7 Key Requirements for Multi-Cloud Discovery
THE STRATEGIC VALUE OF COMPREHENSIVE DISCOVERY

Automated asset discovery and application dependency mapping is a critical capability for today’s IT teams. A deep understanding of the software and services across your entire infrastructure—from the data center to public, private, and hybrid clouds—enables IT to play a more strategic role in the organization. With clear insight into how all your assets power critical business functions and services, IT can help drive growth, efficiency, and agility.

ARMED WITH KNOWLEDGE ABOUT YOUR MULTI-CLOUD ENVIRONMENT, YOU CAN:

+ Keep services running at peak performance
+ Address problems quickly and effectively
+ Bring new services online at the speed of business
+ Minimize the business risks associated with infrastructure changes
+ Prioritize IT resources and effort in full alignment with the business
+ Implement the automation platform of the future
AUTOMATION ENSURES ACCURATE DATA

Multi-cloud discovery is a natural opportunity for automation that will drive increasing business value. Leading IT organizations are pursuing automation to help them deliver better business support while freeing time for innovation and differentiation. As you develop your automation strategy, multi-cloud discovery should be near the top of your agenda. Manual discovery is not just a huge drain on limited IT resources, it is also error prone and nearly impossible to sustain over time. For IT organizations under pressure to respond to fast-changing business needs, automation of multi-cloud discovery is the only answer.
KEY REQUIREMENTS

1. High-performance discovery engine
2. Fast and scalable scanning
3. Application mapping
4. Extensibility to discover custom assets
5. Transparency and security of discovery processes
6. Powerful search and analytics
7. Simple administration
The core requirement for auto-discovery is the ability to quickly and accurately discover inventory and relationships from the data center to the cloud. This process requires a powerful reasoning engine backed by an extensive content library.

The reasoning engine that governs the discovery process is central to the value of any solution. Acting as the brain of the system, it is responsible for choosing and orchestrating discovery actions and constructing the model of the environment. Its intelligence enables the engine to determine the best approach for discovering each IT element and the relationships among them using cloud APIs, observed communications, configuration files, and command outputs. The more intelligent the engine is, the more comprehensively and accurately it can identify and map the relationships among applications and infrastructure elements.

The content library provides knowledge to the reasoning engine to recognize the elements of the environment it is discovering. To do this effectively, the content library should include a deep understanding of cloud services, from multiple vendors as well as data center assets (servers, software, network, storage), for out-of-the-box application dependency mapping.
FAST AND SCALABLE SCANNING

High-speed scanning is essential to complete scans as quickly and frequently as needed.

As the size and complexity of enterprise IT environments increase, especially with today’s multi-cloud strategies, performance becomes a key factor.

+ Most organizations want to scan at least daily to ensure complete and timely information. In fact, out-of-date information can be worse than no information at all. Highly dynamic areas of a multi-cloud environment may require more frequent scanning—even several times per day, and automatic scans or data updates should be triggered when changes occur.

+ While discovery requirements expand, the time available to do so remains tightly constricted. Even in small environments, narrow windows are often the only times when scanning is permissible.

+ For the largest, most complex IT infrastructures, an auto-discovery solution must offer nearly limitless scale—for example, the ability to scan more than 100,000 servers and/or services each day.
APPLICATION MAPPING

Application maps enable business-IT alignment by providing clear visibility into which parts of the IT infrastructure support each business service.

Multi-cloud discovery visually exposes application components, their relationships, and in which context they run (cloud vendor, data center, region, etc.). These visualizations, or maps, allow application owners and configuration managers to provide the business application context and define tiered-service models that enable service-aware performance and availability, change impact analysis, and other functions for optimal business support.

With an auto-discovery solution, application maps should be updated automatically to reflect changes in the IT environment and users should be able to generate different output formats to accommodate a variety of documentation needs.

By fostering collaboration between application owners and configuration managers, application maps advance business-IT alignment and help the environment continue to be responsive to dynamic business demands.
EXTENSIBILITY TO DISCOVERY CUSTOM ASSETS

By providing simple ways to inventory non-standard assets, the auto-discovery solution provides the flexibility to keep pace with infrastructure as the multi-cloud environment evolves.

In an ideal world, enterprise IT environments would be highly standard and homogeneous. In reality, custom software plays a vital role in helping IT organizations deliver the differentiated and innovative services their businesses require.

An effective auto-discovery solution must help IT embrace and support fast-changing environments, custom software, and extended cloud services by making it simple to discover custom configurations as easily as more generic elements.

This calls for functionality such as:

+ Extensibility tools built into the user interface to add discovery of custom software, custom network devices, and other custom elements with little or no programming
+ Access to web services and APIs supplied by cloud providers
+ The ability to extend out-of-the-box discovery to capture additional asset attributes
+ Tools to manage custom content, including versioning, categorization, and the retirement of outdated content
TRANSPARENCY AND SECURITY OF DISCOVERY PROCESS

By providing proof of the integrity of its methods and the accuracy of its results, the solution will quickly gain user trust to speed adoption and ensure robust use of its data to optimize IT processes.

User confidence is essential to the value of an auto-discovery solution. If people don’t have faith in the accuracy of the data provided, they simply won’t use it, and the organization will continue to suffer from decisions made without the needed insight or business context. Building user trust and acceptance is especially important—and challenging—given that the data captured through auto-discovery often differs from that gathered through error-prone, manual sources.

To build user confidence, the solution must avoid a “black-box” approach to auto-discovery and provide full transparency into how its data is obtained. Ideally, people should be able to locate this information easily, right in the user interface, without having to comb through log files.

A multi-cloud discovery solution also needs access to critical systems. Teams in charge of IT security will need the discovery solution to be proven through standard security certifications, and to offer granularity in configuration of access rights, encryption, and depth of discovery actions.
POWERFUL SEARCH AND ANALYTICS

Making discovery data immediately actionable, search and analytics empower IT to improve service delivery, reduce mean time to repair, and make insight-driven decisions.

To unlock the full value of your auto-discovery data, the solution must provide simple ways for people to put it to work. Users need to be able to search quickly and easily for any kind of information in the data store, such as the configuration items that power a digital service, servers missing security patches, or the impact of a potential infrastructure change.

This calls for functionality such as:

+ Out-of-the-box reports and dashboards that answer common IT questions
+ Custom reports and dashboards to adapt the solution to the IT organization’s needs
+ Single-search box to quickly perform basic searches
+ Robust query language to support complex queries that zero in on the exact data users need
+ Rich tools to sort, select, and visualize data in multiple ways
7 SIMPLE ADMINISTRATION

Low administrative overhead is critical to help IT leverage the full benefits of an auto-discovery tool without being limited by time or staffing constraints.

An auto-discovery solution will be of little use if it is difficult or time-consuming to manage.

This calls for functionality such as:

+ A robust set of tools to simplify common administrative functions, such as user-friendly interfaces to manage user access and security, scan schedules, upgrade to new versions, and backup and restore data
+ Easy setup of cloud API-access credentials and keys
+ Integration with SSO and credential brokering technologies that accelerate time to implement
+ Out-of-the-box integration with common CMDBs
+ RESTful API and export options that make it simple to share discovery data and application maps with other IT management systems; similarly, integration with automation tools that can save valuable time by allowing IT to automate many administrative tasks
REALIZE THE BENEFITS OF AUTO-DISCOVERY FOR YOUR MULTI-CLOUD ENVIRONMENTS

Empower IT staff with an accurate and trusted view of services and data across the entire enterprise environment—physical, virtual, and cloud.

**Asset managers** can optimize spend in alignment with business priorities, track IT assets and their total cost of ownership (TCO), and prepare efficiently to succeed at audits.

**Change managers** gain visibility to assess the impact and risk of potential changes, avoid unplanned outages, and identify unapproved changes.

**Service desk staff** can provide more information to first-level support, accelerate mean time to repair (MTTR), and reduce reliance on ad hoc “tribal knowledge” to resolve issues.

**Architects, application teams, and operations staff** can respond more quickly to changing business needs, resolve IT problems before they impact the business, and refocus resources from firefighting to higher-level strategic work.

Every member of the staff will become more knowledgeable about the multi-cloud environment and the way it supports critical business services—so they can optimize cost, reduce risk, and improve agility.

To learn more about the benefits of auto-discovery for your multi-cloud environment, visit bmc.com/discovery
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