



# SuperBlade<sup>®</sup>

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Computex 2018



We Keep IT Green<sup>™</sup>



# 4U / 6U / 8U SKYLAKE-SP Blade Servers

## 4U (2 Sockets)

- ❑ Lowest Cost X11 Servers
- ❑ Highest Density (14 in 4U)
- ❑ Best for Cloud & Data Centers



SBI-4429P-T2N

## 6U (1 Socket / 2 Sockets)

- ❑ Disaggregated Architecture for Best ROI
- ❑ 4x 25/10GbE Switches, 3TB DDR4, 2 U.2 NVMe
- ❑ Free-Air Cooling with 205W CPU



SBI-6419P-C3N/T3N  
SBI-6119P-C3N/T3N



SBI-6429P-C3N/T3N  
SBI-6129P-C3N/T3N

## 8U (2 Sockets / 4 Sockets)

- ❑ Highest Performance & Density (20 DP/10MP in 8U)
- ❑ 25GbE, 100G IB or OPASwitches, 6TB DDR4, 8 U.2 NVMe
- ❑ Free Air Cooling with 205W CPU



SBI-4129P-C2N/T3N



SBI-8149P-C4N/T8N





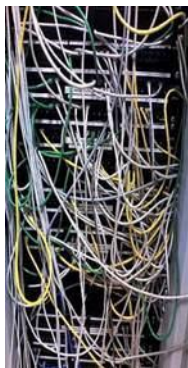
# Resource Saving Servers: Save Money & the Earth

- 60% Space Savings
- 50% Energy Savings
- e-Waste Savings

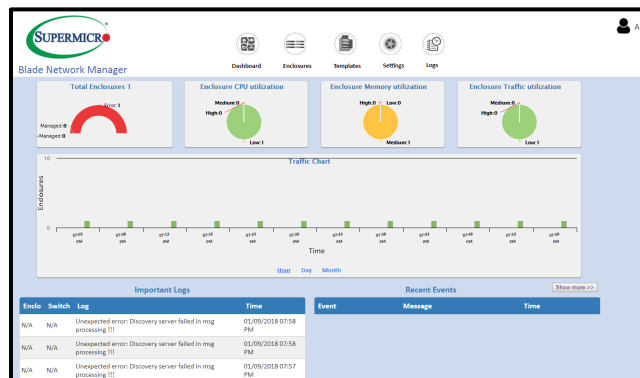


Learn more at [www.supermicro.com/GreenIT](http://www.supermicro.com/GreenIT)

95% Cable Reduction over 1U Servers  
Easier to Deploy & Maintain, Better Cooling



Automatic Switch Provisioning – 80% Faster with  
New Blade Switch Management Software



# 8U SuperBlade®

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# 8U SuperBlade®

- Highest Performance - 205W Intel® Xeon® Scalable processors
- Highest Density - 10x 4-socket (48 DIMM + 14 NVMe) blade servers
- Highest Density - 20x 2-socket (16 DIMM + 7 NVMe) blade servers
- Fastest Switches - 100G EDR IB, Intel Omni-Path, 25GbE switches
- Redundant (N+1/N+N) Platinum (96% efficiency) AC power supplies
- Redundant (N+1/N+N) DC power supplies
- Battery Backup Power (BBP) modules
- Free Air Cooling
- Supermicro RSD and Redfish RESTful APIs

3.0



# 8U SuperBlade® Servers

## 2-Socket Blade Servers



**SBI-4129P-C2N**

**NVMe/SAS3**



**SBI-4129P-T3N**

**NVMe/SATA3**



**100G Omni-Path  
AOC-OPH-WFR**

## 4-Socket Blade Servers



**SBI-8149P-C4N**

**NVMe/SAS3**



**SBI-8149P-T8N**

**NVMe/SATA3**



**100G EDR IB  
AOC-IBH-X4ES**



**25GbE  
AOC-B25G-X4D**

# Diversity of Datacenter Workloads

## X11 SuperBlade





# 2-Socket Blade Servers

## SBI-4129P-C2N (2 Drives)

- 2 NVMe/SAS3/SATA3



## SBI-4129P-T3N (3 Drives)

- 2 NVMe + 1 SATA3
- 3 SATA3





# 4-Socket Blade Servers

## SBI-8149P-T8N (8 Drives)

- **8x NVMe** or 4x SATA3



## SBI-8149P-C4N (4 Drives)

- **4x NVMe** or 4x SAS3/SATA3



Mezzanine Card Options

- 100G EDR InfiniBand
- 100G Intel Omni-Path
- 25G Ethernet

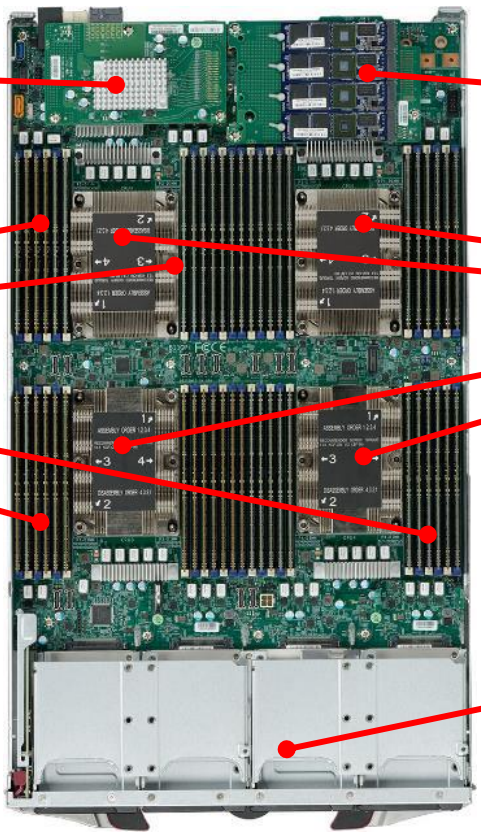
Mezzanine Card with 4 M.2 NVMe

48 DIMM Slots  
Up to 6TB

4 Intel Xeon Scalable  
processors



- 4 hot-plug U.2 NVMe (C4N SKU)
- 8 hot-plug U.2 NVMe (T8N SKU)



Certified  
AppliancesCertified  
Enterprise  
StorageCertified  
IaaS  
PlatformsSupported  
Intel®  
SystemsSupported  
Power®  
Systems

Search Appliance or Ke



## Find Supported Intel® Systems

## Narrow your Search

- ☒ Vendor
- ☐ Cisco Systems Inc.
  - ☐ Dell
  - ☐ Fujitsu Technology Solutions
  - ☐ Hewlett Packard Enterprise
  - ☐ Hitachi
  - ☐ Huawei Technologies Co. Ltd
  - ☐ Lenovo
  - ☐ NEC Corporation
  - ☒ Super Micro Computer Inc.
  - ☐ VCE

- ☒ CPU Type

## Search Results

as of 2018-04-04

In addition to certified appliances SAP also supports the following configurations to be used with SAP HANA (please see Details page).

The hardware was tested by the hardware partner with SAP LinuxLab.

2 models found.

[Compare](#)

Super Micro Computer Inc., Intel Skylake SP

[clear selection](#)

| Vendor                      | Model         | CPU Type         | Valid for                                     |
|-----------------------------|---------------|------------------|-----------------------------------------------|
| Super Micro Computer Inc... | 2049U-TR4     | Intel Skylake SP | SAP HANA 1.0 SPS 12, SAP HANA 2.0 SPS 00-02 ✓ |
| Super Micro Computer Inc... | SBI-8149P-C4N | Intel Skylake SP | SAP HANA 1.0 SPS 12, SAP HANA 2.0 SPS 00-02 ✓ |

# 6U SuperBlade®

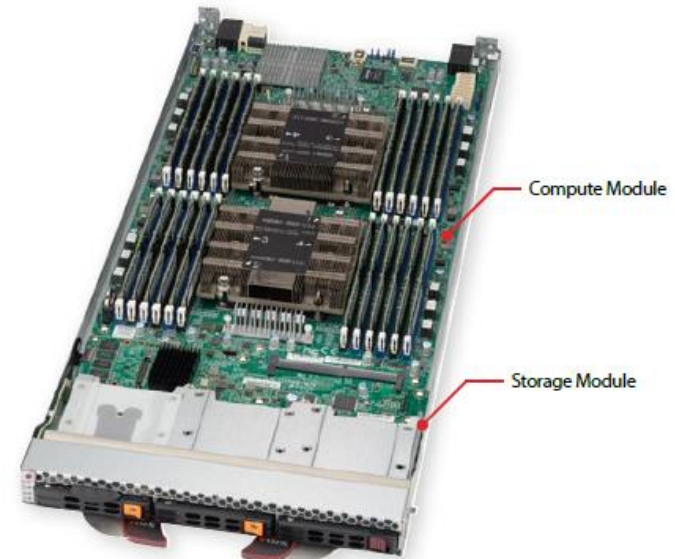
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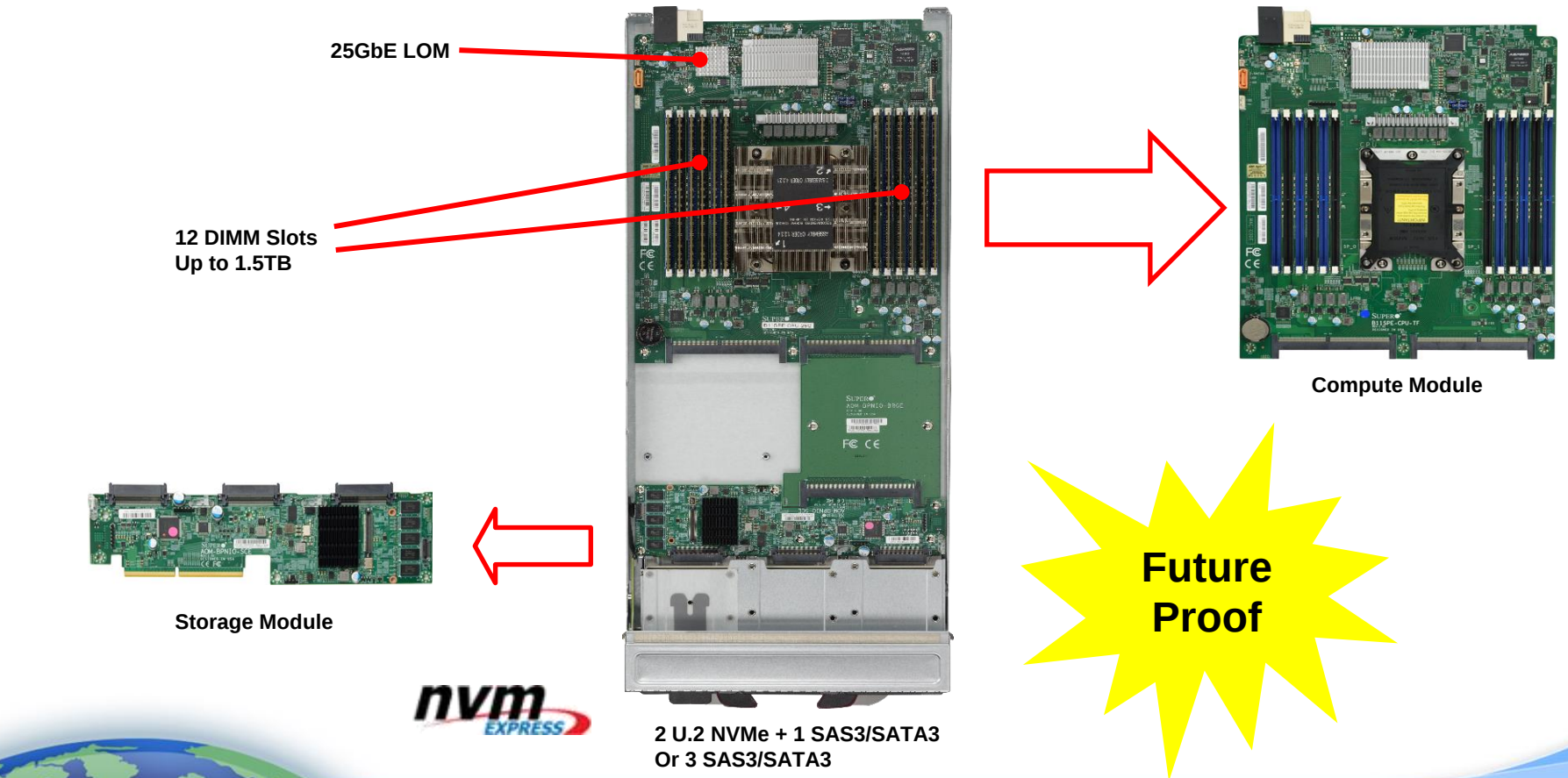
# 6U SuperBlade – Disaggregated Architecture

- 6U 10 blade servers or 14 blade servers
- Up to 98x 1-socket or 2-socket blade servers per 42U rack
- 24 DIMMs (2-socket) & 12 DIMMs (1-socket)
- 205W Intel Xeon Scalable processor support
- Up to 4x 25/10GbE Switches

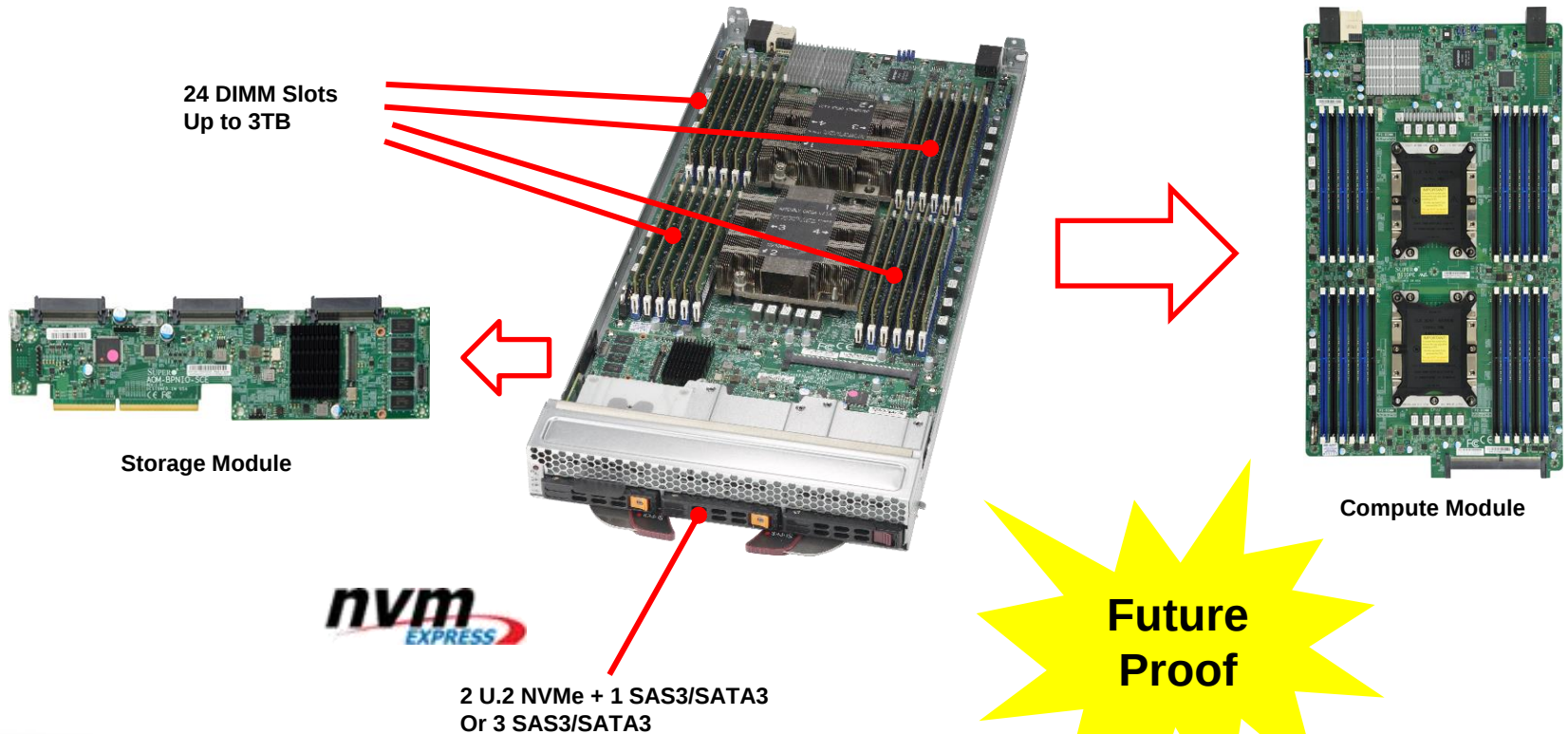


**Supermicro Disaggregated Server Design**  
Enabling the independent upgrades of the compute modules

# SBI-6119P-C3N (1-Socket)



# SBI-6129P-C3N (2-Socket)



# 4U SuperBlade®

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# 4U SuperBlade®



**SBE-414E Series**

- 14x 2-socket blades
- 2x 10G switches
- 1x CMM
- Redundant AC or DC power supplies
- BBP options
- Free Air Cooling



**SBI-4429P-T2N**

- 2x Intel Xeon SP
- 16x DIMM slots
- 2x hot-plug U.2 NVMe or SATA3
- 1x M.2 NVMe
- 2x 10GbE

**Lowest Initial HW Acquisition Cost**  
**Highest Density – 140x 2S Blade Servers per 42U Rack**

# Networking

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# 25G/100G Total Solution



25G/100G Ethernet Switch  
SBM-25G-100



100G EDR InfiniBand Switch  
SBM-IBS-E3616



100G Omni-Path Switch  
SBM-OPA-4020



# Why 25G/100G?

The New Industry standard to scale Data Center for cloud

A 15% premium will future-proof the datacenter

**2.5x Network Performance**  
**2.5x Performance per Watt**  
**100%+ Better Dollar per Gig**  
**50% Higher Port Density**



## Table of Contents

- 2 The Benefits of 25Gb Ethernet
  - 25Gb Workloads
  - Key 25Gb Features
  - 25Gb Compatibility and Transition to 100G
- 4 The Economics of 25Gb Ethernet
  - SFP+ vs SFP28
- 5 Supermicro 25Gb Solutions
  - Toll Switches
  - New Generation RU/OU SuperBlade Solutions
  - 25Gb Mezzanine Card for SuperBlade
  - Supermicro 25Gb solutions - NICs
- 7 Supermicro Systems Optimized for 25GbE

## Whitepaper

### 25Gb Ethernet: The Path to 100GbE with Optimal TCO for the Enterprise

Boasting a 2.5x performance increase, 100% better cost per gigabit, and optimized power consumption, 25Gb Ethernet is the new networking standard for optimal TCO.

## Executive Summary

The relentless improvements of technology continue to drive new opportunities for leading companies to deliver new and better goods and services. 25Gb Ethernet networking is but the latest example of a new technology whose time has come. Like the transition from 1GbE to 10GbE, 25GbE has turned the corner on positive TCO. No less compelling is the increased performance, empowering a new generation of innovation for products and services. And the transition has happened much more quickly than ever before.

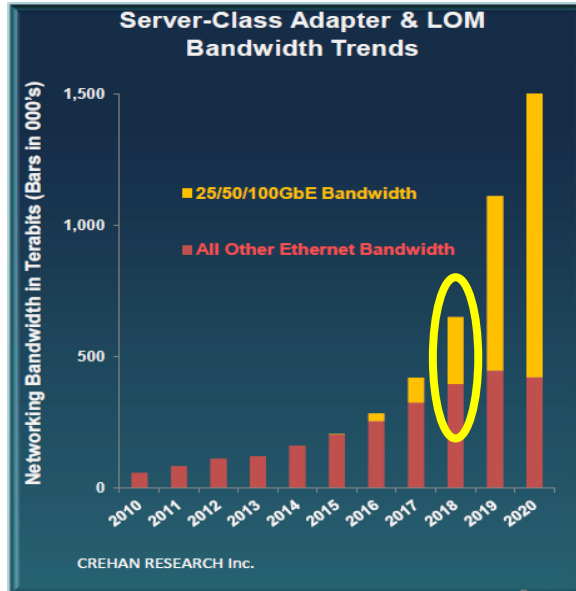
Supermicro offers total server and storage solutions leveraging 25Gb Ethernet. With a comprehensive portfolio of NIC and switch products based on Intel, Mellanox and Broadcom silicon in multiple form factors (PCI-E, SFP, Ultra, MicroSFP and more), the Supermicro solutions can be configured for optimal cost and performance. They are 100% compatible and have gone through the highest testing protocols to ensure trouble-free operation. They support advanced features, not offered by other vendors including NC-SI, Asset Management, thermal sensor monitoring.

|                        |                         |                          |                        |
|------------------------|-------------------------|--------------------------|------------------------|
| <b>2.5x</b>            | <b>2.5x</b>             | <b>100%+</b>             | <b>50%</b>             |
| Network<br>Performance | Performance<br>per Watt | Better Dollar<br>per Gig | Higher Port<br>Density |

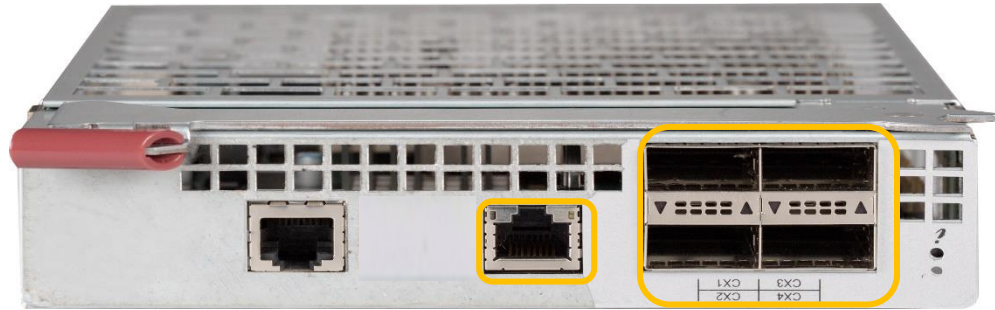
Super Micro Computer, Inc.  
 980 Rock Avenue  
 San Jose, CA 95131 USA  
[www.supermicro.com](http://www.supermicro.com)



# 25G Blade Switch – SBM-25G-100



20x 25G downlinks



1G

4xQSFP28 (40/100G)  
- 40G split to 4x10G  
- 100G split to 4x25G



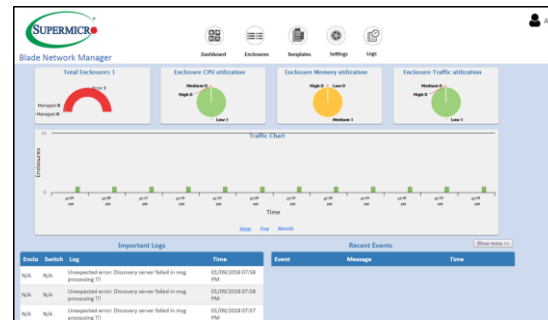
# 25G/100G Total Solution



AOC-B25G-X4D (8U)  
AOC-B25G-6X4D (6U)



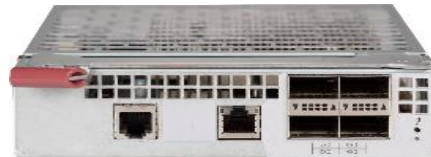
SBM-25G-100



Blade Network Manager



# Features of 25G Switch and Mezzanine cards



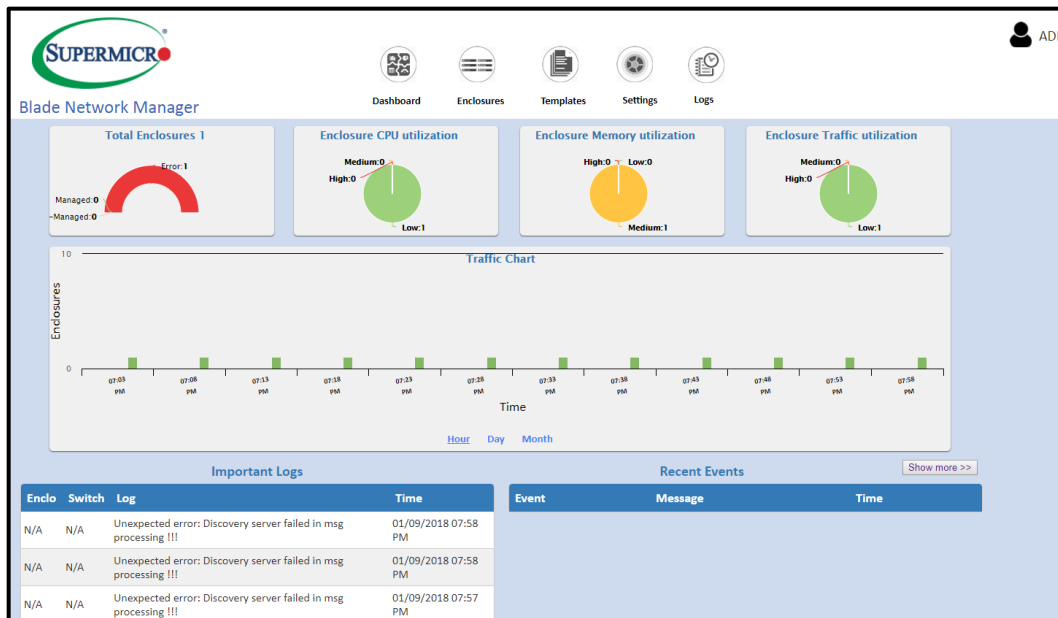
- Mellanox ConnectX-4 LX
- Latency 0.71 us
- Power 7.4 W
- Supports RDMA/RoCE
- Supports DPDK
- 75 Million packet per second
- Virtualization 32xPFs; 254xVFs
- Packet pacing
- Flow steering
- Ethernet offloads (HDS, RSS, TSS, LRO, LSOv2)

- Standard based layer 2 feature sets:
- STP, RSTP, MST
- VLAN & VLAN trunking
- LACP 25G bundling
- M-LAG for 100G uplinks
- Auto speed for 10/25G down links
- Multicast IGMP support
- Web, CLI and SNMP based management
- Centralized management with BNM



# Blade Network Manager

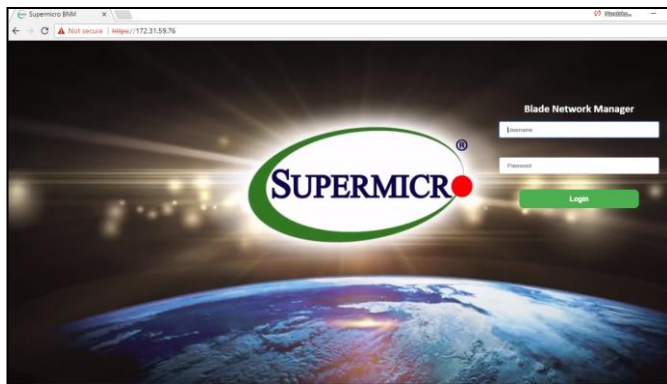
## SFT-SMCI-BNM



- Automation tool to simplify the blade network provisioning
- Single pane of glass to scale 100s to 1000 enclosures
- Analytic engine for network insight (logs and monitoring)



# BNM vs. GUI/CLI



## Provisioning:

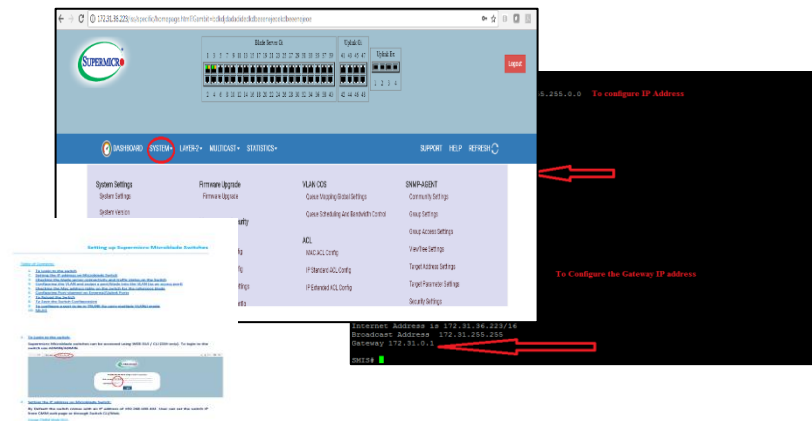
- 20 clicks for first enclosure; 5 clicks for additional enclosure ideal for enterprise and cloud

## Network Expertise:

- Low

## Scaling:

- 100s today and 1000s planned



## Provisioning:

- Follow 26 pages of the document (100+ commands) for each enclosure and is prone to manual error

## Network Expertise:

- High

## Scaling:

- One enclosure at a time



# Summary

- Broadest portfolio of Intel Xeon SP based server solutions
- Easier to deploy, manage, and maintain
- Lower initial hardware acquisition costs
- Lower TCO

