IBM SYSTEMS DIRECTOR:
PLATFORM MANAGEMENT BACKBONE AND BASELINE FOR INTEGRATED SERVICE MANAGEMENT

March 2011

"We Accelerate Growth"

IBM SYSTEMS DIRECTOR:
PLATFORM MANAGEMENT BACKBONE AND BASELINE FOR INTEGRATED SERVICE MANAGEMENT

March 2011

IBM SYSTEMS DIRECTOR: PLATFORM MANAGEMENT BACKBONE AND BASELINE FOR INTEGRATED SERVICE MANAGEMENT

INTRODUCTION[1]

IT and business services are more closely interdependent than ever. IT, which has often been perceived mainly as a cost center, is emerging as an internal service provider for the enterprise. As IT transforms from its supporting role to become a key driver in organizational agility—and as newer concepts such as next-generation asset management enable companies to financially quantify its contributions—the pressure on IT to deliver tangible business results is escalating. IT must help companies improve service, bring new offerings to market faster and quickly respond to changing business conditions. IT must also make this happen while at the same time doing more with less: IT budgets are flat or in decline.

Yet an IT infrastructure beset with complexity and systems that are not interoperable, one that is widely and often correctly perceived as the organization's main contributor to higher energy costs, is in no condition to help drive corporate initiatives. IT complexity and lack of integration pose business challenges and negatively impact cost, deployment and security. Devices and systems purchased or acquired over the years may be difficult to integrate into the overall infrastructure, and managing servers and storage separately with piece-part management solutions only adds to the problem.

The new economic reality demands virtualization so companies can allocate both physical and virtual resources most efficiently to meet the changing needs of the business while also meeting cost challenges. Yet implementing virtualization without also managing complexity, and creating an integrated IT infrastructure, creates "virtualization silos" that add to complexity and can leave companies in worse condition than before.

Reducing complexity and implementing virtualization require systems management so IT can:

- Discover, configure and view all system resources in an automated fashion, from one screen, to harness the full potential of IT assets and reduce training and administration costs

---

[1] Please note that the insights and opinions expressed in this assessment are those of Stratecast and have been developed through the Stratecast research and analysis process. These expressed insights and opinions do not necessarily reflect the views of the organizations mentioned herein.

March 2011

- Take devices and entire systems in and out of service, and throttle their power consumption up and down according to workload, to reduce energy consumption

- Proactively monitor system-wide and device-specific conditions to head off trouble before it starts, and immediately respond if outages do occur, to ensure business continuity

- Quickly manage system-wide updates and enhancements as another way to reduce day-to-day IT administration and focus on providing strategic value to the business

This report will analyze a unified platform approach to systems management that integrates server, storage and network resources to reduce complexity and enhance integration, with modules that address virtualization management, energy management, and integrated management of network and storage resources. It will show how combining that platform, IBM Systems Director, with a multivendor manager of managers (MOM) solution, IBM Tivoli, can make the vision of Integrated Service Management a reality for both enterprises and CSPs.

IT COMPLEXITY AND LACK OF INTEGRATION POSE BUSINESS CHALLENGES

Companies today need IT infrastructures that can evolve quickly, implement new functionality, and rapidly realign processes to support changing market conditions and business models. They have huge embedded investments in technology, and especially in these challenging economic times they must derive maximum value from those investments.

The primary obstacle IT decision makers face in trying to meet these objectives is complexity. Increased complexity results in exactly the opposite of what they seek: lower business agility and responsiveness, reduced customer satisfaction and higher cost. Too often, IT teams spend far too much time on tactical functions such as operations and maintenance, and trying to keep IT infrastructure up-to-date with changing technologies; as a result, they spend too little time making strategic moves to keep IT aligned with business requirements and directions. This "complexity tax" forces IT managers to spend more than 75 percent of their budgets on basic operations and maintenance and a mere 25 percent on resources that could be better spent on business and process innovations.

As a result, instead of business needs driving decisions with regard to resources, the resources (including IT) are indirectly driving the course of the business.

Internal and External Sources Contribute to Complexity

Organizations today must manage diversity in IT environments with multiple platforms, operating systems, physical and virtual servers, voice and data networks, fault-tolerance clusters and storage, including storage area networks (SANs). Due to tight business timeframes they have sometimes purchased equipment "on the fly" to meet particular

needs, but not all of those piece-parts mesh well with the overall system fabric, and this makes them harder to manage. Scrambling to add new features before the competition, manufacturers are shortening product lifecycles for servers, and this likewise forces IT to quickly adapt to each new wave of technology.

Another factor in complexity is that business applications and services are increasingly dependent on distributed and remote applications. In the past, applications and architectures remained relatively stable over time, which provided for secure system access, stable configurations and predictable system loads. In a rapidly evolving global business environment, and particularly since business applications must now function effectively across new mobile platforms and devices, this is no longer the case. As a result, companies have unwittingly multiplied the negative effects of complexity by maintaining redundant applications to serve different business units and departments.

For example, expanding supply chains require tighter integration among business partners because more associations mean more moving parts that can potentially impact the IT infrastructure of any entity in the ecosystem. Even within individual companies, however, mergers & acquisitions have created a patchwork quilt of IT systems and applications, such that "one company" that goes to market under a unified corporate banner may actually look like many different non-integrated companies from an IT perspective.

Even outsourcing, which can reduce complexity in some ways by offloading day-to-day tasks, can add to complexity because it requires leaders to manage multiple IT resources to stay in control of their operations.

Managing Servers and Storage Separately Adds to the Problem

In most IT environments, servers and storage devices (or storage area networks) are managed separately and this is true despite the direct interdependence between the two: servers depend on a storage environment. This basic construct automatically builds complexity into the equation with specialized server management and storage management tools, each focused on their own domains and not "talking" with each other. As shown in Figure 1 below, server and storage silos contribute directly to challenges such as circumventing end-to-end automation and slowing organizations from transitioning to cloud services. Unless IT comprehensively understands its server and storage environments, it risks disrupting existing operations as it migrates to the cloud.

Figure 1 - Non-integrated State of Server and Storage Management

Traditional management specialization is good, but...

▪ Silos require handoffs, slowing responsiveness

▪ Silos inhibit end-to-end automation

▪ Virtualization/cloud management must span silos

Servers, integrated RAID, low/midrange storage

Mid-range and enterprise storage

Source: IBM and Stratecast

Impacts on Cost, Deployment and Security

The cost of complexity and lack of integration are massive because the effects are felt across everything from the core IT footprint itself to inefficient power usage, higher costs for maintenance and licensing, and the human resources required to keep it all running. Complexity keeps companies from making the most efficient use of existing resources. Further, siloed departments and function-specific systems make the problem worse by giving IT managers limited views of which resources are being utilized for which processes and functions. IT personnel cannot manage what they cannot "see," and as a result there is less opportunity to quickly identify which under-utilized resources can be either taken out of service or deployed to support new workloads. In addition, rolling out new services and applications over non-integrated systems can dramatically increase deployment timeframes and delay time to market.

Clearly complexity impacts day-to-day operations, but its effects are also felt over the long term in areas such as investment protection. Whatever an organization implements in the future must also be effectively supported by unified management tools. If not, any new deployment generates additional systems management and training costs as well as lost productivity.

Complex, non-integrated systems also undermine security. An organization needs a secure IT infrastructure to protect its IT infrastructure, applications, and sensitive data; without this secure foundation, evolving security threats can force it to expend more resources, energy and mindshare to responding to attacks. With a proliferation of non-integrated systems, security risk escalates. Furthermore, with the growing sophistication

March 2011

of attackers and their methods, a single weak link in the IT security chain is all they need to cause serious and sometimes undetectable damage (e.g., a gradual leak of sensitive information).

Virtualization Also Suffers

Many organizations are moving toward virtualization of their IT resources to centralize administrative tasks while improving scalability and workloads. Virtualization can help implement grid or utility computing strategies pooling common infrastructure resources and breaking the obsolete "one application to one server" model. It can help reduce data center costs by reducing physical infrastructure and improving server-to-admin ratios. Fewer IT devices means reduced real estate as well as lower power and cooling requirements. Virtualization can also increase availability of hardware and applications for improved business continuity; IT administrators can securely back up and migrate virtual environments with no service interruptions.

The concept of virtualization is a good one. Where it falls down is in execution. Most virtualization solutions currently available do not take into account the diversity of devices and systems across today's IT landscape. This results in so-called "virtualization silos" that do yield tangible business benefits but make a complex job even more complex for IT organizations tasked with managing them as part of the broader corporate IT infrastructure.

Complexity Drives Higher Energy Consumption

Complexity and lack of integration result in poor server utilization, which increases the total number of servers at work in the data center well beyond what it should be. Poor server utilization and a lack of knowledge about optimal data center environmental configuration contribute to higher power consumption. This increases capex, as the organization purchases more servers than necessary, and opex, in this case the energy cost associated with operating and cooling all of those servers.

NEEDED: UNIFIED PLATFORM MANAGEMENT

Many businesses have not invested in enterprise-class, feature-rich management software. Instead they rely on rudimentary tools such as command line interface (CLI) scripts, free software and server-specific remote control management. These approaches require subject matter experts with a relatively high degree of knowledge and experience with the system infrastructure they are attempting to manage. Remote control software, for example, often requires additional tools to manage growing networks and systems. Free, generic web-based tools may only offer passive or possibly active monitoring, but not the ability to take remedial action. As expressed in SNMP terminology, free web-based tools may offer GET but not SET. When it comes to "managing by CLI," the user is charged with having to know the name and/or IP address of every device being managed. Incomplete device inventories create the potential for errors and management gaps.

IT needs to transform itself into a lean, rapid-response enabler of the applications and services the workforce needs to compete, and Stratecast believes the first step toward making that a reality is unified platform management. Platform management offers an unobstructed view across all platforms and operating systems—plus the ability to drill down quickly to individual devices in order to perform detailed management tasks that keep the IT infrastructure running smoothly. One of the most frequent arguments software vendors make for why customers should deploy their applications is that doing so will "free them to focus on their core competency." Likewise, platform management can free the IT organization from spending most of its time configuring, provisioning and managing hardware to focus instead on the more strategic objective of optimizing IT service delivery to support the business.

A single platform that unifies all IT physical and virtual servers, network and storage can optimize service delivery and workloads and provide the flexibility to respond to changing business conditions.

IBM SYSTEMS DIRECTOR PROVIDES UNIFIED PLATFORM MANAGEMENT

IBM Systems Director provides unified platform management, a central point of command and control for all IBM system resources (and, through industry standards, selected resources from other manufacturers) in the data center. Version 6.2.1 of Systems Director manages:

- IBM System z and System x

- IBM Power Systems

- IBM BladeCenter

- IBM Storage Systems

- Select non-IBM servers (x86), z/VM, VMware and PowerVM

- Operating systems from Microsoft Windows, Linux on x86 platforms to AIX, IBM i and Linux platforms, including Red Hat Enterprise Linux 5.0, SUSE Linux Enterprise Server 11 and IBM AIX Version 7.1

Systems Director provides these specific management capabilities:

- Discovery – upon initial deployment Systems Director discovers all resources (platforms, operating systems, physical and virtual servers, voice and data networks, fault-tolerance clusters, storage devices and SANs) and brings them under management, then discovers new resources as they are added to the system.

- Inventory – it provides inventory management of all resources and allocates them for provisioning new services. As resources are added to and removed from the system, and as resources undergo changes, inventory management captures all

updates in the data repository to present IT with a real-time view of all system resources and status.

- Configuration – Systems Director gives IT the ability to configure all resources for optimized performance and capacity to meet changing workload requirements. Administrators can tailor and optimize workloads by allocating specific resources to specific tasks to improve service and performance.

- Resource monitoring, event notification and status reporting – Systems Director continuously monitors all resources, notifies IT of events that impact the system and provides status reports.

- System health – in addition to resource-specific monitoring and reporting, Systems Director also offers IT system-wide views of system health to ensure that the entire system is functioning within accepted parameters and to quickly identify trends and conditions.

- System updates – Systems Director enables IT to quickly execute system-wide updates instead of having to update resources or groupings individually.

Systems Director's open plug-in architecture lets administrators add other capabili-ties that are immediately manageable via the Director interface.

IBM Offers Three Editions of Systems Director: Express, Standard and Enterprise

IBM makes Systems Director available separately as a standalone product or packaged with increasing levels of capability in Express, Standard and Enterprise editions:

- Express Edition shows IT administrators the relationships and status of IT components

- Standard Edition adds monitoring and management of physical and virtual servers, storage, networks and energy usage across the data center

- Enterprise Edition enhances flexibility and workload optimization with tools that help manage pools of virtualized Power Systems servers as a single logical entity

All editions run on IBM Power Systems, while Express also supports IBM System x.

IBM Makes Systems Director 6.2.1 Available As No-Charge Feature of IBM Systems

IBM Systems Director Express Edition management server and agents are available on IBM Systems as a no-charge feature of the system and can be downloaded through the Systems Director website. The Systems Director license agreement provides for up to 20 free non-IBM x86 Agent licenses at no charge for Power Systems, System z and System x customers. Additional non-IBM x86 agent licenses for servers are available at a list price of $59/server. Service and support are available to Power Systems and System z customers via their respective platform ordering mechanisms and to Systems x

customers through a ServicePac or SupportLine agreement from IBM Global Technology Services.

SYSTEMS DIRECTOR IS THE PLATFORM MANAGEMENT BACKBONE FOR IBM SMARTER COMPUTING

Systems Director, represented in Figure 2, represents a new strategic focal point for IBM. Systems Director is an important component in IBM's Smarter Systems portfolio, enabling integration with Tivoli and third party management platforms and serving as one of the core building blocks for virtualization and integrated services management.

Figure 2 - IBM Systems Director
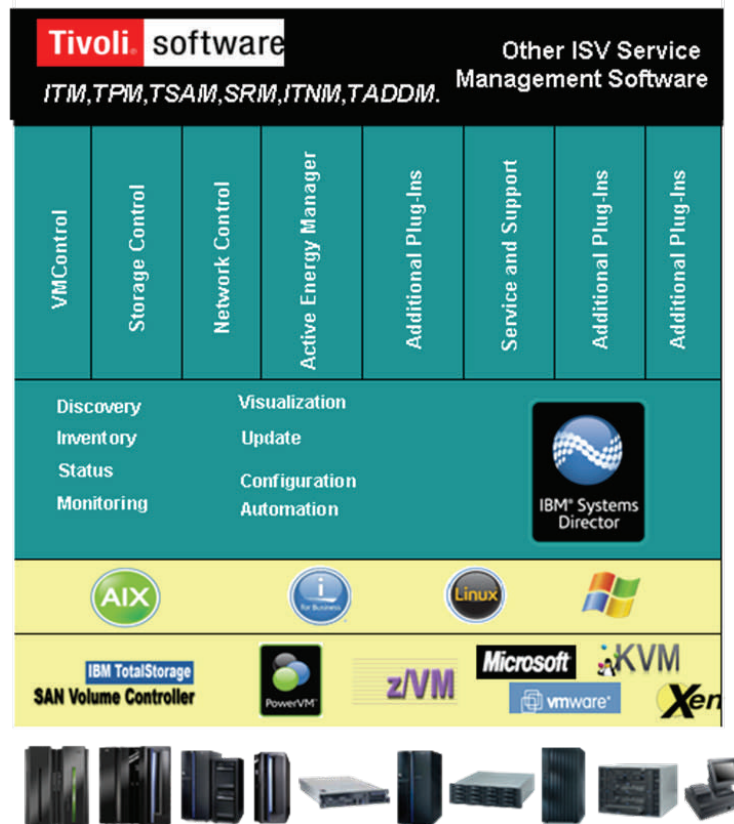
Systems Director is also the backbone for the company's Hardware Management Console and the platform upon which IBM is building new systems management tools such as Active Energy Manager, Network Control, VMControl and Storage Control.

Active Energy Manager

Active Energy Manager is a Systems Director plug-in that monitors, measures and manages the energy and thermal components of IBM servers, storage and networking

March 2011   © 2011 Stratecast. All Rights Reserved.

equipment. The product extends the scope of energy management to include non-IBM systems, facility providers, facility management applications and power distribution units (PDUs). Active Energy Manager provides discovery, management and optimization of energy usage, monitoring energy consumption and operating tempera-ture of individual devices while offering relevant metrics for power distribution units and uninterruptible power supply (UPS) devices. The product provides historical trend data that enables a user to determine how much energy is being used by each device at any moment in time—for example, associating power consumption with specific servers and workloads—in order to recognize when it may be appropriate to reduce usage.

Active Energy Manager can leverage features built into IBM hardware to dynamically reduce energy consumption by limit-ing the power a given resource is allowed to consume. Users can predefine energy usage thresholds, and as usage ap-proaches the threshold the system will reduce processor clock speed and voltage to stay below the threshold. The product can achieve the same effect system-wide by putting systems into a low-power mode when full server performance is not required.

IBM operates the largest commercial data center in the world spanning more than eight million square feet. Active energy management is projected to achieve a savings of five billion kilowatt hours (kWh) per year. IBM data center energy assessments at multiple client sites have confirmed savings from 15 to 50 percent on energy and ROI in as little as two years.

Network Control

Network Control is a Systems Director plug-in that integrates server, storage and network management for both physical and virtualized network assets across multiple platforms. The product provides discovery, monitoring, configuration, topology visualiza-tion, management and troubleshooting from a single integrated interface.

By making network management part of the larger management capabilities inherent in Systems Director, Network Control allows IT managers to simplify and streamline management tasks.

VMControl

VMControl is a Systems Director plug-in that provides cross-platform, cross-hypervisor visibility and control of virtualized environments from a single user interface. This helps eliminate isolated silos of virtualization and enables IT to deploy new workloads in minutes instead of weeks. The product enables administrators to discover, inventory, configure, update and monitor devices across the five IBM virtual environments: z/VM Linux, Power VM, x86 VMware, Open Hypervisor with Redhat and Microsoft Hypervisor. VMControl also manages pools of resources and cooperating systems. As shown in Figure 3 below, IBM has designed VMControl to support the evolution of client virtualization management:

Figure 3 - The Evolution of Client Virtualization Management
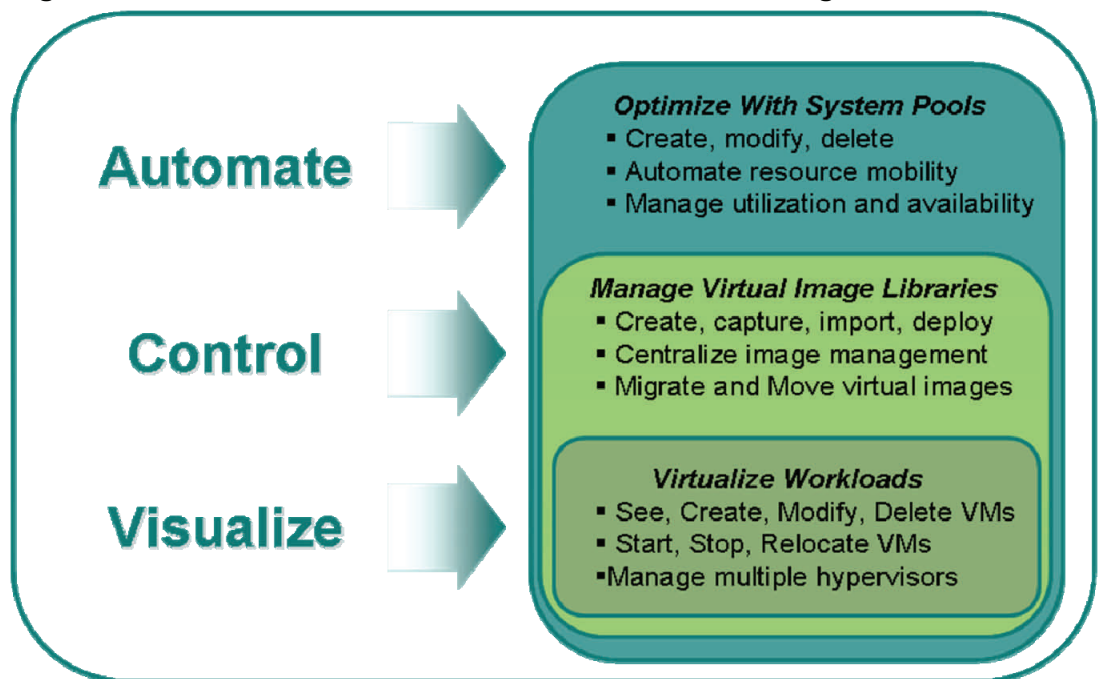
Source: IBM

VMControl is offered in three different editions with increasing levels of capability:

1. VMControl Express provides the ability to visualize, create, manage and relocate virtual machines. It supports companies who want to manage virtual machines and physical devices from a single interface, run multiple hypervisors (virtual machine monitors) and need basic virtualization management. VMControl Express supports virtualized environments managed by server virtualization environments Hardware Management Console, Integrated Virtualization Manager, Microsoft Virtual Server, VMware and Xen virtualization, with basic discovery and system health management supported for z/VM virtualization. Other features of VMControl Express include:

   ▪ A topology viewer to identify the relationships between physical and virtual resources

   ▪ Tracking of alerts and system status for virtual resources

   ▪ Automation plans based on events and actions from virtual and physical resources, such as relocating a virtual server based on critical hardware alerts

   ▪ Lifecycle management tasks such as adding virtual servers, editing virtual server resources or relocating virtual servers to alternate physical hosts

   ▪ Systems Director provides lifecycle management for Microsoft Virtual Server environments.

2. VMControl Standard enables modification in the repository, can manage mobile resources and applications, and supports imaging by allowing virtual machine snapshots. It is designed for companies who are running PowerVM or Linux in z/VM partitions, are ready to proactively manage virtual system images (VSIs) and have large or midsized virtual test/development and production environments. Standard edition defines the container (memory, CPU, connectivity) and manages both the container and the data inside.

3. VMControl Enterprise automates management of system pools (service, storage and network), generates predictive failure alerts, and is preconfigured to allow the addition of placement and migration services. It is designed for companies who run PowerVM, and are looking for advanced UNIX features, and are ready to lighten their systems administration burden.

Storage Control

Based on the existing IBM Tivoli Storage Productivity Center, Storage Control is a Systems Director plug-in that provides integrated end-to-end life cycle management of physical and virtual server and storage resources. Storage Control provides device discovery and coverage in integrated physical and logical topology views, showing relationships between storage and server resources and enabling configuration of physical and virtual resources. IT storage administrators can:

- Provision and store libraries and define storage alerts against storage levels

- Use storage provisioning for image creation, deployment and cloning

- Manage the storage system pool lifecycle, executing policy-based storage placement, provisioning and cloning actions within the pool

IBM is offering two versions of Storage Control, both of which apply to internal and external IBM storage and IBM servers (i.e., Power, X and BladeCenter):

- Systems Director + Storage Control is targeted at mid-market and smaller enterprise clients with system administrators who cover both sides of the equation: server and storage management. It enables users to manage all IBM servers and storage devices from a single interface.

- IBM Server and Storage Management with Storage Administration Specialization is designed for enterprise clients who have separate administrators responsible for server management and storage management.

COMPETITIVE OFFERINGS

Independent bench testing during 2010 showed IBM Systems Director outpacing competitive offerings in areas such as the graphical user interface (GUI), processes, methodology and overall experience. These tests matched up with some of the characteristics we have identified here:

- Systems director enables administrators to interact with all heterogeneous virtualization platforms in a common format, and it also lets administrators visualize physical/virtual system relationships, which is useful for troubleshooting both virtual machine and physical platform issues.

- Systems Director also allows Linux administrators familiar with x86 platforms to be equally (and the key point, immediately) adept at managing virtual machines on System z.

ACHIEVING THE INTEGRATED SERVICE MANAGEMENT (ISM) VISION WITH SYSTEMS DIRECTOR AND TIVOLI

IBM Systems Director helps IT become more productive with an open integrated toolset that can improve system availability and lower IT costs. It can reduce total cost of ownership and decrease management costs by eliminating the need to maintain multiple tools, and improving utilization of existing IT resources. Systems Director reduces the complexity of virtualization by understanding the relationships between physical and virtual resources and communicating them to users via a simplified web interface, which reduces IT costs for training, maintenance and support.

Systems Director provides end-to-end management of all heterogeneous IBM resources in the IT infrastructure. Combining Director with IBM Tivoli's manager of managers (MOM) capabilities brings the entire multivendor infrastructure under management, within a single platform. The combined solution closely integrates all resources with business processes, which fulfills IBM's Integrated Service Management (ISM) vision as reflected in Figure 4:

Figure 4 - Systems Director + Tivoli = Integrated Service Management
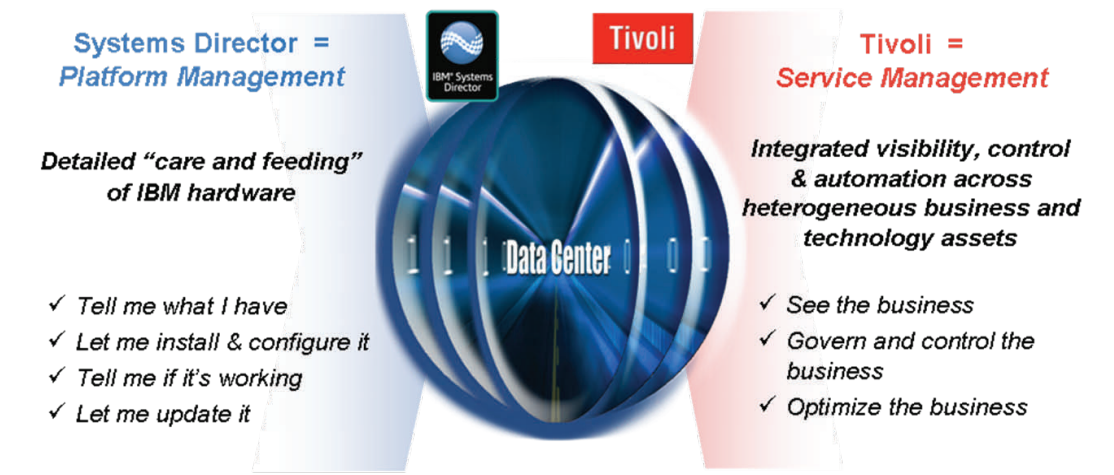
Source: IBM and Stratecast

ISM supports IT at all levels, and that translates into business benefits for the organization:

- For IT architects, managers and system administrators, ISM can reduce the complexity and risk of managing IT operations with a single, unified point of control that simplifies management of physical and virtual resources across heterogeneous environments. It eliminates multiple redundant layers of management platforms and tools across the broadest portfolio of hypervisors and provides a way to virtualize and provide multivendor management of storage resources.

- ISM can help CIOs dramatically reduce opex, including IT systems management administration costs, and capex, through optimization of server, storage and network utilization to save on infrastructure investments. ISM can increase efficiency and flexibility through better utilization and management of IT resources, both physical and virtual, with integrated tools to increase reliability, availability, serviceability and security. For example, an organization can reduce the number of servers by enabling automated workload management that reallocates resources autonomously according to need. Or by leveraging detailed historical data, a company can isolate energy usage trends to actively control consumption, lowering the performance of processors (and the energy it takes to cool them) during off-peak usage periods. Solutions with specific sustainability measures built in, such as those being offered by IBM under Systems director, can directly reduce data center energy costs during both peak and off-peak operations.

- Heightened efficiency in managing the company's IT resources also translates into huge potential savings in corporate real estate, power usage, licensing and human resources.

- Faster, more flexible IT service delivery—the ability to provide on-demand deployment and reallocation of applications and workloads—enhances corporate agility and helps companies better serve both internal and external clients. This results in more competitive organizations that generate higher customer satisfaction and loyalty and thus lower churn rates, freeing them to focus to a greater degree than ever before on generating new revenues.

ISM also helps organizations manage security and financial/investment risk. Creating a more secure environment lessens security threats and frees resources to focus less on attacks and more on the company's core business. Investing in a platform that supports heterogeneous environments and features open architecture to integrate with higher-level management systems furthers investment protection by enabling the IT organization to accommodate and manage the widest range of devices and cooperating systems.

ISM FOR CSPS

Stratecast believes ISM, as achieved by combining Systems Director with Tivoli in the IT environment, has applicability not only to enterprises but to communications service providers (CSPs). CSP networks have always struggled with complexity. Furthermore, the mergers and acquisitions that have occurred since the late 1990s to form regional supercarriers such as Verizon, AT&T, Telefonica, and Telmex has, for these companies and others, multiplied that complexity many times over. Complexity and a lack of integrated systems are serious concerns for any organization, but none more so than a CSP serving subscribers on a 24x7 basis across a patchwork quilt of acquired carriers and networks in several parts of the world. *Some have likened integrating and upgrading technology in CSP networks to "replacing a wing of an airplane while in flight," and Stratecast believes that is a fair reflection of the challenge.* Whereas the largest global enterprises may ask their IT organizations to support tens or perhaps hundreds of thousands of internal users, and suppliers/partners through extranets, CSPs are in some cases serving hundreds of millions of business and consumer subscribers, plus their own partner and supplier networks.

Beyond multiple platforms, OSs, servers and storage, most CSPs are also managing so-called "overlay networks": purpose-built networks and systems they created over time because their existing network and management infrastructures could not deliver new services demanded by the market. Each time one of the many network equipments manufacturers deployed in CSP networks issues a new version release it can generate a ripple effect across the CSP, consuming IT and network engineering resources.

Perhaps the best illustration of the impact complexity has on CSPs is that a global industry for operations and business support systems (OSS/BSS) has existed since roughly the 1960s solely for the purpose of helping CSPs manage, and grapple with the complexity of their networks and systems. As with any ingredient in the IT mix, however, the proliferation of non-integrated OSS and BSS solutions across the CSP infrastructure—and the platforms, OSs, servers and storage resources needed to support OSS/BSS solutions—have introduced even more complexity.

Accommodating technological evolution, expanded supply chains and outsourced resources increases CSP complexity in a number of ways:

- One only needs to consider how the global wireless revolution has cannibalized CSPs' fixed/landline revenues and decreased average revenue per user (ARPU) to see the most dramatic examples of technological change on companies.

- CSPs must accommodate new suppliers and partners simply as part of their ongoing day-to-day operations. Labor costs and the need for different skillsets are driving part of this. Another factor is the global economy: multinational corporations (MNCs), their largest customers, require global communications, and because few if any CSPs can deliver truly global solutions alone, they must cooperate (and interoperate) with other CSPs, at home and abroad.

- Another source of increased interface with external suppliers is the area of mobile and web applications and the need to adapt content across all screens: web, mobile/PDA and TV. Although AT&T acquired a mobile application development platform, Plusmo, most CSPs (still including AT&T) rely on external content providers. Consequently, CSPs, aided by partners such as IBM, developed the service delivery platform (SDP) as a real-time service creation and transaction environment to make content quickly and conveniently available to consumers, in all relevant forms and across all screens/devices.

- CSPs are making greater use of outsourced solutions, including those delivered on-site by outsourcing providers, through managed services from an MSP, or via the web on a cloud/SaaS basis. This can help them save on operational costs and remain focused on their core competency: providing the optimal mix of services to their subscribers. However, it can also add to complexity by forcing them to manage multiple internal and external IT resources.

As an effective strategy to reduce complexity, CSPs are increasingly moving toward an IT or services "factory" model. Currently being implemented at DT and some DT properties such as Magyar Telecom, this approach focuses first on breaking down barriers between different areas of the IT infrastructure and making them work in concert to align IT with the business, then on deploying the new IT engine to drive standardized, easily-replicated, cost-effective processes. In this way delivering communications services will move away from being a complex, customized affair and deliver positive, predictable results. ***Stratecast believes CSPs would be well served by placing ISM at the core of the factory model.***

March 2011

SYSTEMS DIRECTOR CUSTOMER CASE STUDY:
GHY INTERNATIONAL
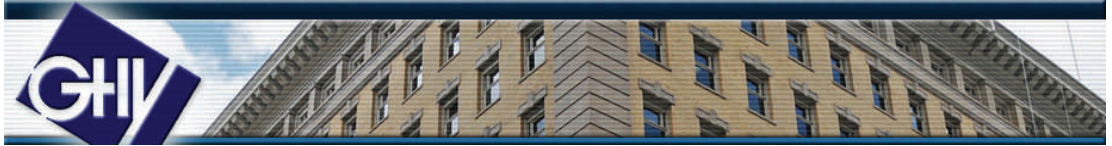
Founded in Winnipeg in 1901 by George Henry Young, GHY International is one of Canada's oldest customs brokerage companies providing Canadian importers and exporters with a full range of international trade services. GHY has been selected as one of Canada's 50 Best-Managed Companies by Deloitte & Touche, which independently evaluates the management skills and practices of Canadian-owned and -managed companies with revenues greater than $10 million.

GHY began its systems management evolution in 2003. At that time its IT landscape was dotted with a series of islands, but as it evolved over the years toward consolidation and virtualization it also began to evolve its systems management approach toward managing all resources from a centralized, consolidated point of view. Yet the executive leading this transformation[2] told Stratecast the initial driver in GHY's selection of IBM Systems Director was energy.

You Lease Your Space At A Flat Monthly Rate, "Utilities Included."
Why Deploy Active Energy Manager?

GHY leases space in an office tower and energy usage is included in the flat monthly price of the lease. Many of its industry peers are in scenarios where the cost of power exceeds the cost of operations, or are located in regions where they literally cannot get another watt of power, but GHY has none of those challenges. Theoretically the company has no reason, at least in terms of cost, to be concerned with energy management. So we asked the obvious question: why establish effective energy management? The answer is fourfold:

1. The company does not want to grow the amount of square footage it must allocate to wrestling with hot/cold aisle scenarios in the data center. It wants to quantify its energy footprint—then effectively manage and improve that footprint.

2. GHY can take a message of quantifiable sustainability to its customer base and other external audiences—one of which might be its landlord. By proving it is an exemplary, cost-efficient tenant, a company like GHY may be able to translate a smaller energy footprint into lease holdbacks or other improvements.

3. GHY internal customers want to be associated with an organization that has a real and quantifiable strategy for corporate sustainability going forward. This internal constituency wants the company to show measurable progress toward being more "green," being a good corporate citizen.

---

[2] Nigel Fortlage, CIO and Social Business Leader, GHY International

March 2011

4. Energy management helps future-proof the company as a consumer of energy and other outsourced services. By adopting an intelligent energy management strategy now, should GHY own rather than lease its corporate facilities in the future, it will already be well-positioned from an energy standpoint.

Expanding upon point #4 above, the reality is that as this or any company evolves toward a future where it meets many of its core needs via outside providers, knowing who it is as a company with regard to its energy footprint enables it to negotiate with those providers and expand globally with a baseline, a context. It is no longer merely about speeds and feeds, about needing certain operating systems or servers, but about providing a blueprint that also enables partners to meet its environmental requirements.

All Components Talk to Systems Director

As in many organizations, the dominant provider in GHY's IT environment is IBM. Its networking infrastructure is built on IBM and Brocade, its virtualization strategy is powered by PowerVM, it employs IBM storage management and it is deploying Active Energy Manager. GHY has used and assessed the various management tools on the market and found that while everyone talks about standards, not all interfaces and updates are equal. By deploying Systems Director GHY knows it is getting a unified platform to help it manage everything today, and one that—through the extensibility of Systems Director and the multivendor management capabilities of Tivoli—can grow with the IT organization and the company. The decision is both tactical and strategic:

- The company currently depends on separate administrators (and operating systems, and management techniques) for Windows, UNIX, mainframe, storage and other IT domains. It eagerly anticipates a future where its systems management focus shifts to an administrator who can manage Windows, UNIX, mainframe, storage and other environments "on a single pane of glass" in Systems Director. GHY is not looking to reduce headcount but it is definitely focused on not growing headcount. With Systems Director the company gains a single point of control and a simple web-based graphical user interface (GUI) that enables one team to handle systems management across all of its environments.

- Moving toward an integrated systems management future supports the organization by enabling it to transcend old boundaries and technical limitations and help the company grow. In this way IT comes full circle from the old model, a technical cost center, to the new model: a direct contributor to the company's bottom line and a team that is working to protect the organization.

Stratecast

The Last Word

If you are an IT professional, two challenges you are likely facing at this very moment are a lack of integration across your IT infrastructures—disparate systems across the organization that do not work together effectively, or at all—and the complexity inherent in those systems. Sources include the diversity of devices, purpose-built systems that support (or once supported) specific initiatives or services but are difficult to manage, dependence on distributed applications to serve increasingly mobile workforces, the IT patchwork left in the wake of M&A activity, and more. Complexity and non-integration also make it difficult to configure and allocate devices to the task at hand. As a result, companies expend too much working capital purchasing more resources than they need. Opex, too, skyrockets as companies pay for the energy to power and cool all of those devices.

Companies are wise to virtualize their IT resources to capture efficiencies and reduce cost, but if they do not first drive down complexity and increase integration, they are merely creating new islands of virtualization which, in turn, add to complexity.

Stratecast believes the first step toward a solution is unified platform management. IBM Systems Director provides unified platform management of all IBM resources (and select non-IBM resources) in the IT environment and its plug-ins take on the specific challenges companies are facing today: Active Energy Manager, which brings network management rigor and discipline to corporate sustainability; VMControl and Virtualization Manager; Network Control, and Storage Control. Director brings all IBM resources under management. By combining Systems Director with Tivoli multivendor management, an organization can achieve Integrated Service Management of all physical and virtual devices from all sources "on a single pane of glass," and management that aligns all of IT's moving parts with the business.

In truth, a platform managing one's own devices may fairly be viewed as being roughly equivalent, in telecom OSS/BSS[3] terms, to an element management system (EMS): valuable, but not groundbreaking. Yet the sheer number and diversity of IBM devices in operation worldwide, and the comparatively non-robust EMSs from other manufacturers—which account in part for the $10[+] billion OSS/BSS market—make clear that *IBM Systems Director is an important step forward.*

Jeff Cotrupe

Program Director – OSSCS

Stratecast (a Division of Frost & Sullivan)

jeff.cotrupe@frost.com

[3] Operations and business support systems, the software systems that CSPs use to automate most aspects of their operations. EMSs are software platforms or tools that manage one device, or in some cases all devices, from a given network equipment manufacturer.

March 2011

ABOUT STRATECAST

Stratecast assists clients in achieving their strategic and growth objectives by providing critical, objective and accurate strategic insight on the global communications industry. As a division of Frost & Sullivan, Stratecast's strategic consulting and analysis services complement Frost & Sullivan's Market Engineering and Growth Partnership services. Stratecast's product line includes subscription-based recurring analysis programs focused on Business Communication Services (BCS), Consumer Communication Services (CCS), Communications Infrastructure and Convergence (CIC), OSS and BSS Global Competitive Strategies (OSSCS), and our weekly opinion editorial, Stratecast Perspectives and Insight for Executives (SPIE). Stratecast also produces research modules focused on a single research theme or technology area such as Connected Home (CH), MS and Service Delivery Platforms (IMS&SDP), Managed and Professional Services (M&PS), Mobility and Wireless (M&W), and Secure Networking (SN). Custom consulting engagements are available. Contact your Stratecast Account Executive for advice on the best collection of services for your growth needs.

ABOUT FROST & SULLIVAN

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best-practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from more than 40 offices on six continents. To join our Growth Partnership, please visit http://www.frost.com.

XBW03014USEN Ver 01