Long:	45
Deferred Transmissions:	0	MAC Receive Errors:	0

[Reset Counters](#)

Internet Protocol				Port Configuration				LLDP			
Port	Enabled	Link Status	Auto Negotiate	Speed		Duplex		IP Address	Port	Device Name	
				Selected	Current	Selected	Current				
Gi1/8	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	1000 Mbps	1000 Mbps	Full	Full	10.22.1.14	Gi1/2		
Gi1/9	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	1000 Mbps	1000 Mbps	Full	Full				
Gi1/10	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	100 Mbps	100 Mbps	Full	Full				
Gi1/11	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	1000 Mbps	1000 Mbps	Full	Full				
Gi1/12	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	100 Mbps	100 Mbps	Full	Full				
Gi1/13	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	100 Mbps	100 Mbps	Full	Full				
Gi1/14	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	100 Mbps	100 Mbps	Full	Full				
Gi1/15	<input checked="" type="checkbox"/>	Inactive	<input checked="" type="checkbox"/>								
Gi1/16	<input checked="" type="checkbox"/>	Inactive	<input checked="" type="checkbox"/>								
Gi1/17	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	1000 Mbps	1000 Mbps	Full	Full	10.22.1.13	Gi1/1		
Gi1/18	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	1000 Mbps	1000 Mbps	Full	Full	10.22.1.52	1	1756-EN4TR	
Gi1/19	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	1000 Mbps	1000 Mbps	Full	Full	10.22.1.53	1	1756-EN4TR	
Gi1/20	<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	1000 Mbps	1000 Mbps	Full	Full	10.22.1.54	1	1756-EN4TR	

Internet Protocol		Port Configuration		Network Configuration	
Network Topology:		Network Status:			
Ring		Normal			
Active Ring Supervisor:		Active Supervisor Precedence:			
10.17.62.11		255			

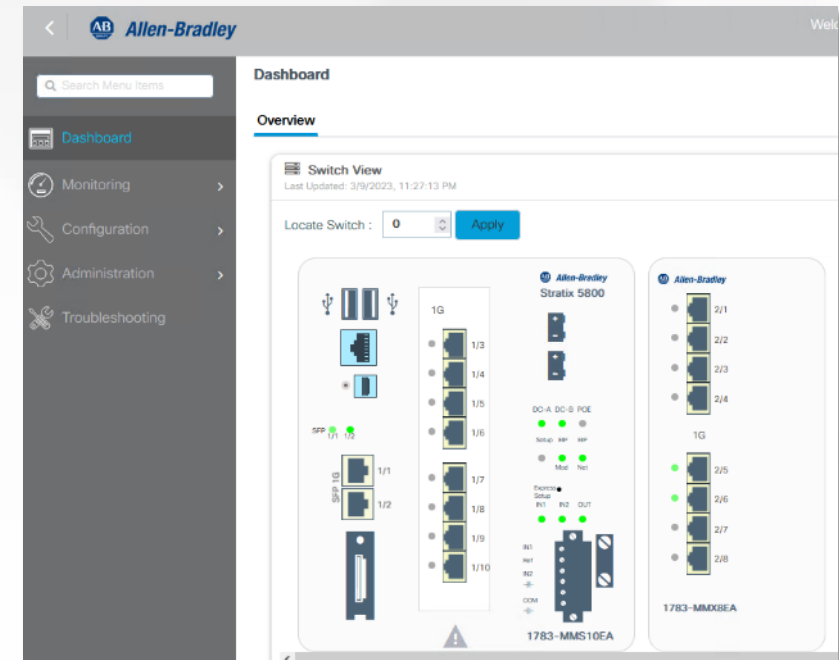
Stratix® WebUI and Device Manager

Overview and Resources

WebUI is the new web-based configuration tool for Stratix® 5800 and Stratix® 5200. It replaces Stratix® Device Manager as the switch management tool with extended configuration capability, improved navigation, higher performance, and faster firmware update process.

The WebUI provides new troubleshooting and monitoring tools for verifying connectivity, collecting diagnostic data and executing CLI commands.

- [Stratix® 5800 Managed Switches User Manual \(1783-UM012\)](#)
- [Stratix® Managed Switches User Manual \(1783-UM007\)](#)



Stratix® WebUI and Device Manager

Connected Devices (CDP and LLDP)

- Use Cisco® Discovery Protocol (CDP) or Link Layer Discovery Protocol (LLDP) to see directly connected devices
 - CDP is enabled by default on Stratix® switches
 - LLDP is supported by Stratix® switches and selected EtherNet/IP™ modules (see [FactoryTalk® Linx](#) slide)

Monitoring > General > Neighbors

CDP Neighbors LLDP Neighbors

Local Port	Neighbor Name	Neighbor Port	TTL	Capability	Platform
GigabitEthernet1/10	S5200-Base	GigabitEthernet1/2	138	Router Switch IGMP	Allen-Bradley 1783-CMS10B
GigabitEthernet1/9	S5200-Base	GigabitEthernet1/1	135	Router Switch IGMP	Allen-Bradley 1783-CMS10B
GigabitEthernet1/2	Distr04-3850	GigabitEthernet2/0/5	122	Router Switch IGMP	cisco WS-C3850-24S
GigabitEthernet1/1	Distr04-3850	GigabitEthernet1/0/5	158	Router Switch IGMP	cisco WS-C3850-24S

1 - 4 of 4 items

Stratix® WebUI and Device Manager

Switch alarms

- Stratix® switches support various types of alarms
 - Web interface based
 - External: SNMP traps, syslog
 - Hardware relays
 - Global or port-based alarm conditions

Administration > Alarms > Alarm Settings

Alarm Relay Setup **Global** Port

FCS Hysteresis

Alarm Name	DM Alarm	SNMP Trap	HW Relay	Syslog	Max Threshold in °C	Min Threshold in °C
Temperature-Primary	Enabled	Enabled	Enabled	Enabled	90	-40
Temperature-Secondary	Enabled	Enabled	Disabled	Enabled	90	0
Input-Alarm 1	Enabled	Disabled	Disabled	Enabled	NA	NA
Input-Alarm 2	Enabled	Disabled	Disabled	Enabled	NA	NA
Power Supply	Enabled	Enabled	Disabled	Disabled	NA	NA
SD-Card	Disabled	Disabled	Disabled	Disabled	NA	NA
HSR	Disabled	Disabled	Disabled	Disabled	NA	NA
DLR	Disabled	Disabled	Disabled	Disabled	NA	NA

Stratix® WebUI and Device Manager

DLR Diagnostics and Topology

- View DLR status, fault information and statistics
- View the ring member list on the Stratix® switch acting as the DLR Supervisor
- Node number represent the device order in the ring

Monitoring > General > DLR

Ring 1

UP DOWN

DLR Ring 1

gi1/7 gi1/8

Active Supervisor

Network Status	Normal
Ring Type	Copper
Network Topology	Ring
IP Address	192.168.1.13

Overview Faults **Members**

Node	MAC Address	IP Address
1	68:C8:EB:00:12:60	192.168.1.13
2	00:00:BC:CD:F7:AF	192.168.1.24
3	00:00:BC:61:94:4A	192.168.1.25
4	00:00:BC:CC:ED:DB	192.168.1.26

1 10 items per page

Stratix® WebUI and Device Manager

REP Diagnostics and Topology

- View Resilient Ethernet Protocol (REP) status, ring members and REP roles
 - Current and previous (archived) topology is available

The screenshot displays the Stratix WebUI interface for configuring the Resilient Ethernet Protocol (REP). The breadcrumb navigation shows 'Monitoring > General > REP'. There are two tabs: 'Global' and 'Archived Topology', with 'Archived Topology' selected. A 'Segment ID' dropdown menu is set to '1'. Below this, a table lists the ring members with their switch names, ports, edge roles, and overall roles.

Switch Name	Port	Edge	Role
S58K_1.30	Gi1/5	Primary	Open
S58K_66.101	Gi2/2	Transit	Alternate
S58K_66.101	Gi2/1	Transit	Open
S58K_1.30	Gi1/4	Secondary	Open

Stratix® WebUI and Device Manager

PTP Monitoring

- View PTP mode, local and parent clock information, and offset

PTP	
PTP Details	Mode: Boundary
PTP Clock Settings	Priority1: 128
PTP Parent Property	Priority2: 128
PTP Time Property	Clock ID: 0x68:C8:EB:FF:FE:0:1D:20
	Offset From Primary(ns): 16
	PTP Enabled Ports: Gi1/1, Gi1/2, Gi1/3, Gi1/4, Gi1/5, Gi1/6, Gi1/7, Gi1/8, Gi1/9, Gi1/10,

Stratix® WebUI and Device Manager

PRP Monitoring

- View Parallel Redundancy Protocol (PRP) statistics and diagnostic information on a Stratix® RedBox switch:
 - PRP network status
 - DAN and VDAN tables

Monitoring > General > PRP

Vdan Node **Statistics**

Clear Statistics

Channel 1

Channel 2

Ingress Statistics

Wrong LAN ID A :	0	Unique Count A :	5	Duplicate Count A :	16045301
Wrong LAN ID B :	0	Unique Count B :	4294967299	Duplicate Count B :	16045301
Multiple Count A :	0	Packet LAN A :	16403986	Warning count Lan A :	0
Multiple Count B :	0	Packet LAN B :	16316745	Warning count Lan B :	1

Egress Statistics

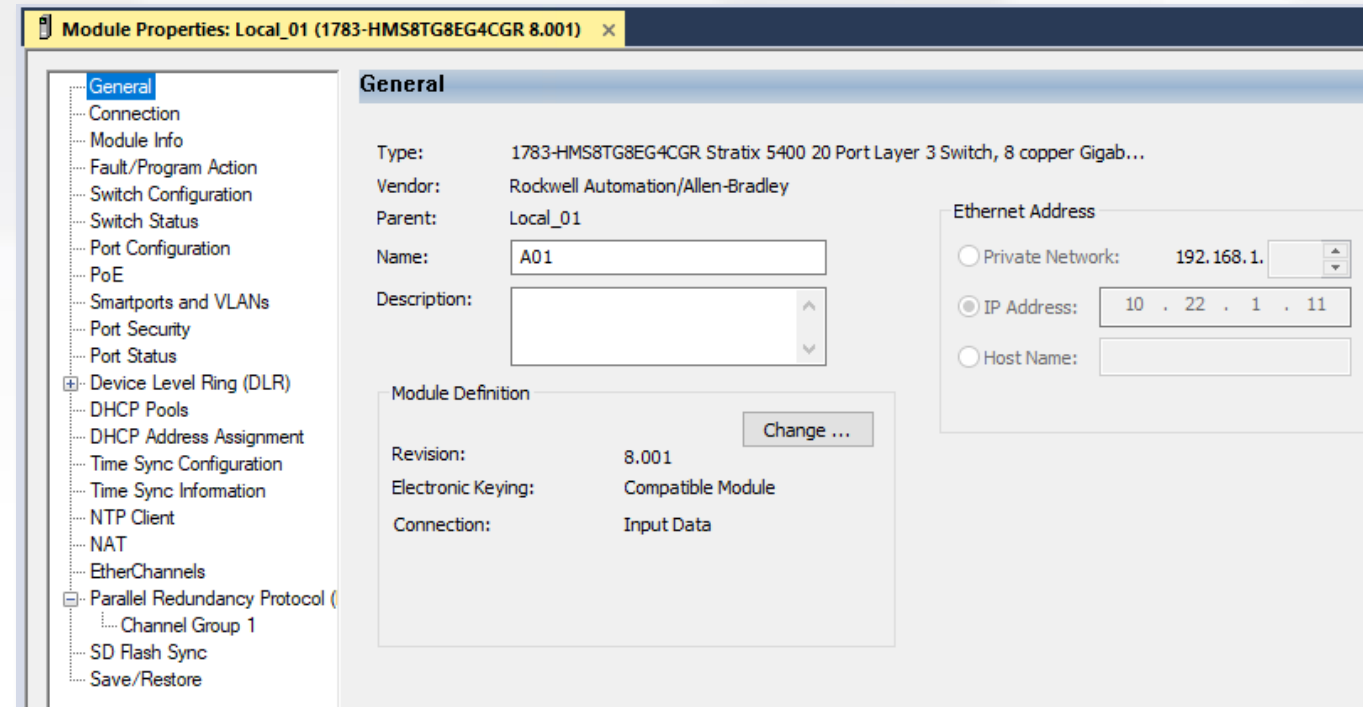
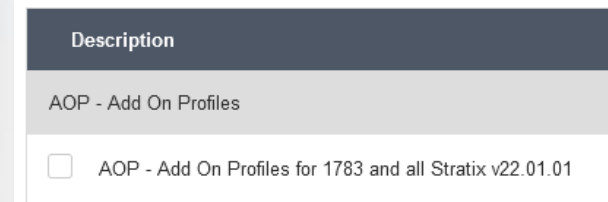
Packets sent on LAN A :	15764020	Packets sent on LAN B :	15679886
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Studio 5000 Logix Designer® Add-On Profiles

Overview

As a part of Premier Integration, Rockwell Automation has implemented the Common Industrial Protocol (CIP) in a variety of its Stratix® switch product families. Add-On Profiles (AOP) in Studio 5000 Logix Designer® allow configuring and monitoring Stratix® switches.

New AOP versions can be downloaded as part of the Stratix® switch or the module firmware package using the Product Compatibility and Download Center (PCDC).



Studio 5000 Logix Designer® Add-On Profiles

Stratix® switch integration

- Switch and network diagnostic data can be retrieved directly from the switch using CIP
- Switch I/O tags are available to use in a program: switch fault status, port disable, port threshold and utilization
- Multiple Stratix® switches can be added to the I/O tree of the controller program.

I/O Configuration

- 1756 Backplane, 1756-A7
 - [0] 1756-L85E CLX_Y
 - [1] 1756-EN4TR Local_01
 - Ethernet
 - 1783-IMS28GN Distr1
 - 1783-IMS28GN Distr2
 - 1783-HMS8TG8EG4CGN RB1
 - 1783-HMS16TG4CGR RB2_DLR
 - 1783-BMS10CGN NAT_A
 - 1783-BMS10CGN NAT_B
 - 1783-HMS8TG8EG4CGR A01
 - 1783-BMS10CGN A02
 - 1783-BMS20CGP A03

Switch_B:O		{...}
Switch_B:O.AllPortsDisable		0
Switch_B:O.PortGi1_1Disable		0
Switch_B:O.PortGi1_2Disable		0
Switch_B:O.PortGi1_3Disable		0

Switch_B:I		{...}
Switch_B:I.Fault	2#0000_0000...	
Switch_B:I.AnyPortConnected		1
Switch_B:I.PortGi1_1Connected		1
Switch_B:I.PortGi1_2Connected		1
Switch_B:I.PortGi1_3Connected		0
Switch_B:I.PortGi1_4Connected		0

Switch_B:I.AnyPortThreshold	0
Switch_B:I.PortGi1_1Threshold	0
Switch_B:I.PortGi1_2Threshold	0
Switch_B:I.PortGi1_3Threshold	0

Switch_B:I.AllPortsUtilization	0
Switch_B:I.PortGi1_1Utilization	0
Switch_B:I.PortGi1_2Utilization	0
Switch_B:I.PortGi1_3Utilization	0

Studio 5000 Logix Designer® Add-On Profiles

Automatic Diagnostics for Stratix® switches

- Automatic Diagnostics is a system-level feature that provides device diagnostics to HMIs and other clients, with zero programming. The diagnostics include device description conditions and state events.
 - Compact GuardLogix® 5380, CompactLogix™ 5380, CompactLogix™ 5480, ControlLogix® 5580, and GuardLogix® 5580 controllers with the firmware revision 33 or later
 - Stratix® AOP version 21.01.01 or later
- FactoryTalk® Alarms and Events subscribes to and displays diagnostic events enabled by the Automatic Diagnostics.

Enable Automatic Diagnostics



Disabling this feature will prevent this device from publishing diagnostics to FactoryTalk Alarms and Events.

Studio 5000 Logix Designer® Add-On Profiles

DLR Diagnostics and Topology

- View DLR status, fault information and statistics
- View the ring member list on the Stratix® switch acting as the DLR Supervisor
- Node number represent the device order in the ring

Device Level Ring (DLR)

Ring 1

Enable Ring 1

Port 1: Port 2:

Supervisor Enabled: True
Redundant Gateway Enabled: False

Network Topology: Ring
Network Status: Normal
Active Ring Supervisor: 10.22.1.5
DHCP Server Role: Backup
DHCP Server Status: Normal Operation

Ring 2

Enable Ring 2

Port 1: Port 2:

Supervisor Enabled: True
Redundant Gateway Enabled: False

Network Topology: Ring
Network Status: Normal
Active Ring Supervisor: 10.22.1.5
DHCP Server Role: Backup
DHCP Server Status: Normal Operation

Device Level Ring (DLR)-Ring 2

Network Topology: Ring
Network Status: Ring Fault
Active Ring Supervisor: 10.22.1.5
Active Supervisor Precedence: 255

Enable Supervisor Mode ←

Ring Faults Detected: 3 ←

Supervisor Status: Active

Ring Fault

Last Active Node on Port 1: 10.22.1.5
Last Active Node on Port 2: 10.22.1.65

←

Device Level Ring (DLR)-Ring 1-Members

Ring Member	IP Address	MAC Address
1	10.22.1.5	F4:54:33:11:65:05
2	10.22.1.69	F4:54:33:9F:A2:6D
3	10.22.1.70	F4:54:33:9D:A7:F7

Studio 5000 Logix Designer® Add-On Profiles

PTP Monitoring

- View PTP mode, port state, local and parent clock information, and offset

Time Sync Configuration

Clock Type:

Clock Identity: 0x00:60:35:FF:FE:36:C4:E9

Grandmaster Selection Priority 1:

Grandmaster Selection Priority 2:

Offset From Master: -9

Port	Time Sync Enable	Time Sync State	Delay Request	Announce Timeout	Announce Interval	Sync Interval	Sync Fault Limit
Gi1/1	<input checked="" type="checkbox"/>	Reserved	5	3	0	0	10000
Gi1/2	<input checked="" type="checkbox"/>	Slave	5	3	0	0	10000
Gi1/3	<input checked="" type="checkbox"/>	Faulty	5	3	0	0	10000
Gi1/4	<input checked="" type="checkbox"/>	Faulty	5	3	0	0	10000
Gi1/5	<input checked="" type="checkbox"/>	Master	5	3	0	0	10000
Gi1/6	<input checked="" type="checkbox"/>	Master	5	3	0	0	10000
Gi1/7	<input checked="" type="checkbox"/>	Faulty	5	3	0	0	10000
Gi1/8	<input checked="" type="checkbox"/>	Master	5	3	0	0	10000
Gi1/9	<input checked="" type="checkbox"/>	Faulty	5	3	0	0	10000
Gi1/10	<input checked="" type="checkbox"/>	Faulty	5	3	0	0	10000

Time Sync Information

CIP Sync Time Synchronization: Enabled

UTC System Time: 10/03/23 10:44:03 AM

Grandmaster Clock

Description:

User Name:	Managed_Switch...
Physical Address:	F4-54-33-11-65-01
Clock Type:	Boundary
Manufacturer Name:	Rockwell Automat...

Identity: 006035FFFE36C4E9

Class: 6

Accuracy: 34

Variance: 65535

Source: GPS

Priority 1: 1

Priority 2: 1

Local Clock

Synchronization Status: Synchronized

Offset to Master: -17 ns

Identity: F45433FFFE116500

Class: 248

Accuracy: 254

Variance: 65535

Source: GPS

Studio 5000 Logix Designer® Add-On Profiles

PRP Monitoring

- View PRP statistics and diagnostic information:
 - Stratix® RedBox switches
 - PRP-capable EtherNet/IP™ modules

Network mode:
Parallel Redundancy Protocol (PRP)

Diagnostics for this node

	Port A	Port B
Network status	OK	OK
Network fault count	4	5
Transmit count	843014730	843014730
Receive count	873108564	873144910
Wrong LAN count	42	42
Unique entry count	1051941	1088287
Duplicate entry count	423509163	448553346
Multiple entry count	25	17

[Reset counters](#) ←

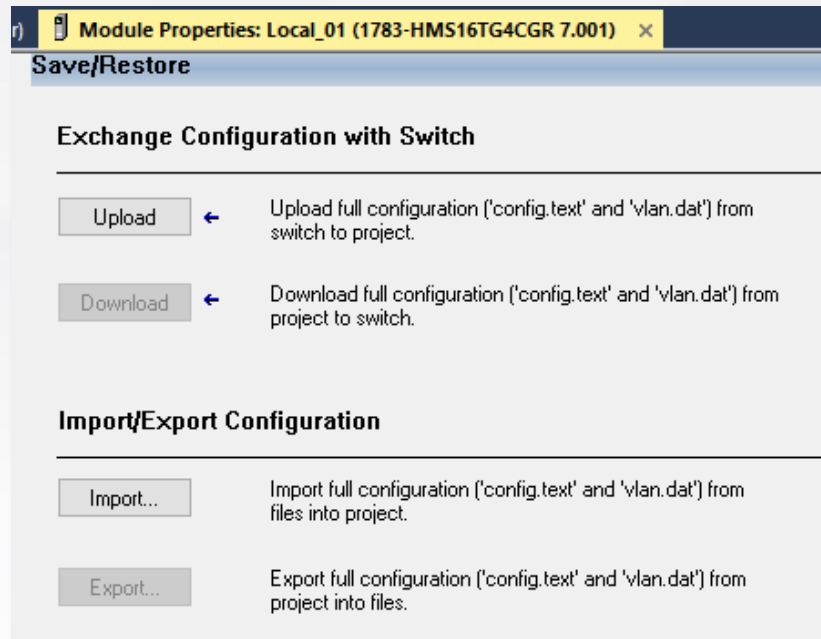
Diagnostics for other PRP nodes

Address	Node type	Port A	Port B
10.22.1.61	Double attached node	● Active	● Active

Studio 5000 Logix Designer® Add-On Profiles

Switch Backup and Restore

- Backup and restore configurations for Stratix® switches in the I/O tree
- Import/export configuration files and store them as part of the project



Cisco® DNA Center

Overview and Resources

Cisco DNA Center is a network management solution that enables provisioning and monitoring of the network from a single console. It supports IIoT environments by providing visibility, automation, security, and integration with external applications.

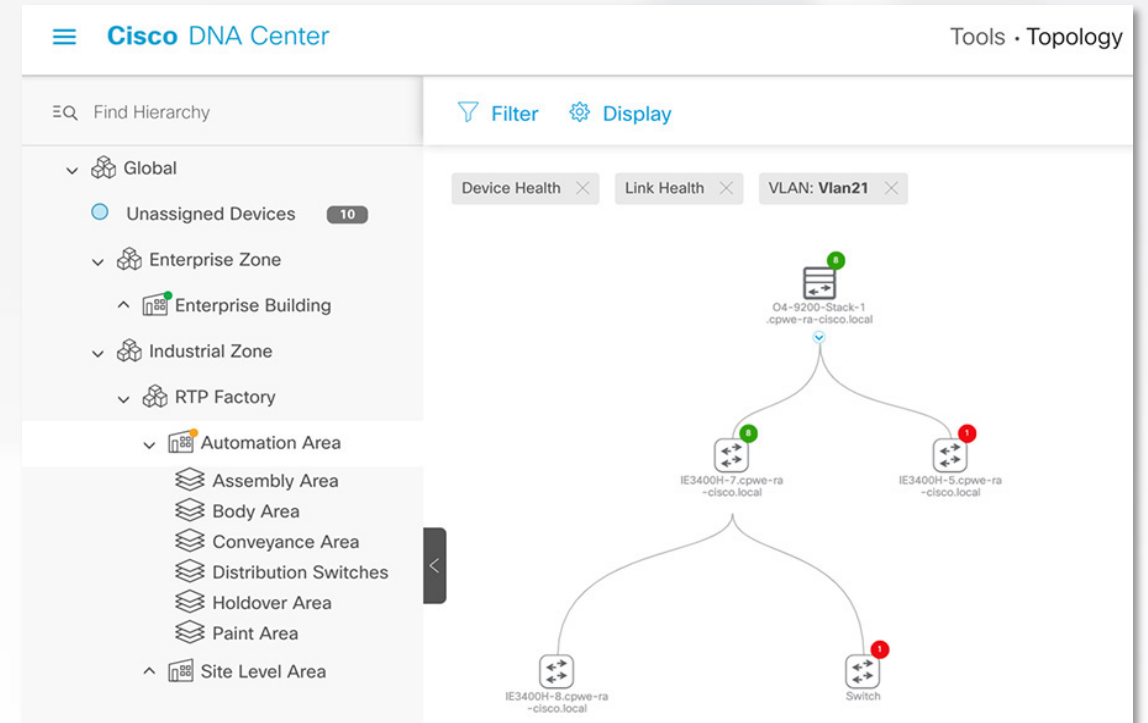
Some of the features of Cisco DNA Center are:

- Support for intent-based networking, which allows you to define your network goals and policies and let Cisco DNA Center implement them automatically
 - Simple and fast network management, with auto discovery, zero-touch provisioning, configuration automation, and centralized dashboard
 - Increased network uptime, with proactive monitoring, troubleshooting, assurance, and optimization
 - Effective security, with identity services engine integration, segmentation, encryption, and threat detection
 - Future network optimization, with location analytics, AI network analytics, machine learning insights, and recommendations
-
- [DNA Center Platform Overview](#)
 - [DNA Center Resources](#)
 - [Cisco DNA Center for Industrial Automation Design Guide](#)

Cisco® DNA Center

Industrial Network Support and Limitations

- Stratix® switches and Cisco IE switches
 - See [DNA-C Compatibility Matrix](#) for supported catalog numbers and minimum firmware revisions
- Star, linear and ring topologies (some limitations exist)
- Resilient Ethernet Protocol (REP)
- Currently does NOT support:
 - Device Level Ring (DLR)
 - Parallel Redundancy Protocol (PRP)
 - Precision Time Protocol (PTP)
 - Discovery, management and alarms using CIP
 - Network Address Translation (NAT)



Cisco® Cyber Vision

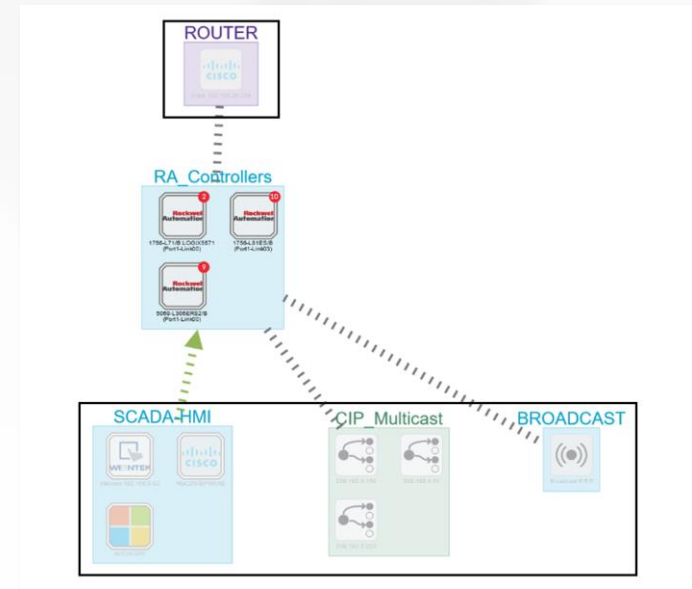
Overview and Resources

Cisco Cyber Vision provides continuous visibility into Industrial Control Systems (ICS) to understand their security posture, improve their industrial networks efficiency, and extend IT security to their industrial operations.

Cisco Cyber Vision combines a unique edge monitoring architecture and deep integration with Cisco's leading security portfolio. With edge sensor capabilities built into the industrial network equipment, it can be easily deployed at scale to monitor your industrial assets and their application flows in real time.

Cisco Cyber Vision integrates with Cisco Identity Services Engine (ISE), Stealthwatch and Cisco Firepower® products by providing contextual information about industrial assets and network flows.

- [Cisco Cyber Vision Overview](#)
- [Cisco Cyber Vision resources](#)
- [Rockwell Automation and Cisco Cyber Vision](#)



Cisco® Cyber Vision

Asset Discovery

While network management is not the primary function of Cisco Cyber Vision, its asset discovery and inventory features can increase visibility and complement traditional NMS that may not support industrial protocols or assets.

- Active Discovery allows the Cyber Vision sensor to discover previously unseen devices and gather additional properties for known devices.
 - Export the inventory as CSV
- See [Cisco Cyber Vision Active Discovery Configuration Guide](#) for details

The screenshot displays the Cisco Cyber Vision interface for a specific device. At the top, the 'Flow' section shows a gear icon, the IP address 192.168.20.192, and the Rockwell Automation logo. Below this, the device's IP (192.168.20.192), port (47928), and MAC (52:54:dd:61:05:d7) are listed. To the right, the device name 1756-L81ES/B is shown, along with its IP (192.168.20.25), port (44818), and MAC (5c:88:16:ed:cc:8e). Activity logs indicate the first and last activity on Feb 15, 2022 at 4:57:25 PM. Tags include 'Low Volume' and 'EthernetIP'. Summary statistics show 8 packets and 1.07 volume. The 'Basics' tab is active, showing a 'Properties' section with the following details:

Properties	
enip-command: ListIdentity	enip-devicetype: ProgrammableLogicController
enip-event: Equipment	enip-location: Endpoint
enip-name: 1756-L81ES/B	enip-productcode: 0xd3
enip-serial: 01105356	enip-status: AtLeastOneIOConnectionInRunMode,MinorRecoverableFault,ReservedBits12-15:0x3
enip-status-ra-major: REM	enip-status-ra-minor: RUN

Cisco® Cyber Vision

Stratix® 5800 as Cyber Vision Sensor

- Cisco Cyber Vision sensors are embedded in the networking equipment without the need to deploy dedicated appliances or build an out-of-band Switch Port Analyzer (SPAN) collection network.
- Cisco Cyber Vision sensors passively capture and decode industrial control protocol data. They only send lightweight metadata to the Cisco Cyber Vision Center with minimum load to the industrial network. Cisco Cyber Vision sensors also have the capability to do active discovery.
- Cisco Cyber Vision Sensors can be deployed on the advanced catalogs of the Stratix® 5800 switches:
 - 1783-MMS10EA, 1783-MMS10EAR, 1783-MMS10A, 1783-MMS10AR



Claroty Continuous Threat Detection (CTD)

Overview and Resources

Claroty CTD is a robust solution that delivers cybersecurity controls for industrial environments. It provides key benefits for OT networks such as asset discovery, network protection, vulnerability and risk management, and threat detection.

Rockwell Automation and Claroty have partnered to offer comprehensive OT security solutions. Claroty is a participating Encompass™ Product Partner in North America and EMEA in the Rockwell Automation PartnerNetwork™.

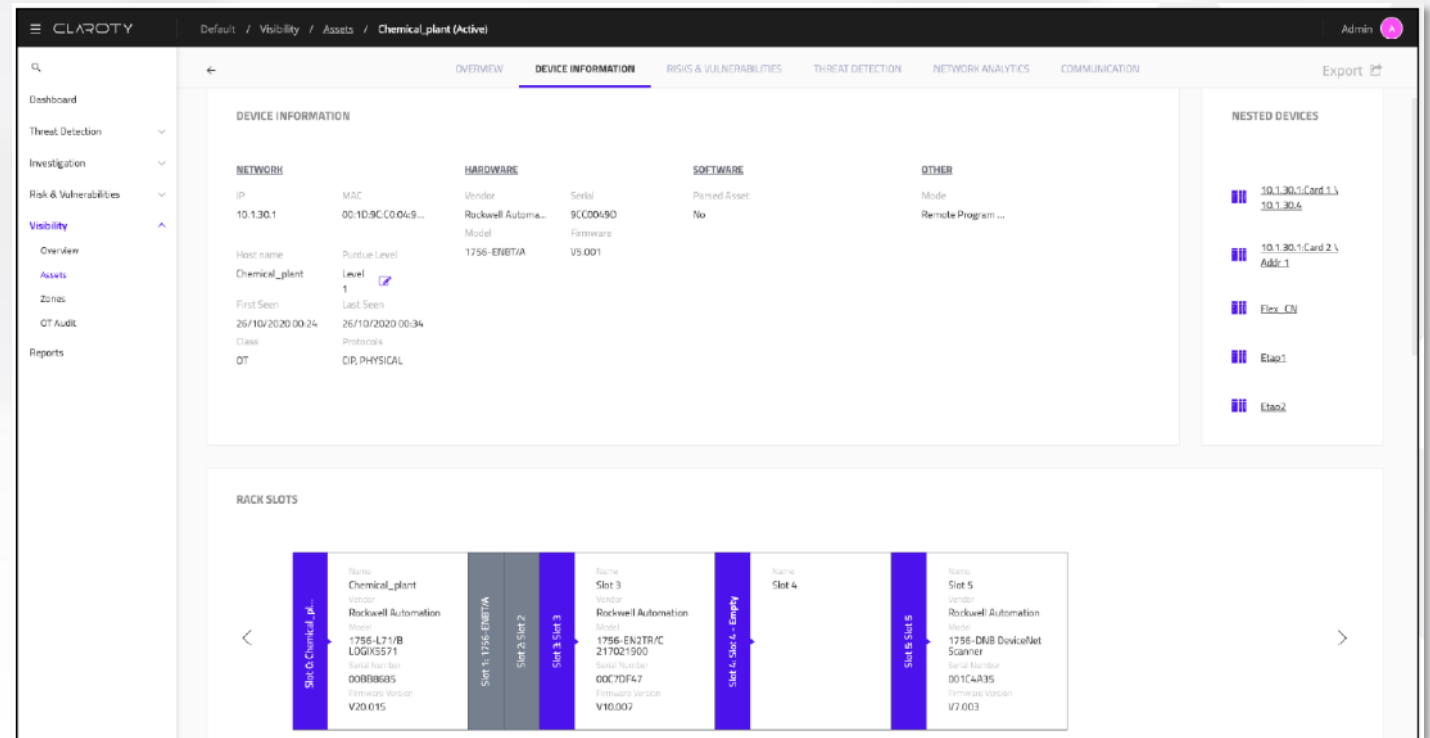
While network management is not the primary function of Claroty CTD, its asset discovery and inventory features can increase visibility and complement traditional NMS that may not support industrial protocols or assets:

- Support for 450+ IT and OT protocols
- Passive and active discovery methods
- Integration with FactoryTalk® AssetCentre
- Integration with Cisco® Identity Services Engine (ISE) and Cisco Secure products
- [Claroty CTD Overview](#)
- [Claroty Asset Discovery](#)
- [Rockwell Automation Industrial Cybersecurity Services](#)

Claroty Continuous Threat Detection (CTD)

Integration with FactoryTalk® AssetCentre

- The [CTD Connector](#) for FactoryTalk® AssetCentre uses Claroty's asset discovery mechanism to ingest project files from FactoryTalk® AssetCentre, extract the OT asset information present on those files, and populate and organize it within CTD.
- The result is a fully automated, completely centralized, and always up-to-date OT asset inventory and a single source of truth for OT asset information.



Enterprise Network Management Software

Resources

Some of the enterprise network management platforms:

- [SolarWinds](#)
- [Nagios XI](#)
 - Industrial protocols: Modbus TCP, Modbus RTU
- [Paessler PRTG](#)
 - Industrial protocol support: Modbus TCP, OPC UA, MQTT