



THE REYNOLDS
COMPANY
ELECTRICAL SUPPLY

Stratix 5800 – High Performance Managed Switch

June 9, 2021

Our Guest Panelists

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2021 Online Events

Register to receive a calendar invite



- **Tech Talks**

- **Industrial Cybersecurity Seminar**

Wed, July 14, 2021 @ 10am

- **Using the PlantPAX System Estimator**

Wed, July 28, 2021 @ 10am

- **Modern Lockout/Tagout for Deployment, Management and Compliance**

Wed, August 11, 2021 @ 10am

- **User Groups**

- **Industrial Cybersecurity: Understanding Your Risk and Where to Start – Presented by Claroty**

Wed, June 16, 2021 @ 10am

- **System Redundancy Best Practices**

Wed, July 21, 2021 @ 10am

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Stratix 5800

High Performance Managed Switch

expanding **human possibility**®



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Stratix 5800 switch



The Stratix® 5800 managed switch supports layer 2 switching and layer 3 routing on an all gigabit platform. The design includes both standalone and modular switches. The platform supports up to 26 ports with a variety of copper, PoE and fiber SFP options providing flexibility for high performance network applications.

Network switch: product overview



STRATIX 2000



STRATIX 2500



STRATIX 5700/
ArmorStratix™ 5700



STRATIX 5400



STRATIX 5800



STRATIX 5410

UNMANAGED

LIGHTLY MANAGED

FULLY MANAGED

HIGH PERF MANAGED



FactoryTalk® Network Manager™ software

Increased visibility and insight into your network in the context of your automation assets.

Real-time capture of FactoryTalk® Alarms and Events, with historical retention of the information to allow analysis and view Audit Trails.

Supports the configuration of switches from a remote location and provides for the backup of the configuration and comparison to the previous configuration.

100M/1G

100M

100M/1G

1G/10G

Stratix 5800 switch

Features and Benefits

- All gigabit switch platform for high-performance network support
- Fixed and modular options up to 26 ports providing flexibility and scalability
- Wide variety of copper, fiber, and PoE choices to support a diverse set of applications
- Supports layer 2 access switching and layer 3 routing for use in multiple layers of the architecture
- Supports both IT and OT configuration and management tools allowing users to leverage the expertise of both teams
- Default configurations for industrial applications providing easy setup and optimized performance
- Robust set of switching, routing and security features to meet a broad spectrum of application needs

Optimized Integration

- Studio 5000® Add-on Profiles (AOPs) enable premier integration into the Rockwell Automation® Integrated Architecture® system
- Predefined named Logix tags for monitoring and port control
- FactoryTalk View faceplates help to enable status monitoring and alarming
- Embedded Cisco® technology, including IOS-XE operating system, helps enable integration with the enterprise network



Stratix 5800 switch hardware

- Fixed or modular base switch
 - 10 all gigabit ports
 - 8 copper ports or PoE ports (optional)
 - 2 SFP slots (supports copper and fiber SFPs)
- Single expansion module (on modular switch base)
 - 8-port or 16-port module
 - Combinations of copper, PoE, and SFP slots
- Separate hardware switch and expansion modules to support “advanced” features (optional)
- Secure Digital (SD) flash card (optional)
 - 1784-SDHC8
- Dual power inputs
- 2 alarm inputs and 1 output
- RJ45 or mini-USB console port
- 2 USB ports



Base switch hardware options

- Fixed 10 port all gig layer 2 switch
 - 10-port (8 Copper + 2 SFP slots)
 - 10 PoE ports (8 PoE + 2 SFP slots)
- Modular 10 port all gig layer 2 switch
 - 10-port (8 Copper + 2 SFP slots)
 - 10 PoE ports (8 PoE + 2 SFP slots)
 - 10 PoE ports (8 PoE + 2 SFP slots) with advanced feature support
- Modular 10 port all gig layer 3 switch
 - 10-port (8 Copper + 2 SFP slots)
 - 10 PoE ports (8 PoE + 2 SFP slots)
 - 10 PoE ports (8 PoE + 2 SFP slots) with advanced feature support



Expansion module options

- Variety of expansion modules supporting combinations of copper, PoE, SFPs, and advanced feature support
 - 8-port copper
 - 8-port PoE
 - 8-port PoE, advanced feature support
 - 8-port SFP slots
 - 8-port SFP slots, advanced feature support
 - 6-port copper, plus 2 SFP slots
 - 16-port copper
 - 16-port PoE
 - 14-port copper, plus 2 SFP slots



Stratix 5800 catalog options

Stratix 5800 Catalog Structure							
Switches	Total ports	RJ45 ports	PoE/PoE+ ports	SFP slots	Modular	Features	Firmware Type
1783-MMS10B	10	8 GE		2 GE	-	Standard	Layer 2
1783-MMS10BE	10		8 GE	2 GE	-	Standard	Layer 2
1783-MMS10	10	8 GE		2 GE	Yes	Standard	Layer 2
1783-MMS10E	10		8 GE	2 GE	Yes	Standard	Layer 2
1783-MMS10EA	10		8 GE	2 GE	Yes	Advanced	Layer 2
1783-MMS10R	10	8 GE		2 GE	Yes	Standard	Layer 3
1783-MMS10ER	10		8 GE	2 GE	Yes	Standard	Layer 3
1783-MMS10EAR	10		8 GE	2 GE	Yes	Advanced	Layer 3
Expansion Modules							
1783-MMX8T	8	8 GE			NA	Standard	NA
1783-MMX8E	8		8 GE		NA	Standard	NA
1783-MMX8EA	8		8 GE		NA	Advanced	NA
1783-MMX8S	8			8 GE	NA	Standard	NA
1783-MMX8SA	8			8 GE	NA	Advanced	NA
1783-MMX6T2S	8	6 GE		2 GE	NA	Standard	NA
1783-MMX16T	16	16 GE			NA	Standard	NA
1783-MMX16E	16		16 GE		NA	Standard	NA
1783-MMX14T2S	16	14 GE		2 GE	NA	Standard	NA

Capability Key: B – Non-Expandable Base | E – PoE Capable | A – Advanced | R – Layer 3 Image | T – Copper Ports | S – SFP Ports

Configuration guidelines

- Fixed (non-modular) switches do not support expansion modules
- Modular switches support one expansion module only
- Switches with standard features, support standard expansion modules only
- Switches with advanced features, support both standard and advanced expansion modules
- Only PoE switches support PoE expansion modules



Stratix 5800 module compatibility

Stratix 5800 switches and expansion module compatibility									
Catalog number	1783-MMX8T	1783-MMX8E	1783-MX8EA	1783-MMX8S	1783-MMX8SA	1783-MMX6T2S	1783-MMX16T	1783-MMX16E	1783-MMX14T2S
1783-MMS10B	No expansion module support								
1783-MMS10BE	No expansion module support								
1783-MMS10	Supported	Not supported	Not supported	Supported	Not supported	Supported	Supported	Not supported	Supported
1783-MMS10E	Supported	Supported	Not supported	Supported	Not supported	Supported	Supported	Supported	Supported
1783-MMS10EA	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported
1783-MMS10R	Supported	Not supported	Not supported	Supported	Not supported	Supported	Supported	Not supported	Supported
1783-MMS10ER	Supported	Supported	Not supported	Supported	Not supported	Supported	Supported	Supported	Supported
1783-MMS10EAR	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported	Supported

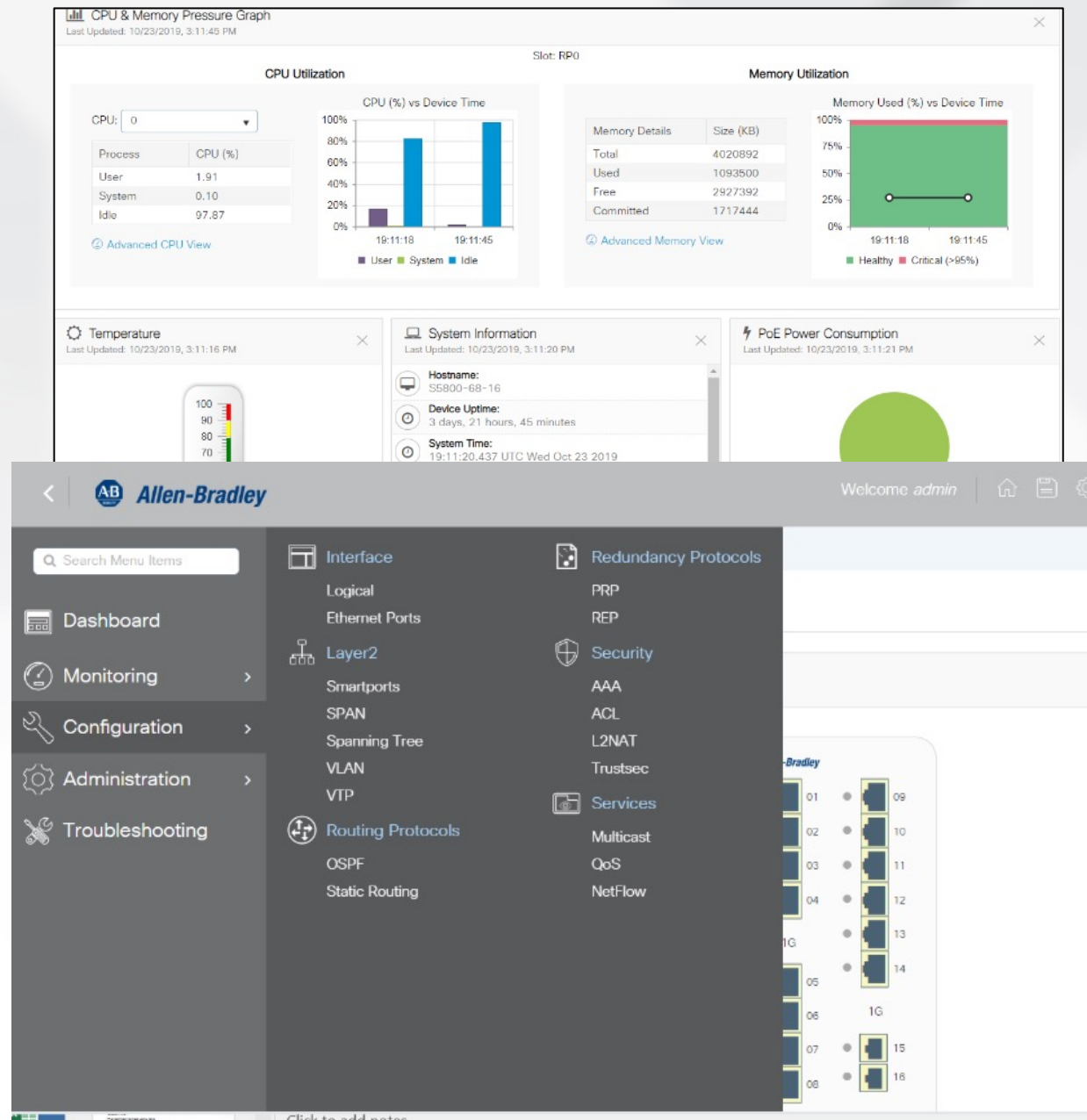
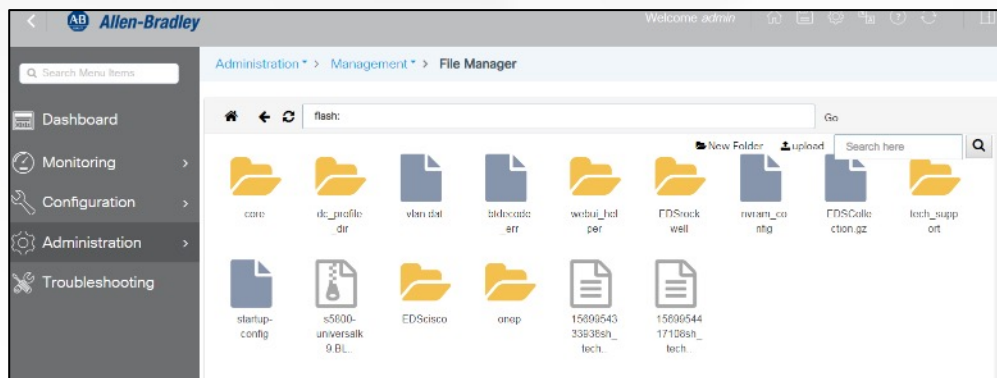
Capability Key: B – Non-Expandable Base | E – PoE Capable | A – Advanced | R – Layer 3 Image | T – Copper Ports | S – SFP Ports

Stratix 5800 firmware

- Layer 2 switching or layer 3 routing firmware options
 - Crypto image only
- New Cisco IOS-XE operating system
- New User configuration and maintenance interface – WebUI
- Global Macro and Smartports for automation applications
- Supports both IT (CLI) and OT (WebUI and AOP) configuration and maintenance tools
- Premier Integrated Architecture Support tools
 - Studio 5000 Custom Add-on Profile (AOP)
 - FactoryTalk View Faceplates – View Designer, ME and SE
- 62443-4-2 cybersecurity certification
 - Requires WebUI configuration

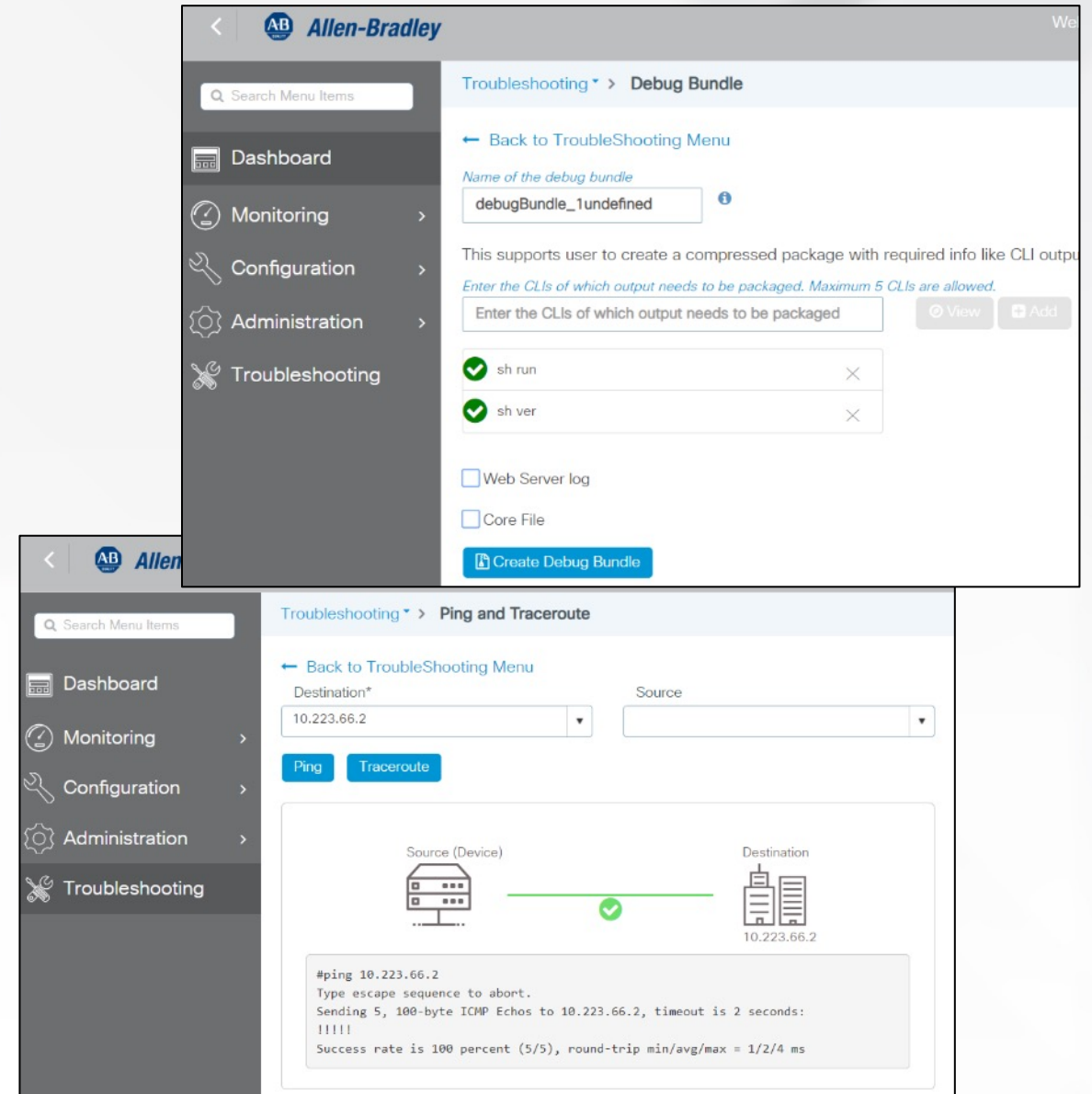
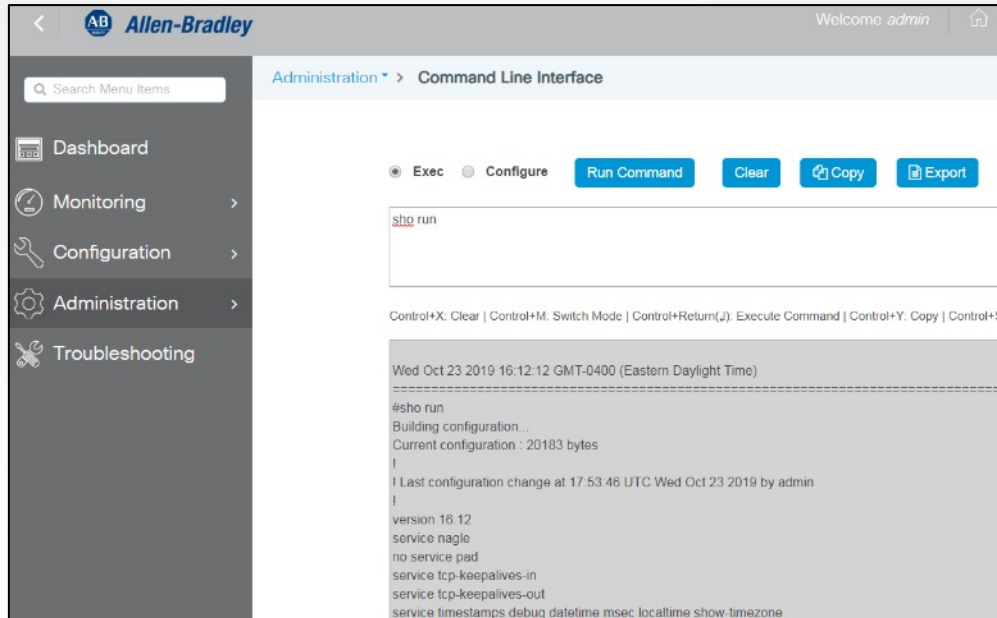
WebUI key attributes

- New menu structure and workflow
- Fast navigation and downloads
- Customizable dashboard
- Screen sorting and filtering options
- File Manager



WebUI key attributes

- Extended trouble shooting tools
 - Debug bundle
 - Ping and trace route
- Direct interface to CLI



Major Differences from Classic IOS Platforms

- Express set up
 - Three pages
 - New IP address: 192.168.1.254
- Updates and sync
 - Updates in ~5 minutes (including file transfer time)
 - Sync only available from booted media to non-boot media
 - USB is a bootable device
- Onboard FW image is burned in for recovery
- No Flexlinks feature
- No Motion Prioritized QoS Macro
- WebUI
 - Save config - **MUST** save running config. for retention over power cycle
 - Read Only User - Only has access to Monitoring tab
 - SVI / VLAN / IP addresses configured differently

The top screenshot shows the 'Create New Account' and 'Device ID Settings' pages. The 'Create New Account' page has fields for Login Name (admin), Login User Password, Confirm Login User Password, and Command Line Password (Sync to Login Password). The 'Device ID Settings' page has fields for Device Name, NTP Server, and Date & Time Mode (NTP Time). A sidebar on the right shows device hardware and software details: Platform Type (1783-MMS10ER), IOS Installed (16.12.1, RELEASE SOFTWARE (fc4)), Serial Number (FOC2316V023), CIP Serial Number (0x600f93fa), and Modules (10 Gigabit Ethernet interfaces).

The bottom screenshot shows the 'SUMMARY' page. It provides a summary of the configuration steps: General Information (User Name: admin, Host Name: s5800-66-31, NTP Server: Not Configured, Date & Time: 29 Nov 2018 11:03:05) and Basic Device Configuration (VLAN: 3660, IP Address: 10.223.66.31, Subnet Mask: 255.255.255.128, Default Gateway: 10.223.66.1, Telnet: Enabled, SSH: Disabled, CIP VLAN: 3660(10.223.66.31)). There are buttons for 'CLI Preview', 'Basic Settings', and 'Submit'.

Layer 2 firmware feature highlights

Switching

- REP
- Spanning Tree Protocols
- CIP Sync™ 1588 PTP v2
- QoS (Quality of Service)
- IGMP (v1, v2, v3) snooping, filtering and querier
- VLANs with trunking
- EtherChannel
- Port thresholds – storm control
- IPv6 support
- Access control lists (ACLs)
- Static and connected (Inter-VLAN) routing

Diagnostics

- Duplicate IP detection
- Syslog
- Port mirroring (SPAN)

Security

- MAC ID port security
- IEEE 802.1x Security
- AAA support (TACACS+, RADIUS authentication)
- Encryption (SSH, SNMPv3, HTTPS)
- Flexible NetFlow*
- MACsec – 128
- 62443-4-2 Certification

Management

- EtherNet/IP™ (CIP™) interface
- Express Setup and Smartports
- DHCP per port
- WEBUI, CLI
- Integrated NAT*
- SNMP
- Support in FactoryTalk Network Manager

* Modular switch version only

Layer 3 firmware feature highlights

Static and Connected (Inter-VLAN) routing

- Also available on layer 2 firmware

Dynamic routing

- OSPF
- EIGRP
- BGPv4
- IS-IS
- RIPv2

Multicast routing

- PIM

Redundant routing

- HSRP

Policy based routing

- Policy based routing (PBR)

IPV6 routing

- RIPng
- OSPFv3
- EIGRPv6, IS-ISv6, PIMv6

Virtualization

- VRF Lite

Security

- MACsec-256
- TrustSec (advanced hardware only)

Advanced firmware features

- Advanced features (**requires “advanced” hardware**)
 - Parallel Redundancy Protocol (PRP)
 - Device Level Ring (DLR)*
 - TrustSec – layer 3 version only
 - High Availability Seamless Redundancy (HSR)*
- As features are developed, they will be included in the next firmware release and available for download on switches with advanced hardware.

* Available in future firmware update

Resources/Tools

- Stratix 5800 User Manual
- Stratix Technical Data Manual
- Stratix 5800 Product Profile
- Stratix 5800 Presentation
- Stratix 5800 Website Product Page
- Stratix “At a Glance” portfolio comparison
- Custom Logix Designer Add on Profile (AOP)
- FactoryTalk View Faceplates
- FactoryTalk Network Manager support

Thank you for attending

TRC TechTalks

Online Seminars