BMC Discovery for Storage

Increase visibility into your storage environment to lower costs and reduce risk
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Executive Summary

As more IT systems depend on storage infrastructure to provide business services, and with the adoption of technology that heavily consume storage infrastructure (e.g., Internet of Things and big data), IT organizations are looking for ways to change the way their storage infrastructure is managed in order to contain costs and better manage business risk.

Making this change will likely involve breaking the silos between teams in charge of different types of infrastructure. A key to this change is to ensure that the configuration and storage management teams have the ability to easily collaborate, share data, and increase transparency into each other’s respective disciplines. This collaboration enables storage components to be included in ITSM processes such as incident, change, and configuration management, and managed consistently across ITOM processes such as monitoring and automation. This collaboration also enables storage management teams to delegate work to less specialized teams within the IT organization so they can focus on more strategic work within their discipline.

Reaching this new collaborative state results in multiple efficiency gains:
- Prioritization of work based on business importance
- Shorter time to resolve issues
- Reduced risk when consolidating data centers or moving to cloud-based storage
- More agile operations through proactive planning and shorter time to deploy

Early adopters of this approach face challenges due to the heterogeneity of their storage infrastructure, the lack of storage management standards, and the need to manually map their storage infrastructure to their business services. BMC Discovery for Storage enables organizations to understand the configuration of a multivendor storage environment and any dependencies that exist between the storage infrastructure and business applications and services.

Storage management teams can be better connected with the rest of the IT organization and be more effective in troubleshooting an application outage—providing inventory information to an asset manager, implementing a business continuity plan, or migrating a data center. With BMC Discovery for Storage, storage managers have more availability to take on future storage expansion projects.
CHALLENGES WITH SILOED STORAGE MANAGEMENT

IT organizations typically face the challenges of addressing business needs for more storage capacity, needing to contain costs, and ensuring reliability for what could constitute a single point of failure for their critical applications.

However, due to the specifics of their job, most storage management teams are not fully integrated with standard IT processes that have been established for infrastructure and operation management. As a result, IT suffers:

- Incident resolution related to storage takes longer
- Planning a storage change is laborious and error prone
- Business units are inaccurately charged back for storage
- Establishing and enforcing service level agreements for storage is difficult

For example, when an outage on a storage frame occurs, a storage team needs to quickly notify both end users and the service management team affected. This notification represents a large and manual effort to come up with a list of all the servers that are impacted. Servers typically need to connect to more than one storage management system and run commands to manually map storage specific attributes like HBA card information to storage host aliases. This process can take hours, if not days, in large multivendor environments and must be performed by storage administrators due to the skills required and security restrictions.

A key to optimized storage management is to ensure that the configuration and storage management teams have the ability to easily collaborate, share data, and increase transparency into each other’s respective disciplines.

CHALLENGES WITH MULTIVENDOR STORAGE INFRASTRUCTURE

Most organizations use more than one storage vendor due to cost pressure, adoption of new storage technologies, or because of merger and acquisition activities. Multivendor environments can lead to management challenges such as vendor specific consoles, different management protocols, heterogeneous information, and no single place to find storage information.

This can result in manual CMDB updates with no automated way to include storage components in service models. This approach is not only costly, but also unable to keep up with growing IT complexity.

GATHERING INVENTORY IN A MULTIVENDOR STORAGE INFRASTRUCTURE

An ideal solution to the challenges mentioned above enables remote discovery of storage components and any dependencies between the storage infrastructure and business applications and services.

This includes discovering disk arrays (SAN or NAS) as well as their partitioning details (pools and volumes) in a consistent data model regardless of their access method.

The data would be available for change managers, change advisory board members, asset managers, and general IT users, and leveraged in ITSM processes such as incident, change, and release management, as well as ITOM processes such as monitoring and automation.

Methods to Discover a Storage Infrastructure

- SMI-S proxy (WBEM): Most manufacturers include an SMI-S interface that can be used to communicate with all storage systems managed by that management server using WBEM.
- Embedded SMI-S provider (WBEM): Larger storage systems have embedded SMI-S proxies in their management controllers.
- Storage system’s management interface (SSH/SNMP/CLI/API)
INCLUDING STORAGE INFRASTRUCTURE IN SERVICE MODELS

As organizations mature their IT management processes, they need to ensure that business awareness drives IT decisions. This is why maintaining an accurate view of what infrastructure components make up a business service is so critical, and why IT organizations adopt service models as a foundation to their best practices.

Identifying the logical relationship that links servers to storage components makes it possible to create and automatically maintain end-to-end service models. This lets IT teams categorize changes, prioritize and assign incidents and events, and accurately assess the impact of changes to the storage infrastructure when implementing a business continuity plan or migrating a data center.

OPTIMIZING ITOM BY LEVERAGING DISCOVERY DATA

Automatic discovery of the storage infrastructure can be leveraged in IT operations management (ITOM) and encompasses multiple benefits including:

• Accurate identification of storage components when implementing a monitoring or orchestration solution
• Closed-loop change management
• Dashboards for viewing service availability metrics

Having a single source of storage infrastructure data and service models via a CMDB guarantees consistency across ITSM and ITOM processes.
BMC DISCOVERY FOR STORAGE

BMC Discovery for Storage addresses the challenges mentioned previously by offering multivendor storage discovery:

- Automatically and remotely discover multivendor storage infrastructure (EMC®, Hitachi®, NetApp®, HP®, IBM®, Fujitsu®, Pure Storage®, and more)
- Inventory storage equipment (NAS, SAN, Fabric switches) with data that is specific to storage (pools, volumes, drives, ports, etc.)
- Leverage multiple protocols (SMI-S, WBEM, REST API, SNMP, CLI) and methods to discover the storage infrastructure, either directly or via a storage management system
- Quickly access storage data via quick search, queries, and reports of BMC Discovery
- Integrate relevant data into a BMC Atrium CMDB in a consistent way for easy consumption by orchestration, monitoring, and capacity optimization
- Visualize relationships of servers to storage frames and understand which servers have access to what volumes
- Model business applications and report on their associated storage consumption
- Report server to storage array connectivity including which ports are in use
- Report assigned capacity vs. consumed capacity

View discovered storage systems from home page.

View storage system configuration data and consumer hosts.
View storage volume details including capacity information and related pools.

From a host, view the storage systems the host is connected to.
CONCLUSION

BMC Discovery for Storage provides visibility into the IT storage landscape to optimize operational costs, enhance productivity for IT and storage staff, and positively impact uptime for business users. Through rich, monthly updated content, IT organizations can complement BMC Discovery’s end-to-end application maps with multivendor storage components and give storage managers more availability to take on future storage expansion and management challenges.

FOR MORE INFORMATION
To learn more about BMC Discovery, visit bmc.com/it-solutions/discovery-dependency-mapping