



Data Collection, Aggregation, or Transmission

SEPTEMBER CISCO USER
GROUP MEETING

BRYAN YOUNG

SARAH SEXTON

Agenda



About the Company



Our people



Red Lion Products

The Edge

Data Consolidation

New Ethernet Product



Remote Monitoring



Closing

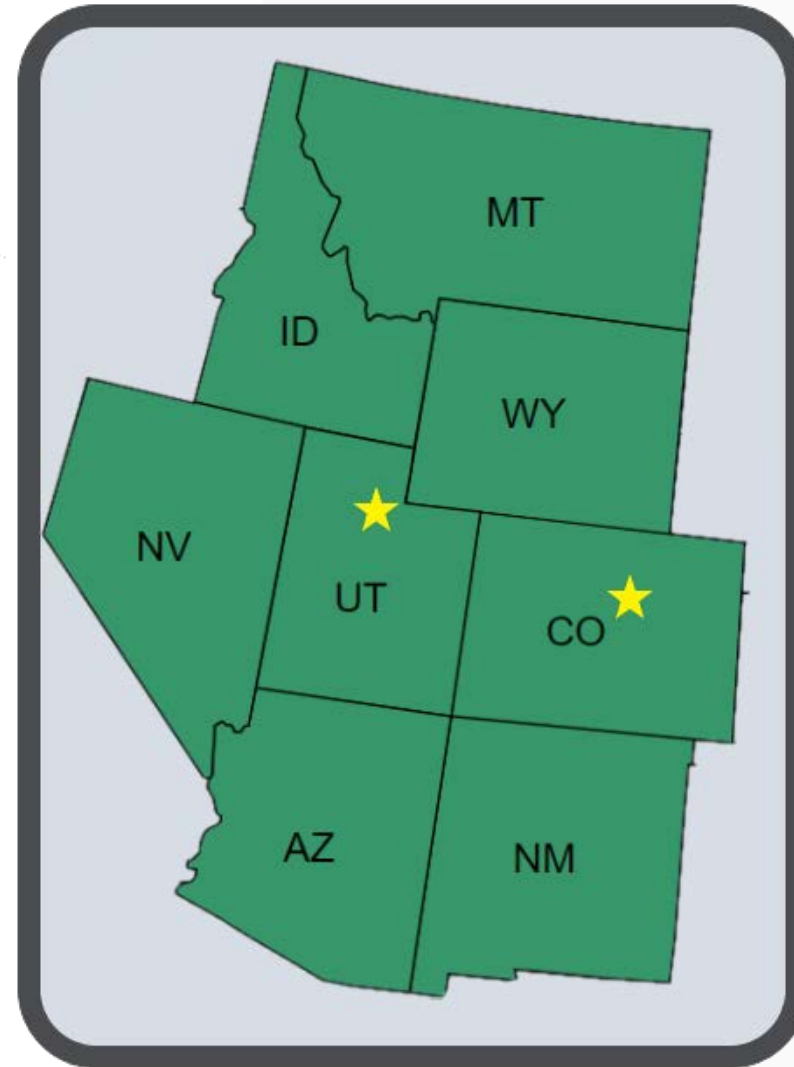
Question and Answers

Our Company

Years ago, TMMI set out on a mission to provide the highest level of operational technology to customers, while adding value to every interaction with our customers, employees, and principals. Over the years, our technical expertise and commitment to service enabled us to build relationships with our customers based on trust and results.

Joining forces with Flow Control Group in 2018 strengthened our ability to provide this unparalleled support and allow us to focus on supporting our customers with smart industrial solutions.

Certified Emerson Training Facility



Territories



Our Team

Since 1977, TMMI has been a leader and trusted supplier of electrical control equipment and software to industrial process and manufacturing firms in the Rocky Mountain Region.

Sales Support and Finance

Ron Weller, CO – Inside Sales and Operations (32 Years)

Britney Weller, CO – Inside Sales Support, Operations, and Event Coordinator (6 Years)

Reed Larson, UT – Inside Sales Support (2 Year)

Amy Haws, UT – Inside Sales Support (>1 Year)

Valerie Clevinger – Controller (7 Years)

Ashley Rue – Senior Accountant (6 Years)

Allison Fitzmier – Staff Accountant (1 Year)

Technical and App Support

Kelli Settell – Supports all TMMI products. Certified Emerson PLC Trainer (16 Years)

Mark Perry – Supports all TMMI products. Certified GE Digital and Emerson PLC Trainer (13 Years)

Jacob Bell – Supports all TMMI products. Developed RMS solution (6 Years)

Primary Support in Rocky Mountain Region for Banner, Emerson, Kollmorgen, Red Lion, and Turck

Sales and Business Development

Kirk Bennett – UT/ID (22 Years)

Ryan Henrichs – CO (20 Years)

Sarah Sexton – CO (10 Years)

Josh Owens – CO/WY (6 Years)

Mark Cassidy – CO/NM (2 Years)

Ken Lawson – UT/WY/MT (2 Years)

Kara Lopez– AZ/NV/CA (1 Year)

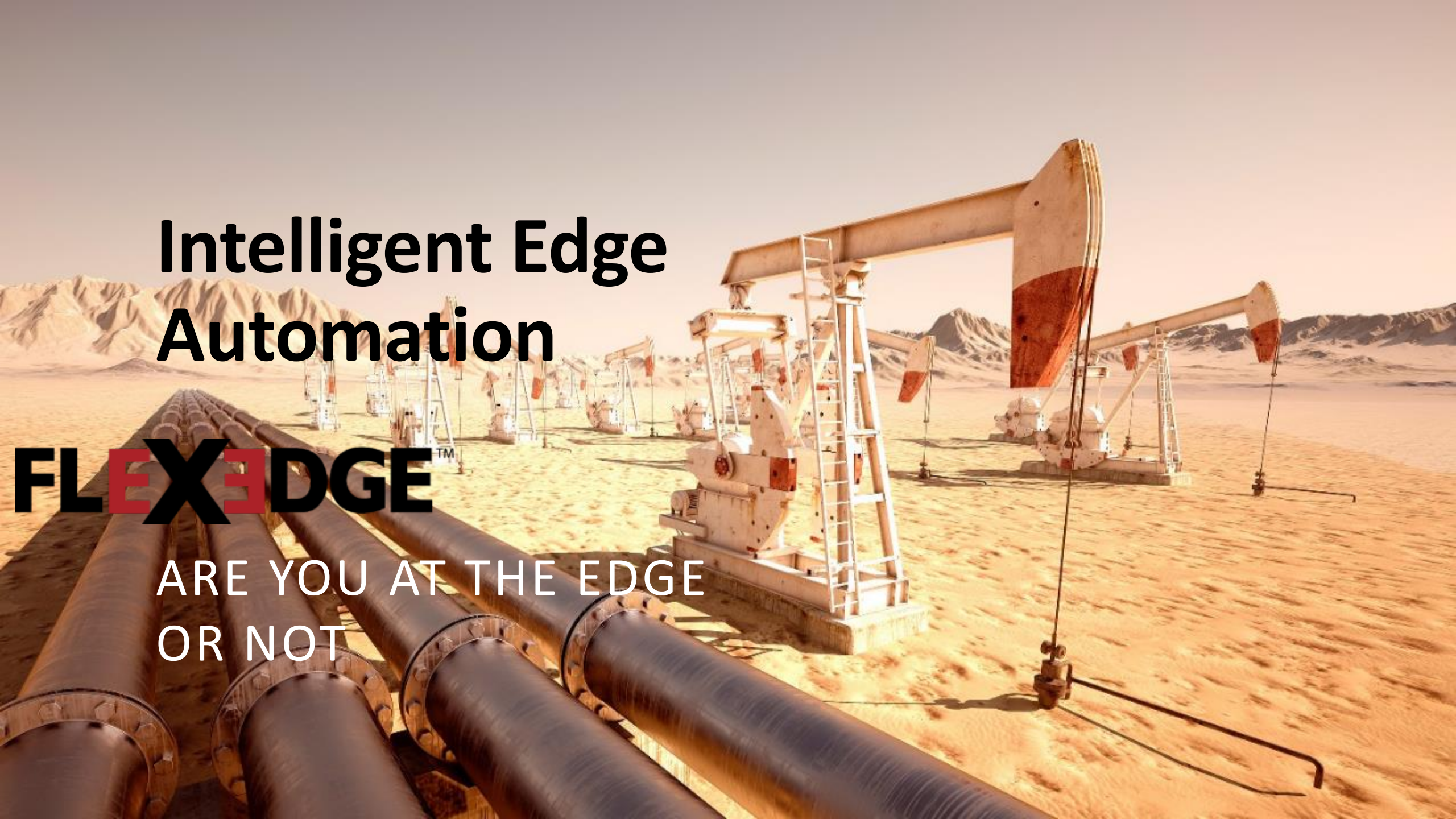
Grant Collins – (1 Year)



Intelligent Edge Automation

FLEXEDGE™

ARE YOU AT THE EDGE
OR NOT



What About Existing Equipment/Controllers?



How can I cost effectively plan for the future modernization without scrapping my existing equipment?

- ✓ Use Products that give you freedom to select the existing systems, put in the best systems and drive innovation regardless of manufacturer!



**Rockwell
Automation**

AUTOMATIONDIRECT
The easiest way to buy industrial automation products

PLC Brands

BECKHOFF

ifm electronic



TOSHIBA

SIEMENS



**General
Electric**

Honeywell

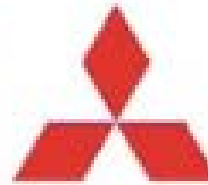
IDEC



UNITRONICS®

KEYENCE

**Schneider
Electric**



**MITSUBISHI
ELECTRIC**

LSIS Panasonic

OMRON WAGO



DELTA

Rexroth
Bosch Group

HITACHI

YOKOGAWA

ABB



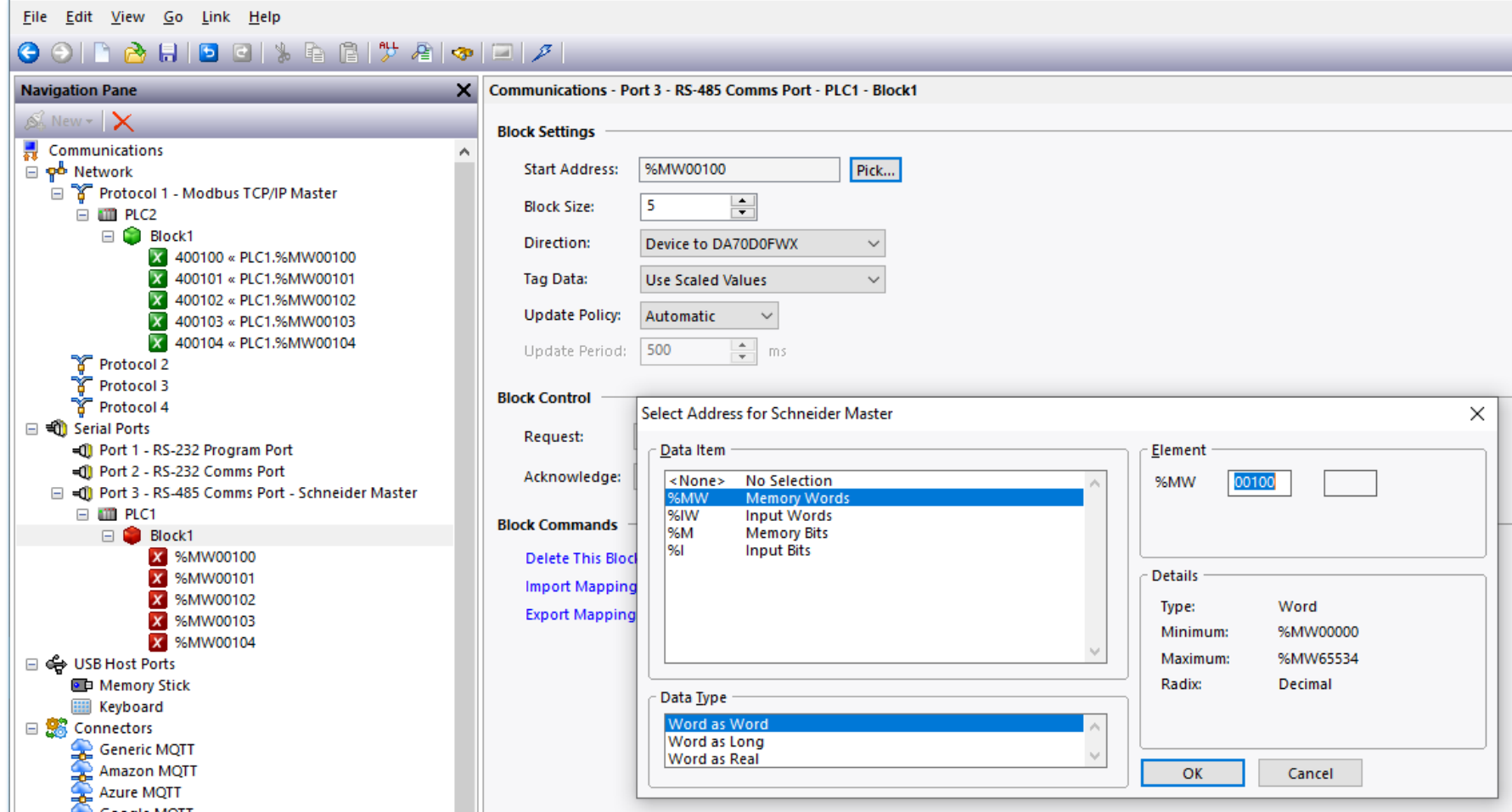
Allen-Bradley

by ROCKWELL AUTOMATION

Fuji Electric

Open Communications



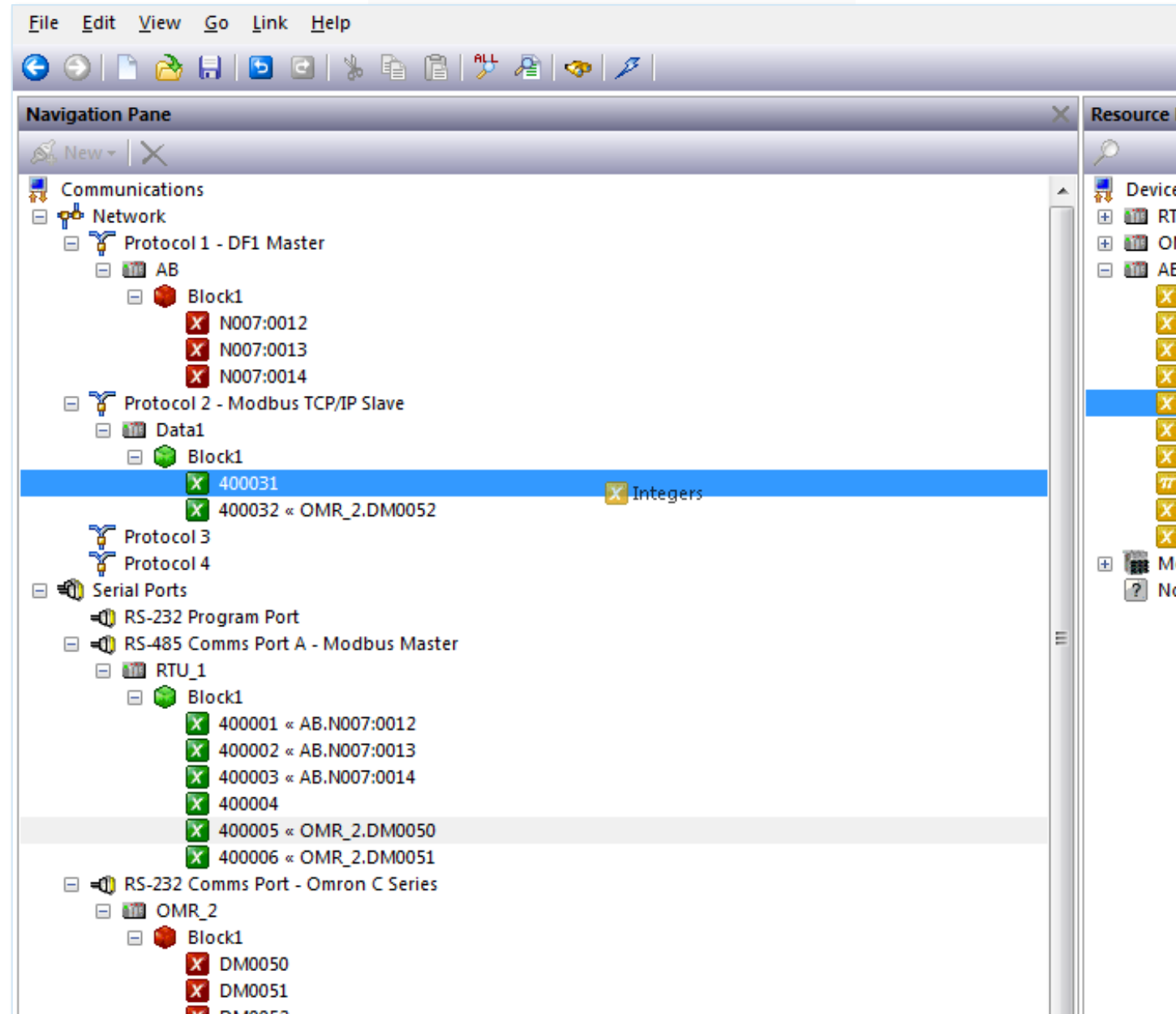


Edge Controller/Gateway that Helps You Connect...

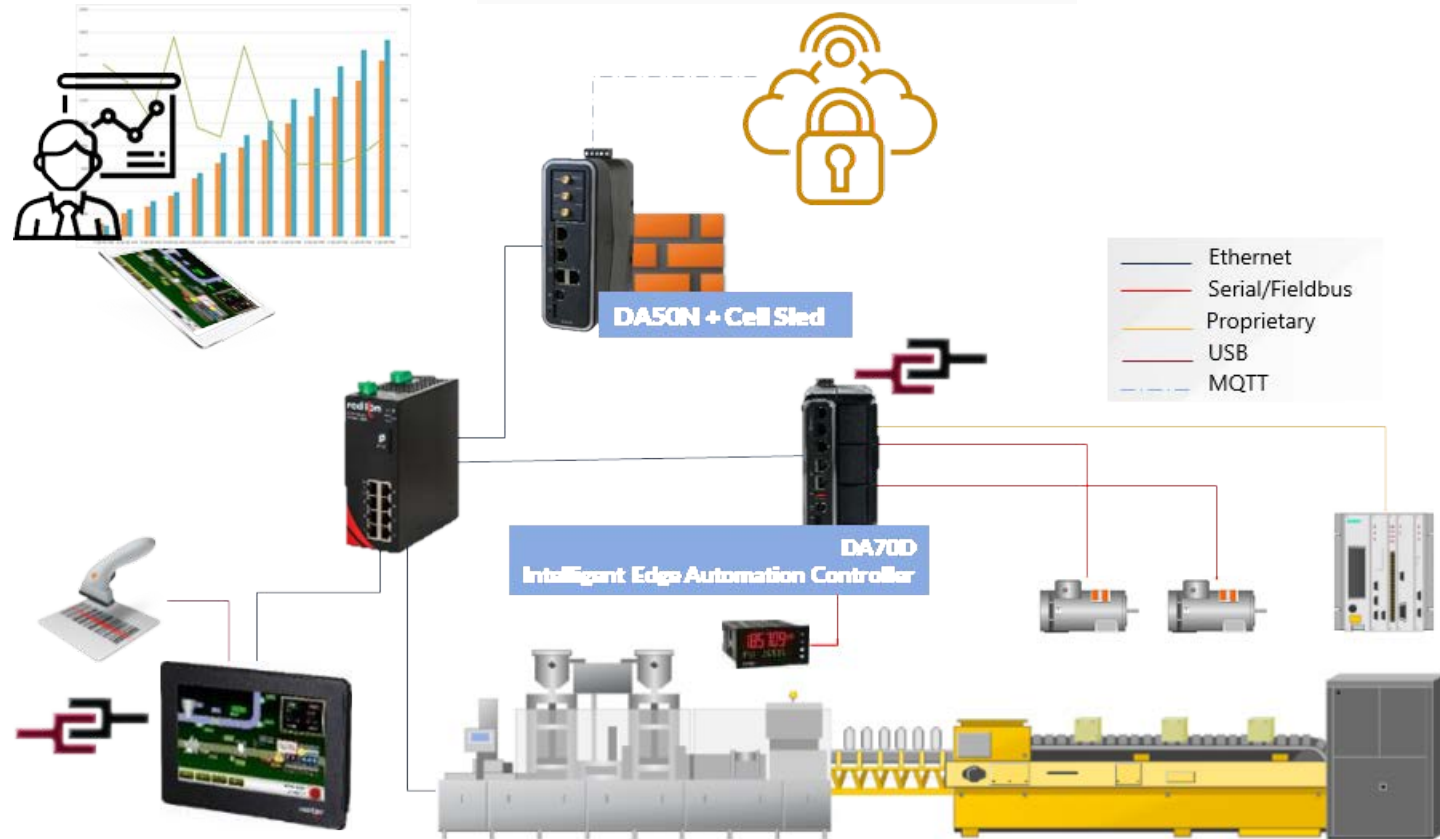
Built-in support for over 300 industrial drivers ensures equipment remains relevant for years to come

Serial Devices, ASCII - Don't Forget Them...

As traditional architectures flatten and shift, bridge the gap between disparate **serial**, **Ethernet** and **fieldbus** devices, orphaned by incompatible communications standards, using a simple point-and-click user interface



Where do these devices fit in your network



Harnesses the Value of Industrial Information without Upgrading Everything...



Trend Viewer

- Deliver operational insights and monitor productivity from anywhere
- View trends in real time



Data Logging

- Collect statistics on any data tag and deliver to upstream systems
- Address regulatory requirements with cryptographic signature support
- Enhance troubleshooting



SQL Sync & Queries

- Sync data to system servers for long-term storage
- Simplify batch and recipe management to ensure repeatable quality



Cloud Connectivity

- On-premise or public deployments
- Multi-cloud and hybrid edge/cloud processing

Improve performance, enhance quality & drive productivity



New N-Tron® Series NT5000 Gigabit Managed Switches

REDLION®

a spectris company

The Switch You Have Been Waiting For!

DESIGNED TO KEEP YOUR NETWORK CONNECTED AND PROTECTED, RED LION'S N-TRON® SERIES NT5000 SWITCHES PROVIDE **EASE OF USE, RELIABILITY AND SECURITY** FEATURES TO MAXIMIZE OPERATING PERFORMANCE AND SYSTEM UPTIME.



The series is available in 6, 8, 10, 16 and 18 port configurations with a variety of copper and fiber options to meet specific installation requirements

Introducing N-Tron[®] Series NT5000 Switch

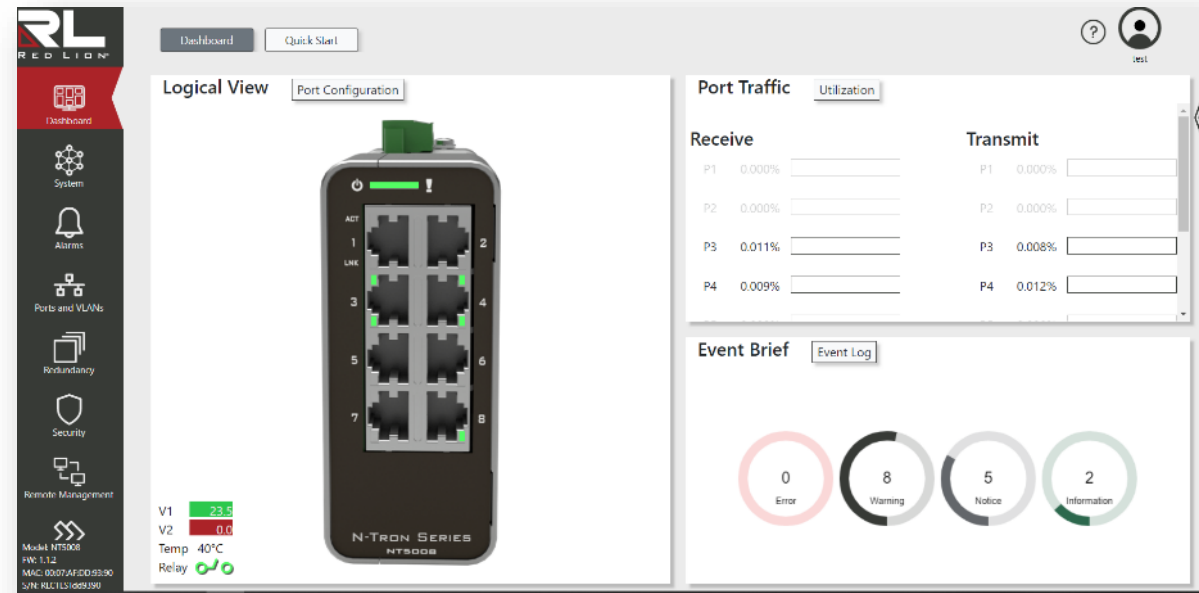
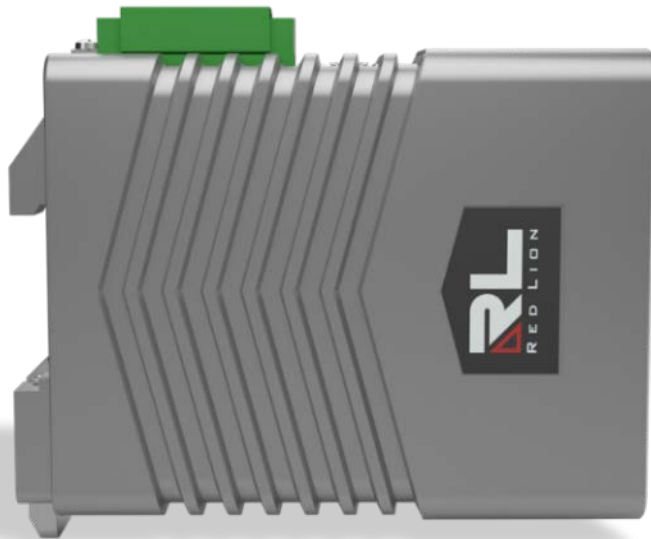
Next Generation Gigabit Managed Industrial Ethernet Switches

Modern Design

New Graphical UI

Robust Feature Set

13 Models



Durable Design for Industrial Applications

Designed to provide years of reliable operation in harsh industrial applications

- Compact metal enclosure
- Wide operating temperature range from -40°C to 85°C (model dependent)
- Redundant power inputs (10-49 VDC)
- Vibration: 5Hz to 200Hz, 15g, Triaxial; IEC 68-2-6: operational; bulkhead mounted
- Shock: 200g, 10ms, Triaxial; IEC 68-2-27: non-operational; bulkhead mounted
- Fast boot (traffic passes <20 seconds)
- Configurable alarm contact
- Configurable bi-color fault status LED
- LED port status indicators
- Reverse polarity protection
- ESD and surge protection

Packaged Solutions

- Combine Vendor Solutions
- Work Better Together
- Emerson Software Solutions
- Banner Engineering Critical Wireless Sensors



Remote Monitoring Solutions

RMS100



Protocol Conversion

Simple Protocol Conversion

RMS200



HMI Solutions

Simple remote monitoring with or without direct screen connection

RMS1000



Solutions with Sensors

Add the ability to monitor critical assets anytime anywhere

Solutions with Sensors

Same Protocol converter

Same HMI Capabilities

Add wireless sensors

- Critical Asset Monitor
 - Temp, Vibration, current
- Tank Level
- Pressure
- Temp and Humidity



Box Components

- 1 Industrial grade Edge Gateway / IoT Device running on a Quad-Core Cortex-A72 processor
 - Enabling our Linux environment to host Emerson Movicon.next IO Drivers and HMI and our GE Historian Collector

Trusted Industry Components

Our remote monitoring solution detects, collects, stores, and alerts you on how your equipment is operating

REMOTE
MONITORING
SOLUTION

SENSORS

Q45VA

The Q45VA all-in-one vibration and temperature sensor and wireless node monitors the health and performance of motors, pumps, and similar equipment with rotating motion; mounting kit with magnetic and non-magnetic brackets available

Q45DT

The Q45DT all-in-one wireless dual thermistor node measures two separate thermistors for air- and liquid-handling applications

Q45CT

The Q45CT all-in-one current transformer and wireless node measures current draw, helping to reveal issues with critical motor performance

Q45UA

The Q45UA all-in-one ultrasonic sensor and wireless node monitors the level or position of fluid or dry assets in tanks, totes, and containers

Q45PS

The Q45PS all-in-one pressure sensor and wireless node measures air, gas, and fluid pressure of systems and equipment

Thank you

QUESTIONS?



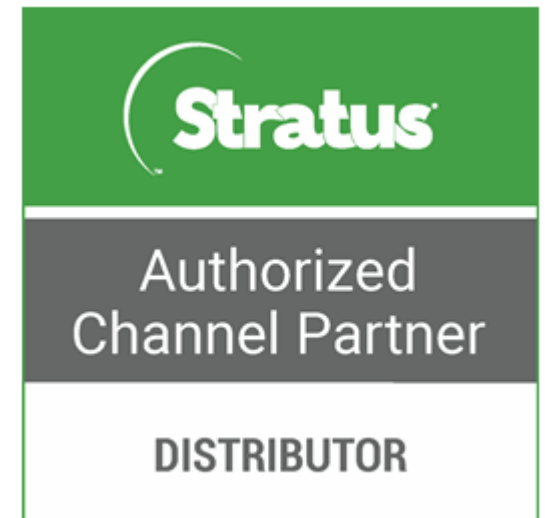
Stratus

Fault Tolerant Computing Power at all levels

On Machine

At the Edge

In the server room



NT5000 Available Models

13 Models: 6, 8, 10, 16 and 18 Port Configurations

MODEL	10/100/1000BASE T RJ45 PORTS	DUAL MODE (100/1000BASE) SFP PORTS	100BASE FIBER PORTS	1000BASE FIBER PORTS
NT5006	6			
NT5006-DM2	4	2		
NT5008	8			
NT5008-DM2	6	2		
NT5008-FX2	6		2	
NT5008-GX2	6			2
NT5010-DM2	8	2		
NT5010-FX2	8		2	
NT5010-GX2	8			2
NT5016	16			
NT5018-DM2	16	2		
NT5018-FX2	16		2	
NT5018-GX2	16			2

Easy VLAN and N-Ring Configuration

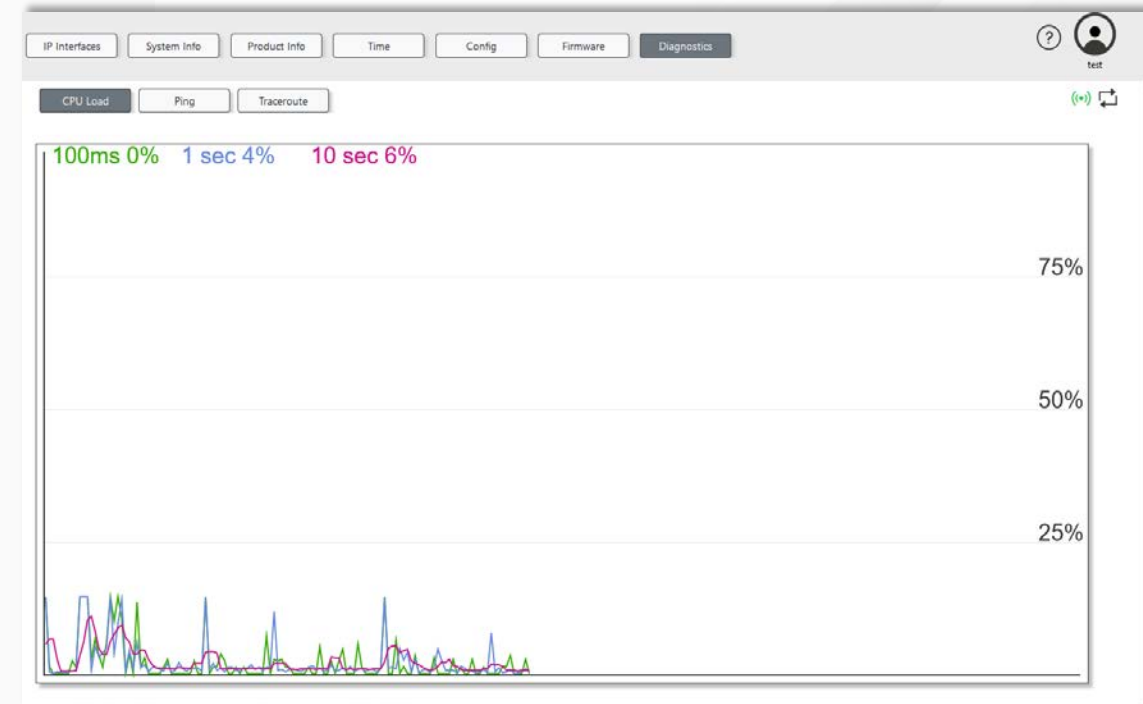
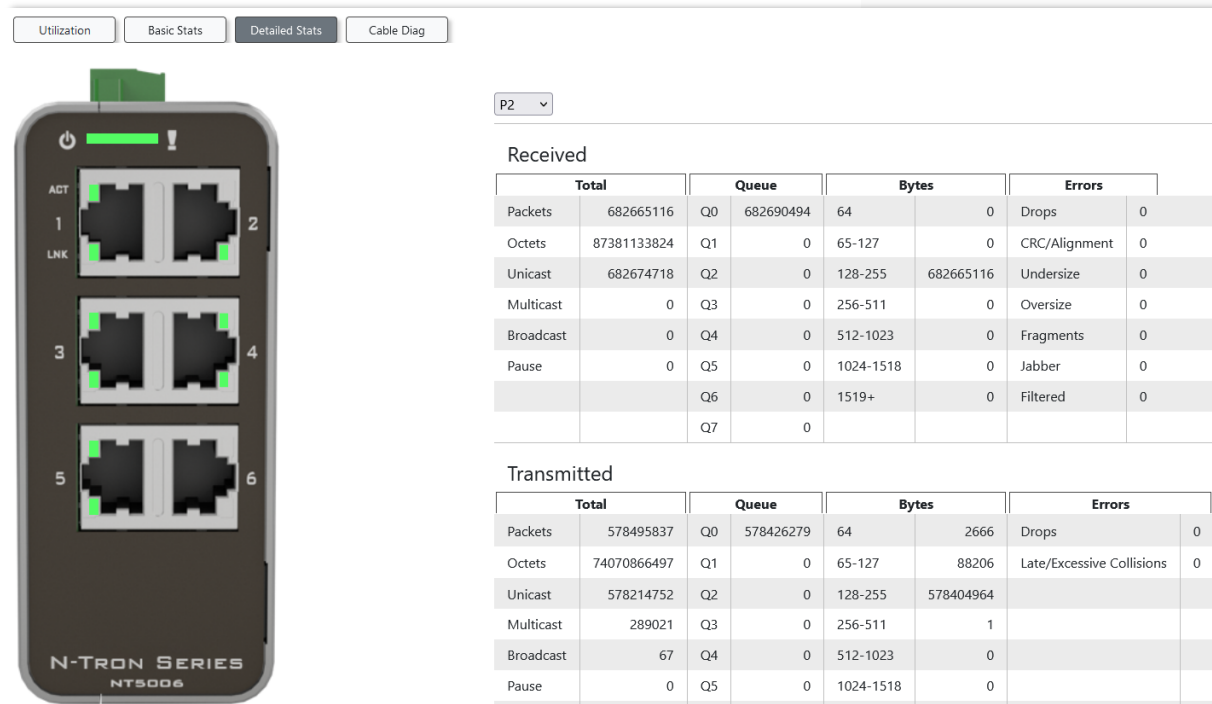
- VLAN configuration is easier than ever with a graphical display of VLAN port and tag configuration
- N-Ring auto-member configuration is as simple as connecting cables to the NT5000's pre-configured N-Ring ports

VLAN			Ports									
ID	Name		P1	P2	P3	P4	P5	P6	P7	P8	GX1	GX2
☐	1	default	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	10	VLAN0010	☐	☐	☒	☒	☐	☐	☐	☐	☐	☐
☐	20	ProductionFloor	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐
☒	30	Accounting	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Legend:
☐ Untagged
☒ Tagged
☐ Not Present

Graphical Interface

Diagnostics



Traffic Management

- Auto-IGMP
- QoS

IGMP

QoS

Filters

Groups

Snooping

VLAN Config

Port Statu

Enabled

☒

Leave Proxy Enabled

☐

Proxy Enabled

☐

Unregistered MC Flooding

☒

Router Mode

Auto

Port	Router Port	Fast Leave	rFilter	Throttling
*	☐	☐	☐	Unlimited
P1	☐	☐	☐	Unlimited
P2	☐	☐	☐	Unlimited
P3	☐	☐	☐	Unlimited

RED LION

Dashboard

System

Alarms

Ports and VLANs

Redundancy

Security

Remote Management

Traffic Management

Model: NT5010-GX2

FW: 1.1.3

IGMP

QoS

Filters

Statistics

Classification

Port Policing

Storm Policing

Ingress

Port	CoS	DPL	PCP	DEI	Tag Class
P1	0	0	0	0	Disabled
P2	0	0	0	0	Disabled
P3	0	0	0	0	Disabled
P4	0	0	0	0	Disabled
P5	0	0	0	0	Disabled
P6	0	0	0	0	Disabled
P7	0	0	0	0	Disabled
P8	0	0	0	0	Disabled
GX1	0	0	0	0	Disabled
GX2	0	0	0	0	Disabled

QoS Ingress Port Tag Classification P1

Tag Classification

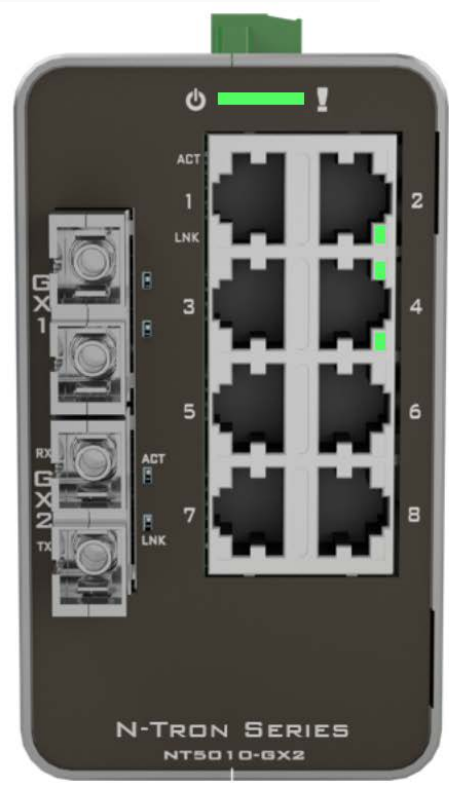
Disabled

PCP	DEI	CoS	DPL
0	0	1	0
0	1	1	1
1	0	0	0
1	1	0	1
2	0	2	0
2	1	2	1
3	0	3	0
3	1	3	1
4	0	4	0
4	1	4	1
5	0	5	0
5	1	5	1
6	0	6	0
6	1	6	1
7	0	7	0
7	1	7	1

Save

Alarm Sources

- Power
- Port link down
- Port usage
- Configuration issues



Contact Relay Status	
Contact Relay Operation	Close On Alarm ▾

Alarm	Alerts			SysLog	
	Enable	LED	Contact Relay	Event Log	Event Severity
Power DC V1	☐	☐	☐	☒	Warning ▾
Power DC V2	☐	☐	☐	☒	Warning ▾
Port Link Down	☐	☐	☐	☒	Warning ▾
Port Usage	☒	☒	☒	☒	Warning ▾
Configuration	☒	☒	☒	☒	Warning ▾

Port	Usage Alarm (%)	
	Low	High
*	0	100
P1	0	100
P2	0	100
P3	0	100
P4	0	100
P5	0	100

Alarm Notifications

- Alarm icon
- Dashboard
- Alarm page
- Syslog
- Power LED
- Relay

The screenshot displays the Red Lion N-Tron Series NT5008 web interface. The left sidebar contains navigation icons for Dashboard, System, Alarms (highlighted with a red box and a bell icon with a red '4'), Ports and VLANs, Redundancy, Security, and Remote Management. The main content area has tabs for Alarms, Syslog, Active, History, Config, and Port Alarms. The 'Alarms' tab is active, showing a 'Contact Relay Status' section with a red relay icon (highlighted with a yellow box) and a 'Contact Relay Operation' dropdown set to 'Close On Alarm'. Below this is a table with columns for Alarm, Enable, LED, Contact Relay, Event Log, and Event Severity. The table lists several alarms, all with 'Warning' severity. A central image of the NT5008 device shows port status indicators (1, 2, 3, 4) with red exclamation marks, indicating active alarms.

Alarm	Enable	LED	Contact Relay	Event Log	Event Severity
Power DC V1	☐	☐	☐	☒	Warning
Power DC V2	☐	☐	☐	☒	Warning
Port Link Down	☒	☐	☐	☒	Warning
Port Usage	☒	☒	☒	☒	Warning
Configuration	☒	☒	☒	☒	Warning

Model: NT5008
FW: 1.1.3
MAC: 00:07:AF:57:C2:20
S/N: mbl20221024



Wrap Up

A large commercial airplane is shown from a low-angle perspective, flying towards the right. The sky is a vibrant orange and yellow, suggesting a sunset or sunrise. The airplane's wings and tail are silhouetted against the bright light, with some internal lights visible through the fuselage windows.

Aspirations

WHAT IS YOUR BIG IDEA FOR THE COMING YEAR?