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7 Ways to SURVIVE THE NEXT DISRUPTION

In 21st Century IT

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SURVIVE THE NEXT DISRUPTION
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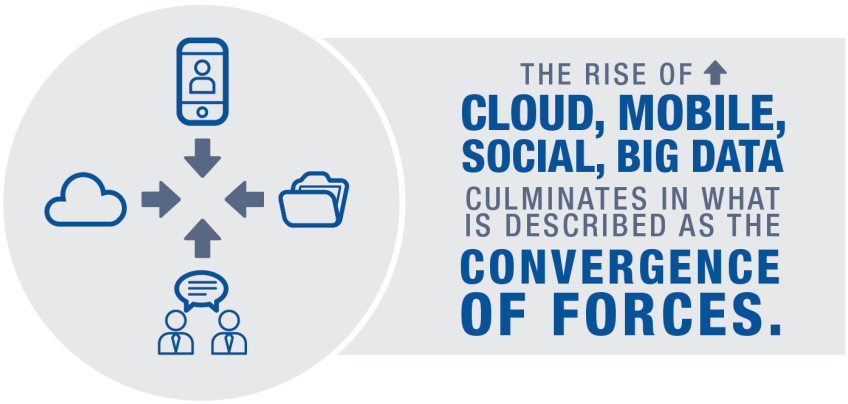
Enterprises in the US must tackle a new paradigm of IT in 2013: a cloud-oriented hybrid IT environment. Read on to reveal seven strategies executives need to survive the next disruptive IT Paradigm Shift.

U.S. enterprises stand before a technological precipice, overlooking an uncertain domestic and global economic landscape. Even after the end of the Great Recession, its financial ripple effects continue to propagate in unforeseen ways. IT departments face incredible market pressures to answer the technological challenges of the 21st century. The four forces of cloud, mobile, social and Big Data have collided in 2013, creating many opportunities for enterprises poised to overcome the current economic malaise gripping the US. According to Gartner's recent predictions, market forces in 2014 alone will consume about 20% of the most prolific IT service providers via mergers and acquisitions.



Thriving — as opposed to merely surviving — in the midst of such economic uncertainty should be the goal of enterprises and C-level executives in the US. Navigating the churning uncertainties of the disruptive IT paradigm shift is a mission-critical priority in 2013 and beyond. Overly timid enterprises that insist on remaining on the sidelines during the race to solve the challenges will be left behind.

The seven strategic trends and solutions discussed below will help business executives survive the upcoming economic uncertainty and, most importantly, position their enterprises to lead — as opposed to following in the footsteps of the bold who unearth opportunity among the turmoil.

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Along with the continued acceptance of hybrid cloud solutions and mobile device proliferation, Big Data promises to transform information into a business-critical asset — as opposed to a byproduct of increasing volume, velocity and variety of data. If enterprises in the US are to survive the oncoming crush of Big Data, CIOs must solve the dilemma of information management.

Since 2011, the escalation of data volume — both structured and unstructured – has continued to push the boundaries of currently deployed information management infrastructures. Silos of data are no longer acceptable if enterprises in the US hope to establish themselves as leaders in Big Data solutions. Perhaps, the greatest value added asset of Big Data remains the technology's promise to yield data-driven insights into business processes.

Today, CIOs are approaching a tipping point in Big Data. One sobering prediction from Gartner suggests that by the end of 2015, as many as 85% of companies will have failed to deploy the proper infrastructure to accommodate Big Data projects. A new paradigm in information management is emerging as data warehouses begin to approach critical mass; some might say that this previously unheard of phenomenon has already arrived.

The bright side of the Big Data problem is that Gartner expects companies that successfully fuse mountains of data with an adaptable (i.e. hybridized and scalable) information management infrastructure to outperform peers by as much as 20%. The challenge is to quickly deploy the proper tool set that will allow more employees to focus on the analysis of the underlying data and fewer on the architecting, deployment and management of the underlying infrastructure. The fact of the matter is that social networking forces, the Internet of Things and mobile proliferation all feed back into Big Data, which only adds more pieces to the puzzle.

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BIG DATA IS KEY

As an example, HP's HAVEn platform provides a comprehensive suite of tools to manage and analyze 100% of an enterprise's data — structured, unstructured and semi-structured alike. One example of a use case for HAVEn is in targeted advertising. By taking a holistic view of Big Data, enterprises can actually deliver myriad versions of the same ad campaign targeted more precisely to consumer segments. Similarly, enterprises can use the capabilities of the HAVEn suite to align the near-ending flow of social media content with Customer Resource Management data to glean sharper, more accurate insights into consumer sentiment.

THE MOST URGENT **BIG-DATA RELATED PROBLEM** IS THE SHORTAGE OF PEOPLE WHO POSSES THE SKILL SET ***TO COMPILE, CLEANSE, AND ANALYZE BIG DATA*** IN A MEANINGFUL WAY.

Approaching Big Data from the perspective of a metadata management framework is gaining prominence. However, the most urgent Big Data-related problem lies in the fact that there is a shortage of individuals who possess the skill set to compile, cleanse and analyze Big Data in a meaningful way.

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BIG DATA IS KEY

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ANALYTICS GROWS IN IMPORTANCE

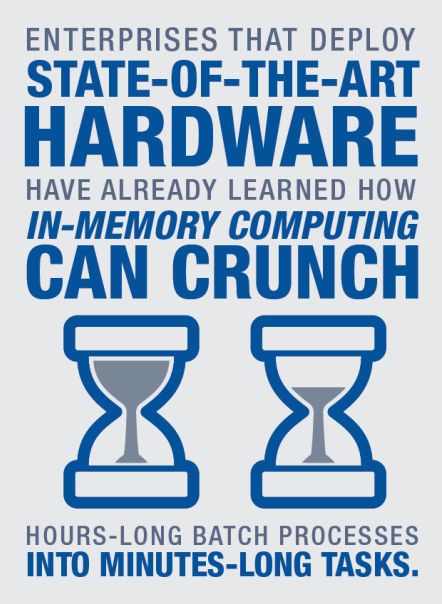
Yet another sobering statistic from Gartner declares that enterprises may only be able to fill one-third of available Big Data jobs by 2015. In essence, Big Data will soon become so big that enterprises will struggle to yield value-added business insights from astronomically huge data sets. The infrastructure issue alone demands that enterprises adopt a new paradigm of information management and analytics.

Techniques such as data mining, predictive analytics and visualization are merely a starting point. Without a skilled data scientist or, more realistically, a team of data scientists and data specialists, enterprises will almost assuredly fall into the majority of companies that Gartner expects to fail in solidifying information management practices for the long term.

One of the overarching themes in analytics is to facilitate the transition away from hindsight-oriented, reactive analytical practices and towards predictive — if not wholly prescriptive — practices. Some proponents of Big Data have already successfully monetized the insights gleaned from accurate, actionable analytics. Comprehensive Big Data analytics platforms like HP's HAVEn and Pre-packaged Analytic Appliances allow executives to perform faster time-to-data analytics than building a custom analytics engine, which can take months and has a higher risk, as well.

To prepare their organizations for the crushing tsunami of Big Data, CIOs ought to vet products such as cloud computing services (both private and hybrid), low-cost in-house storage initiatives and in-memory processing, which may be one of the missing components of a new analytics paradigm. Again, the scalability and cost savings of the cloud over the long term promises to play a crucial role in analytics for years to come as in-memory computing technology matures over the near term and enters mainstream IT.

When searching for solutions to the problem of improving data velocity, in-memory computing is essential. The concept of in-memory, near-realtime computing is not new or cutting-edge. Large enterprises that can afford to deploy state-of-the art hardware have already learned how in-memory computing can crunch hours-long batch processes into minutes-long — or better yet, seconds-long — tasks.



But in-memory computing shows particular promise in the discipline of aligning insights gleaned from Big Data with real-world business processes. Similar to the issues of cloud and mobile enterprise solutions, business-oriented end users continue to demand real-time, automated access to proprietary data. Appliances that utilize in-memory computing concepts are gaining acceptance in a hybrid IT environment; and enterprises will continue to adopt in-memory computing concepts to solve the problem of Big Data and its analysis.

The pace of adoption of in-memory technologies is on the cusp of a surge in 2013. Gartner anticipates that reduced memory costs will lead to a threefold increase in the acceptance of in-memory solutions by 2015. Until recently, cost has been the most prohibitive factor when considering in-memory computing in the enterprise, but the expected drop in hardware costs opens the door for more enterprises to take advantage of the sheer processing and analytical power that in-memory computing promises. SAP HANA is an example application that warrants the deployment of in-memory computing concepts. Once again, the problem of modifying or redeploying infrastructure to accommodate the speed of in-memory computing is critical. To survive the next evolution in computing and harness its incredible power, CIOs should identify key business processes that could benefit from automated data processing and deploy in-memory solutions accordingly.

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IN-MEMORY COMPUTING

4

GO TO THE CLOUD

Cloud computing has been locked in the hype cycle for so long that it is no longer a cutting-edge school of thought. The aggressive marketing of cloud providers has created a certain amount of unease with cloud computing in the enterprise. For companies with billions of dollars at stake, cloud computing is not the silver bullet to slay the beast of technological upheaval. Security, privacy and regulatory requirements continue to be a major concern for enterprises pursuing cloud-based strategies.

On the other hand, end users — the ordinary professionals, which may or may not have a deep understanding of the safety concerns of 21st-century IT — have embraced the cloud at a much faster pace than enterprises as a whole. Gartner boldly predicted in 2012 that the use of the personal cloud would supersede the use of traditional PCs by 2014.

The simple fact that the personal cloud continues to grow so quickly means that CIOs will have to accept the likelihood of some corporate data going to the cloud, if not in the wholesale manner foretold in 2012 by Gartner. Ready or not, personal cloud computing is here to stay for the foreseeable future.

Even more troubling from a CIO's perspective, Gartner research anticipates that by 2017, as much as 40% of corporate contact data will be exposed via mobile sharing on Facebook alone. The sensitive nature of enterprise data trusted in the hands of employees — and, by extension, contained in their many social networking accounts — demands that companies remain aggressively proactive in order to secure corporate data in the cloud.

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GO TO THE CLOUD

HP Cloud OS — an Open-Stack based cloud computing platform — can provide enterprises with a foundation for converging private, public and hybrid cloud solutions. By implementing HP Cloud OS, the foundation for HP Converged Cloud, organizations can optimize workloads to better manage cloud resources. The ability to deploy applications automatically in myriad, heterogeneous cloud environments is a key capability of HP Cloud OS, which furthers an enterprise's capacity to simplify the delivery of converged cloud services.

For instance, enterprises can more efficiently migrate workloads between different cloud services, so enterprises can lower the cost of managing clouding solutions while improving agility. Similarly, HP Public Cloud Services, HP CloudSystem and Enterprise Security Solutions also add to this holistic framework for managing IT in the cloud. From a different perspective, CIOs should seek to leverage the willingness of employees to embrace the personal cloud to bring private cloud solutions to fruition within the boundaries of the enterprise. By adopting this pragmatic approach to deploying cloud technologies with a comprehensive suite of tools, companies can ease operational disruption as cloud services become more commonplace for all.

As of the summer of 2013, no single solution, deployment or list of best practices exists to allow escape from the confluence of social, mobile, Big Data and cloud. The only currently feasible solution to such an impossibly intertwined problem as this paradigm shift is to develop a hybrid IT approach, which leverages private and public clouds as required based on an enterprise's business needs and market pressures.

Hybrid IT is a conceptual framework that does not rely on any one deployment. As of 2013, there are no solidified hybrid IT best practices, and no single consultant exists who can solve the problem of establishing a foolproof framework for hybrid architectures. CIOs must be able to break through the fog obscuring hybrid IT concepts. Proprietary solutions such as VMware Hybrid vCloud and Open Stack Solutions such as HP Cloud System and HP Public Cloud Services can both provide value to customers. Also, third parties with knowledge of both can assist with positioning solutions relative to the specific hybrid computing use case.

One example of a currently available hybrid IT deployment is IaaS for extending data center agility in a scalable manner. Hybrid rollouts can mean a lot of different things to different stakeholders as, in 2013, "hybrid" is more of a school of thought that promises leaner, more agile IT and improved business agility, too. Enterprises can now take advantage of the alleged cost savings of on-demand application improvements and services optimized to operate flexibly in a hybrid cloud environment. Executives should reconsider the use of hybrid IT today.

First of all, hybrid IT can potentially create a shift to improved operational expenses as companies consume IT services as needed. The evaluation should ideally fall along the lines of data constraints, workloads and real-time business benefits. Governing such a system becomes the next concern, which is why Gartner recommends that IT departments transform into a services broker for the entire enterprise.

To narrow the focus even further, enterprises must carefully choose which cloud services brokerage (CSB) is best based upon aggregation, integration and level of customization available. Ideally, this services brokerage would take place in-house, but as enterprises establish clear baselines for interoperability among hybrid IT systems — such as software-defined networking in a cloud-oriented data center — the use of several third-party CSBs may be unavoidable.

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HYBRID COMPUTING

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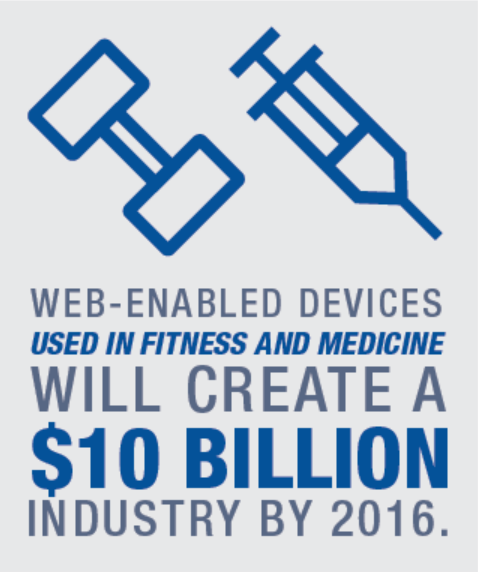
THE INTERNET OF THINGS

The Internet of Things is another technological force that adds another layer of complexity to the challenges created by the convergence . Similar to the impact of cloud computing in the enterprise, this evolution in IT promises to disrupt even the most agile architectures. Many analysts have commented on the nuances of the Internet of Things — and by extension IPv6 — but the crux of the trend revolves around the current mass influx of Internet-enabled sensor data. For instance, today a single cross-country flight generates over 2 TB of sensor data.

Connected smart devices continue to expand the volume of data available via the Internet. House sensors such as lighting controls, thermostats and refrigerators change what end users can control remotely — often controlled with an inexpensive commercial smart phone application. To leverage the expansion of Internet-enabled devices, enterprises need to think through what innovations in mobile applications and remote control of devices can guide their company through this disruption. Mobile devices are already a business-critical asset as end users demand more interoperability among and within enterprise systems and applications, particularly when considering the issue of auditing the effectiveness of BYOD practices.

With the rise of the Internet of Things, the problem of mobile device management (i.e. the near-viral proliferation of smartphones and tablets) becomes even more worrisome as data streams from billions of temporospacial sensors, RFID technologies, wearable electronics and myriad previously "dumb" machines compound the issue at hand: what to do with the cosmic array of Web-based data that these devices will create. Analysts already anticipate the Internet of Things to make the mobile/remote device issue even more disruptive.



Accepting Gartner's predictions with a grain of salt, wearable, Web-enabled devices used in fitness and medicine will create a $10 billion industry by 2016. Given the anticipated breakthrough of the Internet of Things in the general healthcare arena, managing risk is paramount when developing long-term strategies — not only from a liability standpoint, but with respect to the ever-present three-headed hydra of security, privacy and government regulations.

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THE INTERNET OF THINGS

From an enterprise-wide point of view, the growth of the Internet of Things presents a unique opportunity to enhance and build new solutions that take advantage of the ability to monitor and gather data remotely. There are a number of data collectors, such as HP ArcSight Logger, which collects, stores and analyzes machine data through universal log management solution, leveraging large data sets from a multitude of sources. For example, an automobile manufacturer would be able to analyze large sets of seemingly disparate sensor data to optimize operational and quality management processes to identify problems before they reach consumers.

If enterprises use the success of proprietary BYOD policies as a benchmark, the forthcoming evolution of the Internet of Things demands that companies take a second look at the mobile security issue. After all, Gartner expects that in 2014 BYOD practices will enable malware

to compromise employee-owned devices at twice the rate of business-owned devices. Adding millions of Internet-connected sensors and devices to the challenge of mobile security only compounds the challenges facing executives today.

Enterprises must continue to vet which security policies facilitate business needs and which practices prove to be too restrictive. Here, the problem of social networking steps forward as business personnel expect improved mobile agility in the workplace, coinciding with the perceived benefits of the public mobile/Internet of Things services that employees already consume. To thrive, CIOs should take a closer look at cloud computing as an enabler of mobile/Internet of Things solutions.

In 2013, all aspects of a new enterprise IT deployment must work together. If CIOs cannot achieve full integration, walled gardens of operations within an enterprise will continue to bog down the proper functioning of IT. Certainly, perfect integration is a myth, but full integration is possible if enterprises keep an eye on the long-term challenges of the next century.

For instance, Gartner expects application integration projects to spur a 33% increase in spending among medium to large-sized enterprises by 2016. This statistic coincides with the growth of hybrid cloud computing solutions, social networking, mobile device management and Big Data management and analytical tools. With respect to mobile device solutions, data integration could consume as much as 20% of spending on integration, according to Gartner's long-term expectations.

To survive — and thrive — when striving to achieve full integration throughout the enterprise and among strategic partners, CIOs must consider the possibility that setbacks in integration can potentially derail rollouts of externally sourced systems. Here, the issue of integration and coordination among disparate cloud providers steps to the fore once again. The entire purpose of hybrid IT is to yield savings over the long term and increase enterprise agility, so consistently delayed and over-budget integration projects may cannibalize these two important cost benefits.

To develop solutions to the disruptive IT paradigm, enterprises should strongly consider HP Cloud OS and HP HAVEn as two comprehensive platforms to answer the challenges of 21st century hybrid IT and its data analytics. Similarly, software-defined data centers, high-performance analytics appliances such as SAP HANA and simplifying reference architectures are key to enabling solutions to the disruptive IT paradigm shift. In short, enterprises in the US can no longer afford to rely on best-in-breed or build-your-own practices.

A new IT paradigm is forming in 2013. In the near future, the confluence of social, mobile, the Internet of Things and cloud will surely continue to grow in complexity and scale. Enterprises must be able to survive the battle.

Cloud and hybrid IT can provide the right infrastructure if properly deployed. In fact, the solutions to the problem of the mobile device/ Internet of Things phenomenon and Big Data directly relate to cloud-oriented, hybrid IT environments, so analytics is critical to governing all

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FULL INTEGRATION

of these components. Simply modifying current infrastructure is not wise for forward-thinking enterprises that wait for the turmoil to settle.

Enterprises should also take a serious look at in-memory computing and the importance of full integration in 2013. Each of these technological approaches can create opportunities to align the goals of IT with the goals of business decision-makers.

In 2013, the state of IT in the US continues to take small steps forward in the face of global economic upheaval. Enterprises that delay implementing the seven strategies discussed above may not survive the fray.

To thrive, enterprises should adopt bold yet ever-pragmatic hybrid IT solutions in order to rise above the melee and lead. Armed with the skills and expertise to navigate the disruptive IT paradigm shift, IIS assists enterprises in deploying solutions to answer the challenges of the next evolution of IT.

For more information, contact IIS to find out how today's cloud, mobile, Big Data and high-performance computing solutions can enable industry-leading success.

If it's an IT issue for you, it's a mission for us. Contact a sales rep at 877-704-4001 or visit us at www.iisl.com.

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FULL INTEGRATION

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