

# Enabling Real-World Business Transformation Through IBM Service Management

---

An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) White Paper  
Prepared for IBM, February 2009

By Dennis Drogseth  
Vice President, EMA



IT MANAGEMENT RESEARCH,  
INDUSTRY ANALYSIS AND CONSULTING

## Table of Contents

Executive Summary .....	1
“Service Management” and Operational Efficiencies .....	2
How IBM Defines Service Management .....	3
What Is IBM Trying to Achieve Overall?.....	4
IBM’s Service Management Industry Solutions .....	4
Some Key Components of IBM Service Management Across Verticals.....	4
Enterprise Asset Management .....	4
Service Assurance and the New Age of Customer Experience Management .....	5
Security and Compliance .....	6
Utilities.....	7
Communications Service Providers (CSPs) .....	9
Manufacturing .....	11
Automotive.....	12
Electronics.....	12
Chemicals and Petroleum.....	13
Conclusion.....	14
About Tivoli Software from IBM .....	15

## Executive Summary

“Business as usual” is becoming more and more a recipe for disaster. Macroeconomic pressures are making it all but impossible for businesses and organizations to continue working the way they did in the past. This is true across all industries, and for some, such as automotive manufacturing and financial services, it has become a matter of survival as well as enhanced competitiveness. The outlook for 2009 and beyond is that businesses and organizations will need to find better ways to account for costs, optimize infrastructure, streamline operational processes, and accelerate time to value for critical products and services.

The outlook for 2009 and beyond is that businesses and organizations will need to find better ways to account for costs, optimize infrastructure, streamline operational processes, and accelerate time to value for critical products and services.

Investments in technology are helping to accelerate the pace of change, and so adding yet more pressure and complexity to business leaders. Moreover, in multiple industries the physical business infrastructure is getting smarter, with more instrumentation, interconnectivity and intelligence. In this way it is behaving more like the IT infrastructure. This gives executives a unique opportunity to establish a more dynamic business infrastructure. Sam Palmisano, IBM’s Chairman and CEO, shared this vision of a Smarter Planet at the Council of Foreign Relations on November 6, 2008, chal-

lenging business and political leaders to take advantage of this unique opportunity to transform the way the world works. This vision is aligned to similar observations that EMA has made in recent years, in which utilities, transportation, manufacturing, business and IT assets could all be managed together with common processes and huge gains in efficiency, business alignment and risk management.

Smart technology investments are a critical part of the “way out” for businesses seeking to redefine themselves in the current economic climate, but only if they can be exploited and managed effectively. It is a telling coincidence that ever since the high-tech bubble burst eight years ago, the high technology industry, itself, has been refocused around virtually identical initiatives: improved accountability, infrastructure optimization, improved operational processes, and enhanced business alignment through credible metrics and tangible results. The real synergies of bringing that experience to bear, while leveraging the powers of high technology for information gathering, analysis and automation, should suggest some potentially radical benefits to even the most conservative business executive.

This report examines a bold IBM initiative to expand its Service Management strategy “beyond the datacenter.” IBM is designing and applying management capabilities to optimize business infrastructures across multiple industries. IBM is doing this through a common service management platform targeted at supporting innovation and adaptability to change through enhanced visibility, improved control and growing levels of automation. This IBM Service Management industry approach is part of a larger IBM industry solutions strategy, with well-defined industry-specific frameworks that combine industry expertise, defined IP, applications, tools & methodologies, partner content and a global delivery model to help customers drive business transformation. IBM’s industry-driven approach is open, modular, flexible and pragmatic, directed at what IBM calls “enabling a Smarter Planet.”

In this report, EMA will highlight IBM's directions in Service Management in three industries – utilities, communication service providers, and manufacturing with a look at automotive, electronics and chemical/petroleum. But it is my hope that any business planner or executive reading this report will be able to zero in on specific benefits that can help to empower better decision making, and at least begin to identify more effective ways to optimize their infrastructures in support of change and innovation. The ideas here, which are linked to but not necessarily limited to IBM, may not make you a visionary, but it is my hope that they'll open the door to some useful insights and re-establish some credible points of optimism, even in the early months of 2009.

## “Service Management” and Operational Efficiencies

Webster's dictionary defines *service management* as “work done by one person or group that benefits another.” This suggests the idea that services can enable “products,” while services, themselves, are increasingly *becoming* products. And as information, financial transactions, communication and even entertainment become increasingly interactive, the notion of a “service” as separate from a “product” becomes more and more a continuum and less and less a linear differentiator.

All businesses and organizations deliver services that typically define them as both a qualitative and quantitative contributor to the society/market in which they participate. For instance, communication service providers are seeking to deliver a far broader array of services than traditional (non-mobile) phone service to a wider variety of consumers for a broader range of purposes – such as entertainment and information – than in the past. Utilities companies are looking to ensure the availability of the power grid to support more efficient and resilient electrical service in the face of rising energy costs and power outages. And Petroleum companies are focused on improving the yield of production across a vulnerable, complex and expensive production infrastructure to support energy requirements that serve consumers, businesses and the transportation industry as a whole.

Information Technology “services” are also examples of this. IT has its own equivalent to “products” in terms of applications, telephony, video conferencing, and a whole host of other “services” that are planned, developed, deployed, managed and retired, in much the same way that a car, or an electronic device, or a new fuel source might enter the market, mature, and then either retire or evolve.

Moreover, changing economic times, i.e., the high-tech bubble that burst somewhere around 2001, has also pointed the IT industry towards increased efficiencies. Had the IT industry remained the unquestioned “bright and shiny” investment that it seemed to be in the late 90s, its focus on accountability, alignment, optimization and automation would not have developed as quickly as it did. So challenges do have their upside – and Information Technology is far more ready to support businesses and meet the pressures of globalization and cost containment now than they would have been otherwise.

This synergy between IT services and virtually all businesses and organizations seeking to bring products and services into market is useful in appreciating the power of IBM's Service Management Initiative. That's because the technologies that IBM is leveraging were created to solve many of the same problems that business planners and executives face in overcoming fragmented operations and siloed ways of working, poorly instrumented and monitored infrastructures, insufficient levels

of automation to be competitive, and costly, ineffective efforts to ensure secure operations and comply with industry and governmental regulations.

## How IBM Defines Service Management

IBM Service Management is intended to help companies manage whatever is required, both within and beyond IT, to deliver whatever is needed. They do this by delivering a higher level of *visibility*, *control* and *automation* across all asset classes (see Figure 1). These values should clearly resonate with the challenges described in the above paragraph. They apply not only within IT operations or network operations, but natively extend to enterprise operations as a whole, while offering technologies that can help to consolidate, standardize and streamline processes across different groups that have worked separately, and often redundantly and at odds, in the past.

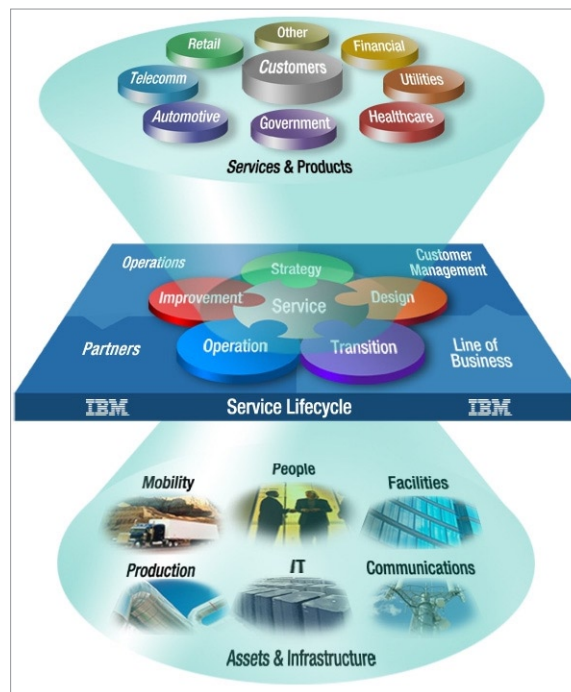


Figure 1. IBM Service Management Architecture for Visibility, Control, and Automation

IBM Service Management takes a lifecycle view to services as well as products, assets and infrastructure that support them, targeting the following four benefits:

- Delivering quality services
- Managing risk and compliance
- Optimizing business investments
- And accelerating business growth

Once again, these four “benefits” extend logically from initiatives that have matured within IT,

to support full, business-wide values involving industry infrastructures and business products and services.

## What Is IBM Trying to Achieve Overall?

The IBM Service Management initiative is part of a broader IBM initiative including its full software offering, services, and critical hardware components to deliver vertical solutions. The objective is to support executives and business planners in optimizing their infrastructure investments to support specific industry needs. This includes, from a software perspective, uniting front and back office operations through analytics with Cognos, collaboration capabilities with Lotus and other solutions, and leveraging WebSphere to provide an application and transaction infrastructure that can link applications and services, and help to automate business processes. However, the focus for this report is IBM's Service Management portfolio with critical components in asset management, service assurance, security and compliance.

## IBM's Service Management Industry Solutions

IBM has architected, tested and integrated Service Management capabilities across almost all major verticals, such as Utilities, Communication Service Providers, Chemicals and Petroleum, Electronics, Manufacturing, Retail and Banking. And IBM is doing this globally, with granular sensitivity to individual geographies and cultural requirements.

IBM's goal is to provide effective industry-specific solutions directed at managing and optimizing diverse business and IT infrastructures. Yet these solutions, as varied as they are, all enjoy the scalability and modularity of sharing a common management platform. IBM's platform capabilities support the physical business infrastructure, as well as process requirements with clear links to business operations, and dashboards designed to highlight performance issues in conjunction with business impact.

## Some Key Components of IBM Service Management Across Verticals

While this report will highlight Utilities, Communication Service Providers and Manufacturing, even a casual assessment of IBM's Service Management initiative reveals some key components that have a number of consistent benefits across verticals.

### Enterprise Asset Management

Over the last four years, EMA has been actively researching and evangelizing something that we call "Next Generation Asset Management" or NGAM. The notion is that assets aren't merely static entities that get procured, amortized, and retired. Instead they are "performing" parts of the business that either contribute effectively, or don't contribute effectively, to desired business outcomes. An analogy between NGAM and traditional asset management might be to look at Olympic athletes in terms of optimizing their speed, agility and health in addition to place of origin, eye color and weight. And so, if you apply NGAM in the IT environment, aspects of configuration management, capacity planning, service management and financial planning must

By acquiring MRO Software and its leading Maximo Asset Management solution in 2006, IBM set the stage for NGAM not only for a business environment, but also for IT in a full enterprise context, covering all asset classes.

be included as well, so that understanding and optimizing assets as “contributors” versus merely static entities becomes possible.

By acquiring MRO Software and its leading Maximo Asset Management solution in 2006, IBM set the stage for NGAM not only for a business environment, but also for IT in a full enterprise context, covering all asset classes. IBM takes a lifecycle approach to asset management that follows critical parameters, from industry best practices such as ITIL (IT Infrastructure Library), in which assets are understood first from a business service perspective, strategically, then either designed or directly transitioned into the

broader business infrastructure, managed and optimized on a day-to-day basis through operations, and evaluated for improvement.

Achieving this on an industry level requires extended instrumentation, so that critical business infrastructure, beyond just the IT infrastructure, can be monitored. IBM is the clear market leader here, with a unique investment in unifying enterprise and IT assets in this more dynamic context. IBM has also made investments in “configuration management” to capture asset-to-service interdependencies so that how and where assets “perform” can be evaluated in context, along with who uses them, and who owns them from an operational and maintenance perspective. Doing this dynamically and cohesively can dramatically reduce costs and facilitate far more consolidated operations, while tremendously increasing compliance. Just understanding ownership across silos can itself be a huge savings. In a mid-tier market consulting client, EMA documented nearly six-figure annual savings by merely having current records of who owned what device (the client called it “Mean-Time-to-Find-Someone”) when a problem occurred.

Having such a cohesive picture of where assets are, who owns them, and how they serve the business also sets the stage for improved processes, vastly improved risk management, and more effective automation in optimizing and assuring critical business services.

## Service Assurance and the New Age of Customer Experience Management

Linking “service assurance,” or ensuring that critical business and enabling services perform according to desired objectives, and “Customer Experience Management” may not seem like a purely linear link, but in fact Quality of Experience (QoE) is becoming the dominant set of metrics for understanding how business service objectives need to be defined. Clear evidence of this was observed in EMA’s Q4 2008 research, where 84% of business respondents and 77% of IT respondents said that QoE is becoming more important across their organization. Logically, it makes sense that this connection exists for any service whether it’s directly technology-driven or not.

Communication networks, particularly with the explosive growth of wireless/mobility, are enabling the interconnection and management of the physical and IT infrastructure more than ever before. Capabilities such as availability and performance management, as well as customer experience management are becoming both more relevant and more possible every day. In this context, comprehensiveness and scalability such as that provided by IBM’s Tivoli Netcool event, performance and network management solutions, which currently manage massively complex communications infrastructures with millions of devices, become essential enabling features. Further, they represent direct value for managing the emerging, fast-growing instrumented and interconnected infrastruc-

ture arising within many other industries, including utilities, transportation, defense, chemicals & petroleum among others.

IBM's Tivoli Netcool Service Quality Management Center, in conjunction with other solutions, such as the rest of the Netcool portfolio is among the foundational pieces enabling IBM to provide more comprehensive monitoring, troubleshooting and resolution of issues involving industry infrastructures as they impact critical business services. When these are combined with IBM's capabilities for predictive performance analytics, consolidated operations management, and business service management, IBM is also well positioned to help businesses link service performance directly to desired business outcomes from both a planning perspective and for real-time service monitoring such as they impact critical business services. In particular, the strong event correlation capabilities inherent in Netcool/Omnibus, when combined with Maximo for asset management, create a dynamic fabric that combines performance and availability information with lifecycle asset requirements. This combined capability now spans both the IT infrastructure and the business infrastructure, so that business assets can be understood and managed as active contributors to business services, as opposed to merely passive investments that are managed for primarily for cost. This integration can be further enhanced through IBM's capabilities for predictive analytics, consolidated operations management, and business service management, strengthening IBM's ability to link service performance directly to desired business outcomes from both a planning perspective and for real-time service monitoring.

## Security and Compliance

There is a price to pay for a more cohesive, better instrumented control system for business infrastructures, and the price is that pervasive instrumentation opens the door to potential security violations. Intelligence and power have, after all, been double-edged swords ever since the beginnings of history and probably before. But the good news is that much improved capabilities for security have evolved over the years to combat such things as identity theft, viruses, worms, and even state-backed hacking.

Tivoli Security Management and Event Management is at the heart of IBM's arsenal of solutions to ensure that business infrastructures, as well as business operations, remain compliant, resilient, and secure in the face of internal carelessness and potential external threats. These capabilities include support for systematic access control, so that only appropriate personnel have access to critical business assets, and record keeping to ensure that compliance and security standards are met. At the same time, IBM technology is designed to manage password access so that employees, partners and customers can enjoy single sign-on across multiple resources based on policies. IBM also supports compliance management across a wide variety of industry regulations so that audits can become more automated, reliable, and dynamically current. One EMA client estimated a savings of \$7.5 million dollars when they went from expensive, consultant-driven manual audits to an automated capability to discover and capture critical assets, asset configurations, owners and changes made.



IBM works with its business customers to evolve from a “reactive” approach to security and compliance, to a “compliant” approach, to a more “consolidated” solution, to an automated, integrated and cohesive approach which it calls “risk-aware and compliant.” (See Figure 2)

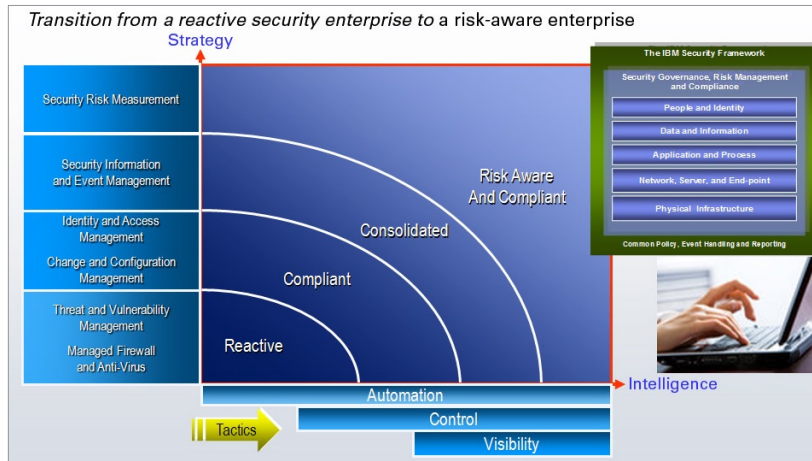


Figure 2: IBM's vision of the transition from a reactive security enterprise to a risk-aware enterprise

## Utilities

Few industries are as impacted by global events and global trends as Utilities. Between global warming, new energy sources, new approaches to managing carbon emissions, Green initiatives, dramatic fluctuations in market prices, political and even military disruptions, and an aging and vulnerable power grid and workforce, the Utilities industry stands to profit dramatically from “smart” deployments of information technology capabilities. Add to this the need to enable a more unified approach to fossil fuels, nuclear power and hydro-electric power generation, and the challenges might begin to seem insurmountable.

As Al Zollar, General Manager of IBM Tivoli Software, said, “a high-technology world can no longer afford a low-technology electricity grid.”

So with the need for better information, better control, and more effective ways to streamline operations, the opportunities should quickly become self-evident. As Al Zollar, General Manager of IBM Tivoli Software, said, “a high-technology world can no longer afford a low-technology electricity grid.”

IBM’s Intelligent Utility Network (IUN) is an instrumented infrastructure (IP-enabled) to support cohesive monitoring and management of Energy Tracking Systems, Customer Information Systems, Supervisory Control and Data Acquisition (SCADA) Systems, Outage Management Systems, Mobile Workforce Management Systems, Geospatial Information Systems, and enterprise requirements for asset and ERP systems. It leverages Netcool monitoring and Maximo asset management technologies, as well as other capabilities for analytics, collaboration and decision support. Monitoring just the power system infrastructure cohesively (see Figure 3) with its many heterogeneous components will bring utilities companies significant advantages in terms of operational efficiency, business alignment and minimizing risk.

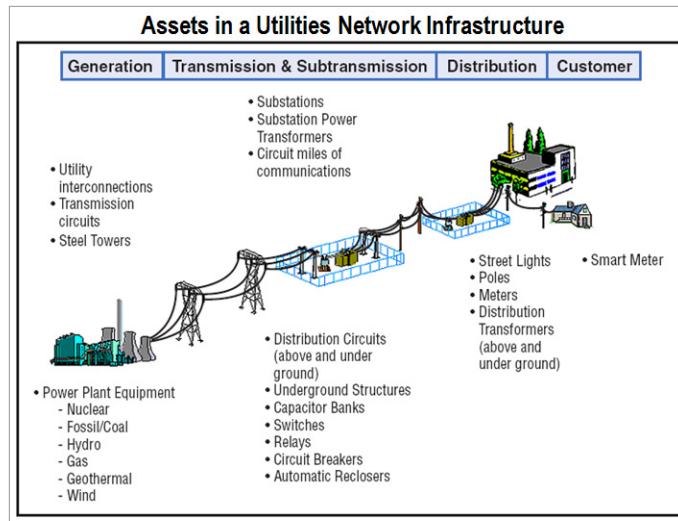


Figure 3: Assets in a utility infrastructure

One of the more compelling examples of the IUN is IBM's demonstrated capability to instrument and monitor meters (Advanced Meter Management or AMM) as performing assets by leveraging Netcool's event management capabilities. This capability helps to ensure that power is provided as appropriate and when needed, while at the same time managing meters as business assets, including their own power consumption and lifecycle health. AMM also promotes consolidated operations, and can significantly minimize costly truck rolls, as meters across the power grid become effectively just another type of networked device.

IBM has also provided a roadmap for utilities companies to get started in their evolution towards an Intelligent Utilities Network. The IBM Solution Architecture for Energy (SAFE) includes technologies, process recommendations and business partners directed at:

- Regulatory and compliance management
- Improved asset service management
- Data for informed decision making
- Managing and enhancing customer relationships
- Support for process definitions and process automation

IBM has a well-established track record in Utilities. Maximo alone, for enterprise asset management, has more than three hundred Utilities customers. One IBM customer has documented a projected savings of \$75 million in operating costs by consolidating its operations across two hundred different business units. Another utilities group in the Southwest leveraged IBM to create a strategy to address NERC Critical Infrastructure Protection Cyber security requirements. And a Texas-based utility is working with IBM to create an Intelligent Utility Network in which grid infrastructure assets are dynamically monitored and tracked.

## Communications Service Providers (CSPs)

One of the biggest transformations in the world is underway – connecting billions of users via communications services. Communication Service Providers (CSPs) are at the center of this transformation as their business and networks are undergoing an evolution from carrying traditional services such as voice and video to complex services such as interactive mobile gaming. Services like mobile gaming, unlike traditional voice service, includes applications and third party content, and transverse both wireline and wireless networks. Additionally, delivering this service requires CSPs to expose their networks to third party entities, which brings along less direct control and increased risk. This service transformation requires a new approach to service management.

Communications Service Providers should find any analogies between network “services” and business “products” native to their business model already, as best practices such as ITIL and eTOM slowly begin to converge and actively inform upon each other. It is, in fact, the CSP industry that remains ahead of most organizations in focusing on effective service delivery for their traditional and next-generation services, and as an industry it is seeking to optimize accordingly.

Nonetheless, a great deal has changed in recent years within the CSP environment. For one thing, the trend towards a more complex and converged mix of services is making business planning and management more challenging and dynamic. Data from the IBM Institute for Business Value (Figure 4), and Enterprise Management Associates’ own research on “applications delivered over the network” (Figure 5) both attest to the increasingly complex mix of services that CSPs must embrace as they seek to partner more actively and effectively with businesses and consumers. Given the changing tastes of consumers away from traditional telephony and towards a far more eclectic set of content and services, creating and deploying new services quickly and cost effectively is a daunting challenge facing CSPs.

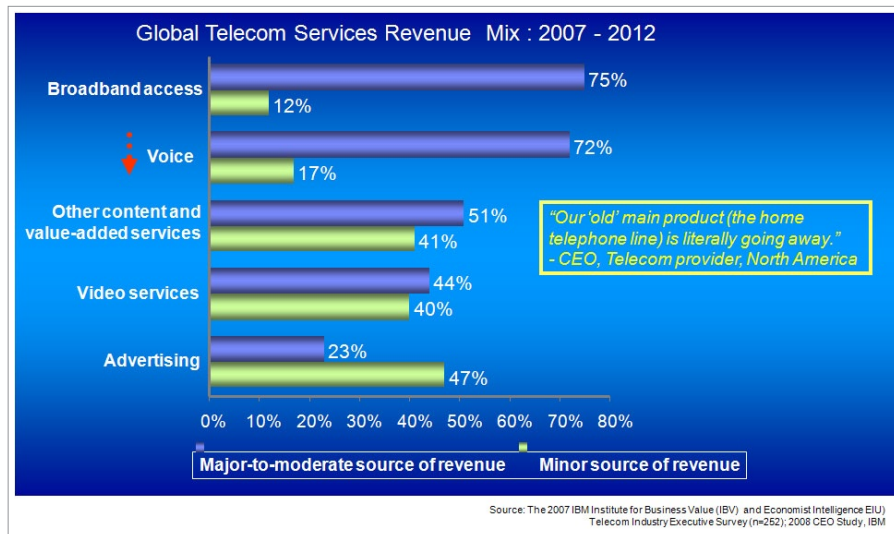


Figure 4: Global Telecommunications Service Revenue Mix (IBM Institute for Business Value)

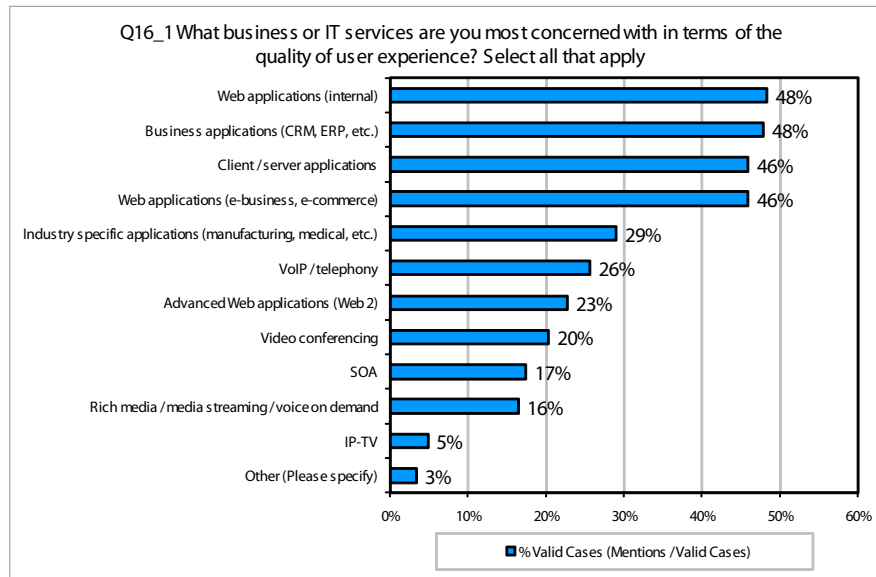


Figure 5: Enterprises and CSPs prioritize a wide range of services for User Experience Management (EMA, "The Advent of QoE: Business and It Adoption Priorities," December, 2008)

EMA consulting client: "Google has set the expectations for end-user experience. It takes a fraction of a second to get hundreds of thousands of results. Setting expectations realistically is important. Make sure the customer knows what it is going to cost to get Google-like performance."

Moreover, rising customer expectations make service performance requirements in themselves more challenging, as is evidenced by this quote from an EMA consulting client: "Google has set the expectations for end-user experience. It takes a fraction of a second to get hundreds of thousands of results. Setting expectations realistically is important. Make sure the customer knows what it is going to cost to get Google-like performance." In terms of impact on CSP's goals and objectives, this means that operators need to be aware of the need to deliver reliable, consistent, and even personalized services.

Combine these requirements for service diversity and service performance with the ongoing need for accountability, cost optimization, and the accelerating frequency of changes made to the CSP infrastructure, and the need for a well-integrated service management solution should become obvious.

IBM's Service Management for CSPs solution leverages many of the technologies already referenced in this report, including Netcool Service Assurance, Maximo Asset Management, Tivoli Security and Predictive Analytics, Cognos for industry and customer analytics, and IBM Configuration Management. Netcool/Omnibus and the broader Netcool portfolio have for many years established themselves as market leaders for service providers seeking a versatile and pervasive solution for monitoring critical events that can impact business outcomes. IBM's overarching solution for CSP's is modular and designed to integrate with IBM and non-IBM products so that

CSPs can evolve with flexibility and choice. It is designed to help CSPs manage more effectively across traditional silos that became established when POTS was their single, defining product, and enable the cohesive management across wireless and wireline infrastructures in support of everything from VoIP, to text messaging, to streaming media, to core support for key Web and non-Web-based application services.

IBM is already pervasive in the Communication Service Provider market with more than 1,000 CSP customers worldwide. IBM has documented dramatic examples of new CSP efficiencies, such as a global service provider that achieved 100% availability for critical services with only five engineers, a mobile service provider that reduced the average number of events by a factor of 100, while another service provider consolidated twenty-seven NOCs into two, and yet another saved \$19 million in two months through consolidated operations.

## Manufacturing

Virtually all manufacturers must contend with global competitiveness and associated challenges to market share, operating and other overhead costs, while at the same time driving the need for new, more compelling and competitive products. All this must be done while monitoring and managing processes across a wide range of infrastructure and supply-chain interdependencies, adhering to compliance requirements, and meeting “green” and sustainability initiatives and regulations. One industry example is the Manufacturing Execution System (MES), for unifying manufacturing infrastructures with corporate business infrastructures through standards.

IBM’s Product Development Integration Framework (PDIF) is designed to provide unified asset management, effective service monitoring and improved security and compliance for manufacturers. PDIF brings a lifecycle approach to product planning, development and distribution, as in Figure 6.

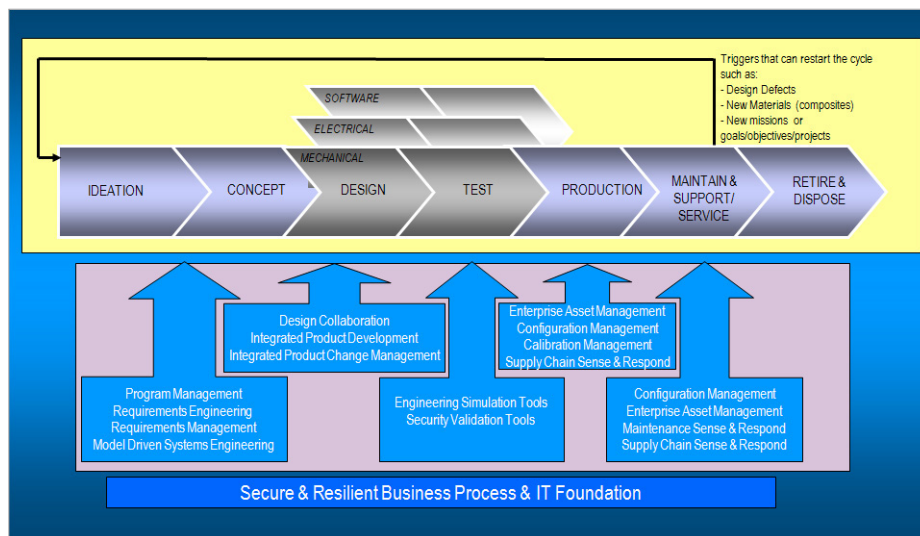


Figure 6: IBM's approach to service lifecycle management naturally extends to manufacturing requirements for product lifecycle management

## Automotive

As of early 2009, no industry is more in the news than the automotive industry. Consumer reluctance to spend is coupled with uncertainties and challenges surrounding regulatory pressures and compliance to new emissions standards, as well as growing and legitimate consumer preference for more fuel efficient-cars. And in fact, understanding the customer, which was once a relatively clear-cut process for automotive manufacturers, has become just the opposite, as vacillating consumer tastes in size and style are linked to a volatile oil market and new globalized options in car design, on-board electronics, fuel economy (and even power source), among other variables.

Yet automotive manufacturers must deal with silos of information and complicated supply chains in managing a business infrastructure that includes parts and supplies, manufacturing, marketing, sales and service. The MIF incorporates both enterprise asset management capabilities from Maximo with Netcool's monitoring and correlation strengths. IBM solutions can also enable more informed decision making through market trend analysis and consumer behavior analysis.

To date, IBM has supported automotive manufacturers through more effective lifecycle asset management with documented savings. These include the reduction of maintenance costs by 5% per year, reducing labor requirements by 10-20% per year, cutting materials costs by 5% per year and reducing on-hand inventory by 20-30%, just to cite a few quantifiable benefits.

## Electronics

Electronics manufacturers face a rapidly changing global environment in terms of both consumer preferences and technological innovation. Few industries face the complex array of cultural, personal and business priorities with consumers accustomed to virtually constant innovation and new options for entertainment, communication, and business decision making. Add to these regulatory pressures, and the value of a more cohesive and dynamic business infrastructure should become self evident.

**IBM has delivered solutions to electronics manufacturers that provide embedded self-management into the business infrastructure to detect and manage energy consumption patterns.**

IBM's Service Management solution for electronics, combining Maximo, Netcool, and other IBM management capabilities, enables electronics firms to bring new technologies to market sooner with reduced cost, by optimizing the infrastructure used for the simulation of electronic components and better management of critical infrastructure assets. It also enables better management of the end products through embedded self-management capabilities to detect and manage energy consumption patterns and overall product health. IBM also offers solutions for the "Globally Integrated Enterprise" by managing business processes across the global supply chain, increasing value for the total enterprise.

IBM has delivered solutions to electronics manufacturers that provide embedded self-management into the business infrastructure to detect and manage energy consumption patterns. It deployed a 24x7 verification system, and delivered real-time dashboards for Key Performance Indicators (KPIs) in support of more effective service modeling, impact and root cause analysis. Documented benefits have ranged from significantly reduced inventory levels, to more efficient operations, to reduced power consumption in the delivery of new electronic products.

## Chemicals and Petroleum

The Chemical and Petroleum (C&P) industry shares many things in common with other manufacturing verticals, such as automotive and electronics, but like Utilities it depends on a complex network of business interdependencies extended across challenging geographies that can be highly vulnerable to shifting environmental conditions (see Figure 7).



Figure 7: The Chemicals and Petroleum Industry depends on a complex business infrastructure that can be highly vulnerable to shifting environmental conditions

Aging infrastructure, fragmented control systems with minimal governance, such as lack of backups, combined with siloed ways of working and inconsistent policies only exacerbate these “business grid” challenges. All this is combined with a highly volatile and internationally competitive economic climate, an aging workforce, a shortage of skilled engineers, and a whole host of increasing regulatory requirements directed at everything from employee and process safety to environmental protection guarantees.

The IBM Information Integration Framework for Chemical and Petroleum is designed to bring a cohesive approach to managing the C&P assets, monitor system and infrastructure health, and ensure the security and compliance of critical operational and business processes. This framework leverages an established asset management capability as in IBM Maximo for Oil & Gas, Netcool for advanced event correlation and service impact management, as well as a Reference Semantic Model that can capture a wide array of chemical and petroleum assets in context with location, ownership, and business interdependencies. These include on- and off-shore production platforms and their components, shipping, pipeline and storage terminals, refineries, petrochemical plants, distribution fleets, facilities and IT assets. The consistency of the Reference Semantic Model for managing these assets from a lifecycle perspective can significantly improve operational efficiencies and minimize risk. At the same time, IBM’s Information Integration Framework for C & P can drill-down and monitor the health of operations such as oil field production, equipment performance and health, and support collaboration across field supervisors, process engineers, maintenance supervisors and asset owners.

IBM has documented benefits such as an improvement in recovery rate from oil and gas fields from 52% to 70%, up to 30% reduction in operational costs through predictive maintenance, 5% increased production through more efficient processes, and reduced time to market for new production. In one instance, IBM's framework for C&P enabled the creation of one central data repository to track and manage more than 28,000 assets.

## Conclusion

There is no question that businesses and organizations in most, if not all, industries are facing a combination of global economic challenges that require new ways of working. The good news is that technology has evolved to a level where it is far more prepared than ever to lend a helping hand. Part of this is due to the accelerating pace of innovation that has long been a hallmark of information technology. But part of this is also due to the fact that IT and telecommunications, as both markets and industries, have been driven to prioritize accountability, control, optimization, automation and business alignment for the last eight years, as high technology matured from being “overhead” to being a responsible “business contributor.”

As a result, the extension of IT capabilities in Service Management (such as those enabled by IBM solutions) to embrace entire business infrastructures is now a natural consideration for forward-thinking business planners and executives. Such an extension can not only enable drastically improved operational efficiencies, it can also minimize risk, automate compliance requirements, provide current “operational intelligence” about what’s working and what’s not, and improve customer relationship management through advanced analytics and more automated means of collecting customer-relevant information.

This is not a panacea, however. If you as executives and business planners are already struggling with the day-to-day complexity of business operations, ingesting an entirely new “dynamic infrastructure” across your business may seem overwhelming. EMA experience with strategic IT initiatives reinforces the need to define priorities and phases and move selectively forward so that benefits can be achieved quickly from phase to phase. Doing this well will require some investment of time and, perhaps more importantly, it will demand your creative attention. But the benefits should soon far outweigh the sacrifices if you follow a well-thought-out plan informed by your own unique situation, priorities and politics.

---

**IBM is uniquely positioned to be your ‘thought partner’ as well as your core technology provider**

---

Not to proceed with a creative approach to technology investments across your business, on the other hand, has never carried more risk. Good leadership and effective cultural changes are still needed, but technology investments can both complement and inform on both of the above. By technically enabling new ways of working, you make process improvements pragmatically possible, and by providing more effective and relevant information, you can inform executive and operational leadership.

IBM is uniquely well positioned to be your “thought partner,” as well as your core technology provider, in this process. IBM's Service Management initiative, as a part of its broader initiatives for a Smarter Planet, has evolved to support both business and IT infrastructure integration with proven



and pragmatically successful deployments across a wide range of industries. While most of IBM's competitors are still focused on optimizing the IT environment (and indeed there is still plenty to do there), IBM has taken the bold move of extending its technology strengths into mainstream business operations. In other words, IBM has already laid out many of the choices for you, so that it can save you time and minimize risk in adapting its frameworks to your individual needs.

One of the things that I personally like about IBM's initiatives is that, as big as IBM is, they recognize that a much bigger set of options than IBM itself can provide may apply. This is a personal litmus test that I apply to virtually all high technology strategies. "Do they recognize the need for partnerships? Do they recognize other brands? Do they even recognize the value of assimilating competitive choices as a specific customer environment dictates?" The encouraging answer from IBM seems to be "yes" to all of the above. It is a litmus test that you can also apply and enforce. But the good news should be that because of IBM's breadth, it should not be constrained in limiting its options to a solution that's right for you.

Ten years ago, EMA predicted the rise of the "global corporate control center." At that time, we postulated that technologies and skill sets for managing IT, utilities, transportation, manufacturing, and other business functions entailed common processes, and ultimately would consolidate into common skill sets. Why not have the same core group monitor temperature control and fleet scheduling as network and systems performance at a low skill level, with automated processes to inform the appropriate experts when issues arise? The savings, and the potential to minimize and eliminate risk, would be dramatic! All that's required (and yes, it's a great deal), would be consistent and extensible instrumentation for critical business as well as IT assets, and monitoring capabilities optimized to reflect "abnormal behaviors" and threshold violations across this full enterprise continuum. Moreover, the same capabilities for optimizing and securing assets could be extended beyond IT, whether it was for a manufacturing line, or a power grid, or a retail operation, or a global, transaction-oriented, financial services infrastructure.

Now, with IBM's initiatives as the single most telling example in the industry today, it seems that Enterprise Management Associates' predictions are at last beginning to come true.

## About Tivoli Software from IBM

Tivoli software offers a service management platform for organizations to deliver quality service by providing visibility, control and automation—visibility to see and understand the workings of their business; control to effectively manage their business, help minimize risk and protect their brand; and automation to help optimize their business, reduce the cost of operations and deliver new services more rapidly. Unlike IT-centric service management, Tivoli software delivers a common foundation for managing, integrating and aligning both business and technology requirements. Tivoli software is designed to quickly address an organization's most pressing service management needs and help proactively respond to changing business demands. The Tivoli portfolio is backed by world-class IBM Services, IBM Support and an active ecosystem of IBM Business Partners. Tivoli clients and Business Partners can also leverage each other's best practices by participating in independently run IBM Tivoli User Groups around the world—visit [www.tivoli-ug.org](http://www.tivoli-ug.org)

## **About Enterprise Management Associates, Inc.**

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst and consulting firm dedicated to the IT management market. The firm provides IT vendors and enterprise IT professionals with objective insight into the real-world business value of long-established and emerging technologies, ranging from security, storage and IT Service Management (ITSM) to the Configuration Management Database (CMDB), virtualization and service-oriented architecture (SOA). Even with its rapid growth, EMA has never lost sight of the client, and continues to offer personalized support and convenient access to its analysts. For more information on the firm's extensive library of IT management research, free online IT Management Solutions Center and IT consulting offerings, visit [www.enterprisemanagement.com](http://www.enterprisemanagement.com).

---

This report in whole or in part may not be duplicated, reproduced, stored in a retrieval system or retransmitted without prior written permission of Enterprise Management Associates, Inc. All opinions and estimates herein constitute our judgement as of this date and are subject to change without notice. Product names mentioned herein may be trademarks and/or registered trademarks of their respective companies. "EMA" and "Enterprise Management Associates" are trademarks of Enterprise Management Associates, Inc. in the United States and other countries.

©2009 Enterprise Management Associates, Inc. All Rights Reserved. EMA™, ENTERPRISE MANAGEMENT ASSOCIATES®, and the mobius symbol are registered trademarks or common-law trademarks of Enterprise Management Associates, Inc.

**Corporate Headquarters:**  
5777 Central Avenue, Suite 105  
Boulder, CO 80301  
Phone: +1 303.543.9500  
Fax: +1 303.543.7687  
[www.enterprisemanagement.com](http://www.enterprisemanagement.com)



1816.021009