The Key to Real-time Visibility Across IT: Start-anywhere Application Mapping

Deliver holistic visibility and asset dependencies to enable data center transformation with BMC Discovery

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Executive Summary

Higher levels of complexity, coexistence, and constant change in today's data center make understanding business applications, services, and their underlying infrastructure nearly impossible using traditional discovery and mapping methods.

To manage complex business applications and digital services effectively, IT organizations must have a dependable, accurate data center map of all assets, their dependencies, and information about how they support the business. Without this, they risk being overwhelmed by constant firefighting efforts to avoid IT problems that can lead to revenue loss, reduced profitability, brand damage, and unhappy customers going to the competition.

But **most discovery solutions fail to meet these needs** because they:

- **Take a rigid top-down or bottom-up approach** to scanning that typically results in incomplete maps
- **Do not automatically capture** comprehensive configuration data
- **Leave large areas undiscovered** because network, storage, application, and server admins are unable to choose their own entry points for mapping

IT can't have an accurate mapping of applications without having a precise inventory of all assets.

BMC Discovery makes it easy to **quickly gain complete, real-time visibility into dynamic data center environments**. By understanding exactly how applications and their underlying infrastructure deliver critical business services, IT organizations are able to drive growth, efficiency, and agility.

A successful discovery solution:

Ensures scanning isn't too rigid or one-directional, avoiding incomplete maps

Captures comprehensive configuration data automatically

Discovers all assets, regardless of vendor: servers, storage, applications, networks, mainframes, etc.

WHY IT'S CRUCIAL TO GET ASSET AND DEPENDENCY DISCOVERY RIGHT

In the digital economy, companies can't afford to allow IT problems to disrupt or degrade service, so **they must be able to proactively identify potential points of failure, address problems quickly when they do arise, and align effort with business impact**. Case in point: to optimally prioritize issues, IT needs to know their impact on specific applications and the business services they power. Similarly, before taking a server offline, IT needs to understand which applications will be affected in order to avoid self-inflicted damage. IT must also prevent configuration errors—which is often more easily said than done, since 80 percent of unplanned outages are due to ill-planned changes.[1]

> "BMC Discovery not only shows you the network you know: servers, network gear, even printers and storage. It also shows you your network's secret life by mapping out communication patterns and groupings you never knew existed. These relationships can be invaluable in an operational environment for operational impact and configuration management."
>
> Ryan Johnston, Sr. SW Engineering Staff, Lockheed Martin

To address these needs, IT needs complete, reliable visibility into the complex dependencies across assets and applications. Effective service mapping is critical to effective incident, change, and availability management and plays an important role in business continuity, data center transformation, planning, and compliance. But the complex and dynamic nature of the modern data center, combined with the norm of asset management across multiple business units, makes it extremely difficult to build and maintain service maps that provide a holistic view. Without a discovery solution that is designed to capture comprehensive configuration data, build complete service maps, and maintain the accuracy of those maps, the likelihood of failed data center projects, security breaches, configuration errors, service outages, and performance degradation increases significantly.

80% of unplanned outages are due to ill-planned changes[1]

80%

START-ANYWHERE APPLICATION MAPPING—THE KEY TO COMPLETE DATA CENTER VISIBILITY

Most discovery solutions use a rigid and simplistic top-down or bottom-up approach, where mapping stops as soon as the tool meets something it does not recognize. This means that users must know and specify the "top" entry point for their application or service—often a URL that leads to either a load-balanced service or to a web server. The choice of what to scan is also driven top-down, and at each stage the tool decides what to scan based upon the dependencies it detected at the previous stage.

This rigid approach poses numerous problems, for example:

- **The application or service entry point may not be obvious**—in fact, there may be more than one. Application owners often start with the location where data is stored, which is closer to the bottom than the top.

- **A dependency between two assets can often only be seen from one end** can IT afford to miss dependencies that are only visible from the bottom end? A common example of twisted dependencies is a database that is also being used by a second application server. IT can't rely on a great dependency mapping tool when the discovery is incomplete.

- If parts of an application cannot be scanned due to lack of credentials, recognition or for other reasons, **the scan will just stop there and remain incomplete**, leaving out valuable information.

1 2015 Cost of Data Breach Study: Global Analysis, Ponemon Institute, May 2015.

BMC Discovery takes a trusted approach with start-anywhere application mapping that is able to identify assets and their dependencies based on any piece of information about them. There are several advantages to being able to map an application or service from any starting point:

- Users can begin mapping **using whatever information they happen to know**—a much more flexible, efficient and trusted experience.

- While it is inevitable that sometimes items will be missing from the discovery data due to factors such as lack of credentials, the start-anywhere approach means that **all available information is mapped**, on both sides of the missing item, making it easier to validate the mapping manually and allowing the system to infer the two maps in future scans.

- The flexibility to start anywhere—whether at the top, bottom, or middle—and to start in more than one place to capture additional information provides **the most efficient way to close the gap on incomplete mapping**.

The BMC Discovery combination of flexibility, every-direction visibility, and multiple entry points makes it the only truly effective way to map the diverse and complex applications and services that the business needs to be successful.

Application mapping studio leverages discovered relationships to quickly map infrastructure components to business services.
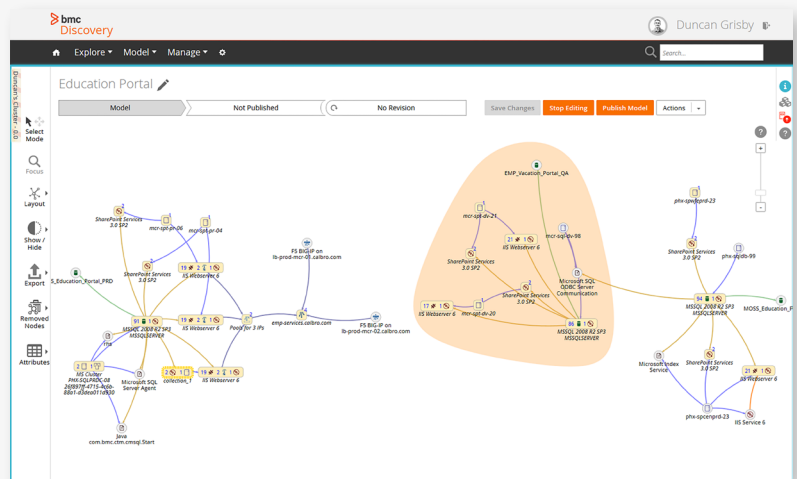
BENEFITS OF START-ANYWHERE WITH BMC DISCOVERY

BMC Discovery offers three key strengths that other discovery tools can't deliver:

Speed and scalability

Comprehensive coverage

Flexibility and efficiency

There are numerous business use cases for BMC Discovery. **An IDC 2016 research survey of BMC Discovery's top customers revealed a 470% ROI in five years with an eight-month payback.[2]** This research outlines how existing BMC Discovery customers have:

- Improved IT staff productivity
- Improved vulnerability management
- Transformed into strategic service delivery organizations
- Created flexible, cost effective environments
- Improved SLAs
- Reduced operational costs

2 IDC White Paper, Business Value of BMC Discovery Software, January 2016.

In the IDC 2016 research report[3], they quantified value as follows:

Risk mitigation
$8,495 per 100 servers
over 5 years or $1.08M
per organization

Business benefit
such as IT staff productivity improvements:
$18,433 per 100 servers over 5 years
or $2.33M per organization

**IT infrastructure
cost reduction**
of $7,202 per 100 servers over 5 years
or $911,000 per organization

BMC Discovery can provide these cost savings through the following:

Speed and scalability

- Virtual appliance clustering technology is exceptionally fast and easy to deploy and rapidly delivers frequent, up-to-date views of the data center, even for data centers with 100,000+ servers.

Comprehensive coverage

- Monthly content updates ensure rapid discovery of every data center component without doing extra work to create classifiers, probes, and sensors, as other solutions require.
- Coverage includes 850+ software products, 2,500+ network devices, 25 virtual and physical storage brands, and mainframe.

Flexibility and efficiency

- Within three clicks, users can automatically generate rich, comprehensive maps of business applications, services, their underlying infrastructure, and dependency relationships, from any starting point.

BMC Discovery provides the basis for building and maintaining application and service maps that unlock the value of service-aligned IT management. IT can make confident decisions and assessments in areas such as:

- Data center transformation and consolidation
- Responding to software license audits
- Decommissioning assets
- Identifying risk with security vulnerabilities

For over 10 years, BMC has empowered its customers with a fast, accurate, and reliable solution that delivers comprehensive, real-time visibility into business applications, services, infrastructure components, and the relationships between them, leveraging the broadest and most in-depth discovery expertise.

"The dependency mapping capabilities of BMC Discovery show us how maintenance on one server might affect other servers. That visibility helps us handle maintenance within a very tight window so that critical systems are always available when our employees need them."

Mike Hoover, Client/Server Dev Analyst, Windstream

3 IDC White Paper, Business Value of BMC Discovery Software, January 2016.

CONCLUSION

Asset and dependency discovery is a critical capability for every digital business; comprehensive service mapping helps organizations to reduce errors that impact customer experience, align effort with business impact, and make informed strategic decisions about the IT environment. But most discovery solutions fail to deliver on promises of holistic visibility, relying on a rigid, top-down approach that is difficult to work with and leaves unacceptable gaps in application maps.

BMC Discovery is designed to be highly scalable, flexible, fast, and easy to use, with a start-anywhere approach that provides a simple, reliable way to access critical information in real-time. Regardless of how many business services need to be mapped, their complexity, or how frequently they change, BMC's unique approach to service mapping is designed to help organizations of all types and sizes to prioritize issues and problem resolution based on business needs, avoid configuration errors, and proceed confidently with data center transformation initiatives.

ⓘ **FOR MORE INFORMATION**

To learn more about holistic, automated data center discovery and dependency mapping or to try it for yourself with a free download, please visit **bmc.com/Discovery**

BMC is a global leader in innovative software solutions that enable businesses to transform into digital enterprises for the ultimate competitive advantage. Our Digital Enterprise Management solutions are designed to make digital business fast, seamless, and optimized from mainframe to mobile to cloud and beyond.

BMC – Bring IT to Life   **BMC digital IT transforms 82% of the Fortune 500®.**

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