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Infrastructure Management for a New Year, New Challenges

How intelligent infrastructure management systems can reduce costs in today's business environment. **BY ODED NACHMONI**

A new year normally commences with optimism and confidence; at least that is how 2008 started. But it is fascinating how quickly this feeling of exhilaration and hope can change. One day bankers and financial experts are happily walking down Wall Street to their offices, and the next day they are making their way home carrying only their personal belongings. The recent global financial crisis continues to have ripple effects, starting with the very wealthy and being felt all the way down to the destitute who have relied on the many now nonexistent, nonprofit organizations to sustain them. Every day the newspapers are filled with more companies and enterprises cutting back costs and laying off hundreds, if not thousands, of workers. Unlike years past, 2009 unfortunately has not kicked off to a very encouraging start.

A Gartner study among chief executive officers (CEOs) revealed that the word for 2009 is expected to be "restructuring."¹ This involves organizational restructuring (i.e., layoffs), financial restructuring (i.e., deleveraging to operate more on a cash basis) and corporate restructuring (i.e., spinoff units, acquiring troubled companies or preparing to be acquired). Perhaps by the end of 2009, entire industries will be completely remodeled.

Information technology (IT) budgets have not escaped the wrath of this financial crisis. A TechTarget survey recently revealed that two-thirds of chief information officers (CIOs) plan to delay or cancel nonessential upgrades, 40 percent will cancel non-revenue-generating projects and 34 percent said they expect to reduce staff, with 27 percent confirming they will outsource more.²

In comparison with the last recession where technology caused the burst, business leaders are now looking to IT as a means to help reduce costs, streamline business processes, boost productivity and perhaps even generate revenue. A recent study showed that 82 percent of business leaders view technology as a core component of their enterprises, as a differentiator (72 percent) and as an instrument for reducing the cost of business operations (66 percent).³ With this in mind, CIOs no longer have the same worries they had in 2001 of proving the value of IT. Rather, the challenge now lies in cutting costs while matching the organization's changing business priorities with IT.

A "Must Have" IT Application

Applications that guarantee business uptime have become essential. Solutions that help automate and speed business processes, increase their accuracy and integrate between systems are among the "must haves" for 2009. These systems include:

- **Asset management**—Keeps track of and manages the life cycle of equipment, including everything from office tables and chairs to network assets and equipment.
- **Fault management**—Reduces the meantime to repair problems, a common cause of downtime.
- **Safety and security**—Protects the assets and facilities to help ensure business continuity.
- **Reporting**—Guarantees easy access to a trusted and secure source of data.
- **Compliance**—Ensures that adequate processes for reporting are in place.

- **Provisioning and change management**— Allows automated and fast optimized planning, implementation and maintenance.

Fortunately, an intelligent infrastructure management system (IIMS) solves many of the above requirements and offers a more holistic approach to managing IT infrastructure. IIMS provides the connection between real-time network management systems and the increasingly complex infrastructure that enables the network devices to function. IIMS allows IT personnel to manage resources, processes and users as one collaborative unit. With the current situation requiring many organizations to accomplish more with less, an application that brings control, efficiency and productivity is both practical and economical.

IIMS also improves provisioning and change management. On a daily basis, IT departments spend large amounts of time dealing with various tasks that range from moving a single PC or two to installing hundreds of servers. Without an IIMS, information is not always consolidated and there is often no adequate synchronization. Furthermore, with no automated

processes and various teams in charge of different aspects of the IT infrastructure, human error can occur. This can lead to costly errors, and in today's economic climate, careless mistakes are no longer something organizations can afford to make.

Provisioning processes deployed today range from completely manual all the way to fully-automated solutions. Fully-automated provisioning tools provide IT managers with various means to automate and speed deployment processes and reduce time spent on planning and implementing tasks. It enables IT managers to assign system and network resources and privileges to users in a fully automated environment. Usually, an IIMS is also integrated with other key systems such as purchasing, help desk and asset management. With databases updated in real time, this helps ensure that an accurate picture of the organization is always maintained and available.

Provisioning in Data Centers

The provisioning and change management feature of IIMS is a key advantage for data centers as well as workspace environments. With data centers increasingly

playing a vital role in large corporate enterprises, organizations need a system that responds quickly to moves, adds and changes (MACs).

To provision a server in a data center, an IT manager needs to consider various key components, including:

- Space requirements (size, elevation, etc.).
- Power (including specific considerations per equipment type).
- Cooling.
- Connectivity (per each network connection).
- Weight.
- Software and application installation.
- Switch port configurations.

Without an IIMS in place, all this information needs to be collected manually from many unsynchronized systems. This takes a substantial amount of time to complete and often leads to mistakes, delays and most important, unnecessary expenses. With highly advanced workflow, database and integration capabilities, an IIMS offers the ability to automatically collect and analyze all the necessary data. It also can calculate the optimal resource allocation and produce a multiteam work order that can be tracked until it is completed.

With the IIMS automating the entire procedure, work orders become straightforward and effective, guiding the users as it generates all the relevant tasks needed to complete the process. For example, installing a new server typically involves allocating the right cabinet and considering the necessary space, weight, power, cooling, connectivity and services requirements. IT managers then need to allocate relevant tasks to each team and manage work order execution. By automating the process with IIMS, the IT manager can effortlessly address any MAC without the hassle of going backward and forward from the desk to the field to make sure the procedure is accurately carried out.

Some of the automated provisioning tools of IIMS include hand-held devices to provide the engineer in the field with an interactive user-friendly application. The hand-held device interacts with the main IIMS and enables online access to all the required information. This can help to further optimize the work and prevent additional human errors.

System performance is also an important consideration, and medium to large enterprises and data centers have several parameters to consider when planning an implementation. The IT manager, or even a medium-range performance system, is not always capable of effectively taking into account all of the parameters. Only a high performance system with advanced capabilities is able to fully carry out all the necessary



Hand-held devices that come with some IIMS are vital tools for IT professionals and infrastructure engineers on the move, bringing advanced management capabilities out into the field.

calculations in accordance with the customer's specific requirements.

With an advanced provisioning solution, two procedures take place—filtering and grading. Filtering analyzes an entire set of possibilities, sometimes reaching into the millions for a single provisioning decision. It then narrows this set using smart customer-tailored policy rules. The system then uses grading to grade the filtered result set and offer the IT manager the optimal choice, as well as a set of alternative choices prioritized by suitability. This ensures that the entire facility is always expanding or changing in the most optimized manner according to the customer's priorities.

During a single device move request, an advanced IIMS creates a work order, recommends a link to every port of the device based on filtering and grading policies, automatically creates a task list and suggests an alternative link if the user is not happy with the link suggested.

Significant Benefits

Several companies today are benefiting from IIMS. With a report of all Internet protocol (IP) assets in the network urgently needed, one financial corporation quickly discovered the benefits of the IIMS. In one of their locations where an IIMS was installed, the corporation reported that the task to report all IP assets took one person three hours with the accuracy of the data guaranteed. In the corporation's other location without an IIMS in place, it took several people an entire week to complete the task, and the accuracy of the information was questionable.

Another Fortune 100 company recently realized that one advantage of IIMS is bulk data migration and buildup

management. Needing a new data center, the company decided to introduce IIMS to their operations. They had a database that was severely outdated and therefore had to build a new database from scratch. With IIMS, the process of building the database required significantly less time and prevented human error. Moreover, the documentation process of the IIMS' automated provisioning tool saved several months of manual labor.

The benefits of IIMS are significant, offering numerous advantages that go beyond the scope of this article and further help streamline business processes. These include:

- Combination of automation with the right balance of user control to enable the best business critical processes.
- Online IP asset management.
- Joint communication infrastructure between various departments.
- Resource optimization.
- Enhanced and accurate documentation of the essential processes.
- Quicker task completion time with a significant reduction in the number of errors.

As the financial crisis continues to deepen, CEOs, chief financial officers (CFOs) and CIOs will be pressed to find and reduce unmanaged costs. This means that IT will be looking to manage service levels, enhance resource utilization and handle an increasing amount of risk. An IIMS can play a vital role in efficiently managing IT network infrastructure while helping to reduce IT costs and responding to the ever changing business environment. ■

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