

# Transforming Your Enterprise

Main Edition Fall 2007

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COVER

## Valero embarks on 'ERP for IT'

Automating the business of IT. Page 17

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06

## But, you promised!

How to get people to follow through on commitment

---

27

## Operational BI

Embedding BI into operational  
processes for near real-time  
insight and action

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# Transforming Your Enterprise

## Perspectives

### 02 IT pain management

Technology struggles often require remedies that are not inherently IT.

### 05 Faster is better

Economist Intelligence Unit study lifts the veil on IT project delivery.

## Strategies

### 06 But, you promised!

How to get people to follow through on commitment using a four-step cycle that starts by making good requests.

### 14 Home-based employees getting a 'green' thumbs up?

More people are working from home, but corporate policies aren't necessarily following them there.

## Experiences

### 17 Valero embarks on 'ERP for IT'

Standard processes, common tools lay the foundation for automating the business of IT.

### 20 HP Integrity servers drive competitive leadership

Introduction of new services prompts International Securities Exchange to reevaluate its server environment.

### 23 Infrastructure overhaul produces two-week ROI

SUEZ Energy realizes tangible technology and business benefits through data center, storage and email enhancements.

## Feature

### 27 Operational BI

Embedding BI into operational processes for near real-time insight and action.

## Solutions

### 30 We've got that covered

HP engineers not only ensure all their equipment works together—they make sure it works with equipment from other vendors too.

### 32 Weighing your risk appetite

The first step to guarding your business against operational threat is to know your risks, their likelihood and impact.

**Cover:** (Front from left. Back) Valero Energy Corporation—Peter Ray, Dave Palmer, John Vann. David Garcia



## Pain points, starting points

Nigel Ball, VP Marketing,  
Technology Solutions Group, Americas

The root causes of IT pain often lie beyond IT, and communication is a common problem area. If IT and the business can keep the channels open, the chances of IT success go way up. It's often thought of as "fuzzy stuff," but it's critical (page 2).

Bringing performance monitoring, training and IT Service Management (ITSM) into the project management mix can help give technology solutions a solid foundation. But the quality of communication over the project lifecycle also impacts the end product, and a communication framework like the Closed Loop Business Interaction Model (page 6) makes it much easier to find and fix IT pain.

The payoff? Enterprise agility. Valero started its ITSM journey by working with HP on improving change and release management, whittling down time spent on non-value-added activities (page 17). When the International Securities Exchange needed to stay ahead of surging competitive and regulatory challenges, it scoped out current processes before deciding on an HP Integrity server infrastructure (page 20). SUEZ Energy North America saw an unwieldy email environment as a sign of deeper issues and streamlined IT top to bottom (page 23).

These organizations understood that IT success is a question of getting back to basics—defining requirements, dealing with root causes, and above all, communicating. Let us know your thoughts.

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\* **Page 25** – "Survey charts consolidation, virtualization, SOA and ITSM success," Ovum Summit, June 19, 2007.

\* **Page 28** – "Best Practices in Operational BI—Converging Analytical and Operational Processes," by Wayne W. Eckerson, The Data Warehousing Institute, 2007.

\* **Page 37** – "Optimizing WAN performance: Accelerating Market Growth," Burton Group, Version 2.0, January 3, 2006.

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## IT pain management

Technology struggles often require remedies that are not inherently IT.

Pain is a multifaceted issue. Look no further than the mirror for an example of this concept. We humans are subjected not only to physical pain, but also emotional pain, financial pain and the like. And we remedy each one differently.

When you are experiencing financial pain because your stock portfolio is suffering, do you reach for a band-aid? Believe it or not, many IT departments function in this manner. They apply the same remedial IT “medicine”—more tools, more bandwidth, more storage—to every obstacle they encounter. Too often, the pain subsists.

“When an IT person is in trouble, they want to get out of it and will spend accordingly,” says Jan Vromant, ITIL Solution Architect at HP. “An IT manager who experiences a certain pain will often look at their budget, see if there is any wiggle room, throw some money at a tool and hope that the pain will go away. This is not very systematic, and in some cases it even works. But not always.”

There is a more systematic and effective way of dealing with IT pain, he claims. The first step is recognizing that there is more than one type of pain that IT departments experience: technical pain, financial pain and personal pain.

### The types of IT pain

Technical pain is the dilemma an IT team is faced with; for example, a set of Exchange server backup tapes that cannot be restored. This type of pain is the most obvious, but is also frequently symptomatic and not the true cause of the issue. Financial pain is the impact that the problem is having on the organization, especially from a business or financial standpoint; for example, penalties incurred based on service level agreements. Personal pain is the overall personal and emotional impact the technical and financial struggles have on individuals; for example, the threat of outsourcing and the possibility of layoffs.

“Once the type and level of pain have been identified and analyzed, an effective



remedy can be implemented,” Vromant explains. “The remedy should alleviate the symptoms, but the most important aspect of the healing is the removal of the root cause of the sickness.”

When an IT department faces a certain issue—i.e., bandwidth latency—the typical remedy will be to throw some additional network power at the problem or add a server. This does not always address the root cause of the problem, however. In the example of bandwidth latency, the root cause might be poor communication between application development groups who are using FTP services in excess. If this is the case, adding servers or bandwidth is a temporary solution at best and does not remove the true source of the problem.

Just as there are several types of pain, Vromant indicates that there are also several “medicines” to relieve them. They relate to stability, quality and commitment/communication.

### The remedies for IT pain

The first method of pain management deals with the stability of the IT environment and includes basic performance and monitoring tools, training and ITIL Service Support processes (incident, problem, change, configuration and release management). These components provide the basic level of support for an IT organization, and include the amalgamation of tools in use and the training of IT personnel. Stability remedies can be categorized at the operational level.

Pain management through a focus on quality is a broad category consisting of remedies such as ITIL Service Delivery processes (service level management, business continuity planning and financial, security, availability and capacity management). These are the higher remedy levels, helping proactively control the enterprise infrastructure. They provide the necessary elements to

bring quality to IT service delivery and can be categorized at the tactical level.

A commitment/communication approach is an organizational remedy. It includes CXO-level commitment, communication plans, change management, corporate culture and all the aspects that deal with the strategic alignment of business goals and IT services. These elements are essential parameters for the framework and direction of IT services, and therefore are categorized at the strategic level.

“Matching the pain and the remedy are customarily the hardest part of the process, which is why many revert to the lowest common denominator—more technology,” says Vromant. “Things like commitment and communication are routinely dismissed as the ‘fuzzy stuff’ and ignored, even though they are often the most important and effective.”

He’s quick to point out that the alignment of remedies to pain is not a rigid proposition. But it helps categorize problems, analyze their root causes and identify an effective solution. HP Services, in particular the HP IT Service Management (ITSM) consulting practice, offers consultants who can introduce these concepts at customer sites. These consultants are not only specialized in the design aspects of IT pain management processes, but also have the “soft” skills necessary to convince stakeholders of the usefulness of following them.

“Using a model with a hierarchical definition of pain and remedy eliminates some of the guesswork involved in finding a solution to a particular problem,” Vromant says. “And often the solution is easier and less costly than more tools, more bandwidth and more capacity.”

For a free book *The Official Introduction to the ITIL Service Lifecycle* available in limited quantities, and special offers on HP Service Management education, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)



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# Faster is better

## Economist Intelligence Unit study lifts the veil on IT project delivery.

A new study shows that businesses that deliver their IT projects faster have better business results. But many businesses still have a lot of work to do in executing successful projects.

The global study, commissioned by HP, was conducted with the Economist Intelligence Unit. Paul Maher, a Strategic Content Manager for HP Software in Europe, explains the choice. “We work with Economist Intelligence Unit because they're experts at research; they brought similar editorial insight to the study as they apply in [The Economist] publication.”

This study is noteworthy for its scale and scope. “Few IT studies have this global reach and size,” Maher says. The study received responses from over 1,100 senior IT executives. The companies polled were overwhelmingly large enterprises with a minimum turnover of \$250 million and at least 500 employees.

The key findings are a combination of fresh insight and some familiar confirmation of how IT executives can improve. For example, many companies admit they deliver their IT projects late, with damaging results for their business. This probably isn't surprising to most IT folks. However those who can deliver projects on-time report they do so without sacrificing application quality: faster actually can be better.

Just over half of all respondents said no more than half of their companies' IT projects have their intended business outcomes. “This is not acceptable,” Maher says, “and wouldn't be in other industries. Few professionals report that half their work doesn't do what it's supposed to.”

The consequences of IT being late are critical for businesses: technology projects are often key to delivering new products or services; when they aren't completed, companies report that they are losing anticipated revenue. Other IT projects are intended to deliver cost savings; when they arrive late, they prolong the expense they were supposed to mitigate. Finally, late projects that integrate businesses in

mergers and acquisitions can cause confusion and ill-will, destroying business value when not successful.

Why do IT projects experience problems? The top reasons are changes to business priorities mid-stream, and poor coordination between IT and business managers. ‘Consensus project management’ is frequently at the heart of such disconnects, according to Ori Kopelman, President of Global Brain, a Silicon Valley consulting group specializing in accelerating IT project development. “People often try to do too much in one project. The project needs a single leader who sets the limits.”

When delays do come up, most businesses opt to reduce the scope of the project, rather than automate IT processes or increase headcount to get back on track. This may be a poor business decision—of those companies that reported a 25 percent increase in profits over the past three years, the number that believe in faster delivery is over 60 percent.

Not all businesses realize that delivering projects faster would lead to better profits. “In the US,” says Maher, “25 percent of IT executives said they don't know if going faster would mean greater profits for the company. There's no idea of linkage between IT and business.”

For top-tier global businesses though, the survey shows the top three priorities for improving project outcomes are better investment in IT automation, better requirements definition and hiring IT staff with better skill sets. Put another way, IT projects can succeed when you take the time to align the project and IT resources to business priorities from the start, and automate time-consuming aspects such as testing.

As the report concludes, “firms that have fast-paced and sophisticated IT delivery are able to introduce services that are both highly innovative and hard for competitors to duplicate.”

Download the EIU study at: [www.hp.com/go/transform](http://www.hp.com/go/transform). For more on how to increase the speed of your project delivery, see page 29.

# Strategies



## But, you promised!

How to get people to follow through on commitment using a four-step cycle that starts by making good requests

Missed deadlines. Incomplete work. Expectations not met. Every day, promises are broken in business, intentionally or not. And usually, you're left wondering what went wrong and why.

"Lack of follow through on commitment is probably one of the biggest sources of frustration for anyone trying to manage a large corporate project," says Michael Cerreto, HP Consulting and Integration. At the heart of the problem is communication breakdown, which Cerreto has narrowed down to a rather simple premise: people just don't know how to be good "requestors" and good "performers."

"We decided to look closer at this and help corporations understand why they're having difficulty getting people to follow through," he notes, "and what we realized is it has to do with the quality of how people at work make requests in the first place."

Leveraging the Closed Loop Business Interaction Model devised by Action Technologies co-founders Terry Winograd and Fernando Flores, HP helps foster better dealings between those making a request and those meeting it. The four steps in the interaction cycle are basic; yet, applied consistently, they can effectively increase the likelihood that in the end everyone's going to be satisfied.

Step one is Request. This is where customers, colleagues or internal customers have something they want someone else to do and the number one problem is they are too vague when asking for it. "You have to stipulate in detail what your conditions of

Putting the interaction cycle to work 08

Centralizing storage frees up IT resources for innovation 10

The risk of the ratio 12

Are your home-based employees getting a 'green' thumbs up? 14



satisfaction are so the performer has a very clear understanding of what's expected," says Cerreto, noting that clear expectations about deadlines must be included. "If you leave those conditions up to chance, you're basically asking the performer to guess."

Step two is Negotiate and Agree. Often, the person making a request fails to give the person on the receiving end an opportunity to discuss or modify the conditions of satisfaction and deadline. "Sometimes we view people who negotiate as difficult to work with, but actually they're doing us a service because they're communicating thoroughly," he says.

Step three is Perform. If steps one and two are done well, step three should go smoothly. Where it breaks down is when people run into trouble and fail to go back to step two to renegotiate, or when they misunderstand the conditions of satisfaction from the outset. Another key aspect to performing is notification of completion, points out Cerreto. "Imagine the project team is supposed to deliver today and you're sitting there wondering if they're going to come through," he says. "The minute I have to pick up the phone to find out if something is done, it minimizes my trust in you."

The fourth and final step is Declare Satisfaction. "We will often tell everyone else around us how happy, or disappointed, we are with someone's work as opposed to the person who did it," says Cerreto. In step four, it's important for the requestor to share his or her satisfaction, whether positive or negative, and provide detailed feedback on what went well, and what didn't.

"Of all the steps, usually step one is very poorly done, step two is rarely done, step three is done but it's anyone's guess as to how the work will end up, and

step four is almost never done," says Cerreto.

The Closed Loop Business Interaction Model is designed to give project leaders a script they can use to ensure all four steps are covered. For example, one project team working with Cerreto was experiencing difficulty getting the executive sponsors to communicate with employees about the upcoming change. They knew they needed executive sponsors to be better communicators and HP consultants were able to coach them on how to make a good request using the four-step cycle.

"The project team outlined very clear conditions of satisfaction: they wanted the executive sponsors to communicate the project goals personally, twice a month, directly to those involved on the project as well as the business, and they wanted the project team to define the content of the messages," says Cerreto. They then gave the executive team an opportunity to negotiate, resulting in a compromise to communicate personally once a month and provide interviews for written communications once a month.

In step three, the executive sponsors followed through, working with communications specialists to conduct town hall meetings and written correspondence. In step four, the project team provided continual feedback by assessing the opinions of the meeting participants and reporting back to the executive team.

"The idea is let's not get too fancy," says Cerreto. "Requesting and performing is something we do many times throughout the day. If you can memorize this four-step cycle, you'll communicate better, ultimately leading to fewer broken promises."

For more information see HP Adaptive IT Leadership Program at: [www.hp.com/go/transform](http://www.hp.com/go/transform)

# Putting the interaction cycle to work



Building the Closed Loop Business Interaction Model into a project plan has become second nature for Deborah Anthony, Lead Program Manager, HP Technical Services Group. Every so often, however, she encounters such an obvious need to improve communications and get people to follow through on commitment that she takes a step back to spell it out for customers more clearly.

“Unless they concretely see it and can label it, they aren’t going to learn how to transfer it into their own environments,” says Anthony. The process of adoption can take a couple of months, she adds, but once people see the cycle at work they begin to trust it.

Anthony points to a \$400 billion full service financial company in the U.S. that recently embarked on an operational process improvement project to enhance its IT Services Management (ITSM) delivery. HP consultants identified the need for better follow-through early on in the program, she says.

“When we first started working with the customer, requests were being made in very vague terms,” says

Anthony. “After something was actually performed, neither side was satisfied; the requestor didn’t feel they got what they wanted and the performer didn’t experience a sense of accomplishment.

Recognizing that poor communication was at the heart of the matter, Anthony and her team created a release checklist that takes stakeholders through each of the four steps of the interaction cycle—make good requests, allow room to negotiate and agree, perform, and declare satisfaction—whenever a bundle of changes or process improvements is initiated. She also used the four steps to get people working collaboratively at all three levels of the program: the process owners, the executive sponsors and the enterprise-wide steering committee.

At the process level, the cycle is helping people to make good requests by first clarifying exactly what they’re trying to accomplish and then describing it well in tactical terms, ultimately leading to a functional design document that programmers can rely on when performing software changes. The process is iterative, with room for language clarification and negotiation along the way.

At the sponsorship level, it's enforcing a style of collaborative negotiation versus contentious negotiation. And at the steering committee level it's easing the approval process by creating a clearer picture of what the organization is trying to do, who is being assigned to do it, and how much it's going to cost.

"At each stage there's a greater level of specification, agreement and commitment," notes Anthony. "We're leveraging the interaction cycle at all three stages without making it more complicated than we need to."

One notable change in behavior occurred among software developers. Prior to working with HP consultants, developers would often wait until the last minute before implementing a software change. "They noticed that, from the time of a request to the time things actually rolled into production, developers would receive iterative changes that would have meant reworking things had they started coding earlier," explains Anthony.

Now, with the introduction of a clearer, better articulated project schedule based on the interaction cycle, work is laid out more systematically and developers no longer "hold back from actually executing against their commitment," she says. The

result is less rework and increased satisfaction.

"We're finding that people are appreciating the interaction cycle and starting to make a conscious effort to use it," notes Anthony. "People are more satisfied with their work, the company isn't spending as much money trying to get it accomplished, and the end product is more closely aligned with what the requestor had in mind to begin with."

Now, with the introduction of a clearer, better articulated project schedule based on the interaction cycle, work is laid out more systematically and developers no longer "hold back from actually executing against their commitment."

To learn how you can team with HP to build the interaction model into your project plans, call your HP sales representative or 1-877-258-6162 and reference code 6. For information on other components of the HP Adaptive IT Leadership Development Program, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

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## Centralizing storage frees up IT resources for innovation

For Zenith Marketing Group, rapid expansion caused serious growing pains in storage capabilities and management. Zenith relied on server-attached storage, which was costly and time consuming to augment when capacity peaked. Looking for a longer term solution that would support business growth and free up IT resources for continued innovation, Zenith chose HP StorageWorks 600 All-in-One Storage System (AiO600), realizing better application performance and improved business efficiency.

Zenith Marketing Group is a national, full-service insurance brokerage company that distributes annuity, life, long-term care and disability income insurance products to insurance professionals. As a constantly growing company, Zenith faced the challenges that come when storage capabilities fail to mirror the pace of expansion. With four offices, 50+ employees and a one-person IT department, Zenith needed to replace its server-attached storage processes with a more scalable, centralized approach.

“Our applications are getting increasingly graphical, which impacts our storage capabilities,” says Michael Tucker, Director of Information Technology, Zenith Marketing Group. “Prior to centralizing, we were in a situation where each server had its own disk storage. And we were managing storage needs on a server by server basis by adding disk drives as we were running out of space. It

solved the problem in the short term, but we needed a more enduring solution.”

For Zenith, storage is linked directly to business efficiency. For example, Zenith uses the PaperClip document-management system to collect and store images from many different documents and sources. This diversity of images gets stored in client case files for underwriter reference. With a server-attached disk storage approach, underwriters were forced to consult many different documents in different files, making it challenging to share information.

Management was also an issue. Tucker, Zenith’s sole IT resource, was spending the majority of time maintaining the technical environment. With server-attached storage, he was forced to go into every server and determine if it was running out of disk space or to



check whether it was completing backups effectively.

In addition, when storage began to fill up, Tucker had to either add physical disk drives or exchange with higher capacity drives. Then he had to assign specific disks to specific applications and devices and re-assign existing storage. It helped alleviate the immediate storage need, but Tucker knew that the server would eventually require additional storage again.

“Our business needed to focus on IT innovation,” notes Tucker. “Having the capability to manipulate data back and forth is crucial to making our workload more streamlined and efficient. To do that, I needed time to figure out the synergism between hardware, software and applications. Storage was taking up so much of my time that our ability to be innovative suffered.”

Zenith also wanted to gain management level reporting capabilities to handle the company’s ongoing growth strategically. Most specifically, the company wanted insight into product production being pushed through to carriers as well as to identify the top 25 producers and their compensation. But managing storage was dominating Tucker’s time, taking away from his ability to develop and implement robust reporting solutions.

Zenith installed and configured the HP StorageWorks 600 All-in-One Storage System in a storage area network and migrated storage capacity from 13 servers to the new SAN. With the AiO600, underwriters can access information for a case file from a centralized location and share information with agents and carriers more effectively.

“We’ve seen better performance and enhanced efficiency,”

says Tucker. “We can now store greater volumes of data centrally, and higher speed disk drives accelerate our back up times and application response. And for me, managing storage is so much easier. I just point and click to add more capacity, which saves me time and allows me to use IT to innovate for the business.”

In addition to addressing the acute storage issues, Tucker is using the AiO600 as the foundation for a new business continuity approach. The plan is to install another AiO600 at another Zenith location for disaster recovery.

“For us, the AiO600 addressed many of our key business issues,” says Tucker. “Cost wise, we had to deal with the initial purchase cost, but as our servers come up for retirement, we expect to more than recover that cost. And we don’t have to spend incrementally on disk drives, which reduces our costs upwards of \$1,500 per server.”

But more important than the cost savings are the benefits that Tucker is able to deliver to the people using IT to drive the business. “I now have time to look at our environment and find the synergies. I can evaluate our IT holistically and produce answers to questions that people don’t even know they have yet. That for me is the biggest value that the HP AiO600 has brought to the business—the ability to innovate for underwriters, management and sales so that they can keep our growth momentum going and find new ways to improve the way they do business.”

For more information on the HP StorageWorks All-in-One 600, other All-in-One storage systems, and a HP webinar *Making Sense of Data/Server Confusion with HP All-in-One Storage Systems* visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

# The risk of the ratio

When balancing IT administration and IT innovation, effective change management is more valuable than an arbitrary ratio.



The 80/20 ratio. Certainly not a household phrase, but it is quickly becoming commonplace in IT departments and behind closed CIO office doors. The ratio stems from surveys conducted by leading research firms, revealing that most IT departments spend as much as 80 percent of their budgets on routine maintenance and day-to-day operations, while only 20 percent is used for new technologies, programs and processes that drive the business forward.

Today, many companies are striving to shift—or even reverse—this balance of spending. The prevailing thought is that with an IT budget remaining constant, it is better to spend more on new initiatives and minimize spending on legacy systems. New initiatives can help attract new customers and create new revenue opportunities, whereas daily maintenance simply keeps the current systems running.

In addition to sounding logical, this line of thinking likely pleases CXOs during budget discussions. Spending for business growth is inherently more palatable than spending to keep the lights on. But are companies advised to let a ratio guide their IT decisions and allocations?

“The concept of a ratio between maintenance and new initiatives is easily understood and hence attractive, but it is a poor tool for managing an IT portfolio,” argues Jan Vromant, ITIL Solution Architect at HP. “New initiatives and investment proposals should be viewed on their own merit and not be subjected to a push caused by a blind chase for a ratio.”

Ongoing maintenance and new initiatives are not discrete concepts, he explains. As the latter are added to an IT environment, the former becomes more costly, more complicated and more time consuming. The two are intrinsically interrelated and therefore cannot be easily split into an either/or ratio.

“Every investment proposal should be looked at individually and in conjunction with the whole IT strategy and portfolio of business functionality and IT architecture. Each major proposal, each major change and each investment needs to be able to stand on its own in terms of rationale and return on investment,” says Vromant. “Using a ratio as a tool to guide a budget can lead to a major misalignment with the business.”

Instead of an arbitrary ratio to guide spending

“The ratio between existing operations and new initiatives can be useful because it highlights where the net maintenance costs are heading.”



decisions, Vromant suggests that companies focus on effective change management.

“IT departments are in a constant state of flux. Mastering that flux helps ease the process of implementing new technologies, integrating those technologies with existing systems and administering the entire infrastructure,” Vromant explains. “Effective change management naturally leads to a better distribution of IT administration and IT innovation.”

New investments and major changes should only be pursued when an environment is mature and stable, he adds. New initiatives undertaken for the sake of being more “forward-thinking” or for achieving a particular ratio can be disastrous.

“IT departments are already buckling under the yoke of more and faster changes every year,” Vromant points out. “New initiatives can take energy and time away from the essential goals of providing a stable IT service to the business and enabling maximum business productivity.”

HP offers a range of consulting services and solutions to improve and balance an IT services lifecycle framework.

The HP Service Management portfolio combines education, consulting, support and software in a set of six solutions that address all aspects of service management, including change and configuration management. The portfolio helps companies align IT operations, applications and strategy to achieve better governance, compliance and efficiency across the IT environment—and ultimately, to demonstrate more IT value to the business.

“As a post-facto informational comparison, the ratio between existing operations and new initiatives can be useful because it highlights where the net maintenance costs are heading. It might also be a driver in a decision to outsource some legacy systems,” says Vromant. “However, this ratio should be used with caution and not as the main driver for budget discussions. The distinction between maintenance costs and new initiatives should be guided by business needs, within an IT services lifecycle framework.”

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## Are your home-based employees getting a 'green' thumbs up?

**More people are working from home, but corporate environmental policies aren't necessarily following them there.**

It's hard to find a corporation that isn't "turning green" these days. From energy consumption to paper waste to recycling to efficiency, it seems policies dealing with environmental responsibility and conservation are top of mind within most industries.

What's missing from the environmental radar screen, however, says Bruce Michelson, Distinguished Technologist, HP Personal Systems Group, is the recent surge in home offices, whether sanctioned by a company or not.

"Five years ago, before mobility really took off, it was the enterprise that had the environmental problem. Now the problem has been transferred to the home and governance models aren't following," says Michelson. In fact, many companies who "are chest thumping and saying, 'Hey, we're really green,'" aren't even thinking about the impact the home office decision has on the environment, he adds.

According to findings from Michelson's research into the area, there's a gap in practice levels between the centralized enterprise and the home office when it comes to applying environmental strategies.

For starters, home office users typically overlook paper conservation, from something as simple as using both sides of a page for informal printouts to the larger concern of not shredding documents before disposing of them. While enterprises will go to great lengths to electronically protect confidential information accessed from home, they usually fail to address standards for shredding printed documents and conserving paper.

"Even formal home office programs sanctioned by personnel don't indicate shredders as part of the home office furniture and equipment configuration," points out Michelson, noting he often gets the "deer in the headlights stare" when pointing this simple consideration out.



Another area frequently disregarded in the home office is the proper disposal of computers, monitors, peripherals and ink cartridges. In fact, most users tend to avoid the issue altogether, collecting old items in a basement, closet or garage, and neglecting to scrub or wipe the hard drive for data protection. It's not good enough to assume employees know how to dispose of assets, says Michelson. Rather, businesses need to have a disposal process in place as part of a standard home office policy.

Even subtle changes now commonplace in many organizations, such as turning off equipment when it's not in use, turning off lights, using special bulbs that require less power, and ensuring good ventilation, have yet to filter down to the home office environment. "When you look at the greening of the home office, there's a whole set of criteria and considerations that people could potentially look at, but quite often the governance model is not as aggressive as it should be," says Michelson.

As a leader in developing environmentally responsible programs, HP is doing its part to promote awareness among home office users. In addition to hosting websites that support global citizenship and recycling, HP lists best practices for how to run a home office on its internal employee portal and includes formal disposal processes, recommendations on office configurations and standards for furniture and lighting as part of its formal home office program.

Beyond its own employee base, HP also worked with Starbucks Corporation of Seattle to get the word out to an even wider audience. For a brief period this past year, Starbucks company-owned stores across the U.S. offered a brochure outlining the HP recycling program and encouraging consumers to responsibly dispose of old equipment.

"There's a huge need for people to be aware of the solutions out there for recycling products that shouldn't end up in a landfill," says Starbucks Environmental Affairs Manager Jim Hanna. "HP has done a good job of taking responsibility for its products at end of life but there's still a need to raise awareness and Starbucks stores are an excellent conduit for that," he adds, noting that the promotion was a good fit with the company's other in-store environmental programs.

HP and Starbucks are also founding members of the Climate Savers Computing Initiative, a non-profit group of eco-conscious consumers, businesses and conservation organizations committed to producing and using products that meet specified power-efficiency targets. "We're going to work together to reduce the energy signature and energy footprint of the computers we buy from HP," notes Hanna.

Michelson encourages other companies to take similar actions to raise awareness, particularly among employees who work from home. When approving a formal or informal home office, he recommends having employees sign a waiver that makes them responsible for ensuring anything used for business purposes is handled in an environmentally correct manner.

"The risk of not managing the gap in governance models between the enterprise and home office far exceeds the cost of managing it," he says. "And I think most businesses are starting to catch on."

To learn how HP Disk Sanitizer on HP Compaq business notebooks eliminates hard drive data prior to disposal, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform). For a free copy of Bruce Michelson's latest book *Closed Loop Lifecycle Planning: A Complete Guide to Managing Your PC Fleet*, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

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# Experiences

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Reliability and performance of HP Integrity servers drive competitive leadership 20

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Infrastructure overhaul produces two-week ROI 23

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# Valero embarks on 'ERP for IT'

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Standard processes, common tools lay foundation for automating the business of IT

Innovation equals success at Valero Energy Corporation. Growing rapidly through acquisition over the past 10 years, the San Antonio, Tex.-based company has become North America's largest refiner—with more than \$90 billion in revenues—and it owes part of that achievement to a strong commitment from IT to deliver innovative, efficient business operations.

Now it's hoping to turn that "innovation lens" inward, says Dave Palmer, Valero Vice-President of Planning and Data Services, to drive similar success within IT itself.

"As a department, we performed a lot of business process re-engineering and standardization for our business units, but we weren't using common practices to do IT business," says Palmer. "Moving forward, we needed to look at improving IT operations."

The Valero IT department already had best practices in place for project management and financial management, but it needed an integrated process and toolkit for managing its day-to-day operations, particularly in the areas of change and configuration management. Answering to Sarbanes-Oxley (SOX) controls each year proved difficult, and the implementation of change requests would sometimes lead to unplanned downtime.

"We spent about 70 percent of our time on support, and we knew we needed to get better at that to free up more room for innovation within IT and increase customer satisfaction," says Palmer.

Recognizing the value of a common, integrated approach for change and configuration management, the IT department launched an IT

Service Management (ITSM) project in 2006 and began searching for an integrated toolset to support IT Infrastructure Library (ITIL) concepts. It soon realized, however, that tool selection was only part of the equation.

“We had vendors coming in to show us very complex, multimillion-dollar systems, and it dawned

Enterprise Change Manager. It also initiated a comprehensive monthly training effort so that all IT managers—including project managers and above—would be certified in ITIL foundations.

Valero’s enterprise CAB consists of 13 domain change managers, each responsible for changes within their respective lines of business, such as



on us that you have to start with process first. Software alone wasn’t going to solve the problem,” says Peter Ray, Valero’s Senior Manager of Integration and Data Services.

To get started down the right path, Valero enlisted the help of HP consultants who performed a comprehensive analysis to identify areas for improvement and find a starting point for the company’s ITSM journey. “HP pointed out opportunities for improvement around change and release management and said it was important to start there before implementing a tool,” Ray says.

Valero then set out to develop a change management process that could be applied across its various IT departments. Leveraging information gleaned from an HP white paper on change management, the IT department chose a federated, enterprise change advisory board (CAB) model and appointed IS Project Manager David Garcia as

Financials, Human Resources, Refinery and Retail, who meet regularly to discuss the impact of change. Every request, regardless of size, has a standard look and feel. Only those flagged for enterprise review are escalated to the enterprise level.

“In an organization as big as ours, with more than 400 people in IT and so many different areas of expertise, we felt that a single change advisory board would be a bottleneck,” says Ray.

Under the new process, individual domain change managers adhere to standards but are also given latitude as to how they manage change. “We want them to use a common tool and process so we can present a common face to audit, but whether they hold standing meetings or do virtual approvals or simply meet face-to-face with change requestors is pretty much their call and their management style,” says Ray.

The goal is to reduce the time spent on support

by planning and executing good changes, while introducing a more automated approach to SOX compliance. Now that the enterprise CAB is firmly established, the next step is to replace an in-house system for change management with an integrated ITSM toolset, and Valero has chosen ServiceCenter and AssetCenter from HP.

It helps that the benefits of ITSM are already starting to show. For the first quarter of 2007, Valero's IT group demonstrated a 100 percent pass rate of all change records generated—a vast improvement over the fall of 2005. Looking ahead, the company remains confident the processes it is building today will serve as a foundation for future innovation.



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**“Moving to ITIL best practices and an integrated ITSM toolset will help our infrastructure team become a stronger, more customer-focused organization.”**

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“When we did finally make our tool selection, it was a pretty close race between vendors,” says Palmer. “What tipped us to the HP ITSM toolset was the excellent support we knew we would get from HP.”

As it prepares to roll out the first modules of HP software this fall, Enterprise Change Manager Garcia expects the impact to be significantly reduced now that IT has cleared major hurdles of process change. Implementing ITSM is a gradual voyage, he says, that has included internal awareness campaigns, off-site training and daily conversations to reinforce the benefits of standardization.

“It does take some getting used to,” says Garcia. “Whoever takes on the role of Enterprise Change Manager needs to be thick-skinned because you’re going to get comments from the different IT areas that you’re slowing down their process or that the way they did things before was better.”

“Moving to ITIL best practices and an integrated ITSM toolset will help our infrastructure team become a stronger, more customer-focused organization,” notes Valero VP, Operations, John Vann, a proponent of ITIL whose ongoing support has been instrumental to Valero’s success. In particular, says Vann, tools like HP AssetCenter give IT the visibility it needs to better manage software licenses and hardware lifecycles.

“ITSM is a huge blueprint, and you can’t attack every ITIL process simultaneously; you have to start with the ones that give you the most return and then build on that,” adds Ray. “Anything we can do today to automate the operation of IT frees us up for innovation tomorrow, and that’s going to drive our business moving forward.”

For a free book *The Official Introduction to the ITIL Service Lifecycle* available in limited quantities, and special offers on HP Service Management education, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform). For an HP ITIL v3 BLOG, visit: [www.hp.com/go/transform8](http://www.hp.com/go/transform8)



# Reliability and performance of HP Integrity servers drive competitive leadership

**The introduction of penny trading and the planned launch of its Second Market for options prompted the International Securities Exchange to reevaluate its server environment and move to a platform that could enhance system performance and maintain reliability.**

Founded in 1997, the International Securities Exchange (ISE) consists of an options exchange, a stock exchange, an alternative markets platform and a market data business. With continual enhancements to its trading systems and ongoing product development, ISE aims to provide investors with the best marketplace and investment tools to trade smarter.

Electronic trading is a highly competitive industry, with new players entering the market on an ongoing basis. From 2000, when ISE first launched its options exchange, to 2007, average daily volume of equity options contracts for the industry has grown from 2.7 million to more than 9.3 million. Escalating contract volumes combined with regulatory changes and the introduction of penny quoting for certain options classes have exerted high stakes pressures on ISE, which currently leads the equity options market with a 30.5 percent share.

“We expected the move toward penny quoting to increase the number of quote transactions that our systems had to process significantly,” says Robert Cornish, Technology Infrastructure and Development Officer at ISE. “On average we estimated a 2.5x increase in quoting across the symbols selected for the option industry’s penny pilot. Our existing system, based on HP’s AlphaServer platform, was highly reliable, but we knew that we would need additional capacity to handle the increased transaction rates.”

In choosing a new platform, ISE had several key priorities. First, the company required a system that could support HP OpenVMS effectively, as its main options trading application runs on that operating system. In addition, ISE was concerned about data center space and power consumption, as a result of the limitations and costs associated with housing systems on Wall Street.

ISE chose to transition from its AlphaServer systems to the HP Integrity platform. The company felt that HP Integrity would deliver the capacity and performance required to support the increasing volume stemming from the continued growth of



**“The HP consulting workshop was key to our success in delivering a solution under a tight timeframe. HP helped us choose the right Integrity systems and their configurations for our environment based on our existing business-critical systems and increased performance needs.”**



the options industry, the introduction of penny trading, and the launch of ISE’s Second Market for options, which approximately doubled the number of options traded at ISE.

“The HP consulting workshop was key to our success in delivering a solution under a tight timeframe,” says Cornish. “HP helped us choose the right Integrity systems and their configurations for our environment based on our existing business-critical systems and increased performance needs. Considering the aggressive timeline, it was essential that we select the right platform the first time.”

ISE purchased HP Integrity servers to support two of its core functions—the system that matches quotes and orders into trades and its transaction routing system that routes transactions between servers. Initially, ISE had five HP Integrity servers in each of its two sites for the matching system and four in each site for its transaction routing system. The company has since continued to implement additional Integrity servers to support the exchange.

“We had fairly short advance notice for the beginning of penny trading,” says Richard Ens, Head of System, Storage and Network Engineering at ISE. “We met with HP for the first time in Q3 of last year and made the choice to move to HP



The company now has faster clock speeds, the benefits of dual core processors and a reduction in data center space and power.

Integrity in Q4. The total timeline for the implementation was six months. But despite the aggressive timelines, HP made it happen. And for us, the most critical measure of success was the lack of disruption in services—we needed this transition to be seamless for our members, and it was.”

With the HP Integrity servers running OpenVMS in place, ISE began to see the performance advantages almost immediately. The company now has faster clock speeds, the benefits of dual core processors and a reduction in data center space and power. Previously, ISE had 11 AlphaServer systems across several cabinets at each site for the matching system component of its option trading platform; it reduced that to five HP Integrity servers in one cabinet at each site during the initial implementation.

Beyond the performance improvements, ISE has been very impressed by HP’s service and support. “In my opinion, HP’s engineering staff is the best in the

industry,” says Cornish. “They have shown dedication to helping us overcome our challenges right from the start, and we know we can reach out to them at any time, leveraging their knowledge and experience to maximize the performance of our systems.”

For ISE, HP Integrity servers have impacted its business positively from both the capacity and enabling standpoints. “With HP Integrity servers running OpenVMS, we had a platform that could support the launch of our new business,” says Ens. “But the most poignant proof comes from our members. We don’t hear from them unless we reach out to them proactively; and when we do, we receive consistently high praise for our ability to handle their needs quickly and efficiently.”

For information on HP Integrity servers, the 30th anniversary of HP OpenVMS, and special offers on solutions and services and free books available in limited quantities, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)



## Infrastructure overhaul produces two-week ROI

**SUEZ Energy North America, Inc. realizes tangible technology and business benefits through data center, storage and email enhancements.**

“We were in a PST nightmare,” Worth Davis recalls.

The IT Director of Operations for SUEZ Energy North America, Inc., ([www.suezenergyna.com](http://www.suezenergyna.com)), a business unit of SUEZ Energy International, is referencing his organization’s former Microsoft® Exchange Server-based email environment. As a result of company growth and acquisitions, the Exchange systems were operating independently and inconsistently in more than 30 locations throughout the continent. This disparity rendered administration, updates and backup difficult; the lack of uniformity added to costs related to compliance and legal discovery.

The dysfunctional email ecosystem was one of the challenges facing SUEZ Energy’s IT team. It was “one in a series” of situations that were addressed as part of an overall IT strategy.

“The energy industry is complex, dynamic and driven to a certain extent by external factors,” says Janette Smith, CIO of SUEZ Energy North America. “Adding to that, SUEZ NA is a key player in diverse energy market segments—power generation, LNG supply, trading, wholesale, retail and gas distribution—all with varied IT needs. IT delivers value to our customers by being innovative and staying ahead of the curve, and by consistently delivering useful solutions in a cost-effective manner, with no surprises.”

This balancing act of customer needs, innovation and cost effectiveness led the



company to reevaluate its infrastructure technology strategy. In addition to the email system challenges, the existing data center was approaching full capacity. Adding to the lack of conditioned floor space, limitations of power and cooling resources were evident.

“The interface is right on the chassis, implementing new servers is effortless and it is easy to manage power and monitor performance. And with Virtual Connect firmware, there are fewer uplinks to establish and administer.”

“The company requires a topnotch technology infrastructure,” Smith says. “We selected solutions that are able to handle business growth seamlessly, both anticipated and unanticipated. Flexibility, high performance and reliability were essential, but we also wanted solutions that our lean IT organization could manage on a daily basis. We believe we have implemented an infrastructure solution that will support our growing energy businesses for a number of years.”

### A three-pronged overhaul

With the assistance of Computex, an HP Gold reseller

based in Houston, SUEZ Energy embarked on a three-pronged infrastructure overhaul focused on data center consolidation, storage enhancement and email management. The company decided to standardize its data center on HP BladeSystem c-Class products. High-density server blades with advanced power and cooling capabilities, the c-Class quickly alleviated many of the space and energy constraints of SUEZ Energy’s data center.

“Our data center was nearing full capacity and there’s no magic fix for square footage,” says Davis. “The c-Class blades provided welcome and immediate relief. They allowed us to quadruple the number of servers per rack, using 20 percent less power and cooling overhead when compared to our legacy servers.”

Davis indicates that 180 of SUEZ Energy’s 400 data center servers have been replaced with c-Class server blades. The company intends to continue the changeover in full, and is in the process of establishing a new data center for production and disaster recovery that will support up to 54 racks and 2000 additional c-Class server blades.

“HP BladeSystem management is fantastic,” Davis says. “The interface is right on the chassis, implementing new servers is effortless and it is easy to manage power and monitor performance. And with Virtual Connect



firmware, there are fewer uplinks to establish and administer.”

To improve its storage environment, SUEZ Energy installed three HP StorageWorks Enterprise Virtual Arrays (EVAs). High performance, high capacity and high availability “virtual” array storage solutions, the EVAs are now supporting the company’s Oracle® and Microsoft® SQL Server database systems.

“We placed all of our major production systems on the EVAs, as speed and availability were paramount,” Smith explains. “The HP EVAs delivered an immediate 600 percent performance improvement over our former modular storage arrays.”

### Confronting email challenges

With the data center limitations addressed, SUEZ Energy IT focused on the aforementioned “PST nightmare.”

“Our users were continually running into capacity limitations; we were backing up 10 years of email nightly; and the independently managed email systems were inconsistently updated and backed up,” Davis recalls. “Sporadic internal and legal queries consumed significant staff time and required us to engage outside expertise to search all of our servers, email and client systems. These discovery inquiries often lasted months and were expensive.”

To confront these challenges, SUEZ Energy implemented an HP StorageWorks Reference Information Storage System (RISS) for email management and end-to-end compliance of its data. A records management and archiving solution, a RISS minimizes storage costs and offers exceptional end-user accessibility by transforming data into useful information.

The RISS has enabled SUEZ Energy to consolidate more than 30 email outposts into a single Exchange system. All of the company’s PSTs have been eliminated and users no longer have email capacity limits. Email and data is automatically archived after 90 days. And the system is able to search billions of documents or records in seconds, and scales to hundreds of terabytes of storage.

“Ironically, we received a legal query soon after we installed the system. What would have taken a discovery firm several weeks took the RISS mere days,” Davis reveals. “The system scoured 80 users and 10 years of data in six days flat, and paid for itself within two weeks. That’s real cash savings.”

For information on HP Data Center Transformation Services, HP BladeSystems and StorageWorks products, as well as special offers on solutions and services and free books available in limited quantities, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

## ITSM paves the way

Whether you choose consolidation, virtualization, service-oriented architecture (SOA) or another route to optimize your IT infrastructure, the fine-tuning goes better with IT Service Management (ITSM) according to Ovum Summit research\*. For the second year running, Ovum’s annual survey of North American IT decision makers reveals a strong link between use of ITSM and high customer satisfaction with what it calls “dynamic computing infrastructure technologies.”

ITSM reduces the complexity associated with optimization by basing it on the service-oriented view of IT operations and service levels it is intended to support. Users are increasingly aware that ITSM best practices can smooth infrastructure optimization and ensure that business needs drive IT. Ovum’s survey showed a clear correlation between the level of ITSM/ITIL familiarity in an organization and that organization’s success with dynamic infrastructure implementation, SOA in particular. ITSM and its enabling tools are making increased inroads with enterprise and mid-market customers, and Ovum expects them to become mainstream in 2008.





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# Feature

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## Embedding BI into operational processes for near real-time insight and action

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Many companies are embracing Operational BI to achieve maximum operational efficiency. But realizing the benefits of Operational BI's near real-time insight and action requires an evaluation of existing systems and architectural changes to support new capabilities effectively. Once done, companies must also determine which processes to target, focusing on capabilities that drive differentiation.

BI is evolving. Once solely the domain of analysts with sophisticated and complex tools, BI is moving into the mainstream and empowering employees at all levels of an organization to impact business outcomes. The current paradigm, known as Operational BI, embeds business

intelligence into business processes and applications to drive daily decisions on a near real-time basis.

The Data Warehousing Institute in its report, *Best Practices in Operational BI—Converging Analytical and Operational Processes*, defines Operational BI as “deliver[ing] information and insights to a broad range of users within hours or minutes for the purpose of managing or optimizing operations or time-sensitive business processes.” \*

## Wu suggests targeting processes that are unique to the organization.

Traditionally, BI was more strategic in nature. “Historically, when companies thought of analyzing data, they immediately conjured reports, dashboards and analytics,” says Jonathan Wu, Senior Principal in HP’s Information Management Practice. “But with the technology advancements in terms of service-oriented architecture and data integration, companies now have the capabilities to pull data from multiple systems and integrate it to achieve near real-time insight. With this foundation, companies can shift their BI focus to empowering all employees with the ability to drive business outcomes.”

Wu points to the North Carolina Hospital Emergency Surveillance System (NCHESS) as an example. Looking for a way to overcome the challenges in detecting potential threats that could lead to a health crisis, North Carolina adopted the statewide system to collect, report, monitor and investigate pre-diagnosis clinical patient data electronically on a 24/7 basis.

With a central clearing house that simplifies data sharing between hospitals, the Center for Disease Control and Prevention and the state’s division of Public Health, North Carolina’s health officials and professionals can use insight gained from the system to react quickly to potentially threatening situations, driving their specific business outcomes—better protection for the state’s 8.5 million citizens. All licensed 24-hour emergency departments within North Carolina (112 hospitals) are required by state law to use the system.

The practice of Operational BI is also being used by many manufacturing organizations to improve product quality. Normally, a manufacturer would not be aware of integrity-impacting defects until after a product has come off the production line. Applying Operational BI during the testing phase of the development cycle enables manufacturers to identify variances in specifications, stop production and correct possible defects before the production process is complete. With that near real-time insight, manufacturers can save time and money while protecting the integrity and quality of their products.

So for companies contemplating evolving their BI practices to Operational BI, what are the key considerations? According to Wu, it is essential to examine how current

systems work. “It is critical to understand the capabilities of the existing environment in terms of both usage and requirements,” notes Wu. “For example, if you have inventory that is being managed on an internal system and it only posts batch transactions at the end of the day, intra-day inventory management from a BI perspective cannot be done. In this instance, enabling Operational BI means reviewing how data is processed and stored and making the required alterations to support new process approaches.”

Wu also stresses the importance of examining business processes to determine which ones would benefit most from Operational BI. Standard processes including HR, purchasing and accounting do not necessarily impact how a company competes. Instead, Wu suggests targeting processes that are unique to the organization and industry and differentiate it from others operating in the space.

“When it comes to Operational BI, it is important to pursue processes that support differentiation,” says Wu. “For example, HP worked with a manufacturer of ultrasound equipment that wanted to be a leader in a very competitive industry. We did a trend analysis to identify product defects and their underlying causes. By embedding Operational BI into the manufacturing process, we were able to help the company identify possible defects during production so that they could be corrected prior to completion. The result was a better quality product, which drove revenue up, and reduced returns and accompanying support for that process, which drove expenses down.”

HP has developed the HP Business Intelligence Evolution Assessment to help companies determine what stage they are at in their BI evolution. By answering a few targeted questions that provide a view of the enterprise from both the IT and business perspectives, HP can apply its knowledge and processes with the right mix of software, servers, storage and services to accelerate BI evolution.

The five stage BI maturity model encompasses: Operation—facts and data that contribute to running the business; Improvement—information for monitoring and measuring the business; Alignment—insight to integrate performance management and intelligence; Empowerment—knowledge to foster business innovation and people productivity; Excellence—foresight to create strategic agility and differentiation.

“Using the HP Business Intelligence Evolution Assessment, we can determine where companies are in their BI evolution and help them move toward integrating BI into their operational processes,” says Wu. “Different industries have different levels of maturity, so it is critical to look at BI evolution on a case by case basis. And HP is the perfect partner to assist in this journey because we have the experience to help companies focus on embedding BI into processes that drive true differentiation.”

Determine which stage of BI maturity your company has already achieved, visit: [www.hp.com/go/transform9](http://www.hp.com/go/transform9)



## Get faster

### Advice from HP on how to increase the speed of your project delivery.

The Economist Intelligence Unit survey *I.T. At The Speed Of Business* (see page 5) paints a concerning picture for some large enterprise IT shops. If your company is setting out to execute a large project, how can you guarantee that you'll be among the few who deliver on time and on budget?

One of the chief causes of project delays, according to the survey, is a disconnect between IT and business leaders which starts at the beginning of the project, with poorly defined requirements. That's where HP can help: the company is now giving away its Requirement Management module to HP Quality Center software customers for free.

With the addition of this brand new module, the HP Quality Center Dashboard is a one-stop application to keep the business "in the loop" as your IT project moves forward. Tying business needs to project requirements greatly reduces the probability that a project will be delayed by changes, by helping testers see which parts of the project have the greatest priority. This ability, along with HP's world-leading automated testing, greatly speeds application development.

When projects are late, some businesses compensate by lowering the quality of their application. "We really don't want to see a decrease in application quality," says Paul Maher, Strategic Content Manager for HP in Europe. "It means you're rolling out

projects that are not tested, battle-proven."

HP Quality Center automates testing, providing a more thorough test cycle than most humans could accomplish, by crunching through many more business scenarios.

A companion product, HP Performance Center, helps automate the delivery process for new and existing projects by making sure systems can achieve the scale of performance the business demands, before going live.

Once systems are live, when the inevitable change requests do come down, HP's Change and Configuration technology means changes can be made with minimal business disruption and without time-consuming change advisory board meetings.

HP software also speeds IT requests and problem resolution processes at the business and user service levels. The net result is a package that automates compute-intensive tasks, helping your valued IT organization to focus on strategic business requirements and to achieve that seemingly contradictory goal of high quality in less time.

To download the EIU study and HP Performance Center and Quality Center information, for special offers on solutions and services and free books available in limited quantities, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

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# Solutions

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We've got that covered

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**Weighing your risk appetite** 32

---

**Speeding time to deliver systems for better decision making** 34

---

**Shifting focus from storage iron to storage service** 35

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**Faster than light** 37

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**HP engineers not only ensure all their equipment works together—they make sure it works with equipment from other major vendors too.**

CIOs wrestle with a lot of complexity in their working lives. Getting any systems to work together, whether it's between offices or continents, is no easy matter. But if you're wondering whether the "new stuff" coming in the door will work with the "old stuff" that you currently own, you can set your mind at ease if the new stuff has the HP logo on it.

"We've done that already," says Maria Teresa Randall, HP's StorageWorks Connectivity and Solution Test Section Manager. Her lab is responsible for shaking down new storage gear. When the storage development teams take



the wraps off a shiny new system, Randall's team plugs it in, beats it up, and makes sure it works with everything else before it ships.

And by "everything else", they mean more than you think.

"We do qualification work for SAP, Oracle® and Microsoft® Exchange," Randall says. "We've layered the testing of these applications on top of our standard interoperability tests, to provide a complete solution."

Interoperability with other hardware is a chief concern for CIOs looking to acquire new gear. Will it work with the rest of my servers? Will it plug into my storage array? Will my network switches see it? Randall's team has it covered: their testing environment takes in equipment from all the major vendors, sets it up, and watches what happens. "We'll build a simple configuration first," says Randall. "One operating system, one switch, and storage. We'll make sure we have successful I/O throughout the SAN."

"As we get more confident with this configuration," Randall continues, "we expand it to build out heterogeneous environments in two phases: we'll start with an HP-UX environment, and run all the versions we currently support, connected to storage." Once that setup is working well, Randall's team expands the battery of tests to include other operating systems. "The final phase is a co-existence environment: not only different versions of operating systems, but different network switches and different storage products."

It's not enough for the testers to run different configurations: they also need to know what happens when things go wrong. "We do really bad things to the hardware," Randall says. "Things the customer would never do or experience. When our environments are clustered in a high-availability setup, we pull cables, power cycle the hardware, and make sure things can boot from the SAN."

"So when we go to a customer, we can say this component works: they don't need to re-test," Randall says. For customers who purchase HP servers along with storage, they'll have peace of mind knowing that the findings from these tests go right back into research and development on both products. That level of interoperability means you'll see the best results when all your gear comes from HP.

Some companies spend considerable resources doing the same work that HP already includes with its products. For all but the most proprietary applications that companies might rely on, HP's got you covered.

"We have partnerships with a number of vendors: IBM, Sun, Emulex, VMware, Oracle, SAP, Microsoft, and others," Randall continues. "As we test in our lab, when we find issues with their products, we have the lab-to-lab relationships to resolve issues quickly."

If you're surprised by the relationship with other, competing vendors, consider it a case of enlightened self-interest. According to Randall, "we had a customer with a heterogeneous SAN, with quite a few IBM servers. When they tried to deploy a new piece of storage from another vendor, IBM told them their support contract would become invalid. So we signed an agreement with IBM, so HP storage will be supported with their servers."

For third-party vendors that provide certification processes—Microsoft, Symantec, Veritas and Sun—HP follows them, not only for each major release of their software, but for even minor updates. "We have a regression ring that tests minor changes in software. With every point release, we assess whether the changes will break the SAN. This is how we maintain support for our customers' environment as things change over time."

It's a lot of work, but it's much better for HP to worry about it than you.

For an Enterprise Management Associates white paper *Vendor Consolidation—An Opportunity to View IT Through a Single Pane of Glass*, and for special offers on solutions and services and free books available in limited quantities, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

# Weighing your risk appetite



**The first step to guarding your business against operational threat is to know your risks, their likelihood and impact.**

How much protection is enough when it comes to managing risk? Answering this question is impossible until you determine your “appetite” for risks, says Belinda Wilson, CBCP, Executive Director, HP Business Continuity and Recovery Services.

“No matter how comprehensive your business continuity program, you’re going to be exposed to loss and the only way to minimize the impact is to first understand your appetite—or tolerance—for risk,” says Wilson. Wilson defines risk appetite as the amount of risk exposure, or potential adverse impact from an event, that an organization is willing to accept. Events include everything from a component level failure or operator error, to a building, metropolitan, regional or global incident. The impact is typically measured in terms of revenue loss, productivity loss, damaged reputation and financial performance.

The process of measuring risk appetite is subjective and often deals with intangibles, so it’s important to get senior management on the same page from the start, says Wilson. Senior management defines a company’s acceptable appetite for risks; the business units then sort those risks into predefined categories. “A fair number of businesses will do this based on gut feel,” she says. “If you proceed that way, you’re setting yourself up for failure and may end up wasting valuable resources.” Instead, HP offers a structured risk assessment process that helps corporations define their business appetite for risk by identifying, evaluating and measuring the potential exposure a risk may have on a business unit. When identifying risk, it’s important to consider six risk categories or threats: people, company brand, technology and processing, physical, liability and compliance, and external. Once you know the risks that pertain to your business, the next step is to rate them according to the likelihood of their occurrence and associated level of impact.

For example, using a scale where one is extremely high and four is extremely low, a risk that is not likely to happen in the next year may be assigned a likelihood rating of four,

“It doesn’t make any sense, financially or business-wise, to simply accept every possible risk that could be facing your organization, nor to treat them in the same manner.”



whereas an immediate risk with significant ramifications would receive a rating of one. “It’s critical that senior management initiate this project because they own the process of defining the criteria for the appetite matrix,” points out Wilson, noting that rating scales will vary. “It is their responsibility to define which risks are acceptable to the business and which need to be reduced or transferred.”

The final step is the creation of a risk appetite table that aligns real risk exposure with management and escalation activities. All identified risks are assigned a risk score, obtained by multiplying the severity (direct costs or business impact) by the estimated probability that an event will happen and the detectability of the cause of a risk before it occurs. The result from this calculation represents the evaluated risk associated with each hazard and will dictate the corresponding risk management strategies. Typically, an event receiving a low risk score will be managed at the business unit level whereas a higher scoring event will be escalated.

Once the table is completed, it is reviewed and validated with senior management, and then communicated to the lines of business. The next step is to mitigate those risks that are deemed acceptable, manage those that are unavoidable, and transfer any that the business is not willing to accept or tolerate.

“The risk appetite table is just the start of building a robust risk management and business continuity program. Moving forward, you need to develop risk mitigation and management

disciplines into day-to-day operations,” says Wilson. “Simply put, you have three choices for risk: mitigate, manage or transfer. In order to determine which strategy is the best choice for your organization, you need to know which risks you are most vulnerable towards, which risks are regulated for control, and which risks are best suited to an insurance policy.”

To help customers identify, mitigate, and measure the impact of risk, HP takes a holistic approach that integrates people, process and technology. Working closely and collaboratively with their clients, HP consultants assist in educating businesses about risk appetite and how it forms the basis of a risk management framework. They also provide a detailed analysis and report with recommendations that best address risk, recovery, continuity and resiliency.

“It doesn’t make any sense, financially or business-wise, to simply accept every possible risk that could be facing your organization, nor to treat them in the same manner,” says Wilson, noting that the risk appetite process is about finding the appropriate balance between calculated risk acceptance and prudence. “By defining your risk levels, you can make informed decisions about how to handle risks, without wasting time and resources in areas that aren’t really relevant to your business.”

For a video overview of HP business continuity and availability strategies and solutions, visit: [www.hp.com/go/transform10](http://www.hp.com/go/transform10). For information on HP business continuity and recovery services, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

# Speeding time to deliver systems for better decision making

**With HP-Oracle® Reference Configurations for Business Intelligence (BI), IT can use business requirements to calculate infrastructure costs, justifying investments and speeding time to solution with a lower total cost of ownership.**

Enterprise BI is commonly affected by the push-pull between business and IT. The business wants immediate insight and actionable information so it can better understand customers, suppliers and markets. But IT must grasp the technology implications of those requirements so it can present the most cost-effective and efficient solution possible.

"Business users just want the answers, but IT has a different way of thinking," says Don Lutter, Product Marketing Manager at HP. "Often times, IT has to educate the business about the technology implications of its requirements and then provide detailed justifications for the infrastructure investment. To provide enterprise level insight, IT requires significant infrastructure investments from the business."

Lutter points to HP-Oracle® Reference Configurations as a strategic tool that IT is using to develop its ability to speak the language of the business and deliver targeted solutions. Designed for environments standardized on Oracle, Reference Configurations address a broad range of data warehouse sizes and workloads and are the result of HP and Oracle's combined expertise from a vast number of customer engagements.

Reference Configurations are verified using actual customer implementations, lab testing, analysis and benchmarking. They are ideal for companies upgrading, expanding, or consolidating Oracle-based data warehousing on HP platforms. HP can apply Reference Configurations based on the size of the database and user community to facilitate the decisions business and IT executives make on the proper sizing and performance of the infrastructure configuration.

"Prior to Reference Configurations, the business would tell IT, for example, that it needed to manage 10 terabytes of data," says Lutter. "But there was a lack of awareness as to the cost to perform that function. Now, we can assess what is required from an infrastructure perspective more quickly and speed time to those purchasing decisions."

Roundstone Systems, an HP Oracle Solution Elite Partner, applied these assessment principles on behalf of a retail financial client that was looking to keep its growing pool of collection agents online and productive. Since collections revenue is directly proportional to agent activity, any computer downtime has an immediate, easily measurable revenue impact. And the bank found that its collections team was outstripping its data center resources.

Roundstone worked with HP's Solution Center to evaluate options and determined server consolidation as the optimal way to address the IT requirements. After consolidating several application servers on HP Integrity Superdome systems, the bank realized an immediate gain in revenue generation because rapid processing improved agent productivity.

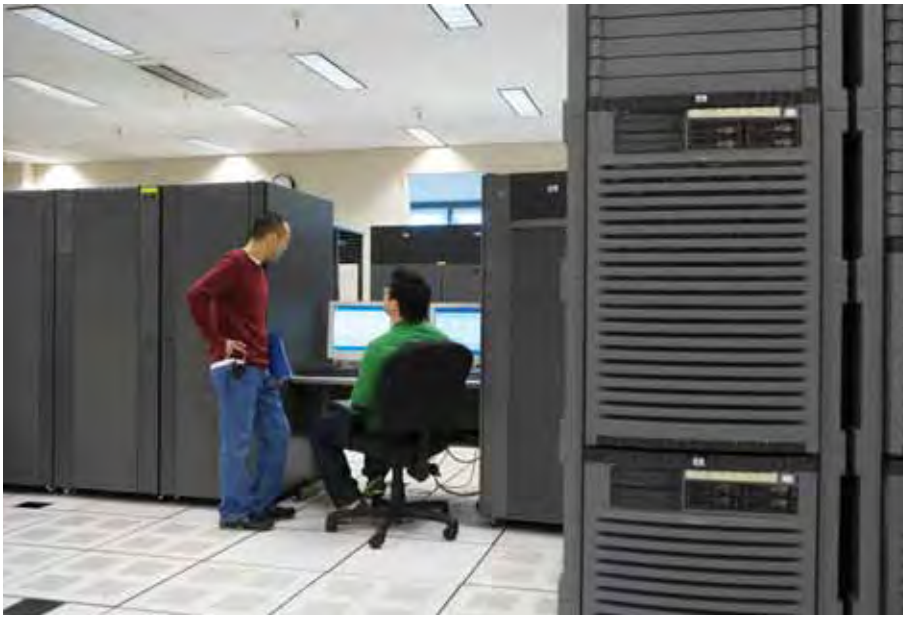
"Our customer was very pleased with the results," said John Fournier, VP of Sales for Roundstone Systems. "This project was a great example of HP working with us to deliver a superior solution, on time and on budget. Through virtualization, Superdomes have a tremendous capability to support these types of complex environments. And HP is making them simpler to deliver all the time. We are very impressed with the Reference Configurations program, for instance, as a way to simplify and speed deployment."

Lutter points to other key benefits of using reference configurations in BI consolidation projects. "Reference Configurations are all about speeding time to solution with a lower total cost of ownership," he says. "With a few questions about business requirements, IT can better articulate the solution and associated investment. And then it can advise the business on what it needs to procure to achieve business objectives, with a fairly targeted estimate of the costs involved."

In addition, Reference Configurations take into account the future growth path of a BI environment. Companies receive industry standard, modular building blocks to achieve BI objectives, ensuring supported growth and scalability. And because HP and Oracle validate the configurations and ensure balanced end to end server, I/O and storage, there is less performance risk.

"With Reference Configurations, we are looking to help IT deliver the best BI experience possible to the business with choice of architecture and platform, quality through integration, detailed implementation guidelines and superior one-stop service," says Lutter. "HP and Oracle have pooled their intellectual property so IT can engage in productive conversations with the business when it comes to BI consolidation. Using Reference Configurations, IT can build a BI infrastructure that addresses the need for immediacy required by the business and its own need to invest wisely and ensure ongoing cost reduction."

For HP-Oracle Reference Configuration solution and assessment briefs, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)



# Shifting focus from storage iron to storage service

## How to create a storage service that matches infrastructure configuration to business requirements.

Ask a storage architect to describe your company's storage infrastructure, and you're likely to get a detailed overview of the data center, and the capacity and capabilities it has. But as businesses continue to embrace IT Service Management (ITSM), it's time for storage specialists to start using a different language.

"One of the biggest IT challenges right now is the inability to directly relate storage technologies with delivered services," says Abbott Schindler, Senior Technologist, HP StorageWorks.

"People need to start viewing storage infrastructure in the context of service delivery as opposed to hardware features."

What's needed is a standardized definition of storage service levels and that means starting with a clear understanding of requirements from a user point of view. "A storage architect needs to be more tightly tied to his or her business and application counterparts," says Schindler.

Rather than meeting requests for additional storage capacity in terms of what's available from a hardware architecture viewpoint, storage architects need to start thinking in terms of the capabilities required to support business needs.

For example, when a Microsoft® Exchange administrator requests additional storage for a new e-mail server, the traditional response is to provide storage according to a configuration management database (CMDB) that lists the appropriate resources and methodologies to meet that requirement. Using a services-oriented approach, a storage architect would meet with the administrator to outline the business requirements first, including capacity based on the number of mailboxes per user, availability, performance, recovery time object (RTO), and recovery point objective (RPO), as well as any other applicable attributes.



### Attributes first, hardware second

"In this way, they can define an e-mail service that necessitates a certain amount of capacity, an availability of three shifts a day, six days a week minimum, and is going to have a recovery time of 30 minutes and a recovery point of 10 minutes," says Schindler. "The next step is to start looking at the hardware and software technologies—existing or new—that combine to best meet those requirements."

Thinking of storage in terms of the service it provides allows IT to create a storage services catalog that aligns with the catalogs typically associated with IT Infrastructure Library (ITIL) best practices. It requires a shift in focus from "iron" to attributes, which can include anything from capacity, performance, availability and recovery, to security, data classification, data protection and the ability to index, search and retrieve. The result is a storage service that links infrastructure to business needs.

More importantly, each service has a specific cost associated with it, which places storage architects in a better bargaining position, says Schindler. "First of all, it helps them to secure infrastructure funding, and secondly, it opens up a peer-to-peer dialogue with users which ultimately serves to

optimize the entire IT supply chain," he says.

When businesses start to dissect storage requirements associated with the applications they provide, including backup, continuous access, replication, and integrated lifecycle management, they end up with a "good top down way of thinking about what they need in their infrastructure," he adds. Taking that a step further, storage architects can also begin to sit down with business planners in order to better understand where the company's headed, what IT services will be required, and what storage capabilities will be needed to ensure their delivery.

### Dialogue goes beyond bits and bytes

"Now they can start looking at the roadmaps they receive from a storage vendor in more useful ways," notes Schindler. "They can say 'Here's where I need to evolve in terms of the service capabilities I need to provide. What solutions should I be considering?'"

As a leading vendor of storage hardware, software and services, HP has a stated strategy to deliver storage as a utility service. Under the HP vision, storage infrastructures are provisioned according to service level agreement (SLA) requirements. Once a business user or application administrator specifies a set of required attributes,



storage software automatically identifies and provides the right resources.

To help businesses get started on a storage services journey, HP offers a comprehensive ITSM assessment that includes storage as one of its areas of examination. HP also provides Storage Essentials, a suite of software designed to help users better understand and manage their storage environments. A key part of Storage Essentials is analysis software that enables storage administrators to obtain a clearer picture of how storage contributes to overall application performance, helping them to meet service objectives.

"A service-oriented approach to storage elevates the storage architect's ability to talk beyond a bits and bytes level," says Schindler. "If you start thinking in these kinds of terms, you'll have a more efficient way of looking at and optimizing your storage infrastructure."

For a free book *The Official Introduction to the ITIL Service Lifecycle* available in limited quantities, special offers on HP Service Management education, and information on assessment services, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

## Faster than light

### Beat network latency with WAN optimization

You got it back.

The far-flung servers and applications, the difficult-to-manage toolsets that make your company hum. Whether they were in Minneapolis or Manhattan, you got them back. In one data center: one location to manage, and for the head office guys, one super-fast connection to all the company assets. It's the golden story of IT consolidation, and you made it happen.

There's one problem. The sales team in Minneapolis is howling: Exchange is running like a turtle with a broken ankle, and you instantly understand why.

Joyce Earnhart, HP's World Wide Product Service Manager, Network Services, sums it up succinctly: "data can only move as fast as the speed of light. You're bounded by physics."

No matter how much money you dedicate to increased bandwidth, you'll always run into the speed limits imposed by nature: 186,000

"WAN Accelerators do three things," continues Earnhart. "They compress data, cache content locally, and reduce the impact of chatty applications." She notes that Windows File Sharing, a particularly talkative protocol, can require hundreds of exchanges of information before moving a file.

HP provides global support for large enterprises that need to add WAN acceleration to their existing network infrastructures. Their portfolio includes support for Cisco and Riverbed hardware. HP's advantage here is that companies can mix the best products from multiple vendors, and still receive complete support.

The advantages of using WAN acceleration are substantial. According to analyst Eric Siegel of the Burton Group, "All enterprises should take the time to investigate these technologies, which can decrease monthly WAN costs while they improve application performance."\*



miles per second. That may sound fast, but when you make that a multi-way conversation between chatty services like Microsoft® Exchange or Windows File Sharing, taking place over continents and oceans, you end up with unacceptable latency.

But don't scrap your elegant, consolidated IT network yet. Wide-Area Network Accelerators are the solution to this problem, and HP can help you get the most out of them.

With HP to support your move to this technology, you don't have to wonder if your new gear will be supported. With the right tools and expertise, you'll have the Minneapolis office quiet and doing business at faster-than-light speed in no time.

For more information, see WAN Optimization at: [www.hp.com/go/transform](http://www.hp.com/go/transform)

# Transforming Your Enterprise

Technology for better business outcomes

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i n v e n t

# Driving Business Results with HP Server and Storage Blades

A Special Supplement to: *Transforming Your Enterprise* Fall 2007

01

New server, storage blades take enterprise IT to small office sites

08

New HP BladeSystems offer remote/branch offices flexible, integrated storage

10

Virtualization puts enterprise-class data protection, recovery where they're most needed



Technology for better  
business outcomes



# Driving Business Results with HP Server and Storage Blades



## Strategies

### 01 Taking IT to the streets

New server, storage blades, along with associated solutions and support offerings—an 'infrastructure in a box'—will help remote/branch office IT managers solve common IT challenges.

## Technologies

### 04 Thin edge

The HP StorageWorks All-in-One SB600c Storage Blade brings BladeSystem efficiencies in storage, flexibility, management, data protection and more to the remote/branch office.

### 06 C farther

The HP BladeSystem c3000 delivers enterprise-class blade computing to small office sites in a compact package, minus the enterprise complexity and cost.

## Solutions

### 08 Stored potential

BladeSystem technology offers remote/branch offices enterprise-class data storage that's fast, flexible, integrated, easy to set up—and easy to manage.

### 10 Virtual perimeter

Virtualization capabilities mean that data protection and recovery at the edge of large-enterprise networks are now as fast, powerful and automated as they are at the data center.

### 12 Defense in depth

No intervention, no interruption: BladeSystems give remote/branch office sites multi-mode data protection and replication without requiring IT expertise.

## Big steps, small footprint

Rudi Schmickl, Vice President,  
Americas Enterprise Storage & Servers

Out at the 'edge' of large and mid-sized enterprise IT networks, remote office/branch office (ROBO) managers face a double set of infrastructure challenges. As smaller organizations, they're hampered by lack of resources, power and space limitations, and the absence of IT expertise. But they've also got enterprise-scale challenges—data security and backup, high uptime and availability targets, the need to keep hardware and software in step with changing requirements, and more.

With the launch of the HP StorageWorks All-in-One SB600c Storage Blade (page 4) and the HP BladeSystem c3000 half-height blade enclosure (page 6), HP puts the enterprise data center capabilities of its market-leading c-Class server blades at the disposal of ROBO users. Those users can now leverage the same power, flexibility and simplicity that make the c-Class a proven driver of business results at the enterprise level.

In addition to ease of management, power saving features and unparalleled flexibility, the new systems deliver data storage (page 8), virtualization (page 10) and data protection (page 12) at a new level of sophistication, while making management easier for non IT specialists.

'Infrastructure in a box'—it's what ROBO users need to play their part in the agile enterprise. Let us know what you think—your comments are always appreciated.

To provide feedback on this edition of *Transforming Your Enterprise*, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform). For more information follow the links inside, or contact your HP sales representative, your HP channel partner or the HP Welcome Center at 1.800.282.6672, press 5 and mention code CNEN.

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\* Page 2 – IDC, Worldwide Quarterly Server Tracker, August 2007.

\* Page 3 – IDC, Worldwide Server Tracker release, February 26, 2007: [www.idc.com/getdoc.jsp?containerId=prUS20577707](http://www.idc.com/getdoc.jsp?containerId=prUS20577707)

\* Page 9 – IDC, "Rightsizing Blades for the Midmarket," Doc. #208546, October 2007.

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# Strategies



## Taking IT to the streets

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**New server, storage blades give small sites a heavyweight IT punch.**

Since ENIAC (Electronic Numerical Integrator and Computer), the mid 1940s behemoth that tipped the scales at 27 tons, one constant has accompanied the evolution of IT: smaller goes together with faster, better and more efficient.

Today, that IT tradition is best exemplified by server blades, the top server growth market. Unprecedented economies of scale, size and power, lower acquisition and

operating costs, improved efficiency, better performance and easier manageability—server blades are changing the landscape. The potential they bring is helping to make blades the standout category in the server market.\*

While most activity so far has tended to take place in the large data centers, the same efficiencies that attract the big players are just as important to midmarket and remote office/branch office (ROBO) users. But the misconception that blades are too expensive, complex and hard to run has kept their capabilities from being properly taken advantage of in smaller sites.

That's about to change. With the launch of the HP BladeSystem c3000 "Shorty" blade enclosure (HP technical staff came up with the nickname during product development), HP StorageWorks All-in-One (AiO) SB600c Storage Blade, and associated solutions and services for smaller organizations, HP brings an

power efficiency, easier management and simplified data protection."

### Less... and more

It starts with the basics. The BladeSystem c3000 and AiO Storage Blade don't require special power arrangements. Their power consumption is lower than that of other types of servers, and the built-in HP Thermal Logic technology reduces the amount of cooling required. With a smaller size, they fit easily into crowded ROBO computer rooms without compromising the advantages of blade technology. Quick out-of-the-box setup; pre-provisioning so onsite expertise isn't required; onboard software and display for on-site management by non-experts, or remote head-office management if preferred... the BladeSystem c3000 and AiO Storage Blade don't tie up staff resources or put a crimp in budgets.

These new solutions are designed to reduce management tasks to a minimum while enabling users

>> There's a very diverse set of small environments out there. But these systems solve IT challenges that are common to small sites, such as power efficiency, easier management and simplified data protection. <<

'infrastructure in a box' to smaller sites. The new systems and solutions are built from the ground up to meet the needs of organizations with limited physical, financial, IT and staff resources without compromising on capability. The AiO SB600c combines shared storage for c-Class application servers, enhanced file serving for end users and built-in data protection. The BladeSystem c3000 can accommodate 4-8 server and storage blades, carries four high-speed networking bays, and is pre-loaded with management and administration software tools designed for non-specialist users.

"Our starting point with the AiO SB600c and the BladeSystem c3000 is to migrate the advantages of our c-Class server blade technology to smaller sites," says Jason Newton, HP BladeSystem Portfolio Marketing Manager. "There's a very diverse set of small environments out there. But these systems solve IT challenges that are common to small sites, such as

to take advantage of new configuration options. Like any blade offering, they're ideally adapted to virtualization. Users can add, move and recover servers on the fly while leveraging shared storage, automated data replication and recovery, seamless failover and a range of other options and capabilities that HP BladeSystem c-Class customers are already familiar with.

One HP customer that migrated its IT operations to a new level with blade technology—and turned that new-found efficiency into a competitive edge—is opus:interactive, a managed internet solutions provider that recently migrated to HP BladeSystem technology, including c-Class server blades. Implementing virtualization technologies along with the new hardware achieved a number of remarkable efficiencies for opus:interactive, such as a reduction in the time it takes to deploy a new application for a customer from 1-2 days to around 15 minutes. "This shift in IT is our push

for business innovation in all we do," says CIO Eric Hulbert. "We plan to replace our entire infrastructure with HP BladeSystems."

## Secret weapon

"Customers who buy blades typically switch all their technology over and don't go back," says Lee Johns, Director of Marketing for Storage Blades at HP. "Blades really are their secret weapon." Even if customers have no current challenges, Johns says, at some point they will be looking to improve and upgrade. When that day comes, the flexibility of the blade model will enable these organizations to migrate to blades at a pace of their own choosing. And HP is constantly refining and adding to the capabilities of its server blade portfolio, introducing new products such as the AiO Storage Blade and BladeSystem c3000 as well as developing existing products to make them easier to use and manage, more efficient and more flexible.

The new systems are also supported by the full range of HP Total Care services solutions, which help customers finance, deploy, maintain and get the most out of their IT investment. HP Proactive BladeSystem Service is a dedicated support option for HP BladeSystem customers. It offers them a single point of contact to help simplify and improve their utilization of BladeSystem technologies and management tools.

Perhaps most important is the fact that the new systems are a product of the innovative, customer-focused vision that has brought HP blade market dominance. "Behind the success of the new c-Class chassis, HP claimed the leadership position in the blade market," says Jed Scaramella, Research Analyst, Enterprise Server research at IDC, in announcing new blade market research earlier this year. "When designing the third generation of BladeSystem, HP focused on specific customer concerns and developed the corresponding product features around energy efficiency, management, and networking."\*

Exactly the core strengths of HP's new AiO Storage Blade and BladeSystem c3000. "It's definitely a 'disruptive technology' in the industry," says Johns. "But it's anything but disruptive for customers."

For an IDC white paper sponsored by HP *Rightsizing Blades for the Midmarket*, a free book *Blade Servers and Virtualization: Transforming Enterprise Computing While Cutting Costs* available in limited quantities, and information on the HP BladeSystem c3000 and HP StorageWorks All-in-One SB600c Storage Blade, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)



# Technologies



## Thin edge

### The StorageWorks All-in-One SB600c Storage Blade brings blade efficiencies to the small office.

There's an exponential data explosion underway in the enterprise world, and it's only going to accelerate in the coming years. Today's business leaders see data gathering and analysis as the first step in decision making—they want lots of data from every quarter, and a practically infinite number of ways to slice and dice it.

For IT managers the first question is how to store and manage it all. For those who run remote office/business office (ROBO) sites that challenge is compounded. They have to cope with limits on physical space, staff expertise and computing resources, while stretching to meet mandates governing backup, security, regulatory compliance, disaster recovery, high availability and more.

Storage blades offer an answer. In addition to using space and power more efficiently, blades are more affordable and cost-effective than traditional server and storage technologies. These advantages on their own are compelling enough, but throw in street-friendly management and the next-generation flexibility and performance enhancements that come with virtualization, and storage blades become even more persuasive to ROBO managers.

This is what the new HP StorageWorks All-in-One (AiO) SB600c Storage Blade was designed to provide. The latest in HP's All-in-One Storage portfolio, the AiO SB600c consists of three components—a BL460c server blade, an SB40c storage blade (both c-Class) and Windows Storage Server 2003 R2 software. With a half-height form



factor, the AiO SB600c maximizes efficient use of space for crowded small offices.

HP All-in-One Storage combines file serving, shared storage for server applications, data protection and other enterprise-class functionality with an easy-to-use management interface. The onboard AiO SB600c software includes built-in data replication with no backup window, Data Protector Express software, and features the All-in-One Storage Management Interface, which allows IT generalists to set up storage intuitively and easily.

### Multiple choice

"We designed the whole interface for the typical ROBO user," says Jim Hankins, HP's Worldwide Product Marketing Manager, All-in-One Storage Blade. "The person doing the setup and managing the box manages it from an application perspective. So if they're setting up storage for Microsoft® Exchange they can work at the level of what they understand about their Exchange environment: how many users, how many mailboxes, how big they are, how they want to protect them."

A simple wizard guides the user through the setup process, submerging storage complexity behind a series of simple questions. At the hardware management level, HP's proven integrated Lights Out (iLO) remote management software monitors temperature, component health and other critical hardware indicators and can be accessed remotely by data center staff, as well as on-site. At the operating system/application level, remote management can be accomplished via a remote desktop or Internet connection, and can also be done on-site.

"This is a very complementary product to the HP BladeSystem c3000 'Shorty' blade enclosure," says Barry Sinclair, HP's Product Manager for the c3000.

Sinclair notes that, among other things, shared fiber channel storage is expensive and more complex than ROBO sites can handle. The All-in-One Storage Blade provides iSCSI-based shared storage, which is much less expensive and easier to learn, and also offers built in management software to manage it easily and according to need.

Improved use of storage resources was very much front of mind when RemoteX Technologies, a Swedish field service software company, looked to HP's All-in-One Storage technology to help it improve its use of storage and server resources to support business growth. The All-in-One Storage platform, in conjunction with VMware's Virtual Infrastructure 3 software, enabled RemoteX to set up virtual servers to increase its utilization of shared storage resources from 50 percent to more than 80 percent.

RemoteX Director of Development and CTO Niclas Lundström estimates RemoteX will save around US\$10,000 a year that it would otherwise have had to spend to upgrade storage and purchase additional servers and storage subsystems. "The HP All-in-One saves us money and gives us flexibility we didn't have before," he says.

"We're looking at a less 'siloed' approach to IT with the All-in-One," says Lee Johns, HP Director of Marketing for Storage Blades. "To have an integrated infrastructure you can just plug in, one that's remotely manageable, and where everything in the box is supported by HP so you have just one place to call—that's a very powerful set of technologies for customers."

For information on the HP StorageWorks All-in-One SB600c Storage Blade and the full RemoteX case study, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)



## C farther

**The HP BladeSystem c3000 delivers cost-effective, enterprise-class server blade computing to the remote/branch office—minus the enterprise complexity and cost.**

Server blades are such a logical fit for small sites that it's almost surprising that they didn't emerge in this market first and only later move into the data center. But a good computing idea always finds its level: by 2008, more than half of server blades sold will be used at small sites, whether they're local offices of larger enterprises or small and mid-sized businesses.

Having established itself as the answer to large enterprise demand for available, flexible, manageable and cost-effective IT infrastructure at almost any scale, HP is articulating the BladeSystem c-Class strategy for the remote office/branch office (ROBO) market with the launch of the half-height BladeSystem c3000 enclosure. The new enclosure delivers enterprise-class capabilities to the ROBO environment without raising the stakes for non-specialist staff.

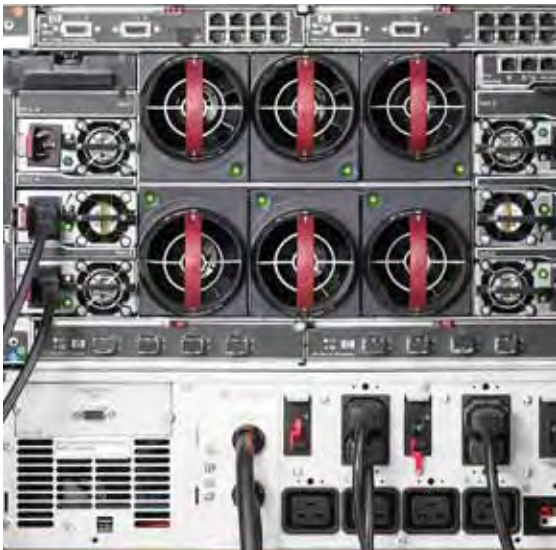
"The c3000 is our evolution of the c7000," says Barry Sinclair, Product Manager for the HP BladeSystem c3000. "We've 'rightsized' it for remote sites of larger enterprises, as well as organizations that either have only a few servers or that only buy new ones periodically." In addition to reducing power consumption and making management easier, Sinclair says, HP has also lowered the threshold at which users can break even, accelerating their ROI.

The most noticeable aspect of the 'rightsizing' is, of course, the BladeSystem c3000's smaller enclosure. At half the height of its c7000 counterpart, the c3000 accommodates 4-8 server and storage blades with four high-speed networking bays, in rack or tower versions. Packed with management tools such as HP Insight Control, integrated Lights Out (iLO), and onboard administrator software, as well as a DVD drive and an optional KVM switch connector, the c3000 can be set up quickly and easily.

The low acquisition cost of the BladeSystem c3000 allows ROBO sites to be scaled up one enclosure at a time, rather than only at specific thresholds where volume efficiencies come into play. Changes and additions can be made easily as required, either through remote head office management or directly, where connectivity is less reliable or entirely



“The question isn’t ‘why blades?’ It’s ‘why not?’ They cost less, they use less electricity, they’re easier to manage. That’s a huge value proposition.”



absent—for example at global sites in less-developed countries, in the field, or in oil rigs, ships, airliners, vehicles and at any number of other locations where server capacities are increasingly required.

### New horizons

Consolidating and updating legacy environments is one of the biggest challenges IT managers ever face, but sooner or later they all have to do it. The immediate goals are uniformity and standardization of hardware and software, rationalization of staffing, time and budget resources, and of course an optimized IT infrastructure that is efficient, reliable, and more capable. But make the right choice, and the benefits can extend a lot further.

Server blade technology is a relatively new category, but it’s already established as one of the easiest, most efficient and cost-effective ways to transform IT infrastructure—and the entire organization. OpSource, a provider of software as a service to application developers, recently consolidated on HP’s BladeSystem in order to be better positioned for rapid growth. OpSource was able to accomplish the transformation, starting with an IT environment that was “non-existent,” according to CEO Treb Ryan. Leveraging the efficiency of server blades, the company was able to overhaul its IT infrastructure and slash new application install times, while bringing on new customers at an unprecedented rate.

“Previously, every solution was custom-crafted for every application that we used,” says Ryan. “Now we have one massive environment that’s shared by all 50 different applications. Server blades are much easier to manage in this type of environment.” With the configuration and management burden reduced, OpSource has even been able to put a new “Incubator Program” service on the market, expanding its offerings to existing customers and attracting new business.

“The question isn’t ‘why blades?’” says Sinclair. “It’s ‘why not?’ They cost less, they use less electricity, they’re easier to manage. That’s a huge value proposition, and we’re bringing it to just about any place you would want to deploy servers.”

“Now small sites can tackle top IT projects,” adds Lee Johns, Director of Marketing for Storage Blades at HP. “Launching new applications, improving backup, lowering cost—they can do it all in an integrated way with their storage, servers and network in one box.

“The c3000 will change the way people build infrastructure at smaller sites.”

For a free book *Blade Servers and Virtualization: Transforming Enterprise Computing While Cutting Costs* available in limited quantities, the full OpSource case study and information on the HP BladeSystem c3000, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

# Solutions

Virtual perimeter

10

Defense in depth

12



## Stored potential

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**Integrated, affordable, easy to manage and connect—  
new HP BladeSystems pack it all into a small box.**

Storage is the ‘muscle’ of IT infrastructure. The more storage you have, and the more flexibly it can be used and repurposed as business requirements change, the more you can get out of your hardware and software. But at the remote office/branch office (ROBO) level, storage technology is often seen as complex and intimidating, only within the reach of specialists at the data center level and pretty much inaccessible to anyone else.

The challenge facing enterprise IT departments as well as storage technology vendors is to make as many enterprise storage capabilities as possible available to remote office/branch office locations, without saddling non-specialist IT staff at those sites with the challenges traditionally associated with setting up and managing storage infrastructure—and without adding to management headaches in the data center.

Blade technology offers a way to do that by simplifying server management, storage and other infrastructure areas across the enterprise—and by making it easier to connect with storage area networks (SANs). Ordinary rack servers have to be integrated one by one, with expensive cables, adapters and switches each time, while the integrated backplane of a server blade system allows multiple servers to share these resources: cost can be reduced by as much as 53 percent for an eight-server setup, according to HP.

Efficiencies like this scale up quickly for enterprises that want to maximize storage



resources across extensive ROBO networks, both within and between sites. The recently released HP StorageWorks All-in-One (AiO) SB600c Storage Blade and the HP BladeSystem c3000 are part of HP's strategy to bring enterprise storage resources to ROBO locations.

## Storage simplified

The AiO Storage Blade incorporates 1 TB of network storage that can be shared by other blades within the enclosure but also by all servers on the network.\* "Imagine having 1 TB of shared storage in a single storage blade so all other servers in that enclosure and others outside it can have a shared storage function," says Barry Sinclair, Product Manager for the HP Blade System c3000. "In this market customers are concerned about cost per gigabyte of shared storage, and this brings that cost down significantly."

The BladeSystem c3000 (nicknamed 'Shorty') also puts the full range of BladeSystem network and storage connectivity options at the disposal of ROBO users. "Shorty is about being able to meet business needs in an integrated way," says Jason Newton, HP BladeSystem Portfolio Marketing Manager. "Remote and branch offices don't have the space or the staff to be able to run separate functions on separate hardware—this is the dilemma we're answering with the c3000." In addition to making management easier and reducing the connectivity challenge, Newton says, having servers and storage together in the same infrastructure also helps to reduce power and cooling requirements.

The BladeSystem c3000 incorporates HP's Virtual Connect technology, which uses virtualization when connecting servers to storage networks. The Virtual Connect module provides a server connection profile for each server bay in the enclosure. Because the profile is in software form, it remains the same even when servers are added or replaced. When a server is changed, the same addresses

and names are assigned to it, which means that LAN and SAN operations aren't affected. Changeover time is reduced from hours to minutes, and much less cabling and other connectivity hardware is required.

## Virtual reality

"As customers consolidate their server environments the ability to move virtual machines from one server to another without interrupting end users is a real benefit," says Ian Selway, Solutions Marketing Manager, HP StorageWorks. "This can be for unplanned downtime or for planned events like maintenance, bringing in new servers and so on. If you have external storage your applications can be up a lot more of the time. It's a huge benefit. Customers tell us their application uptime is increased and they're seeing greater end user productivity." (For more on virtualization and virtual machines, see page 10.)

The creation of virtual servers is another way that virtualization simplifies management. Virtual machines are easier to manage, but they are also driving demand for connectivity to external storage. "Each virtual machine takes up a certain amount of storage on a box," says Brad Parks, Product Marketing Manager, All-in-One Storage Products for HP. "You wind up with a disparity between the available storage on that box and its ability to run virtualized environments. This explains the move to provide external storage into that virtualized environment. There's a natural fit between external storage and virtualization, and we should be seeing a lot of interest from customers in making that linkage."

For an IDC white paper sponsored by HP *Rightsizing Blades for the Midmarket*, a free book *Blade Servers and Virtualization: Transforming Enterprise Computing While Cutting Costs* available in limited quantities, and information on the HP BladeSystem c3000 and HP StorageWorks All-in-One SB600c Storage Blade, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)



## Virtual perimeter

**Virtualization pushes data protection and recovery capabilities out to remote and branch office locations, where enterprise data is most vulnerable.**

If the evolution of IT brings better performance in smaller packages, it can also bring complexity. As a broadening range of business activity becomes subject to automation, technology spans a wider set of processes and systems. With business leaders pressing relentlessly to squeeze every ounce of value out of data, infrastructure tends to develop layer by layer, as new mandates are added.

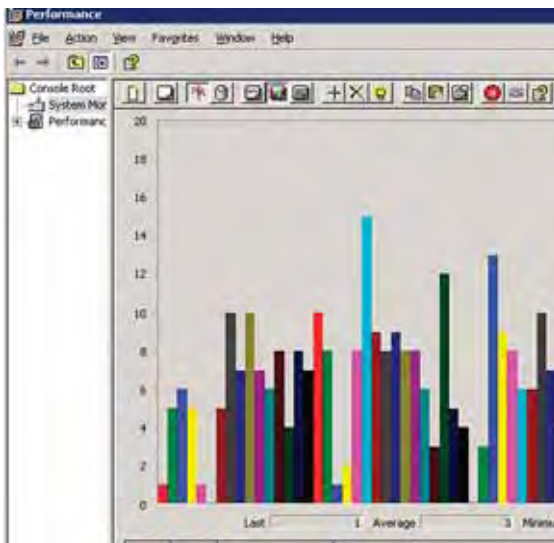
To the challenge of complexity is added the difficulty of controlling when, where and how sensitive enterprise data is accessed, and by whom. The perimeter of large enterprises is often so extended that IT managers have little way of knowing what mobile users, business partners and remote office/branch office (ROBO) users are doing on the network, or whether they're up-to-speed with data protection measures in place at the data center.

The most basic challenge to extended data protection is the tendency for ROBO locations to develop heterogeneous IT platforms over time. As IT becomes more and more of a 'patchwork,' management becomes more difficult and costly, the infrastructure becomes less flexible, and data protection tends to slip through the cracks.

"A large enterprise has to have a standardized, consistent IT platform for any number of reasons," says Sushant Rao, VMware Product Marketing Manager, "but in a large enterprise with lots of ROBO sites that's not always possible. You wind up not knowing exactly what you've got out there."

Business continuity is also a greater burden at the branch office. Here, staff are often on the front line of customer service, and if a server fails their overriding concern is to recover applications and data as quickly as possible. Preparing for such an event requires backup hardware, high-bandwidth, instantly available connectivity to disaster recovery site(s), as well as processes that touch staff and systems at the data center. It all adds up to extra headaches for ROBO sites, which don't typically have specialist IT staff.

The new HP StorageWorks All-in-One (AiO) SB600c Storage Blade and HP BladeSystem c3000 are designed to bring the advantages of enterprise-class server blade technologies to ROBO locations, without adding complexity or increasing the management challenges. The AiO SB600c is the only storage blade solution available



“Smaller offices don’t have secondary sites for disaster recovery, so virtualization enables them to be more creative in responding to this challenge.”



today that provides bladed network-attached storage and iSCSI SAN capabilities in a single device with integrated data protection features such as continuous real-time replication, snapshots and backup. But it doesn’t end there.

### The V-factor

Virtualization is a leading-edge infrastructure management technology that is bringing unprecedented efficiencies to the enterprise data center. It enables the creation of ‘virtual machines’ that appear and work to all intents and purposes as physical servers do but are in fact separate from the hardware and can be changed, moved and reconfigured much more easily.

Virtualization is a natural fit with blade technology, and it’s a vital component in the newly announced systems. The VMware disaster recovery solution block that HP offers with the AiO Storage Blade and BladeSystem c3000 enables users to build a virtual machine cluster at each site and connect them across the WAN. Using All-in-One shared storage blades at each site users can replicate data between sites for low-cost disaster recovery. The model enables users to replicate data at multiple sites for added security and easier, quicker recovery—essentially a ‘recovery-in-depth’ model that features multiple recovery pathways rather than a one-to-one linear recovery path.

VMware’s ESX server software provides a dynamic, scalable virtual machine environment where users can host replicas of the physical servers they need to protect. That means that multiple operating systems and the applications they run can be hosted independently on virtual machines that share the same hardware, whether it’s inside the same blade enclosure, across the room or across the globe.

“Disaster recovery is one way that virtualization comes into its own for smaller sites,” says Brad Parks, Product Marketing Manager, All-in-One Storage Products for HP. “When they’re looking at ways to improve their recovery model they may not want to recreate their entire physical infrastructure at a second site. Virtualization is a great fit in that type of implementation.”

“You can set up your data replication and recovery without replicating the entire physical infrastructure,” adds Rao. “Smaller offices don’t have secondary sites for disaster recovery, so virtualization enables them to be more creative in responding to this challenge.”

For an IDC white paper sponsored by HP *Rightizing Blades for the Midmarket*, a free book *Blade Servers and Virtualization: Transforming Enterprise Computing While Cutting Costs* available in limited quantities, and information on the HP BladeSystem c3000 and AiO SB600c, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)

# Defense in depth

## Multi-mode data protection for the remote office.



No news is good news? Not necessarily. The old saying may be true enough when it comes to compliance with today's robust enterprise data and accountability regulations. But when you're looking for technology tools to help you meet those requirements, some good news is always welcome.

For users at remote office/branch office (ROBO) sites of large enterprises, the data protection challenge boils down to simplicity and reliability. They need data protection technologies and processes that require as little intervention as possible, don't interrupt day-to-day operations, are reliable and foolproof, and will be there for them when they need to ensure business continuity. However, data protection is also one area where a high degree of consistency between head office and ROBO locations is absolutely mandatory, so what's needed is a solution that meets remote-site convenience and simplicity requirements while also complying with data center mandates.

"Regulations such as Sarbanes-Oxley, Gramm-Leach-Bliley, HIPAA, and others have increased the data retention and storage burden on customers," says Bret Gibbs, Product Marketing Manager, HP Nearline Storage. "Some of the rules require data to be stored off-site, others require a longer timeframe for retention, but the net result is an onus on the business to make sure they can meet these standards."

Although relatively new, server blade technology is

already a proven contributor when it comes to maximizing space and power consumption, and in providing an ideal platform for leading edge optimization strategies such as consolidation and virtualization. With the launch of the HP StorageWorks All-in-One (AiO) SB600c Storage Blade—incorporating shared storage and data protection/backup—large enterprises now have a way to standardize high-level data protection capacities across their small-office networks while simplifying setup and management for the staff at those locations.

### Highly available

The All-in-One Storage Blade is designed for customers who want to consolidate application and file storage on a platform that also offers seamless data protection for locations with limited IT staff resources. The unit has built-in data protection features tailored for the longer-term archiving now required by regulation. The need for strong and simple data protection arises from the AiO SB600c's own features, says Gibbs—notably its 1 TB of shared storage. "Users are demanding server, storage and backup combined as the way to handle computing in ROBO locations. With a lot more storage inside the enclosure, they need to be able to back up data faster while being able to handle the higher capacity."

The AiO SB600c includes built-in 'snapshots' of file data. Snapshots are point-in-time, online, local copies of data that can be created at frequent intervals without impacting operations, and utilize built-in data

Data replication is one of the strongest components of the All-in-One platform. Backup of file data is an included feature.



protection with no backup window.

HP's tape backup Data Protector Express software is included with the All-in-One Storage Blade. This program facilitates Internet-enabled backup to tape storage products such as the HP StorageWorks Ultrium 448c tape blade, which hosts a number of performance and data protection features, such as high-speed backup, high-capacity storage, and support for HP StorageWorks One Button Disaster Recovery (OBDR). OBDR allows whole-server restore from a single tape backup when used with the Data Protector Express software. The AiO SB600c is also compatible with other backup and tape devices, so customers who have standardized on those solutions can continue to use them as before.

Data replication is one of the strongest components of the All-in-One platform. Backup of file data is an included feature. Users who need application data backup can implement HP's StorageWorks Storage Mirroring software: the All-in-One Storage Blade software includes a link to a URL where users can download a 60-day trial copy. The All-in-One Storage Blade's data replication features copy any new data entered into storage to a secondary site. Setup is easy and wizard-driven, and takes its cue from customer requirements while keeping storage complexity hidden.

"When we walk a customer through storage setup on an All-in-One," says Jim Hankins, HP's Worldwide Product

Marketing Manager, All-in-One Storage Blade, "we ask how they want to protect their data, how often they do snapshots, and what they want to do with them—keep them local, move them direct to tape, or to another location and then to tape. We offer a lot of flexibility to make sure their data will be protected."

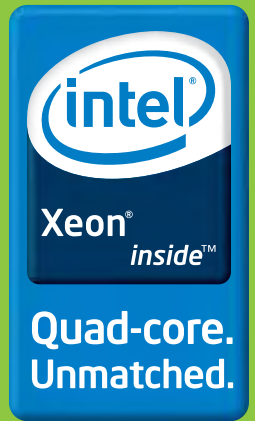
In addition to industry standard password protection and single sign-on, the Microsoft® operating system offers easily activated non-intrusive file encryption. Once the feature is activated, even if unauthorized data access occurs, the data will be unusable.

### Future plans

HP expects to announce a new addition to the Ultrium tape blade line later this year. The new blade will have enhanced data protection capabilities and will represent a significant advance in terms of capacity and speed performance.

"Disk and tape backup—the technologies are complementary," says Gibbs. "When customers want quicker access to data in the short term they have backup to disk, and they have tape for long-term archiving. You can use both in this environment—they're not opposed. That speaks to the solution set we have."

For information on the All-in-One SB600c and Ultrium 448c, and an HP paper on managing your data protection infrastructure with the HP All-in-One SB 600c Storage Blade, visit: [www.hp.com/go/transform](http://www.hp.com/go/transform)



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