bmc

solution white paper

Atrium Discovery for Storage

EXECUTIVE SUMMARY

As more IT systems are deployed that depend on storage infrastructure to provide business services, and with the adoption of technology trends such as the Internet of Things (IoT) and Big Data that heavily consume storage infrastructure, IT organizations are looking for ways to change the way their storage infrastructure is managed in order to contain costs and better control business risk.

Making this change will likely involve breaking the silos between teams in charge of the different types of infrastructure. A key to this change is to ensure that the configuration management teams and storage management teams have the ability to easily collaborate, share data, and increase transparency into each other's respective disciplines. This collaboration will enable 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 will also enable 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 will result 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. Atrium Discovery for Storage enables organizations to automatically understand the configuration of a multi-vendor storage environment and any dependencies that exist between the storage infrastructure and business applications and services.

Storage management teams can now 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 Atrium Discovery for Storage, storage managers will have more availability to take on future storage expansion projects.

CHALLENGES WITH SILOED STORAGE MANAGEMENT

IT organizations face the typical challenges of flexibly addressing business needs for more and more storage capacity, whilst needing to contain costs and ensure 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 in standard IT processes that have been established for server and desktop management, and as a result IT suffers:

- Incident resolution takes longer
- Planning a storage change is laborious and error prone
- Business units are inaccurately charged back for storage
- It is difficult to establish or enforce service level agreements

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of IT organizations have disconnected storage management

As an example, when an outage on a storage frame occurs, a storage team needs to quickly notify their end users and the team responsible for service management that the applications and systems they manage are affected. This notification represents a large and manual effort to come up with a list of all the servers that are impacted. They 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

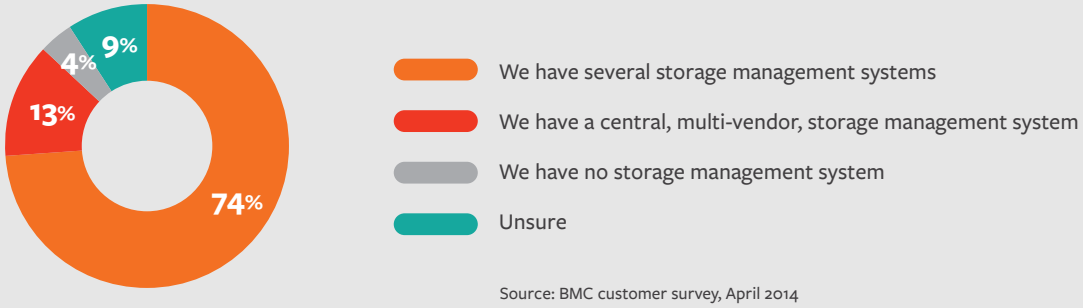
process can take hours (if not days) in large multi-vendor environments and must be performed by storage administrators due to the skills required and security restrictions.

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

CHALLENGES WITH MULTI-VENDOR STORAGE INFRASTRUCTURE

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

What describes best your current storage management system(s)?



Source: BMC customer survey, April 2014

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 OF A MULTI-VENDOR STORAGE INFRASTRUCTURE

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

This includes discovering disk arrays (whether 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 then 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

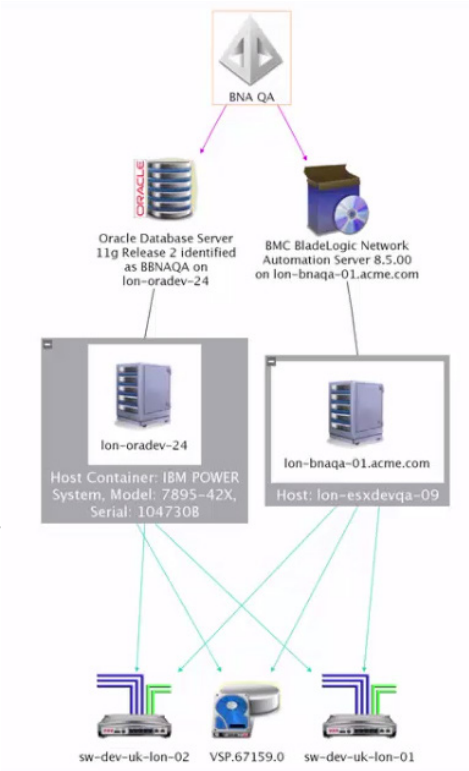
- SMI-S proxy (WBEM): Most manufacturers include an SMI-S interface that can be used to communicate with all storage systems managed by that management server using WBEM.
- Embedded SMI-S provider (WBEM): Larger Storage Systems have embedded SMI-S proxies in their management controllers.
- Storage System's Management Interface (SSH/SNMP/CLI/API)

INCLUDING THE 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 will let 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 (among others).



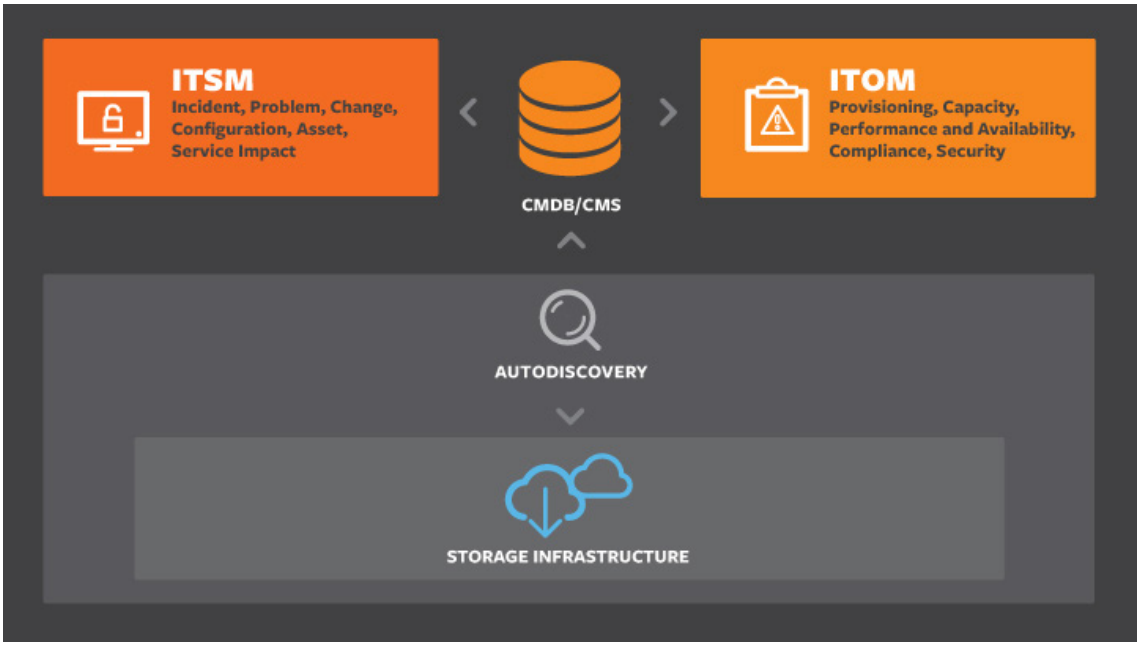
Application map **BNA QA** showing storage system **VSP.67159.0**

OPTIMIZING ITOM BY LEVERAGING DISCOVERY DATA

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

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

Having a single source of storage infrastructure data and service models via a CMDB will guarantee consistency across ITSM and ITOM processes.

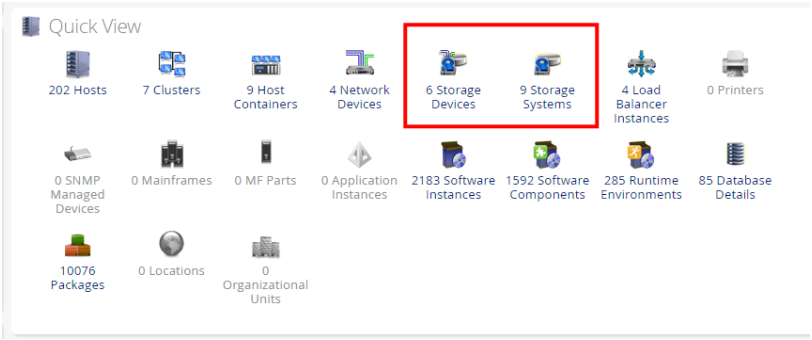


Add storage information to ITSM and ITOM processes

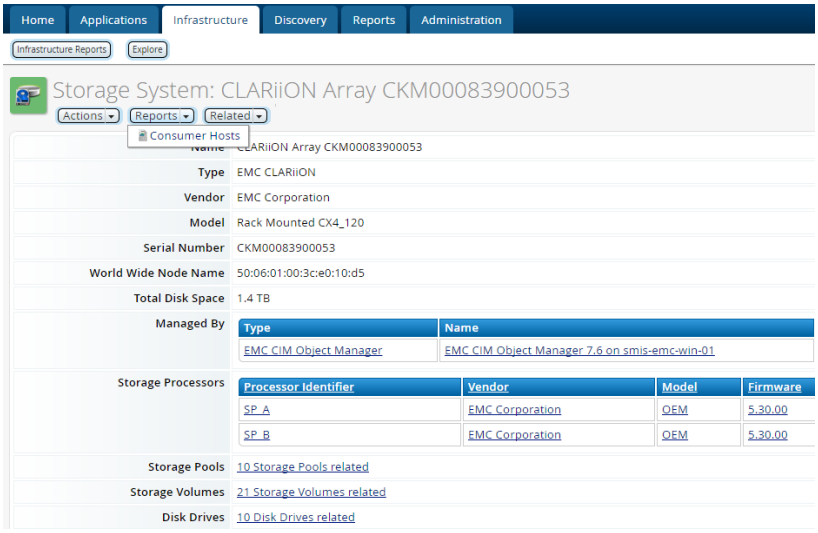
BMC ATRIUM DISCOVERY FOR STORAGE

BMC Atrium Discovery for Storage addresses the challenges mentioned previously by offering multi-vendor storage discovery:

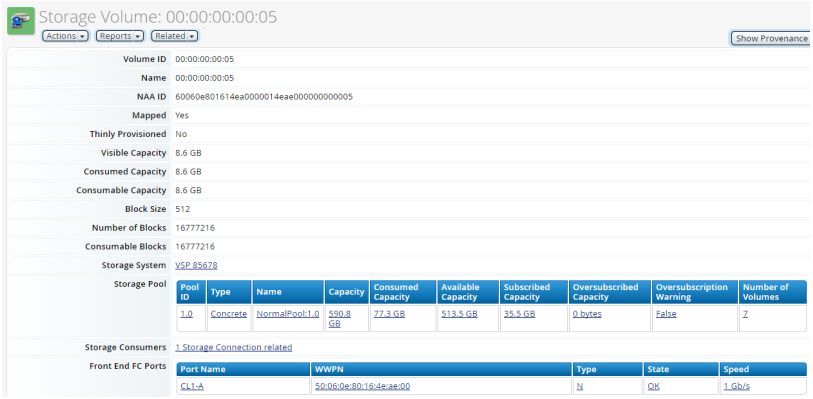
- Automatically and remotely discover multi-vendor storage infrastructure (EMC, Hitachi, NetApp, IBM, and more)
- Inventory storage equipment with data that is specific to storage (pools, volumes, drives, ports etc.)
- Leverage multiple protocols (SMI-S, WBEM, SNMP, CLI) and methods to discover the storage infrastructure, either directly or via a storage management system
- Quickly access storage data via Atrium Discovery's quick search, queries and reports
- Integrate relevant data into 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
- Benefit from Atrium Discovery's foundation benefits including fast time to value via virtual appliance, extreme scalability, and powerful analytics



View discovered storage systems from the 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 sytems the host is connected to

CONCLUSION

Atrium Discovery for Storage provides visibility into the IT landscape to optimize operational costs and enhance productivity for IT staff and positively impacts uptime for business users. Atrium Discovery for Storage enables Storage Managers and Configuration Managers to collaborate for success. By leveraging the new Atrium Discovery for Storage IT organizations can create and use end-to-end application maps that include multi-vendor storage components for truly service-driven management. With Atrium Discovery for Storage, storage managers will have more availability to take on future storage expansion and management challenges.

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