

# Managing the Complexity of Today's Hybrid IT Environments

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There are many factors driving the increasing complexity of IT today. The rapid adoption of cloud computing, big data and mobile device proliferation are making it harder for organizations to get their hands around IT, especially as the IT environment has expanded to include new sources of applications, infrastructure, and devices accessing corporate resources. As a result IT managers, whether they are a part of an enterprise IT organization or a Managed Service Provider (MSP), need new ways to effectively and efficiently manage and secure the environment, and ensure IT service and business success.

Some of the requirements posed by the changing environment include controlling remote devices, maintaining visibility into virtualized resources and achieving demanding SLAs for critical business applications. Effective service management is difficult where services are reliant on dynamically shared resources, and is even more challenging when some of the resources are on-premise and some of the resources are in a public cloud.

As IT organizations adopt new technologies or approaches to implementing technology, they seldom eliminate the existing technologies and approaches. For example, as IT organizations make increasing use of Infrastructure-as-a-Service (IaaS) and Software-as-a-Service (SaaS), they still continue to provide infrastructure services and host applications on-premise. As a result, IT managers face challenges associated with both the legacy environment and the emerging environment and require a single tool that can provide visibility across all of the technical domains that comprise a given service, which can also integrate management data from the traditional and the emerging environments.

Until now meeting these challenges has been labor intensive and costly because the only choice has been to use poorly integrated, narrowly focused management tools. This white paper describes the key characteristics of the changing environment and it identifies a new choice that IT managers have for meeting the growing set of management challenges.

### Factors Driving Change

Cloud computing, mobility and big data are being adopted by enterprises of all sizes. In combination, these technologies have spawned a range of innovative business applications and services that improve productivity, collaboration and customer satisfaction. However, many of these benefits require applications and services that rely on a complex combination of infrastructure technologies, as shown in Figure 1 on the following page.

As IT evolves to include so many new components, new tools are needed to manage them. However, adding another non-integrated management tool to the mix only increases the complexity, difficulty and manual nature of the IT manager's job. Multiple point solutions are unable to provide effective correlation between different infrastructure aspects, e.g., servers, network, storage, and end points, and to relate applications and business services to the infrastructure on which they run, making true IT and business service level management impossible.

As described on the next page, each new infrastructure technology creates its own set of management challenges:

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**Cloud Computing** is growing in popularity because it provides organizations with faster access to applications and services while reducing the cost of those applications and services. While the initial adoption of cloud computing was driven by small and medium sized businesses, today businesses of all sizes utilize the cloud.

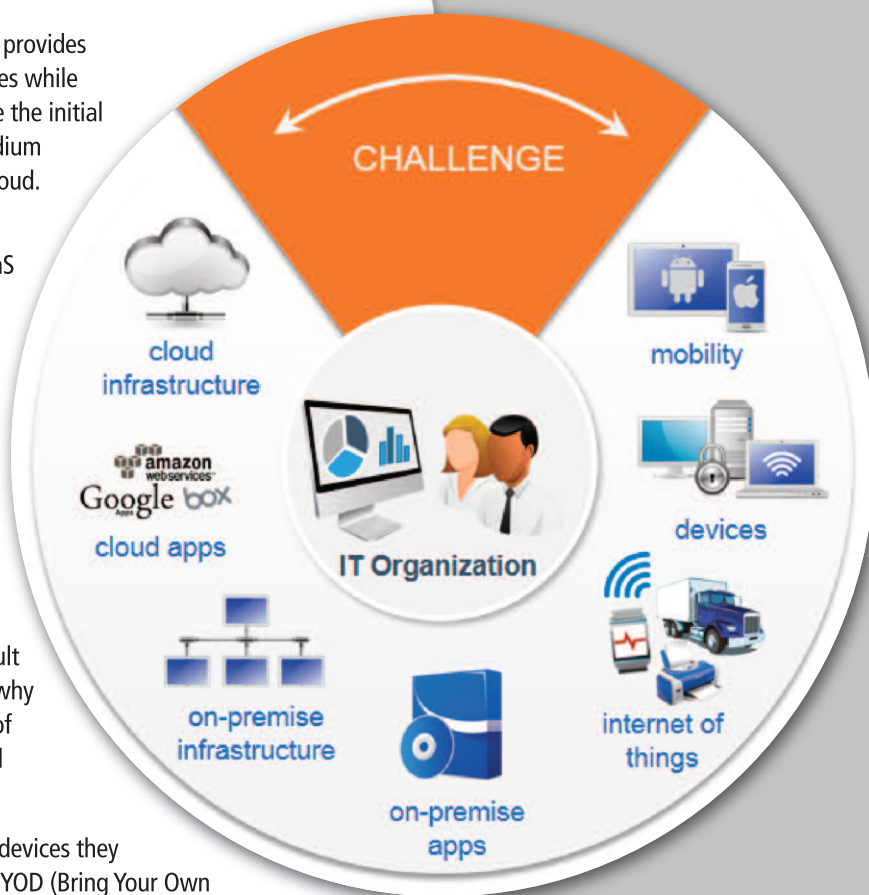
One form of cloud computing, public cloud, focuses on organizations acquiring applications and services from SaaS and IaaS providers. Private cloud computing, on the other hand, focuses on companies implementing the same techniques that IaaS and SaaS providers implement (e.g., virtualization and automation) but doing it internally. A third form, hybrid cloud computing, focuses on creating applications and services that are comprised of components from both private and public clouds.

One of the challenges associated with the use of public cloud computing is that IT organizations often have less visibility and control over the resources that comprise the cloud-based applications and services. This makes it difficult to manage those resources and is just one of the reasons why the use of public cloud computing increases the difficulty of ensuring SLAs. Another big reason is that in a public cloud environment compute resources are shared dynamically.

**Mobility** Employees today expect to work on whatever devices they prefer, and as a result many companies have established BYOD (Bring Your Own Device) to work policies, whereby employees use their own devices to access both personal and corporate resources. The 2013 Application and Service Delivery Handbook<sup>1</sup> identifies the breath of mobile devices that IT organizations currently support including Android based tablets and phones, iPhone and iPads, Windows based tablets and phones and BlackBerry devices. These mobile devices used to be entirely company-provided, but increasingly they are now brought from home -- part of the BYOD trend. And, since users certainly haven't stopped using laptops and desktops, IT managers must now support both company provided and BYOD mobile devices, as well as the existing laptops and desktops.

The management challenges of company-provided mobile devices are different than those for BYOD devices. Managing a company-provided mobile device requires a Mobile Device Management (MDM) solution that provides security and complete management of the data on the device. The assumption is that everything on the device is company owned and so data is backed up as needed. In addition, an MDM solution must provide the ability to manage approved applications and wipe the device clean if it gets lost or stolen. BYOD devices, on the other hand, are used for both personal and business purposes. As a result, managing BYOD devices requires a separation between the corporate and personal applications and data on the device and the ability for the organization to have oversight and control only of the corporate portion. Since many companies now have three types of access devices to manage -- laptops/desktops, company-provided mobile devices, and BYOD devices -- IT managers need a management solution that encompasses all three and is centralized, and consistent, yet tailored to the specific needs of each device type.

**Big Data** is the newest of the trends discussed in this white paper and the phrase refers to working with large and complex data sets that are challenging to process using traditional techniques. The use of big data techniques is increasing among companies of all types because big data solutions are available from public cloud providers and because of the increasing number of



**Figure 1:**  
Applications Spanning Mobility  
and Virtualized Resources in  
Private/Public Clouds

<sup>1</sup> [http://www.webtorials.com/main/resource/papers/webtorials/2013-App-Serv-Handbook/2013\\_Application\\_and\\_Service\\_Delivery\\_Handbook-Complete.pdf](http://www.webtorials.com/main/resource/papers/webtorials/2013-App-Serv-Handbook/2013_Application_and_Service_Delivery_Handbook-Complete.pdf)

broad-based, well understood use cases. In his recent article<sup>2</sup>, Bernard Marr identified a number of key big data use cases including understanding and targeting customers, understanding and optimizing business processes, and improving science and research.

Many of the management challenges associated with big data are the same challenges associated with any type of data analysis – providing authorized, secure access to the data. However, some of the management challenges associated with big data stem from the size and complexity of the underlying data sets. For example, implementing big data solutions may require IT organizations to collect data from a large number of sources. The data sets must be transmitted and stored in a way that ensures that performance is not impacted. Often the data analytics are performed by a public cloud provider and the results need to be accessed in a timely manner by a wide range of business users. This increases the need for better management of public cloud resources, as well as of the infrastructure that supports business users and their access to cloud resources. Further complicating the management challenges associated with big data is the fact that the size of the data sets will grow dramatically as the adoption of the Internet of Things (IoT) accelerates.

### Management Impact

The implication of cloud, mobility, and big data for IT organizations is that they must now manage these new environments along with their legacy infrastructure and applications in an integrated, automated fashion. Integration is important because new and legacy resources together deliver services to the business, so understanding relationships, dependencies, security, and performance is key to meeting business service commitments. Automation is important because of the increasing complexity and growing number of management tasks which can no longer be undertaken with a manual, potentially error-prone approach.

The volume of data created from IT management systems, including the collection of device management data, events and logs, is itself very significant. As such, IT management requires a big data like solution that is designed to handle the challenge. An integrated, comprehensive and cloud-based management tool, with extensive automation capabilities, can help IT organizations address the new cloud, mobile and big data management challenges. The right IT management cloud-based solution can also reduce TCO, and let the IT operations team focus on managing IT, rather than managing IT management software.

Three significant considerations for evolving management solutions are:

- Manage cloud infrastructure and application services along with legacy on-premise services with an integrated management system, all within a single command center.
- Manage company-owned and employee-owned mobile devices, along with traditional end user clients, as part of an integrated management solution, including the ability to remotely access devices anytime, anywhere.
- Automate every manual, repetitive task possible to maximize IT efficiency and reduce human error.

### The Kaseya Solution

The Kaseya management solution helps MSPs and mid-sized enterprises address these new challenges, improve the management of IT resources, and drive the success of their businesses. It does this by providing highly integrated IT management software designed to support applications and services that span complex infrastructures and incorporate a wide range of system management capabilities – see figure 2. Management capabilities include administration and provisioning of IT assets and applications, including configuration, remote support, automation, monitoring, service-level management, and analytics, across the broad IT environment – on-premise, cloud, and mobile.

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<sup>2</sup> <https://www.linkedin.com/today/post/article/20131113065157-64875646-the-awesome-ways-big-data-is-used-today-to-change-our-world>

The vision behind Kaseya's management approach is to enable IT managers to reach three primary objectives: command centrally, manage remotely and automate everything.

**Command Centrally:** Kaseya combines visibility into the entire IT environment with the ability to manage and control everything from a single integrated dashboard, ensuring the availability, performance and security of the entire infrastructure. Kaseya's dashboard integrates a broad set of management functions, including:

- Monitoring
- Remote control
- Software distribution, updates and back-ups
- Software patch management
- Configuration management
- Service-level management
- Security management
- Asset management

**Manage Remotely:** Kaseya enables IT managers to discover, manage and control widely distributed environments, including remote mobile devices and resources in the public cloud. Regardless of location, IT devices can be monitored, audited and controlled. This enables IT managers to extend their reach, maximize their efficiency and ensure service-level performance. Extensive analytics and role-based reporting facilitate the identification, tracking and proactive resolution of problems that arise.

**Automate Everything:** Kaseya automates as many management processes as possible to increase IT staff productivity. Automated processes include discovery, software and patch deployment, configuration management, proactive issue remediation, security management and back-up based on configurable policies and rule-based procedures.

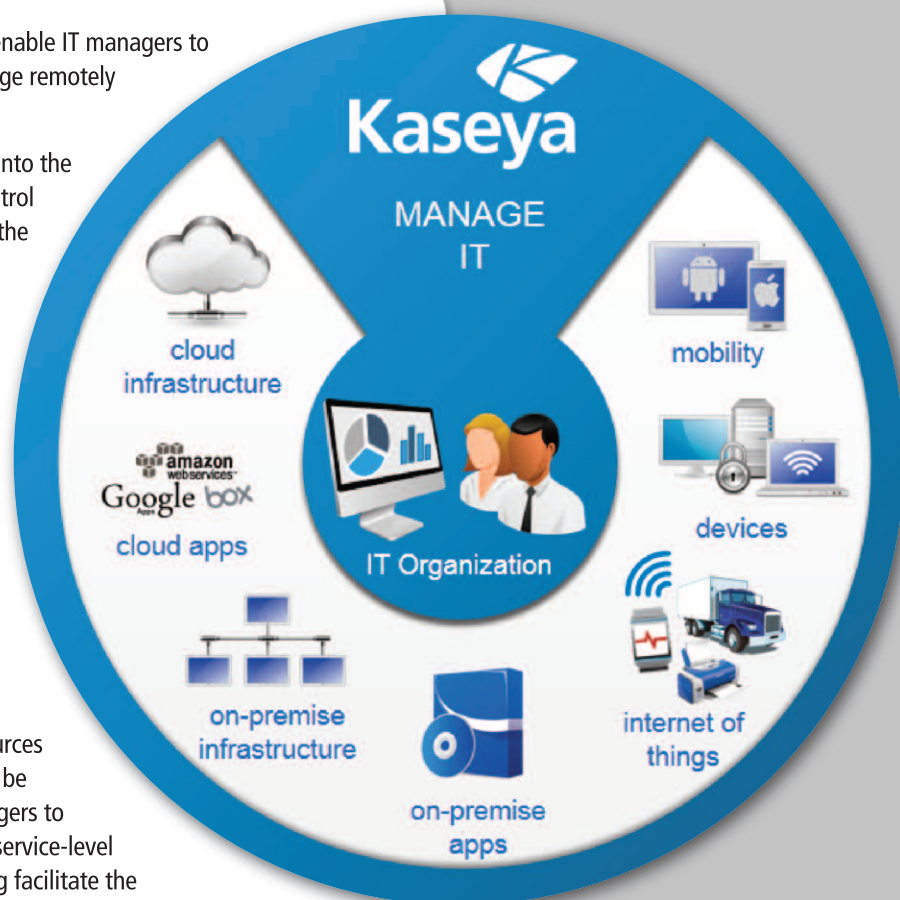
## Conclusions

Although providing significant business benefits, recent technological advances in mobility, cloud computing and big data have also dramatically complicated the task of managing IT resources. Mitigating the challenges associated with these technologies allows IT organizations to satisfy existing SLAs and leverage technology to support innovative new services which are designed to improve productivity, collaboration and customer satisfaction.

Mid-sized enterprises and MSPs can mitigate their challenges by leveraging Kaseya's integrated service-centric management capabilities to deliver a rich set of services to end users and customers across widely distributed environments. The combination of centralized command, remote management and pervasive policy-based automation empowers IT staffs to deliver the required levels of service while also achieving greater operational efficiency, greater IT productivity and reduced cost.

Kaseya's IT management solution integrates a wide range of management capabilities to enable IT organizations and MSPs to command everything within IT centrally, to manage remote and distributed environments with ease, and to automate all aspects of IT management, delivering higher service quality and greater IT efficiency. Kaseya enables IT managers to manage all aspects of the IT environment – including on-premise, cloud, hybrid-cloud, virtualized, distributed and mobile components. And Kaseya's solution itself is delivered via the Kaseya IT management cloud or as on-premise software.

Kaseya solutions that deliver on our vision include Virtual System Administrator (VSA), Traverse, Bring Your Own Device (BYOD) Suite and 365 Command.



**Figure 2:**  
Kaseya Management Spans  
Complex Infrastructures



## The Kaseya Product Suite

**Virtual System Administrator** is an IT service management platform that integrates and automates a broad range of IT management tasks, including provisioning and configuration of IT assets and applications, software distribution, patch management, backup, remote support, service automation, security, mobile device management, reporting and analytics.

**Traverse** provides a centrally managed and highly automated service-centric view of a company's infrastructure, mapping business services to the underlying IT infrastructure components that support them. Traverse provides monitoring of the entire IT environment, including applications, databases, the network infrastructure, data center equipment, physical and virtual servers and VoIP. Problems with networks, servers or applications are identified and mapped to the impacted business services and/or user groups. This information is reported via centralized dashboards and problems are remediated via automated procedures or proactive manual processes. Traverse delivers service level management functionality through the industry-leading Service Container technology.

**Kaseya Enterprise Mobility Management (EMM)** is an integrated solution to secure mobile devices and company data on the devices, whether company-owned or employee-owned (BYOD), from a single pane of glass. It is a powerful solution that combines capabilities for Bring Your Own Device (BYOD) management, Mobile Device Management (MDM) and Mobile Application Management (MAM).

**365 Command** is a hosted service that delivers an easier way for IT organizations to manage their Microsoft Office 365 and SharePoint Online subscriptions. 365 Command reduces the complexity of performing common administrative and troubleshooting tasks in part by replacing the command line interface of Windows PowerShell® with a rich, HTML5 Web interface. The Web-based portal provides users with enhanced administration, reporting and monitoring tools and enables administrators to gather data from any device, anywhere.

Kaseya solutions are delivered via the Kaseya IT management cloud or as on-premise software. Kaseya's IT management cloud solution continues to be the market leader with over 2,000 MSPs and mid-market customers using its cloud solution to manage their environments. Key advantages of the Kaseya cloud solution include:

- Day-one access to new capabilities and enhancements as they are developed and released by Kaseya.
- Avoidance of the costs related to server hardware, software maintenance and support.
- High availability, performance and security provided by a well-designed cloud-based service.

In addition, Kaseya can analyze data from multiple cloud customers to identify sets of circumstances that have led to decreased levels of service for specific applications. As a result of this analysis, a Kaseya customer can identify potential problems and circumvent issues that have been encountered by other Kaseya customers.

### About Kaseya

Kaseya is the leading provider of cloud-based IT management software. Kaseya solutions allow Managed Service Providers (MSPs) and IT organizations to efficiently manage IT in order to drive IT service and business success. Offered as both an industry-leading cloud solution and on-premise software, Kaseya solutions empower MSPs and mid-sized enterprises to command all of IT centrally, manage remote and distributed environments with ease, and automate across IT management functions. Kaseya solutions are in use by more than 10,000 customers worldwide in a wide variety of industries, including retail, manufacturing, healthcare, education, government, media, technology, finance, and more. Kaseya is privately held with a presence in over 20 countries. To learn more, please visit [www.kaseya.com](http://www.kaseya.com)

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