CAN IT WIN THE RACE AGAINST CHANGE?
HOW BUSINESSES' APPETITE FOR NEW TECHNOLOGY CREATES BLIND SPOTS IN I.T. MANAGEMENT

International CIO Study Reveals Business Risks in Today's Cloud and Mobile Applications

EXECUTIVE SUMMARY

The application environment is undergoing significant change. Fuelled by trends such as the consumerization of IT, mobility and new models such as cloud computing, applications no longer reside entirely in the comfort of the corporate IT environment. In September 2011, Compuware commissioned a study of 520 CIOs from enterprise organizations across the United States, United Kingdom, France, Germany, Italy, Benelux, Japan and Australia to determine the impact of these new trends and models.

Outlining the study's findings, this report provides analysis of the key business issues that are emerging as a result of the new IT environment. In addition, it examines the challenges that IT departments face in implementing the best practices for achieving the IT maturity levels businesses need to thrive when managing web, non-web, cloud, mobile and streaming applications.

The report then presents a practical approach for improving Application Performance Management (APM) Maturity, with a step-by-step approach for extending IT best practice beyond the firewall and across the entire application delivery chain.

KEY HIGHLIGHTS FROM THIS STUDY:

- Eighty-six percent of CIOs say deeper insight into the end users' experience of applications helps improve IT maturity.

- A lack of transparency into the performance of cloud and SaaS providers is reversing IT maturity across 64 percent of enterprises.

- Seventy-three percent of CIOs indicate that the consumerization of IT will be restricted by the maturity of their application performance management capabilities.

- Sixty-four percent of CIOs say support for employee mobility is almost impossible due to their reliance on external networks, making it much harder to control performance and end-user experience.

1. BIG EXPECTATIONS, BIGGER RISKS: WHEN I.T. IS IN THE HANDS OF THOSE WHO DON'T MANAGE IT

The ever-changing technology landscape constantly places new demands on both IT departments and the business. Today, there are a number of trends and models that force IT out of the safety of the corporate firewall. Even more alarming, many of the IT demands of end users increasingly require businesses to lower the drawbridge and openly invite greater complexity into the infrastructure.

CONSUMERIZATION OF I.T.

Perhaps the most visible example of this change is the consumerization of IT, in which, among other things, technology innovation that first emerges in the consumer market (e.g., tablets and smartphones) makes its way into the business environment. As IT service teams adapt processes to new technologies, enterprise IT infrastructures are exposed to a range of potential issues in the area of security (e.g., loss of corporate data on an employee-owned smartphone device), end-user productivity (e.g., ensuring business applications perform effectively on a range of devices), and general support costs.
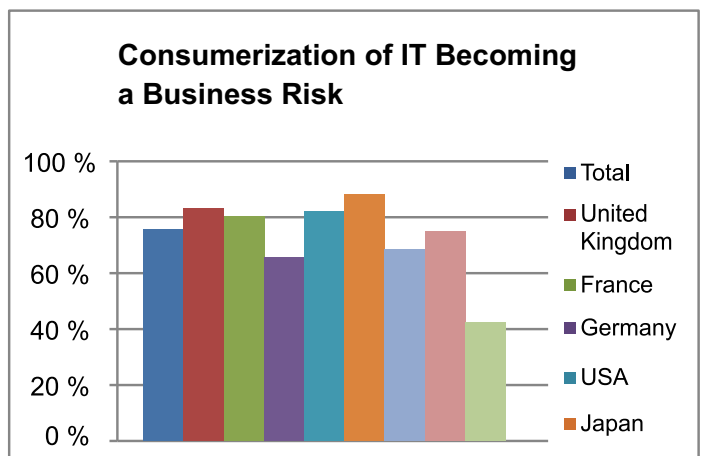

Figure 1: Seventy-seven percent of CIOs view consumerization of IT as a business risk.

Consumerization Driving Unrealistic Expectations Around Role of IT

Legend: Total, United Kingdom, France, Germany, USA, Japan
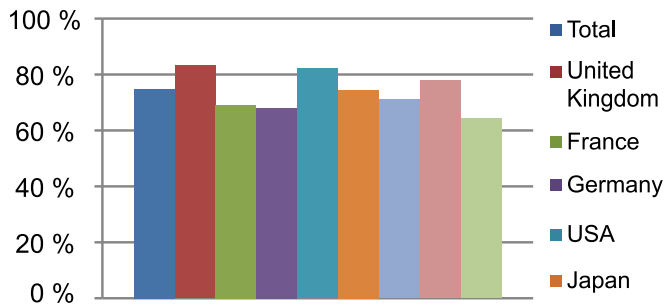
Figure 2: Seventy-four percent of CIOs state consumerization is driving unrealistic expectations of IT.

When asked about the impact that consumerization of IT will have on their businesses, CIOs naturally expressed concerns. Firstly, an overwhelming 77 percent feel that as this trend continues to gather momentum, it will lead to greater business risks. Furthermore, the consumerization trend is already driving unrealistic expectations of IT in 74 percent of enterprises. Moreover, users now expect IT to address technology issues that sit outside the core infrastructure.

The idea that end users' expectations of IT are increasing is certainly not a new one, but the overarching question today is how tolerant the buisness as a whole will be if this trend continues.

Mobility Projects Forging Ahead Without IT's Full Involvement

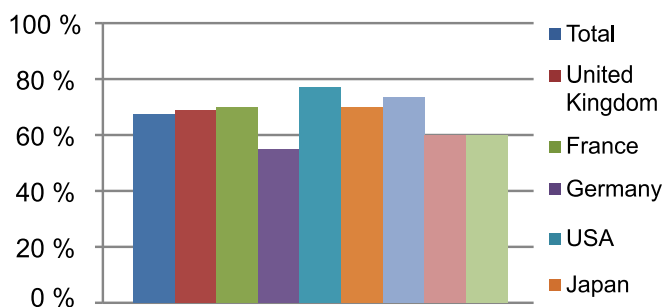Legend: Total, United Kingdom, France, Germany, USA, Japan

Figure 3: Sixty-seven percent of enterprise mobility projects forge ahead without IT's full involvement.

One of the big questions in many boardrooms today is how to reach and engage customers through mobile channels. Much like the discussions around e-commerce over a decade ago, the emerging trend of enterprise mobility holds the potential to significantly transform business strategy. However, when asked about IT's contribution in this area, the survey revealed an alarming statistic: IT is not in the driver's seat for 67 percent of enterprise mobility projects. Indeed, there are enterprise mobility projects that are forging ahead without the full involvement of IT.

Delivering IT Support for Mobility Almost Impossible

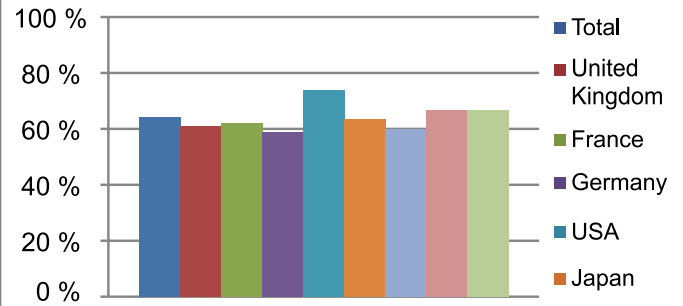Legend: Total, United Kingdom, France, Germany, USA, Japan

Figure 4: Sixty-four percent of enterprises find that delivering IT support for mobility is almost impossible.

The age-old conundrum of the business/IT disconnect may well continue with the advent of new technology trends. The reality is that even when the business involves IT in mobility projects, obstacles are likely to be raised around the level of support provided. For example, according to the survey, delivering support for employee mobility is almost impossible for 64 percent of IT departments. This is because these devices must invariably have to go onto external mobile operator networks, making it much harder to control performance and the end-user experience.

Inability to Provide SaaS or Social Media SLA Preventing IT Support

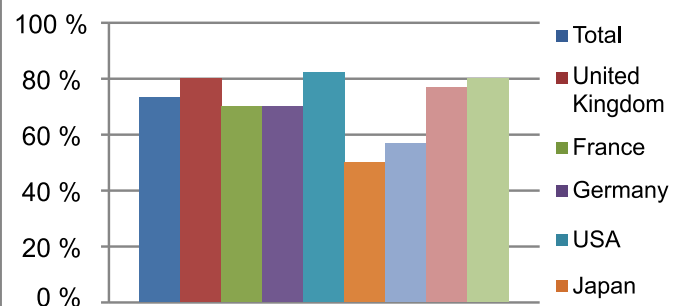Legend: Total, United Kingdom, France, Germany, USA, Japan

Figure 5: Seventy-three percent of CIOs highlight how an inability to provide SaaS or social media SLAs prevents IT from supporting these technologies.

This issue was further highlighted when it came to IT's ability to support new external applications and services. Despite the huge prevelance of software as a service (SaaS) and even the use of social meda in businesses, 73 percent of IT departments are not supporting these services because they are unable to provide service level agreements (SLAs) for them. This highlights the struggle organizations have in applying IT best practices to this new era of IT.
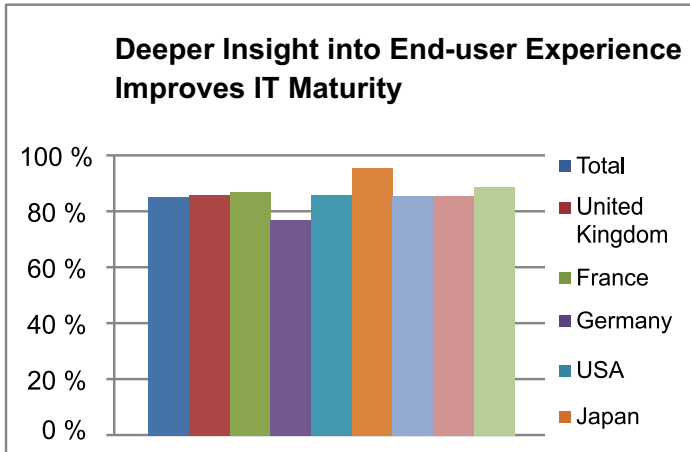
I.T. MATURITY

Figure 6: Eighty-six percent of CIOs indicate that deeper insight into end-user experience improves IT maturity.

Today's end users — customers, employees and partners — access applications from varied geographies, browsers and devices. Understanding the end-user experience and how this impacts the business is quite difficult. In fact, 86 percent of CIOs agree that deeper insight into the end users' experiences of applications helps improve IT maturity. However, this type of insight requires testing and monitoring applications the same way end users use them: on the same browser and device and in the same location. Organizations with mature IT and APM practices use a combination of synthetic and real-user monitoring into end-user experience and, when problems do occur, quantify the business impact and isolate the root cause.
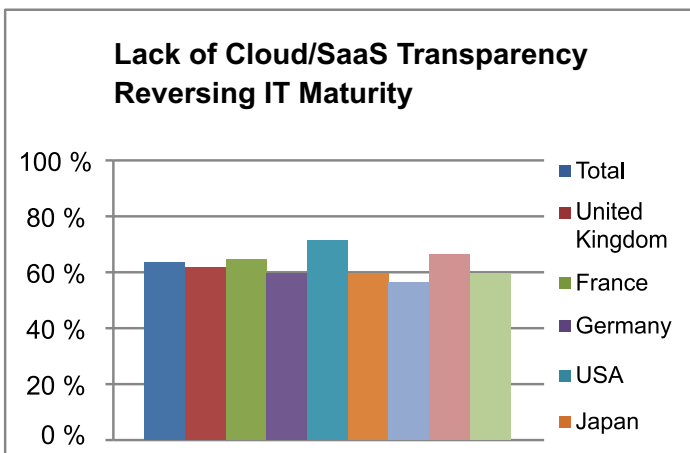

Figure 7: Sixty-four percent of CIOs believe that a lack of cloud/SaaS transparency reverses IT maturity.

An in-depth, end-to-end view of application performance from the end user to the data center is linked to improved IT maturity. This point is further highlighted when it comes to CIOs' assessment of external cloud computing and SaaS providers. While enterprises are currently on a path toward greater adoption of these outside services, a clear concern is that a current lack of tranparency into the performance of cloud and SaaS providers actually is reversing IT maturity across 64 percent of enterprises. Why does this matter? As applications become more and more composite, components such as e-commerce engines, ratings and reviews, ads, CDNs and social media are increasingly delivered via the cloud. If there are performance problems with any of these components, your brand takes the hit.
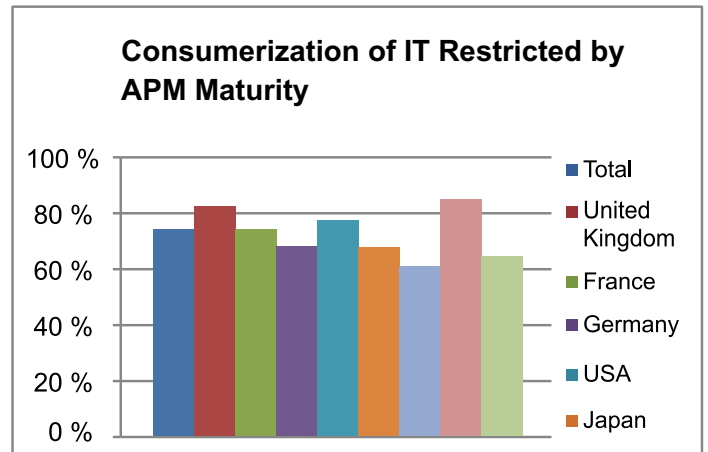

Figure 8: Seventy-three percent of CIOs state that consumerization of IT is restricted by APM maturity.

This reversal of IT maturity brought by new technology trends is clearly a cause for concern in any business. Failure to address this challenge can potentially make or break the ambitions of any new initiative that takes IT out of the control and comfort zone of the corporate firewall. The goal is to gain greater insight into the peformance of applications that cross over mutilple devices, networks and external providers. This is why 73 percent of CIOs indicated that the consumerization of IT will be restricted by the maturity of their application performance management capabilities.
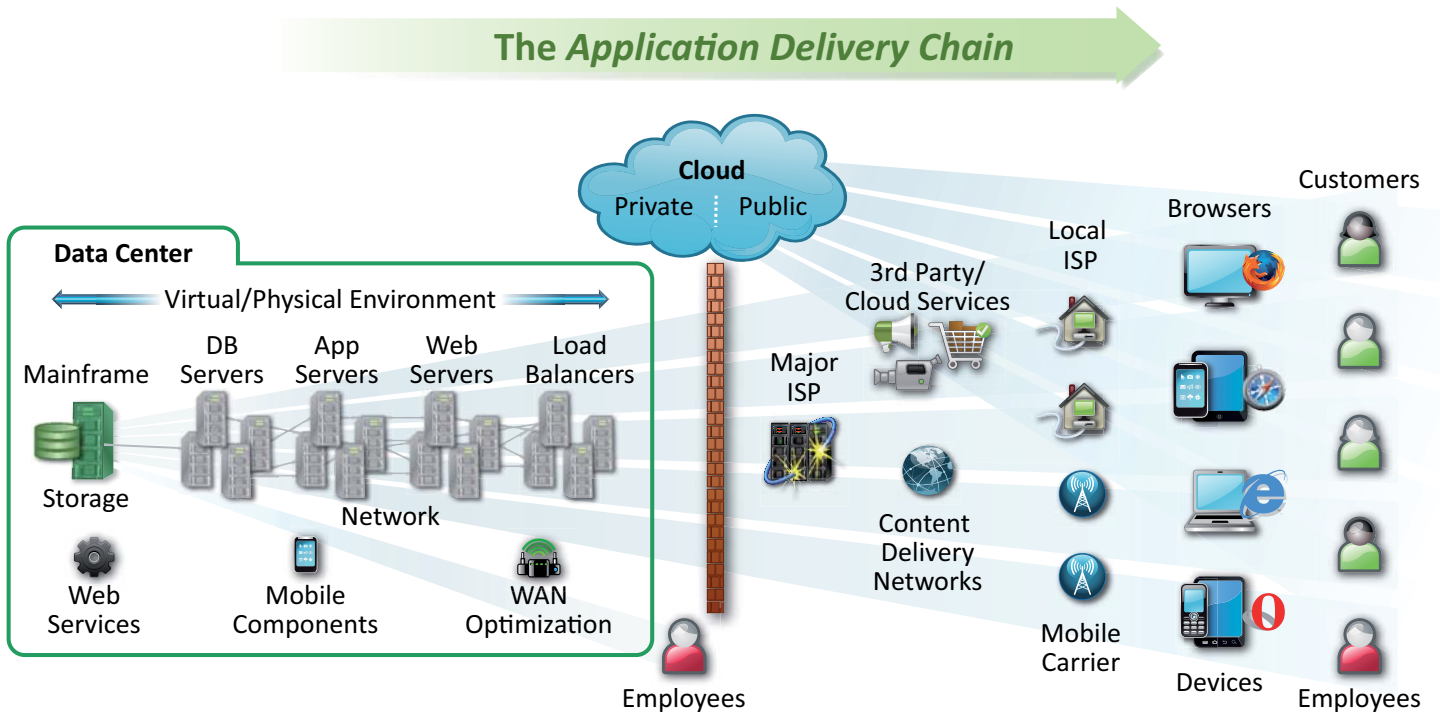
Figure 9: The Application Delivery Chain (Source: Compuware)

The challenges highlighted in this study are underpinned by a fundamental change taking place across the application environment. Delivering web, non-web, mobile, streaming or cloud-based applications to customers or employees involves a complex set of services and multiple layers referred to as the application delivery chain (see Figure 9). Users now access applications via this intricate chain, starting with an array of browsers and mobile devices, traversing the Internet, cloud services, mobile or third-party providers, the corporate WAN and a multi-tier data center. At any time and any point, problems that jeopardize end-user or customer satisfaction, revenue and brand loyalty can arise.

With the entry of virtualization, cloud computing and other emerging technologies in an already highly complex environment, traditional system management tools are insufficient. They focus solely on "siloed" infrastructure components and what happens behind the firewall. While these isolated solutions confirm how well your database, network and servers are running; they can't show the actual experience of end users and customers or the business impact of a problem. Without this information, there really can't be any certainty if applications are performing optimally for end users or customers — or if they are meeting the needs of the business.
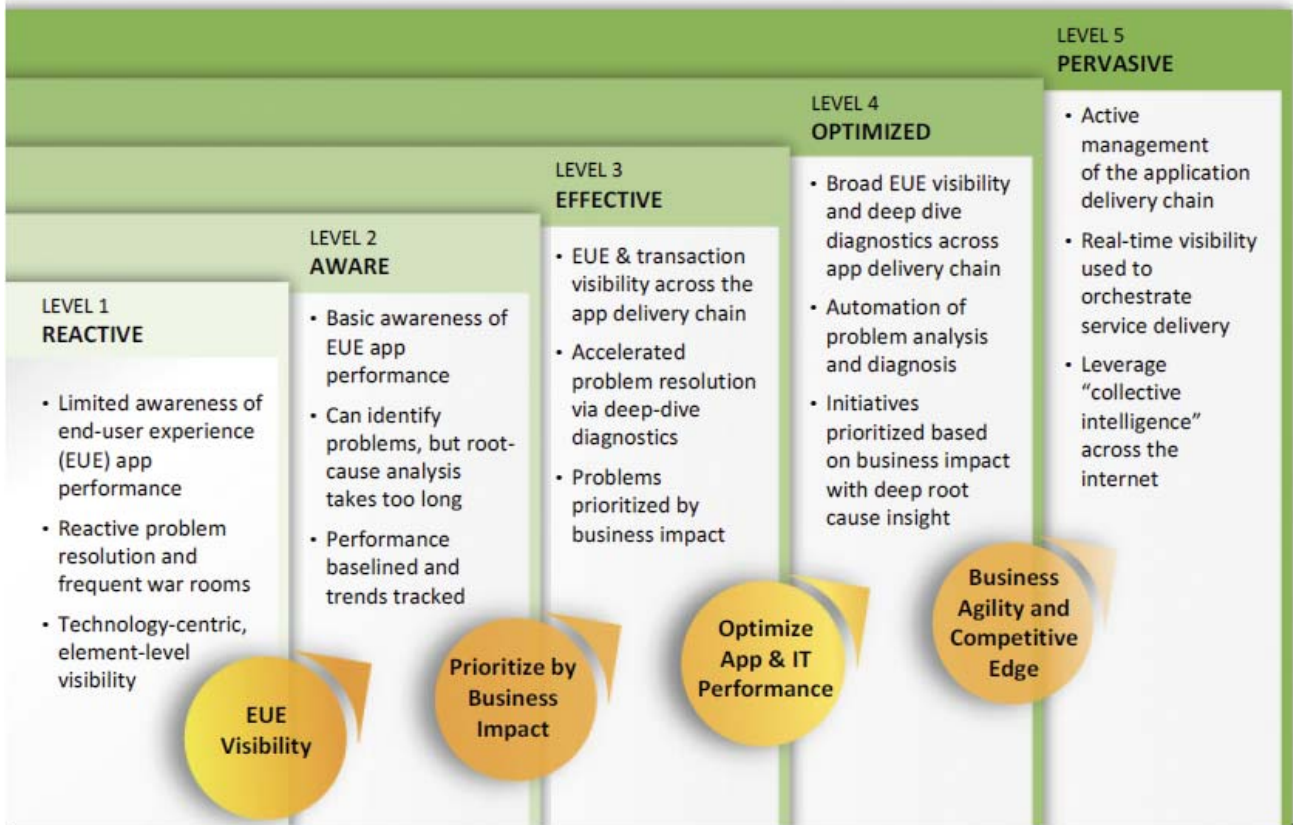
STEP-BY-STEP APPROACH

Figure 10: Compuware APM Maturity Model (Source: Compuware)

Given the complexity of today's application delivery chain, it is unfeasible for most organizations to master every aspect of managing the end-user experience all at once. A staged roadmap that provides tangible returns at each step makes the most sense. Maturity models are a common mechanism for expressing the preparedness of an organization for meeting specific business challenges. The Compuware APM Maturity Model provides an approach to achieving application performance excellence and developing a roadmap based on your organization's capabilities and goals (see Figure 10). It characterizes the phases, from reactive to optimized and pervasive. More importantly, it sets attainable goals at each step along the way, covering:

1. **"Reactive" stage:** Organizations lack visibility into the end-user experience and are unable to respond to problems identified by end users.

2. **"Aware" stage:** Organizations get beyond incident and begin monitoring applications from an end user's perspective.

3. **"Effective" stage:** The organization becomes more savvy, as it extends monitoring instrumentation across the application delivery chain. This results in a heightened understanding of application performance, and the ability to accelerate root-cause analysis and prioritize resolution by business impact.

4. **"Optimized" stage:** A broader cross-section of applications and transactions are monitored with deep-dive diagnostics across the entire application delivery chain. Insight is provided into investments that will drive the greatest performance improvements.

5. **"Pervasive" stage:** End-user experience testing becomes widespread and closed-loop. Predictive analytics are a core part of the toolkit and knowledge base, so organizations can nip latent problems in the bud.

Within the confines of the corporate firewall, organizations with a high degree of IT maturity will often position themselves at Stage 3, or the "Effective" stage, within the APM maturity model. However, when factoring in models such as cloud computing or mobility, they will quickly realize they are most likely at Stage 1, or the "Reactive" stage, as they have little or no insight into the end-user experience. Thus IT maturity actually is reversed when organizations are unable to effectively monitor services that cross the comfort zone of their internal enterprise infrastructures onto the more complex application delivery chain.

CONCLUSION

Prolific changes in the IT environment are leading to entirely new business risks. However, as these changes are demanded by end users, IT departments must adapt or risk being completely sidelined by the business. To do this, it is vital to extend the scope of control beyond the corporate firewall where right now few, if any, IT departments have any visibility of how services perform, making it impossible to understand end users' experiences of these services as well as anticipate the business needs for application availability. Trends and models such as the consumerization of IT and cloud computing are reversing IT maturity and best practice approaches to service delivery.

With an end-to-end view of application performance, organizations can regain control over key components of the IT infrastructure that reside outside the corporate firewall. Moreover, with greater insight across the entire application delivery chain, it is possible to improve IT maturity so enterprises can meet the challenges and complexity of new technology demands, particularly those that are business-driven. The Compuware APM Maturity Model, provides organizations with a step-by-step approach to master the management of applications and control the business desire for more IT.

METHODOLOGY

Compuware commissioned Vanson Bourne, an independent research company, to conduct a study looking at the impact of new IT trends and models on the application environment. In September 2011, the independent research firm interviewed 520 chief information officers (CIOs) from large enterprises from a range of industries across the U.S., Europe and Asia-Pacific. The firm spoke with 100 CIOs each in the U.S., U.K., France and Germany, alongside 30 CIOs each in Italy, Benelux, Japan and Australia.

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