Solution Brief

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Virtana Storage Observability for Dell Technologies XtremIO

Virtana's XtremIO integration extends storage observability XtremIO storage. XtremIO is Dell Technologies' all-flash scale-out storage array architecture which clusters X-Bricks (highly available storage components with two independent fault-tolerant nodes) to create large scale out systems that linearly grow in performance and capacity as X-Bricks are added.

The integration captures capacity, usage, performance, and health information from the XtremIO storage array. It is also intended to correlate data to interrelated, but external components in the shared infrastructure, and to the applications that use them.

Use Cases

Our XtremIO integration supports a wide range of storage monitoring use cases across health, utilization, performance, capacity, and other domains:

- View which XtremIO resources an application consumes.
- See which initiator consumes the most resources on an array.
- Forecast short- and long-term capacity trends.
- View latency metrics at the host, LUN, and application level.
- See if a LUN has associated snapshots, how many, what their retention policy is, and if they are secure.
- Show the entire data path from host, through the switch to an XtremIO port, to the consistency group, and to the LUNs associated with the host.
- Determine if a host's LUNs are replicated to another storage array.
- See when storage capacity will run out.
- View firmware versions on arrays and array components.
- Tag arrays with custom properties.
- Receive an alert if a replication session breaches an RPO.
- Integrate and correlate metrics from the XtremIO 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 XtremIO storage for business-critical applications and workloads.
- Provides predictive capacity forecasting to forecast time to needed expansion or refresh.
- Optimizes XtremIO resources by monitoring workload metrics and resource usage to arrive at the ideal configuration for your workloads.
- Helps assure a seamless transition to other Dell storage solutions through integration with Virtana's other integrations for Dell storage.

Discovery and Data Collection

The integration connects to the XMS Server REST API using read only access. Data is collected from the XMS Server at specified polling intervals and is imported into the Virtana Platform for use in inventory, dependency mapping, event intelligence, analytics, and reports.

Virtana discovers XtremIO clusters, X-Bricks, X-Envs, targets, volumes, initiators, initiator groups, and Infiniband switches.

Over 230 metrics related to XtremIO health, utilization, performance, and capacity are collected, including the following:

- Avg, min, and max read and write byte rates.
- Avg, min, and max read and write IOPS.
- Avg bytes read or written per operation.
- Avg latency per read or write operations.
- Health warnings and errors.
- FC link total error count, dumped frame errors, invalid CRC errors, link failures, loss of signal, and loss of sync errors.
- Avg, min, and max % utilized and free capacity.
- Avg, min, and max used and free usable and effective capacity.
- Provisioned capacity.
- Compression efficiency.
- System and total CPU time.

Capabilities Powered by the XtremIO Integration

With Virtana discovery and dependency mapping see XtremIO storage 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 XtremIO storage and compare trends in XtremIO resource utilization and performance.

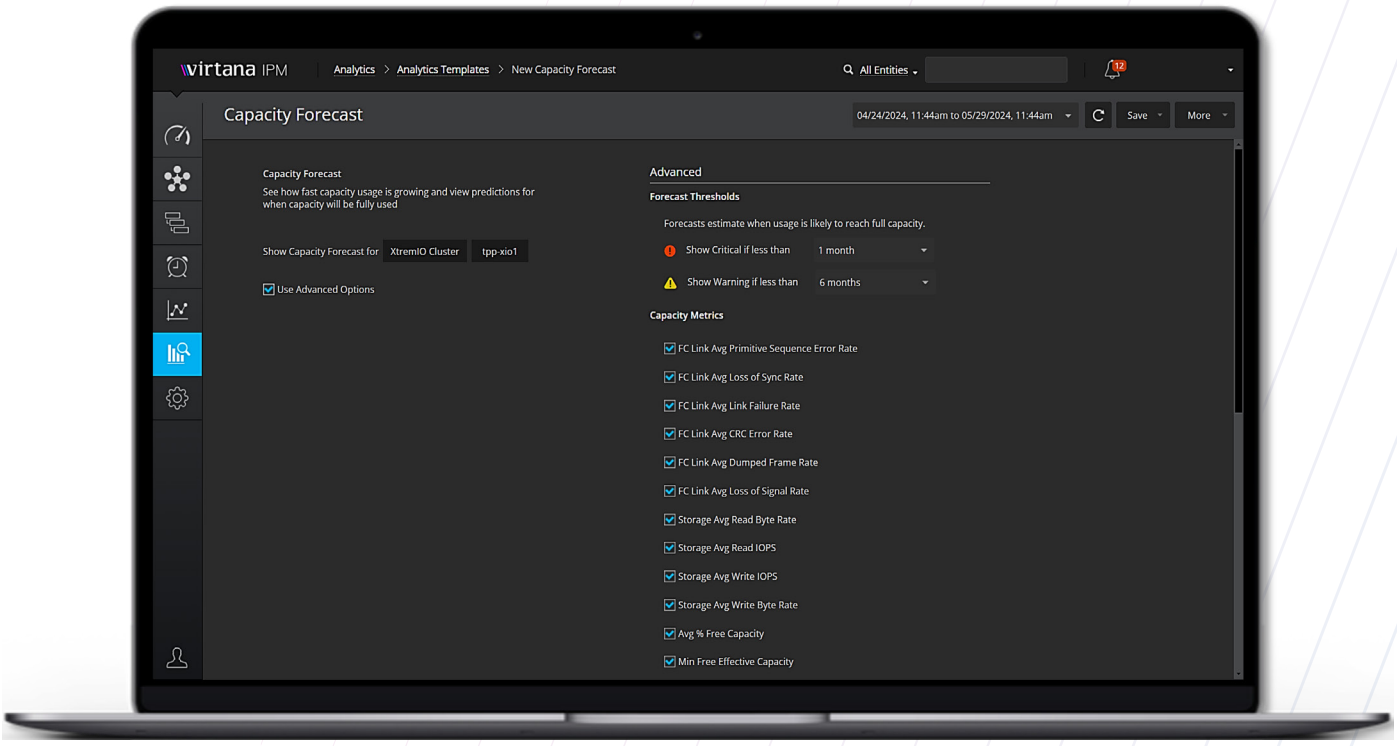
Our rich event correlation and AIOps capabilities let you monitor XtremIO storage infrastructure and reveal deviations from cyclical workload trends, using data captured and retained over weeks and months.

Our Capacity Forecast alerting warns you when XtremIO clusters, X-Bricks, XEnvs, and volumes are approaching 100% capacity utilization so you can avoid the availability and performance impact that comes

Our flexible event correlation also lets you create alerts on any monitored XtremIO component and metric.

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

Quickly start tracking XtremIO health, utilization, performance, and capacity through standard report templates that are included with your XtremIO integration.



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