

Benefits

Infrastructure Monitoring Benefits

Gain Extensive Insights

- Gain a single view of power resource and use across your facility and equipment
- Monitor the power chain for better situational awareness of device power
- Use power chain insights to plan proactive maintenance
- Harness historical and current data to forecast capacity, deployments, and budgets
- Improve business continuity with better documentation

Use Granular Controls

- Monitor and optimize cooling to improve device performance and efficiency and costs
- Use 3D visualization heat maps to identify and respond to thermal issues
- Gain instant alerts via environmental sensors to respond swiftly to issues
- Track thermal improvements over time and document results

Trellis™ Infrastructure Monitoring provides unparalleled insights into your data center performance. Use these metrics to optimize operational performance, reduce energy waste and decrease CapEx and OpEx costs.

Data centers power modern business. Organizations are adopting hybrid cloud models and managing on-premises operations to meet their innovation, business growth, and data privacy and security obligations, among other objectives. Recently, the global move to remote and distributed work models has also placed increasing stress on data centers.

All of these trends combine to make the role of the data center more important than ever, whether they are on-premises or co-located. Your data center employees know that they must ensure uninterrupted power to key assets and monitor and manage them effectively to drive peak operational performance.

To ensure 24/7 availability of company operations, data center managers need to understand data center power system design and interdependencies. With this information, they can maintain optimal equipment operations, improve operational effectiveness and reduce costs.

Trellis Infrastructure Monitoring offers real-time visibility into data center performance, a single pane of glass to manage operations and automation to simplify and speed key processes.

Gain holistic insights into your devices: *Trellis* Infrastructure Monitoring provides a comprehensive view of the data center power system from the utility entrance down to rack power distribution. It also enables data center managers to view the operating state of their devices and their dependencies in a single view. This allows users to make fast, informed decisions in response to alarms or changing data center conditions.

Improve data center performance: With monitoring, reporting and alarming, you can improve management of your entire mechanical chain from chillers and cooling towers to CRAC and CRAH cooling units. The *Trellis*™ platform supports a wide range of sensors, including wireless, wired and Vertiv™ rack PDU sensors. Place sensors anywhere you need to monitor, using information to improve thermal management. Reduce stranded thermal capacity and save money on expensive floor space, new equipment and improved equipment placement planning.

Optimize energy use: Safely adjust temperatures and fan speeds from the *Trellis* platform and monitor the effects in real-time. Use this information to drive down energy usage, improve sustainability and lower your carbon footprint.

Specifications - Trellis™

Workstation Recommendations

Hardware Recommendations:

- Dual-core Intel Pentium 4 CPU at 2.8 GHz
- 8 GB RAM, LAN connection

Browsers for the Trellis™ platform user interface:

- Mozilla Firefox version 65.0.1 or higher
- Google Chrome version 72.0.2626.109 or higher
- Microsoft EDGE 42.17134.1.0 or later

Data Size Guidelines	Small	Medium	Large	Enterprise
Concurrent users	10	20	50	100
Devices	2,000	20,000	100,000	200,000
Power Connections	1,000	10,000	60,000	100,000
Data Connections	2,000	10,000	60,000	100,000
Monitored Datapoints	1,000	10,000	40,000	140,000

Front Machine

Processor	Intel® Xeon® 2.6 GHz 8M L3 cache			
CPU count	1	2	2	2
CPU cores	4	4	4	8
Memory (GB) DDR3 1333 MHz	32	32	40	44
Disk throughput	> 500 MB/s (sequential) [un-cached]			
Storage	300 GB Enterprise class			
Ethernet	> 80 MB/s	> 80 MB/s	> 80 MB/s	> 80 MB/s

Back Machine

Processor	Intel® Xeon® 2.6 GHz 8M L3 cache			
CPU count	1	2	2	2
CPU cores	4	4	4	8
Memory (GB) DDR3 1333 MHz	24	32	32	32
Disk throughput	> 500 MB/s (sequential) [noncached]			
Storage	*300 GB Enterprise class for base installation			
Ethernet	> 80 MB/s	> 80 MB/s	> 80 MB/s	> 80 MB/s

Specifications - Trellis™ Intelligence Engine

Operating System:

- Ubuntu 14.04 LTS, 18.04 LTS
- Red Hat Enterprise Linux version 7.4, 7.5, 7.6, 7.7

Trellis™ Intelligence Engine can be installed on:

- Physical Hardware
- HyperV
- ESX

Data Points/Min	10,000	50,000
Processor	Intel® Xeon® 2.4 Ghz or higher	
CPU count	2	2
Memory (GB) DDR3 1333 MHz	2	5
Disk Throughput	500 MB/s (sequential) [noncached]	
Ethernet	> 50 MB/s	> 50 MB/s
Storage (w/o local backups)	25 GB	50GB

Supported Protocols:

- SNMP v1, v2, v3
- Modbus
- BACnet
- Velocity
- Redfish
- OPC-UA