Gartner | Press Release

Gartner Says Top 10 Strategic Technologies Will Be Assimilated Into Management Tools

Analysts Discuss the Impact of Cloud and Virtualisation on Infrastructure and Operations at Gartner IT Infrastructure & Operations Management Summit 2012, 12-13 June in Frankfurt, Germany

Egham, UK, 12 June 2012 — The impact of Gartner's top 10 strategic technologies will not centre only on the business — their capabilities will also increasingly become integral to future generations of management architecture, according to Gartner, Inc.

"We are already seeing the adoption of 'big data' within the IT and operations management [ITOM] industry. In particular, software-as-service [SaaS] management providers now have to collect and synthesize large volumes of data," said Milind Govekar, managing vice president at Gartner. "We also expect more next-generation analytics to come to the forefront to address an increasingly hybrid cloud environment. On the social front, IT service desk social management tools will establish an interactive relationship with end users, enhance end-user productivity, provide a platform to share information and ideas, and market the value of IT to the business."

In the fourth quarter of 2011, Gartner identified the 10 technologies and trends that will have the biggest impact for most organizations in 2012. They are: 1. **Media tablets and beyond**, 2. **Mobile-centric applications and interfaces**, 3. **Contextual and social user experience**, 4. **The internet of things**, 5. **App stores and marketplaces**, 6. **Next-generation analytics**, 7. **Big data**, 8. **In-memory computing**, 9. **Extreme low-energy servers** and 10. **Cloud computing**.

Gartner analysts have shared their recommendations for how to manage these technologies and trends before they take over an organisation's IT operations.

Media tablets and beyond. The media tablet market is seeing rapid device churn, which makes support and management both complex and expensive. With users broadening their use of personal devices for business applications and many organisations deploying mobile device management (MDM) to support different management styles in different ways, Gartner expects these factors to drive the adoption of tools to manage the full life cycle of mobile devices. IT leaders should develop mobility policies to mitigate the risk associated with, for example, the loss of devices and also consider a managed diversity support strategy to deliver IT support that aligns with end-user choice.

Mobile-centric applications and interfaces. Managing applications and data is more important than managing devices. One application can support multiple devices that run different operating systems (OSs). However, organisations should not assume that tools and OSs work the same way in mobile environments as they do on the desktop. Gartner recommends that IT leaders establish a mobile competency centre to ensure there is sufficient focus on this area. In the longer term, they will need to

establish an end-user computing group with a single mission to provide a work space management service.

Contextual and social user experience. Context-aware computing uses information about an end user's or an object's environment, activities, connections and preferences to improve the quality of interaction with that end user or object. Gartner believes that by 2015, 40 per cent of the world's smartphone users will opt in to contextual service providers that track their activities. Defining and "surfacing" key metrics, such as performance and usage data, during application development will become paramount. IT operations will need to extend their capabilities beyond technologies such as configuration management databases to include individuals' social interaction information for social graph capabilities.

The internet of things. The Internet of things is a concept that describes how the internet will expand as sensors and intelligence are added to physical items such as consumer devices and physical assets and these objects are connected to the internet. It will likely become impossible for organisations to develop rules and discover relationships between these devices. As a result, machine and statistical learning technologies will likely be tools increasingly used by organisations using internet-attached sensors and instruments.

App stores and marketplaces. Gartner forecasts that by the end of 2012 mobile application downloads from app stores will top 31 billion. Business users use app stores and marketplaces from both internal and external sources, which potentially make it difficult to distinguish between consumer apps and corporate apps. IT operations will need to address overlap between MDM and app store management as users will use various devices for apps that will be variously in the cloud and on the premises, fixed and mobile, built and bought, and composed and atomic.

Next-generation analytics. Given the aforementioned examples of interlocked and interrelated systems, it is important to be able to construct a dependency graph so that IT operations can understand the impact of systems experiencing high error rates or suffering total failure and take remedial action. Cloud-based technology, such as cloud management platforms, has the potential to provide the rapid provisioning necessary in environments where demand is causing infrastructure overload.

Big data. The rapid growth of consumer technology and steadily falling unit costs for processors, storage and communications have resulted in a major disruption to the data that is potentially available to organisations. In big data infrastructure, file systems need a layer of abstraction over them to allow for ease of scale and rapid data processing. These technologies include file systems such as GFS, HDFS and Lustre, which increasingly form the core of these new environments. Management is needed, as so-called worker nodes in file systems like HDFS can come and go, and checks need to be made to see if the rate of node failure is too high to get the necessary work done.

In-memory computing. In-memory computing is a style of computing in which the primary data store for applications (the "data store of records") is the central (or main) memory of the computing environment (on single or multiple networked computers) running these applications. As not all in-memory solutions support durability features, IT leaders need to assess the need for additional logging and/or "snapshoting" capabilities as well as non-volatile random-access memory. It is also important to conduct a design review of applications that use in-memory computing — especially database versions — to ensure the architected performance is not compromised by excessive waiting due to latches and locks.

Extreme low-energy servers. Extreme low-energy servers are systems constructed using processor types that were originally developed for extremely low-power environments. Low-energy servers can significantly reduce power (and facilities space) costs, but their increased number can pose administrative challenges in terms of scale, so IT leaders need to look to automation technology (like Opscode Chef, Puppet and CFEngine) to reduce the labour overhead. IT leaders need to ensure these investments are

paying off by deploying power-monitoring and data centre infrastructure management technology to collect data on potential energy savings.

Cloud computing. Cloud compute infrastructure as a service (IaaS) — on-demand compute resources coupled with associated storage and networking capabilities — is a rapidly growing and fast-evolving market. Gartner estimates that by 2015 nearly 5 per cent of all virtual machines will run on external cloud IaaS. IT operations should transform itself into a "trusted service broker" able to work with the business to identify and procure cloud computing services — private, public and hybrid — to match various business requirements.

Gartner analysts will explore the impact of cloud computing and virtualisation on infrastructure and operations (I&O) at the Gartner IT Infrastructure & Operations Management Summit 2012, to be held from 12 to 13 June in Frankfurt, Germany.

For further information about the Gartner IT Infrastructure & Operations Management Summit 2012 taking place from 12 to 13 June in Frankfurt, Germany, please visit www.gartner.com/eu/iom. Information from the event will be shared on Twitter at http://twitter.com/Gartner_inc using #GartnerIOM.

Note to editors:
Gartner defines a strategic technology as one with the potential to have a significant impact on organisations in the next three years. Factors that denote significant impact include a high potential for disruption to IT or the business, the need for a major financial investment, and the risk of being late to adopt.

About Gartner IT Infrastructure & Operations Management Summit 2012
The traditional "walled garden" approach taken by IT I&O organisations to the delivery and management of services will fall short of business expectations. They will have to reinvent themselves as service brokers to increase agility, reduce cost and drive efficiency in the business. The Gartner IT Infrastructure & Operations Management Summit 2012 will advise how I&O organisations can remain relevant to the business by harnessing and channelling the power of social networks, cloud computing and mobile computing in order to deliver and manage end-to-end services in a rapidly changing multisourced environment.

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