

IT Efficiency Begins With Effective Discovery And Dependency Mapping

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Executive Summary

Understanding the dependencies between applications and infrastructures is the key to IT efficiency. It opens the possibility to create application topology models that are used to improve critical operational processes that manage applications, changes, risks, IT architectures, and IT services. Thus, businesses benefit from an improved technology control that directly leads to more competitive services for clients and increased employee productivity.

In December 2015, BMC Software commissioned Forrester Consulting to understand the impact of digital disruption on IT strategy as enterprises transform to answer current business demands. Then to further explore this topic, Forrester developed a hypothesis to test the assertion that creating an agile and efficient IT organization requires deep knowledge of applications, infrastructures, and their relationships through discovery and dependency mapping.

In conducting in-depth surveys with 120 IT managers in enterprises with 1,000 or more employees, Forrester found that companies implementing discovery and dependency tools are better able to address compliance issues, reduce risk, and manage and track assets.

KEY FINDINGS

Forrester's study yielded three key findings:

- › **IT organizations must find ways to improve efficiency in order to keep up with business initiatives.** Reducing costs while providing a better overall quality is a critical IT mission in the next 12 months.
- › **Application discovery and dependency mapping is a critical enabler of IT efficiency.** Reducing costs and improving service quality starts with an in-depth knowledge of the relationship between applications and infrastructures.
- › **Application discovery and dependency mapping touches many aspects of IT services.** The ability to map application and infrastructure components improves service management, IT operations, vulnerability assessment, enterprise architecture, and application management.

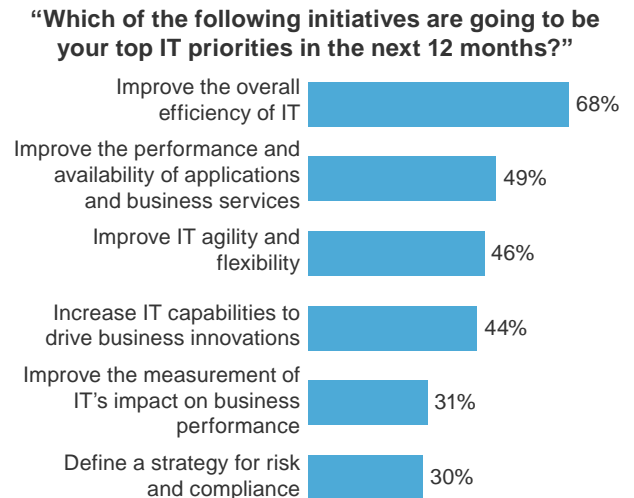
Improving IT Efficiency Is A Mandate

To compete in the age of the customer and improve employee productivity, enterprises must embrace digital disruption. This means adopting and evolving business technologies to win, serve, and retain increasingly empowered customers and employee users. The impact on IT is a push to support revenue-generating initiatives, while simultaneously looking for ways to improve efficiency and manage costs. Our survey found that:

- › **Reducing costs is a top business priority for enterprises.** Two out of three IT managers (68%) reported that reducing costs is a top business priority for their company. By comparison, about half (51%) cited revenue growth as a priority.
- › **IT organizations focus on efficiency to address cost reduction imperatives.** Sixty-eight percent of IT respondents are working toward improving the overall efficiency of IT in the next 12 months. IT managers are focused to improve agility, improve application performance, and ultimately increase their ability to drive innovation (see Figure 1).
- › **The first step toward better efficiency is cleaning up IT environments.** IT managers plan to use many tactics to improve IT efficiency. More than half (57%) aim to optimize current assets by eliminating redundancies. Half (51%) intend to focus on consolidation through virtualization, and 41% plan to turn to infrastructure standardization (see Figure 2).
- › **It is critical to understand infrastructure to minimize vulnerabilities.** When considering increasing IT efficiency, 82% of enterprise IT managers find it an essential requirement to better understand infrastructure in order to manage security risks. Approximately three-quarters of IT managers require better backup planning and a complete inventory of installed hardware and software to reduce vulnerabilities (see Figure 3).

FIGURE 1

Two-Thirds Of Enterprises Are Prioritizing Improved IT Efficiency In The Next 12 Months



Base: 120 IT managers with responsibility for infrastructure and operations management at US enterprises

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016

FIGURE 2

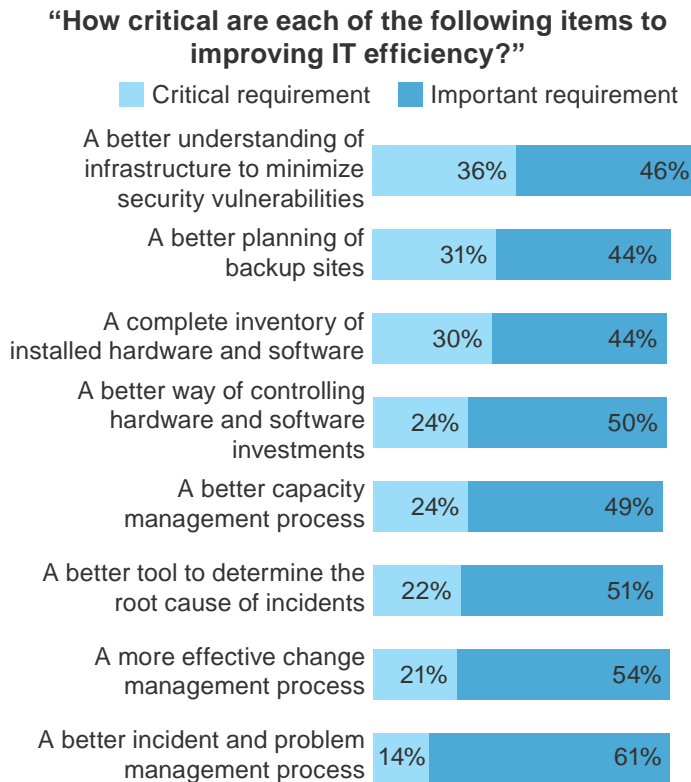
Steps To Improving IT Efficiency Start With Optimizing Current Assets



Base: 120 IT managers with responsibility for infrastructure and operations management at US enterprises

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016

FIGURE 3
Minimizing Security Vulnerabilities Is Critical When Improving IT Efficiency

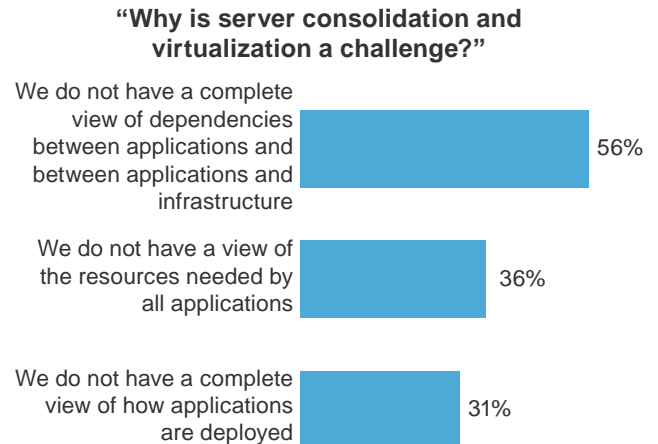


Base: 120 IT managers with responsibility for infrastructure and operations management at US enterprises

(only showing responses including “critical requirement” and “important requirement”)

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016

FIGURE 4
Fifty-Three Percent Of Enterprises Are Challenged By Server Consolidation And Virtualization



Base: 64 IT managers with responsibility for infrastructure and operations management at US enterprises that consider server consolidation and virtualization challenging

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016

than half (56%) of these companies have an incomplete view of dependencies between applications and between applications and infrastructure. More than a third (36%) lack a view of resources, and 31% are unable to view how applications are deployed (see Figure 4).

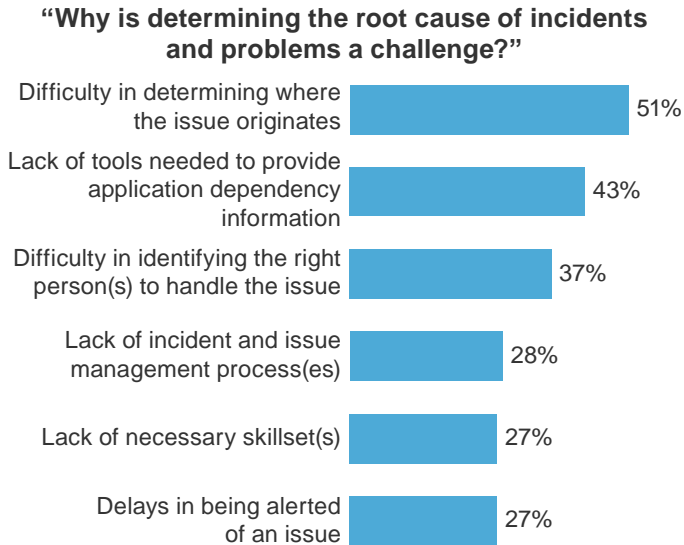
IT Managers Struggle With Discovery And Dependency Mapping

Efforts to improve IT efficiency are underway, but a variety of issues linked to asset and software dependencies impede goals. Inadequate tools and necessary rework also limit IT managers' ability to streamline IT processes. Enterprise IT managers reported the following:

- › **Ignorance of application dependencies makes server consolidation and virtualization challenging.** Currently, 53% of enterprises consider server consolidation and virtualization challenging due to a lack of visibility. More

- › **Determining the cause of incidents and problems hampers IT managers.** More than two-thirds of enterprises (68%) find it challenging to determine the ultimate cause of incidents. Half of them have difficulty determining where the issue originated, and 43% lack the needed tools to provide application dependency information. Secondary challenges in determining the root cause of incidents include people, management, and skill issues (see Figure 5).
- › **Rework is a waste of resources.** Rework uses precious resources, and 75% of enterprises have a rework rate of 11% or higher. Lowering rework can save time and costs, thereby improving efficiency (see Figure 6).

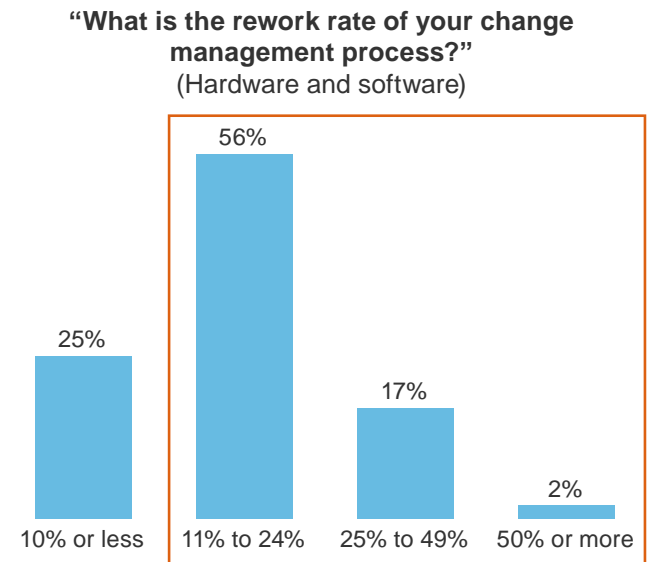
FIGURE 5
Determining The Ultimate Causes Of Incidents Is Challenging For 68% Of Enterprises



Base: 82 IT managers with responsibility for infrastructure and operations management at US enterprises that consider it challenging to determine the root cause of incidents and problems

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016

FIGURE 6
Rework Hampers Efficiency



Base: 120 IT managers with responsibility for infrastructure and operations management at US enterprises

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016

Implementing A Discovery And Dependency Tool Brings Benefits

A large percentage of IT organizations rely on manual methods to track assets. This process is slow and not easily adaptable to change, and therefore may hinder efforts to increase IT efficiency and quickly respond to the needs of the business. Our survey found that:

- › **More than a third of companies with inventory challenges are tracking assets manually.** Complete documentation of hardware and software inventory is somewhat or very challenging for 82% of decision-makers. Of these respondents, 36% source assets too fast to keep track of what's deployed. Further, 39% track assets manually and are unable to refresh their inventory lists. This manual approach to asset tracking is not sustainable if enterprises want to keep up with the pace of change (see Figure 7).

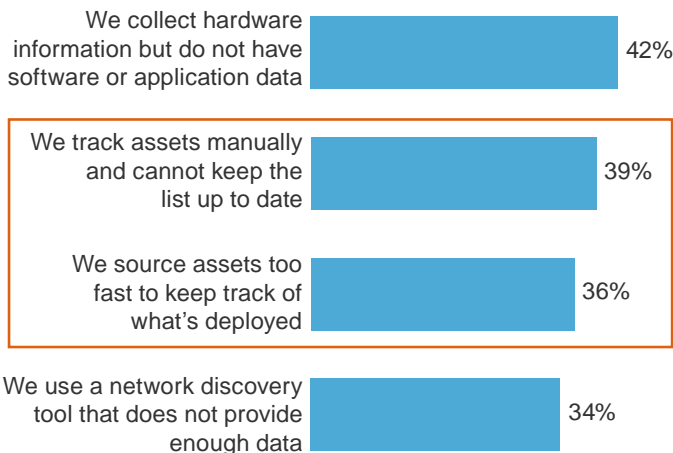
- › **Half of companies believe a discovery and dependency tool will improve asset management.** The expected benefits of implementing a discovery and dependency tool are of significant value to organizations; these outcomes rectify many of the issues that companies struggle with today. Nearly half (47%) of companies believe a discovery and dependency tool will improve asset management. Timely identification of compliance issues, improved disaster recovery, and improved consolidation top the list of perceived benefits.

› **Enterprises that use discovery and dependency tools are better able to address compliance issues.**

Companies that implement a discovery and dependency tool realize material benefits as a result. Two out of five enterprises (40%) are better able to address compliance issues. Additionally, about a third benefit from reduced risk by eliminating antiquated software (34%) and identifying which infrastructure is supporting which part of the business (33%) (see Figure 8). All of these benefits contribute to the ultimate goal of increased IT efficiencies.

FIGURE 7
Root Causes Of Challenges Associated With Inventory Documentation

“Why is this inventory a challenge?”

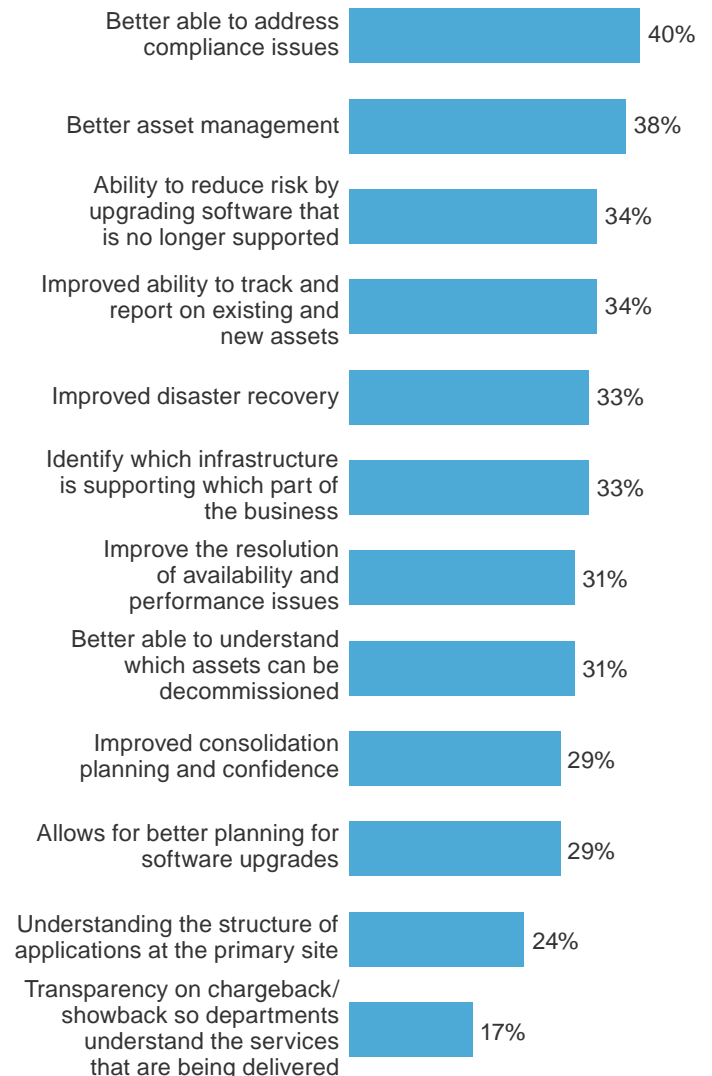


Base: 98 IT managers with responsibility for infrastructure and operations management at US enterprises that find it challenging to complete documentation of hardware and software inventory

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016

FIGURE 8
Realized Benefits

“Which of the following benefits has your company received as a result of implementing a tool for discovery and dependency?”



Base: 58 IT managers with responsibility for infrastructure and operations management at US enterprises currently using a discovery and dependency tool

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016

Key Recommendations

As IT executives strive for increased IT efficiency, application discovery and dependency mapping provides the foundation on which operational efficiency is built. A better understanding of the relationships between applications and infrastructure components is the key to major operational improvements:

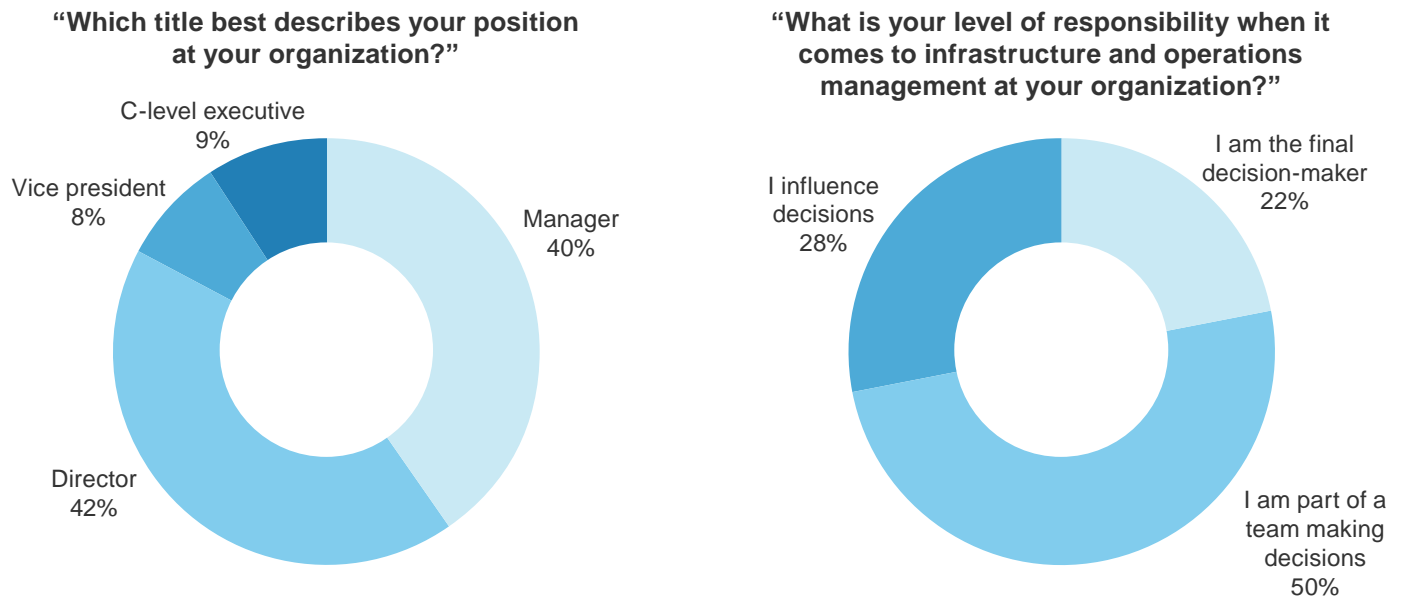
- › **Service management is improved through a better control of infrastructure and application changes.** Companies that better understand their operational deployment can better evaluate and plan for changes. Understanding application dependencies reduces the risk of disrupting other service components and provides improved control of application and infrastructure changes on business services.
- › **Operation management is improved through a more efficient set of management tools.** Ignoring infrastructure and application dependencies leads to potentially conflicting decisions that eventually have an impact on service quality. IT operations processes help avoid these conflicts and lead to more IT efficiency. These processes include provisioning and allocating dynamic resources, planning for digital transformation, understanding software licensing issues, and identifying unused or misused resources. Capacity planning and service-level management can also be vastly improved by better understanding the relation between infrastructure and business service performances.
- › **Enterprise architecture benefits from a better way to plan service delivery strategies.** Application mapping allows firms to understand which applications run on servers and how these servers depend on each other. This enables a more efficient and error-free server consolidation, creating a strategic roadmap for infrastructure evolution and paving the way for architecture innovations.
- › **Risk management benefits from a better understanding of potential vulnerabilities.** Understanding where and how applications are deployed and how they affect the business provides a better view of potential security risks due to mismanaged infrastructure configurations.
- › **Application management is improved by a better understanding of production deployments, which in turn improves release management.** IT organizations can use a discovery and dependency tool to validate application architectures and development with production before deployment.

Appendix A: Methodology

In this study, Forrester conducted an online survey of 120 enterprise organizations with more than 1,000 employees in the US to understand how discovery and dependency mapping can create a more agile and efficient IT organization. Survey participants included decision-makers in IT management with responsibility for infrastructure and operations management strategies. The study began in December 2015 and was completed in January 2016.

Appendix B: Demographics/Data

FIGURE 9
Job Title And Level Of Responsibility



(percentages may not total 100 because of rounding)

Base: 120 IT managers with responsibility for infrastructure and operations management at US enterprises

Source: A commissioned study conducted by Forrester Consulting on behalf of BMC Software, January 2016