As the “Next Big Thing in IT” moves from concept to reality, one obstacle looms large for businesses of all sizes: the Trough of Disillusionment. Though it sounds like something from a fantasy novel, the Trough of Disillusionment is real—it’s also where IT initiatives go to die.

Thankfully, Insight and IBM are standing by to help you avoid it entirely.

The Trough of Disillusionment comes from IT industry analyst firm Gartner’s Hype Cycle for Emerging Technologies. The Hype Cycle is made up of five phases new technologies follow as they move from concept to reality.

Immediately following the Technology Trigger and the Peak of Inflated Expectations is the Trough of Disillusionment where, “Interest wanes as experiments and implementations fail to deliver,” according to Gartner.
Gartner’s 2012 Hype Cycle\(^1\) indicates cloud computing initiatives are deep in the trough today. To make matters worse, Gartner recently suggested “big data is falling into the trough of disillusionment” as well\(^2\).

With organizations of all sizes planning or implementing cloud and big data initiatives, the risks are high and the stakes large. There are many reasons why cloud and big data implementations can bog down in the Trough phase, but three infrastructure causes stand out, as explained below.

**Challenge of Memory Demands**

The appetite for more - and faster - computer memory is increasing at a tremendous rate as databases continue to grow. With the increased reliance on virtualization, cloud and big data applications can easily become memory constrained, leading to debilitating performance bottlenecks.

At the same time, processors based on x86 architectures are evolving with more cores and thread capabilities. But without adequate memory, these processors will remain underutilized.

The impacts of unmet memory demands are occurring more frequently and with more intensity as applications, databases and technologies grow and evolve. This is especially the case with big data implementations that require lots of available computing horsepower and low memory latencies, just to keep up with the performance needs of these applications.

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Challenge of Managing Growth
High-demand workloads and explosive global data growth are forcing storage solutions to get larger, faster and more complex, pushing the scalability limits of aging media and platforms. At the same time, client-side applications and an exponential growth in end-user data demands may be pushing your IT infrastructure to the limits of performance, availability and capacity.

Without a strong vision and holistic approach towards scalable, affordable growth, IT initiatives from cloud and big data to storage migration and virtualization can distract or overpower IT teams of any size.

Challenge of Energy Efficiency
Managing energy in the data center is a significant and growing concern due to the increasing numbers of servers and rotating storage media, the incremental heat they generate and the rising cost of energy.

Budgeting, planning and controlling power usage are concerns for all IT departments, and managing energy efficiency is critical as your infrastructure needs expand due to new projects and implementations.

While the challenges above can be daunting and the risks significant, there’s no need to face them alone. Insight has developed a suite of solutions for businesses like yours that combine IBM System x®-based hardware, software and services to help you avoid the Trough of Disillusionment and get you back on the path to success.

Solving Memory
Historically, expanding memory needs were addressed by purchasing additional computers, then distributing applications across them to use the combined memory capacity. However, the hardware, space and environmental requirements and licensing were costly and the added computers were often underutilized.

IBM solves the memory issue with the new MAX5 memory expansion unit in its IBM System x eX5-class server.

For this first time, this IBM-exclusive System x technology allows you to add memory apart from the processor. With no added processors, MAX5 is designed to help increase productivity and reduce costs in a way that other servers of this class cannot.

The new eX5 servers support three crucial design goals:
• Maximize Memory—Competitive servers use the same processors, but only eX5 systems offer memory expansion, yielding the maximum performance for many workloads.

  You no longer have to add another (underused and expensive) processor simply because you need more memory for your existing apps. The eX5 even allows you to expand with an external MAX5 memory chassis, for the most memory in the industry in each of these classes of servers.

• Minimize Cost—You aren’t forced to buy everything up front, as some competitive systems require. You can extend memory as you need it. And more memory means you can run more virtual machines per processor, which helps lower your per-processor software licensing costs.

• Simplify Deployment—With single points of management and remote administration, eX5 systems are built for simpler qualification, faster deployment and easier administration.
Balancing Growth and Performance

Virtualization is the enabling technology for all types of cloud computing implementations, and when executed properly it can deliver significant benefits, including:

- Reduce hardware costs (CapEx)
- Reduce power and cooling costs (OpEx)
- Increase disk and compute utilization
- Reduce administration costs
- Provide superior disaster recovery

The IBM System x3850 X5:

- Is built from the ground up with virtualization in mind.
- Delivers six times the memory of any 4-socket x86 system today.
- Offers a versatile, scalable, 4-socket, 4U, rack-optimized enterprise server that provides a flexible and scalable platform.

Virtualization offers business like yours the opportunity to create a data center that’s easier to manage, more reliable and more able to adapt to the growing server and storage loads of cloud and big data implementations.

Improving Energy Efficiency and Costs

System x servers not only help increase performance per watt, but also help you budget, plan and control power usage. By consolidating and virtualizing IBM System x servers, you can increase the utilization of hardware and decrease the number of physical assets you need to watch over.

With the IBM Director extension and IBM Virtualization Manager, managing your virtualized environment is even easier, giving you a single interface to manage physical and virtual systems from almost anywhere.

The x3650 M3 delivers an energy smart design featuring lower wattage and more efficient power supplies, counter rotating fans, an altimeter and advanced power management that can potentially reduce annual energy costs by up to $100 per server per year.

IBM and Insight

As one of IBM’s largest national resellers and longstanding partners, Insight plays a pivotal role in delivering IBM technology with value-added IT services and support to broad range of mid-sized businesses as well as healthcare and public sector clients.

Insight’s proven product and service deployment strengths are aligned with and complement IBM’s focus areas including Express, BladeServer, TotalStorage and pSeries.

As a result, Insight is uniquely positioned to support IBM field teams throughout the entire IT lifecycle, from purchasing decision and design to implementation and deployment.

Insight has been a Proud Premier-level Business Partner with IBM for more than 10 years with a combination of certifications, solutions, high customer satisfaction and collaborative innovation that is second to none.
Insight will help you make the most of your System x investment in the following ways:

• Integration Services
  – Reduce onsite configuration time with plug-and-play solutions
  – Decrease deployment and rollout costs
  – Simplify multi-vendor deployments
  – Meet project goals with predictable SLAs
  – Insight’s Integration Labs
  – 24x7 Remote Network Operations Center (RNOC) provides proactive monitoring and management of client network infrastructure
  – Experienced and certified engineers offering expert troubleshooting, network project support and day-to-day administration
  – Operational reporting provides clients the critical information needed to run their business

• On-hand, virtual and client-owned inventory of $3.3 billion

• Comprehensive plan, deploy, operate and refresh lifecycle services

• Asset recovery services

The Trough of Disillusionment is real, and it threatens to sabotage your current and future cloud and/or big data deployments. Trust IBM and Insight to help you avoid the memory, growth, performance and energy efficiency challenges that plague these high-profile projects.

Contact your Insight sales representative at 1.800.INSIGHT or visit us online at www.insight.com.

About Insight
Insight is a trusted technology provider of hardware, software and service solutions to business and government clients in more than 190 countries. Insight is focused on helping organizations move technology goals forward in the areas of Cloud; Data Center & Virtualization; Unified Communication & Collaboration; Mobility, Network & Security; Data Protection; and Office Productivity. Founded in 1988, Insight is a Fortune 500 company headquartered in Tempe, Arizona with approximately 5,400 teammates worldwide.

About IBM
IBM is a globally integrated technology and consulting company headquartered in Armonk, New York. With operations in more than 170 countries, IBM attracts and retains some of the world’s most talented people to help solve problems and provide an edge for businesses, governments and non-profits.

Today, IBM is focused on four growth initiatives—business analytics, cloud computing, growth markets and Smarter Planet. IBM works with customers around the world to apply the company's business consulting, technology and R&D expertise to build systems that enable dynamic and efficient organizations, better transportation, safer food, cleaner water and healthier populations.

About System x®
IBM System x® x86 servers support Microsoft® Windows®, Linux® and virtualization. System x servers are intelligent systems designed to reduce costs and complexity, keep your applications running and keep your budget in check.
About Intel (NASDAQ: INTC):
We design and manufacture advanced integrated digital technology platforms. A platform consists of a microprocessor and chipset, and may be enhanced by additional hardware, software, and services. We sell these platforms primarily to original equipment manufacturers (OEMs), original design manufacturers (ODMs), and industrial and communications equipment manufacturers in the computing and communications industries. Our platforms are used in a wide range of applications, such as PCs (including Ultrabook™ systems), data centers, tablets, smartphones, automobiles, automated factory systems, and medical devices. We also develop and sell software and services primarily focused on security and technology integration. We were incorporated in California in 1968 and reincorporated in Delaware in 1989.