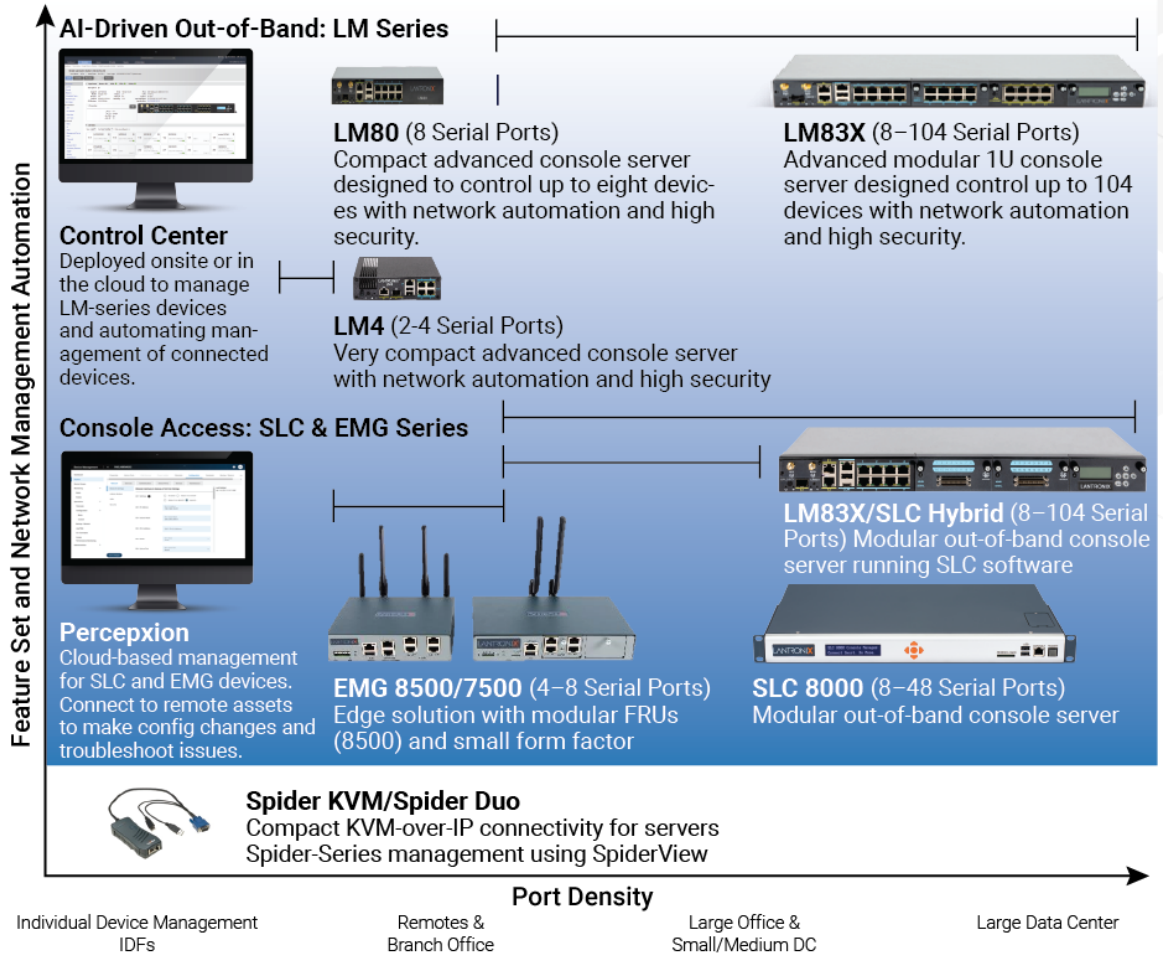
LANTRONIX®

Out-of-Band Management Portfolio

Why Lantronix for Out-of-Band?

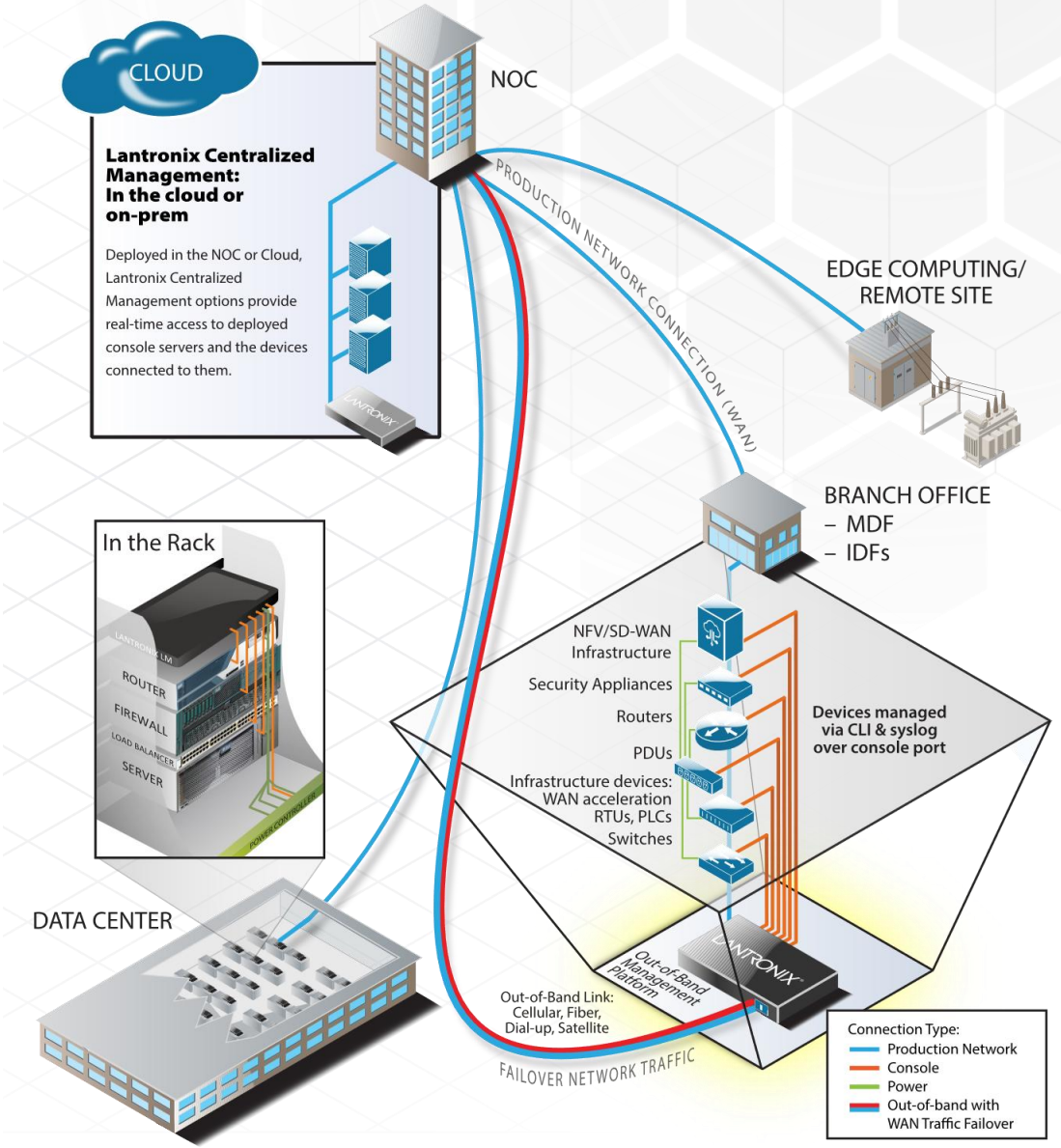
- Lantronix has a **strong out-of-band portfolio:**
  - **AI-Driven Out-of-Band Management**
    The LM Series
  - **Remote Access Console Servers**
    SLC & EMG Series
  - **Compact KVM-Over-IP**
    Spider Series
- Lantronix provides a **full enterprise solution** including Level Technical Services & Support with deep engineering experience in enterprise network management



The LM-Series: AI-Driven Out-of-Band Management

- What is “AI-Driven OOB Management?”
  - A patented expert system that uses rules-based AI to simplify out-of-band management plus recover and mitigate network infrastructure securely, reliably, and automatically

- The LM-Series deploys in the rack with network infrastructure
  - Automated IPSLA tests provide data for triage and isolation of issues in the network within seconds
  - The LM-Series can alarm, but also take automated recovery actions just like an admin. Some examples:
    - Clearing an interface
    - Cycling Power
    - Even recognizing and recovering a router in ROMmon state
  - All automatically, and often before traditional tools even report a problem



The Benefits of OOB Automation: Dramatically Improve Service Levels

THE TRADITIONAL ROAD TO RECOVERY

EVENT

UNKNOWN	IDENTIFICATION	ISOLATION	RESOLUTION
Users start experiencing problems.	Houston, we have a problem.	Where is the problem? Whose problem is it?	How do we fix the problem? Did we fix the problem?

RECOVERY

WITH STANDARD NSM TOOLS

SLA Timer Starts

UNKNOWN	IDENTIFICATION	ISOLATION	RESOLUTION
0:00 min	*5:00*	*10:00*	*15:00*

hours or days

DETECTION THROUGH POLLING AND VERIFICATION

ADMINISTRATOR BEGINS FAULT ISOLATION AND RESOLUTIONS ATTEMPT, OR PLACES SERVICE CALL

TECH ARRIVES ON-SITE

WITH LANTRONIX AI-DRIVEN OOB MANAGEMENT

UNKNOWN	IDENTIFICATION	ISOLATION	RESOLUTION
0:00 min	*0:30*		*5:00*

PROBLEM DETECTED FROM LOCAL POLLING EVERY 30 SEC.

L1 & L2 RUN BOOK ACTIONS AUTOMATED, NOC NOTIFIED, DEVICE RECOVERED OR ESCALATED

COMPLIANCE	WITH LANTRONIX
With Standard NSM: days or weeks, compliance is missing or requires manual research	At all times, all actions stored for compliance reporting – even what happened when the network was down.

The LM-Series: AI-Driven Out-of-Band Management

OUT-OF-BAND MANAGEMENT HARDWARE / LM SOFTWARE

Local Manager
LM83X

→ FULL SPECS IN PRODUCT BRIEF

- 8-104 Serial Ports
- Modular design for RJ-45 serial, dedicated Ethernet, LCD
- Modular OOB options: cellular, dial-up, fiber, RS232, satellite
- Dual AC or DC Power
- LMOS

Local Manager
LM80

→ FULL SPECS IN PRODUCT BRIEF

- 8 Serial Ports
- Modular OOB options: cellular, dial-up, fiber, RS232, satellite
- LMOS

Local Manager
LM4

→ FULL SPECS IN PRODUCT BRIEF

- 2-4 Serial Ports
- LMOS

MANAGEMENT SOFTWARE

LANTRONIX® Control Center

- Centralized point of control for Advanced OOB devices and **the managed devices connected to them**
- Web-based GUI for real-time data to manage, configure, and control network devices and servers + define custom automated management actions
- Compliance reporting and integration with centralized management tools

→ FULL SPECS IN PRODUCT BRIEF

Why Do Customers Use AI-Driven OOB?

The LM-Series provides an automated virtual presence onsite with 24/7 access both in-band and out-of-band.

Ask the Network Admin

- Monitor, diagnose AND TAKE ACTION with automated capabilities
  - Resolve problems in minutes vs. hours or days, automate the tedious and error prone
- Manage network devices WITHOUT using the network
  - Polls intensively across the console; provides information proactively
  - Virtual crash cart with local data storage

Ask the IT Director

- Reduce OPEX & truck rolls and increase uptime & visibility
- Improve Service Levels
  - Detect problems faster, resolve many immediately and automatically
- Improve Security and Compliance
- Decrease “mean-time-to-innocence”; remove finger pointing
  - Audit trail due to logging of all actions

Console Server Competitive Comparison

	Lantronix LM-Series	Lantronix SLC & EMG Series	Opengear CM, OM, IM Series	ZPE Systems Nodegrid Serial Consoles
Physical Size	Small, half-rack width and 1-RU devices	Small, half-rack width and 1-RU devices	Small, half-rack width, 1-RU & 2-RU devices for higher port counts	1-RU devices
Serial Console Ports	2–104-ports	4–104-ports	4–96-ports	16–96-ports
Modular Expandability	Expansion cards and modem options	Expansion cards on SLC & EMG, modem options on EMG	None	None
Centralized Management Software	Control Center	Percepxion	Lighthouse	Nodegrid Manager
OOB Connectivity	Cellular v.92 dial-up Fiber LEO Satellite (Iridium)	Cellular v.92 dial-up Fiber	Cellular v.92 dial-up Fiber	Cellular Fiber
Zero Touch Provisioning	Yes	Yes	Yes	Yes

Different Approaches to Console Servers

- Lantronix
  - All modular solutions for maximum flexibility
  - **LM-Series** | Patented AI-driven out-of-band management automation at the network's edge; highly secure enterprise solution
  - **SLC & EMG Series** | Secure remote access with scripting functionality
  - Deep technical support with Level Technical Services
- Opengear
  - Fixed devices with scripting; newer devices support Docker
- ZPE Systems
  - Focus on hybrid & SD-WAN solutions combining console servers with support for VMs and Docker

Out-of-Band Management: Secure Remote Access

REMOTE OUT-OF-BAND ACCESS

Secure Console Manager
SLC™ 8000

- 8, 16, 32, 48 Serial Ports
- Modular design for RJ-45 serial, USB serial, Ethernet
- Dual AC or DC Power
- Dial-up modem
- ITM OS

→ FULL SPECS IN PRODUCT BRIEF

Secure Console Manager
LM83X/SLC Hybrid

- 8 to 104 Serial Ports
- Modular design for RJ-45 serial
- Internal cellular modem options
- Dual AC or DC Power
- ITM OS

→ FULL SPECS IN PRODUCT BRIEF

Large & Small Form Factor Branch/Remote Site Manager
EMG™ 7500, 8500

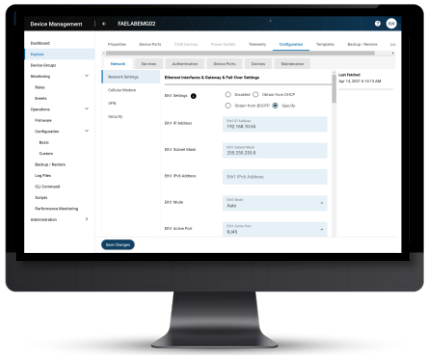
- 7500: 4 or 8 Serial Ports; RJ-45, USB, combo
- 8500: Configurable 4-8 Serial Ports, RJ-45, USB, combo
- Wi-Fi
- Cellular modem
- ITM OS

→ FULL SPECS IN PRODUCT BRIEF

MANAGEMENT SOFTWARE

LANTRONIX® PERCEPXION

→ FULL SPECS ONLINE



- Zero-touch deployment
- Remotely monitor, manage, and troubleshoot your IoT and REM assets
- Access status data and log information to analyze data trends to improve resiliency and efficiency

LANTRONIX®

The Lantronix Spider KVM Solution

- Secure KVM server management over an IP network:
  - Secure access and management of geographically distributed IT equipment
  - Flexible, scalable, and affordable CAT-5-based remote access
  - Enterprise-class device management with Percepxion Cloud Management Platform
  - Unique, “Zero-U” footprint: rack mount saves space and cabling headaches
- Deployed in data centers, corporate or university campuses, large office buildings, branch offices, manufacturing facilities, and test & development labs
- Two versions, both with SKUs to support USB or PS2 keyboard/mouse:

SPIDER DUO KVM

For remote and local device access, with optional power control

SLSLP400USB-02
SLSLP400PS2-02

SPIDER KVM

For remote device access

SLS200USB0-02
SLS200USBX0-02 (58”)
SLS200PS20-02
SLS200PS2X0-02 (58”)

Quick Competitive Comparison

Feature	Lantronix Spider KVM	Lantronix SpiderDuo KVM	Raritan DKX4-101	Aten CN8000A	TinyPilot Voyager 2a
Enterprise-Class Management Software	Percepxion – Cloud SpiderView - Windows	Percepxion – Cloud SpiderView - Windows	CommandCenter	CC2000	No
Virtual Media	Yes	Yes	Yes	Yes	Yes
Power Control	No	Yes, with optional PCU	DC-only with hardwired terminal block	No	No
Max Resolution	1920x1080	1920x1080	3840x2160	1920x1200	1920x1080
Concurrent Users	8	8	8	32	1
Security	AES, SSL, TLS 1.3 Encryption; External Auth (LDAP, RADIUS, Active Directory)	AES, SSL, TLS 1.3 Encryption; External Auth (LDAP, RADIUS, Active Directory)	AES Encryption; External Auth (LDAP, RADIUS, Active Directory)	External Auth (LDAP, RADIUS, LDAPS, Active Directory) TLS 1.2	LAN-use only or over the Internet with third party consumer software
Local Access of KVM	No	Yes	No	No	No
Rack Mountable	Zero-U Mountable	Zero-U Mountable	Desktop Box	Desktop Box	Desktop Box
Cooling Fan	No	No	No	No	Yes
NDAA Complaint	Yes	Yes	Not listed	Not listed	Not listed
Cost (MSRP)	$517	$559	$798	$873	$415

Lantronix Out-of-Band Management

Needed from Wall Street to Main Street

FEDERAL	EDUCATION	ENERGY	ENTERPRISE	FINANCIAL	HEALTHCARE	TELECOM	SATELLITE	STATE & LOCAL
VA	Los Angeles Unified School District	ercot	Republic National Distributing Company	citigroup	Merck	verizon	RigNet	Office of the Attorney General, California Department of Justice
U.S. Army		Enbridge		State Street	AmerisourceBergen	vodafone	speedcast	
U.S. Navy	The University of Oklahoma Health Sciences Center		RGA		Anthem BlueCross			Great Seal of the State of Missouri
U.S. Air Force	SUNY Empire State College	Vistra Energy	Sugar Foods Corporation	American Express	Stanford Health Care	TELUS	orange Business Services	
DHA Defense Health Agency	University of California Office of the President	MODEC	IN-Q-TEL	Bank of America	Cerner		Baker Hughes	
US Army Corps of Engineers	NYU	EXCO			MemorialCare Health System Excellence in Health Care	Singtel	Global Eagle	City of Los Angeles Founded 1781
Social Security Administration	Ucla	Stone Energy	Samsung	Capital One	Delta Dental		INGRAM	
NCIS	University of Cambridge	REC Rayburn Electric Cooperative	Berkshire Hathaway Homestate Companies	PIMCO	BlueCross BlueShield		OCEANEERING	cda
				Ameriprise Financial	The Brooklyn Hospital Center			
					REGENERON			

LANTRONIX
Out-of-Band
EVERYWHERE
Thanks!

LANTRONIX®

Thank You!

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