Solution Brief

virtana

Cisco Unified Computing System (UCS) Compute Observability

Virtana's Cisco UCS integration extends data fabric observability to the Cisco Unified Computing System (UCS), which combines industry-standard, x86-architecture servers with networking and storage access into a single unified system.

The integration provides singular visibility into the health, utilization, and capacity of the physical and logical components of the UCS chassis, and correlates UCS metrics with data collected from related components in the infrastructure, and to the applications running on that infrastructure.

The Virtana Cisco UCS Integration supports systems under the control of the traditional UCS Manager and UCS systems that have been migrated to Intersight Managed Mode, including UCS-X. The UCS integration can use either the legacy UCS Manager or Cisco Intersight as the collection point for UCS and UCS-X Systems.

Use Cases

Our Cisco UCS integration supports a wide range of compute observability use cases across health, utilization, performance, capacity, and other domains:

- View which UCS resources an application consumes.
- Determine if a single application is consuming an excessive number of resources and causing performance impacts on other applications.
- Detect and alert before the UCS system reaches capacity and causes a performance impact.
- Map application workloads to the underlying UCS components delivering services.
- View the end-to-end topology of the UCS components and related external resources.
- Forecast short- and long-term capacity trends.
- Receive alerts when the health or utilization of a UCS component is negatively affecting application performance.
- Detect and alert on network and physical layer errors that may impact performance and availability.
- Integrate and correlate health, utilization, and capacity metrics from the UCS domain with metrics from related interconnected infrastructure to gain a complete understanding of Application Service Delivery.

Value of the Integration

- Ensures optimal performance and availability of Cisco UCS infrastructure for business-critical applications and workloads.
- Provides predictive capacity forecasting to forecast time to needed expansion or refresh.
- Optimizes UCS resources by monitoring workload metrics and resource usage to arrive at the ideal configuration for your workloads.

Discovery and Data Collection

The integration connects to Cisco UCS Manager using read only access. Data is collected from UCS Manager at specified polling intervals and is imported into the Virtana Platform for use in inventory, topology, alerting, analytics, and reports.

Virtana discovers Cisco UCS chassis, servers. NICs, HBAs, I/O modules, I/O module backplane and fabric ports, fabric interconnects, and Fibre Channel and Ethernet ports.

Over 560 metrics related to Cisco UCS health, utilization, and capacity are collected, including the following:

- Health warnings and errors.
- Blade, CPU, fan, network adaptor, and PSU warnings and errors.
- Memory warnings and errors
- FC link total error count and total error frames.
- FC link dumped frames and frame rate.
- FC link invalid CRC errors.
- Avg, min, and max FC data input or output byte rates.
- Avg, min, and max received and transmitted frame rates.
- Avg, min, and max network bytes received and transmitted rates.
- Total network pause packets received and sent rates.
- Ethernet total error count.
- Avg network received and sent packet drop rates.
- Avg, min, and max received and sent rates.

Capabilities Powered by the Cisco UCS Integration

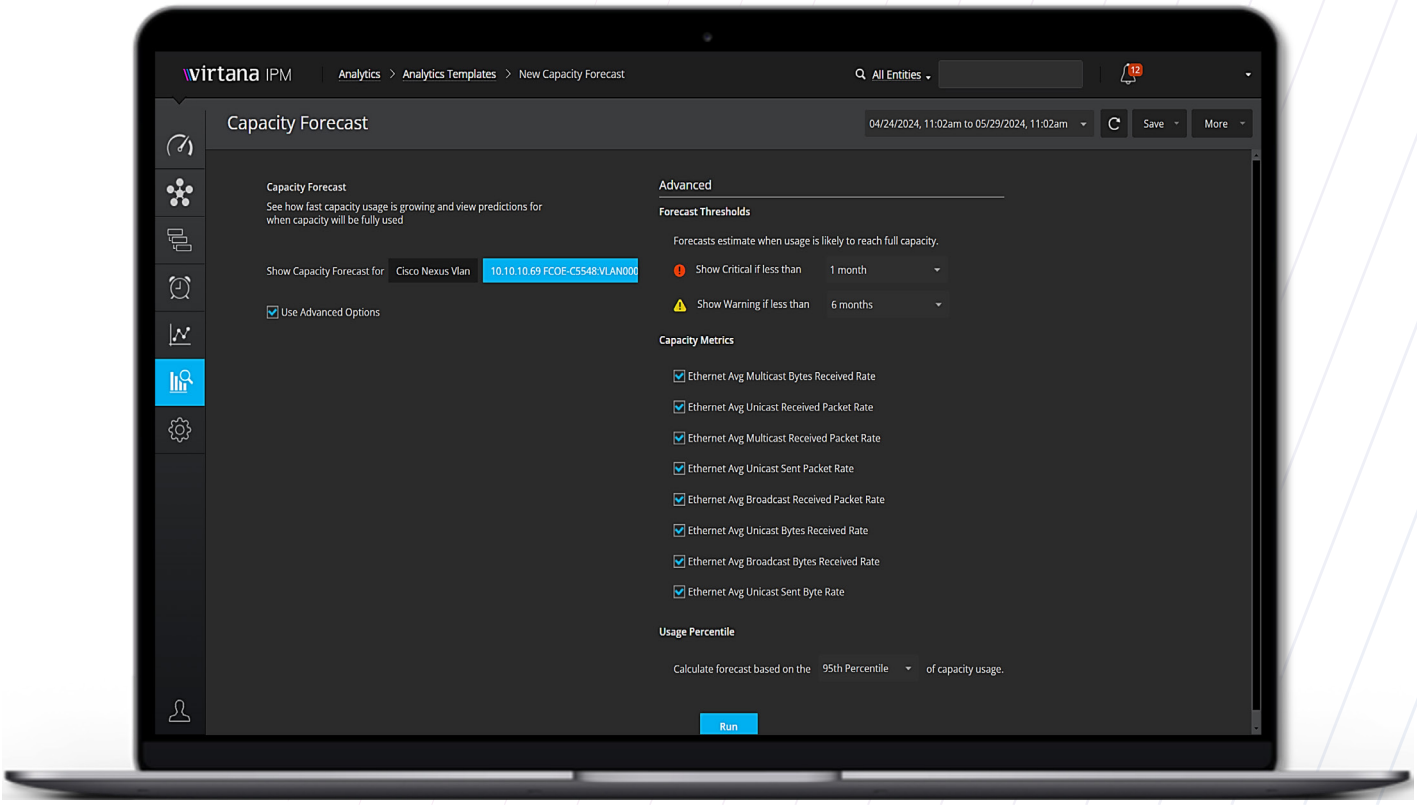
With Virtana discovery and data mapping for Cisco UCS, see Cisco UCS architecture in the context of its relationships to business-critical applications and other infrastructure components. You can view relationships and easily traverse hierarchies to expose active alarms in a data path. Understand application health by filtering the infrastructure view to show applications using Cisco UCS infrastructure and compare trends in Cisco UCS resource utilization and performance.

Our rich event intelligence capabilities let you monitor Cisco UCS infrastructure and reveal deviations from cyclical workload trends, using data captured and retained over weeks and months. Our Capacity Forecast alerting warns you when Cisco UCS infrastructure is approaching 100% capacity utilization so you can avoid the availability and performance impact that comes from running out of capacity unexpectedly.

Our flexible event intelligence and AIOps capabilities lets you create alerts on any monitored Cisco UCS component and metric.

By using the Capacity Forecast analytic, you can predict time-to-zero for capacity based on historical capacity data. Our embedded correlation analytics can be used to identify and troubleshoot anomalous events that occur in Cisco UCS infrastructure.

Quickly start tracking Cisco UCS health and utilization through standard report templates that are included with your Cisco UCS integration.



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