



The journey to IT consolidation is urgent. Dispersed, redundant information systems can no longer keep up with today's fast-changing business demands.

It is individual. There are many steps to IT consolidation. Your journey can start at any point that makes sense for your organization.

It will take you wherever you need to go. As you streamline your systems, you pick up speed—moving ahead with new capabilities and efficiency. An ongoing process, your IT consolidation journey will put you on the path to immediate and future success.

Many solution providers sell consolidation as a one-time effort. In fact, consolidation is an ongoing process—a journey.

point of departure for higher performance

What business today is agile enough to meet the demands of the marketplace?

Growing cost pressures. Increased speed-of-change. An environment that is more disruptive and less predictable. All are attributes that may describe the uncertain road on which your company travels.

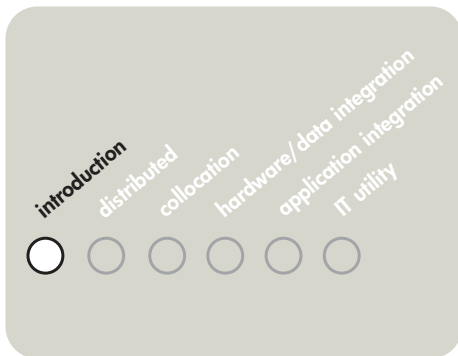
Your IT department must keep all systems on track—managing an increasingly complex infrastructure while also providing higher service levels and greater security.

destination: greater agility

You can't control the change your business encounters. But you can manage how your business handles change—as long as your IT department is agile enough to anticipate or react to new opportunities.

To stay agile, your company needs an adaptive IT infrastructure that provides continuous and secure operations, is managed intelligently and dynamically, and best uses your infrastructure resources.

At the same time, you work with finite resources—people, processes, and technologies. You simply can't afford to continue to maintain all legacy or redundant IT infrastructures, or discontinuous point IT solutions. As you go through the consolidation journey, building an adaptive infrastructure, you have the opportunity to arrive at some significant benefits—reducing costs and improving your organization's return on its IT investment, improving your system's service levels and, finally, getting new applications up and running faster to meet market demands.



every journey is unique

So, what path should you travel? How can you ensure success?

Choose the right guide—one with experience at helping companies like yours consolidate their IT environments. Choose a partner with the imagination and vision you need. Choose Hewlett-Packard.

Without question, HP is the experienced leader in refining infrastructure to deliver greater business value. Whether it's dynamic resource allocation or optimizing performance and managing service delivery end-to-end, HP's offerings incorporate intelligence at every level.

get on wherever you are

Your IT consolidation journey has many entry points, depending on the current integration of your infrastructure and your business objectives. HP's adaptable solutions can help you at any point, whether you have a totally distributed environment—in which countless servers run hundreds of applications on multiple systems across the enterprise—or you are ready to virtualize your infrastructure for maximum server and storage utilization.

collocation—bringing your widely distributed systems—thanks to mergers, acquisitions, and expansion—into fewer, centralized locations is an important step in consolidating your enterprise that will pay off fast. You'll save on management and operation costs, while increasing security, availability, and system usage.

hardware/data integration—reducing the volume of servers, and centralizing storage, means you can optimize—improving performance and maximizing the availability of applications and data, while lowering overall operating costs.

application integration—streamline your application portfolio and associated databases by eliminating redundancy, while making enterprise data available and consistent across all entry points. You'll reduce application and database support, and decrease costs, as well.

IT utility—this is the ultimate in adaptive infrastructures, with components that self-configure in the most economic ways, and guarantee service levels, 24x7. For example, the HP Utility Data Center dynamically allocates resources so you can dramatically increase server and storage utilization. Efficient, cost-effective, and available, IT utility is the optimal place to be.



Bell Canada slashes costs, improves response with consolidation on HP Superdome computers

Bell Canada Enterprises grew up as separate entities. As the parent company moved forward in the late nineties, the pressure to cut costs was enormous. One area of commonality among the separate operating companies was the use of SAP Enterprise software. Consequently, Bell Canada directed its outsourced IT facilities management company, CGI, to consolidate SAP operations, making it the largest integrated SAP installation in Canada.

CGI Group, Inc., turned to Hewlett-Packard and HP Superdome servers. With HP's help, the company consolidated five instances of the SAP Enterprise software suite into one, and moved the data processing workload off sixteen separate servers onto just two 44-way HP Superdomes, while ensuring automatic fail-over was in place for a 100%, always-on solution.

CGI expects to save \$5M–\$6M annually in system administration costs—and Bell Canada an additional \$4M in staff related costs—for annual savings of up to \$10M.

The crucial link between IT and business agility drives innovative companies to rethink how IT delivers success. Smart companies are moving from complex, costly, geographically dispersed infrastructures to progressive, virtualized IT environments that are deployed, shared, and managed for greater flexibility and speed with lower TCO.

“The manageability of the Superdome environment is exceptional. It gives us features and capabilities that allow us to reallocate dynamically and make moves without downtime. We can optimize performance just by reallocating resources.”

—Robert Martinson,
SAP Operations Director, CGI Group



charting a new course

Every journey is born of a vision requiring both imagination and courage. Nothing of consequence has ever been accomplished without them.

steadying turbulent times—Continental Airlines

In 2001, Continental Airlines started to consider IT consolidation as a means of removing the barrier of physical data center space. However, after the devastating events of September 11, 2001, the airline faced some severe financial issues as passenger-per-flight rates plummeted across the industry. Continental management reacted swiftly by formulating a new philosophy mandating that all approved projects would require a payback period of less than one year.

need to improve ROI

Dan Morales, Managing Director of Financial Systems for Continental Airlines, explained, “The emphasis on a quick ROI changed our philosophy on which systems to consolidate. We repositioned our IT consolidation efforts toward a corporatwide, enterprise solution that we could use to help lower the ROI period on five applications currently under development.”

IT consolidation and SAN for optimal ROI

Morales’ experts sat down with HP presales systems engineers and EDS, an outsource partner in Continental’s mid-tier space providing monitoring, backup, recovery, and UNIX administration for many systems, to design the infrastructure.

The resulting architecture, deployed in January, 2002, comprises a storage area network (SAN) connected to two HP Superdomes; each with five partitions with twenty-eight CPUs in one HP Superdome and twenty-four in the other. One serves as a production server, the other as a passive fail-over and development server.

Morales noted, “Many of Continental’s existing business critical applications were already running in HP-UX. The Superdome provided Continental with an environment that we were familiar with as well as a flexible environment for growth with the use of partitioning. We have a Superdome in each building, about one and a half blocks apart, connected via four McDATA Directors to the SAN.”



“Our SAN and Superdome environment has put us in a powerful position to reduce the ROI timeline on many critical projects that will help keep Continental flying high in a tough marketplace.”

—Dan Morales, Managing Director of Financial Systems, Continental Airlines

massive cost savings

Morales found that most of the cost savings being realized were due to a reduction in maintenance fees by removing the older systems, as well as reduced manageability fees from EDS because it no longer has to maintain some of the servers in the EDS data center. Additionally, some software licenses associated with several of the legacy servers could be cut. Morales commented, “The consolidation cost savings were large: We had a one-time cost saving of more than a couple of million dollars and a recurring savings of over a million dollars per year. The ROI was based upon the whole solution including cost avoidance of future software costs that would have occurred if each development would occur independently.”

Moving forward, Morales’ team is discovering additional benefits that hadn’t been previously considered. Morales explained, “We’re working on the details right now, but with our SAN and high availability storage devices in place, we’re looking at tying in a Network Attached Storage (NAS) ‘head’ (server) to one of the SureStore xp512s, which will enable us to remove quite a few file servers from the infrastructure. This, in turn, removes further management fees and software license costs. We have over 600 file servers, so if we can remove twenty-five to fifty it helps reduce our operational costs, plus the NAS will provide faster and more reliable storage.”

pulling for results

For more than a decade, HP’s outsourcing services have helped businesses improve productivity, manage costs and assets, improve customer service, and capitalize on market changes. Your business will benefit from the knowledge HP has gained through building and managing our own 100,000-node, worldwide infrastructure, as well as networks and systems for hundreds of multinational customers in technology-driven industries.

HP’s outsourcing services give you the flexibility to choose the level of help you need. HP will take on any part of the consolidation project from assessment to design, planning, testing, piloting, and debugging of the new environment. We’ll work closely with you to complement your IT staff’s technical expertise, and transfer knowledge to help your staff excel.



planning your journey

How do you solve today's IT challenges while laying the foundation for a more agile future? In a word—planning. Planning may sound like a deceptively simple answer to the complex problems plaguing so many IT infrastructures, but it is without question the surest way to success.

Planning for the most intelligent management, continuous and secure operations, and dynamic resource optimization does take time. But if you don't plan, you could spend even more time just trying to keep your existing systems up and running. Good planning today will also help you adapt faster and easier to changes in the future.

taking the IT express

When one of the world's largest software companies came to HP, the company had 120 e-mail databases operating in fifty-six different countries, a distributed client/server IT model that created redundancy, uncontrolled spending, and productivity inefficiencies, in addition to enormous maintenance bills. Something had to be done to get control of this unwieldy situation.

Getting back on track required the software company to look long and hard at its current IT environment, as well as the challenges ahead. It needed to centralize and consolidate more than ninety separate e-mail servers around the world. And it had to implement effective business continuity practices to provide 24x7x365-centralized support. To undertake the daunting journey, the software company turned to HP.

HP came through by designing a roadmap that consolidated ninety servers down to two and 120 databases down to four, significantly reducing the software company's costs, maximizing its productivity, and vastly improving its service levels.

HP's comprehensive strategy took a holistic view of the company's IT department. Rather than just focusing on server consolidation, HP recognized the larger and equally significant opportunities that existed in employing HP's Business Continuity Support with the software company's internal 24x7 support. Such planning kept its mission-critical operation up and running.

As a result, the software company gained more manageable solutions operated and supported from a single, centralized data center; achieved zero downtime with proactive support services; and saw a dramatic reduction in IT expense.

linking people, processes, and technology

For the software company, the benefits of working with HP have grown continually valuable. Because running its new, centralized e-business data center required a much higher level of expertise, the company needed help training its internal systems staff. HP was there, providing the best education available in the industry, tailored to meet the company's specific needs.

The software company's journey powerfully illustrates that a consolidation of this magnitude involves introducing change to an entire corporate culture. By initiating a plan that addressed the IT environment as a whole—its people, processes, and technology—the software vendor realized a level of consensus between IT and business that has made its company more effective, efficient, and agile.

sophisticated, yet efficient solution

Before the global software vendor undertook the journey, it was like so many others that invested in distributed computing solutions without fully understanding the hidden costs of configuring, maintaining, repairing,

supporting, upgrading, and managing the environment. Ultimately deciding to evaluate these factors and their impact on the bottom line, the company realized that the cost for maintaining the status quo was simply too high.

Thanks to its own experience in hundreds of successful consolidations, HP leveraged a proven methodology that included creating a high-level design, unique to the software company's consolidation. Once complete, IT and business agreed that the design met company objectives and metrics for success. And all in record time.

Such a journey is hardly uncommon. What the software company needed, planned for, and eventually created was a truly adaptive infrastructure designed with HP as its IT partner to seamlessly adjust to its business needs in real time.

"Last year we set out to save a billion dollars. By consolidating our information into a single place, all our employees, customers, and suppliers have access to the data through a standardized interface. The substantial cost savings that resulted from the transition helped us achieve our goal."

—Senior Vice President,
global software company

"HP's reliability really comes into play in our e-commerce business. Our customers count on the immediacy of our extranet, and we count on HP servers to keep us up and running 24x7."

—Chief Information Officer,
Imperial Sugar

leaving the distributed environment

Today's typical distributed environment supports up to hundreds of applications on servers across the enterprise. An application is often deployed on multiple systems, each requiring an operating system, the application software, and support staff.

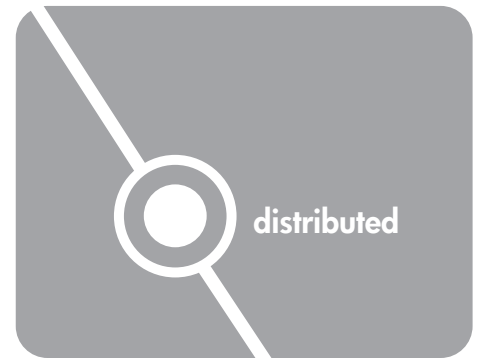
In addition, each application typically requires a development and test server environment. This further increases the management, support costs, and complexities of the overall IT solution.

The result? Reduced flexibility for the overall company because each server is often dedicated to a specific application, and each has its own gigabytes of storage. So a company may have servers that are only used when application maintenance and testing is required, and terabytes of underutilized storage on hundreds of servers that other applications simply cannot access.

There are other downsides for a company, too. A distributed environment provides no uniform infrastructure to support fail-over. Securing and monitoring multiple servers in multiple locations leaves a company ripe for a breach in data integrity and availability. Surges in user demand in one area increase response times and lower satisfaction, while another area has excess capacity. Application deployment across a heterogeneous environment that includes multiple versions of operating systems, patch levels, and server and storage configurations is difficult and expensive to support. And integrating those applications requires that data translations be customized for each set of applications.

Operational issues aside, server sprawl also brings with it financial consequences. Production servers are typically sized for the anticipated peak usage, which means that average resource utilization is low. However, where demand growth was unanticipated, some servers may be overutilized. Add to all of that, staff skill sets to support these systems that are scattered, specialized, or wasted because they are not frequently used.

So, what is a CIO to do? Migrate to a collocated environment.



getting there, their way

Imperial Sugar experienced aggressive growth through acquisition which left the company with a varied computing infrastructure, ranging from UNIX systems to mainframes. They wanted to consolidate and centralize their IT infrastructure to reduce costs and create a standardized platform. Consolidating five data centers into a single, centralized center resulted in huge savings. Its reliable extranet keeps online business sweet and provides a competitive advantage. And its server flexibility and power meets various existing needs, while positioning Imperial Sugar for future growth.

A global paper and electronic publisher contracted with HP to design, test, and install a standard operating system and messaging platform that would harmonize its enterprise computing and communications across its worldwide organization. In alliance with the customer and Microsoft, HP provided an enterprise solution that also lowered the electronic publishing company's cost of ownership. The publisher migrated all of its HP servers and desktops to Microsoft® Windows 2000® and Microsoft Exchange® 2000. The benefits: lower cost of ownership, more efficient communications and business practices, and a standardized platform across the enterprise.



collocation: a key step

By surveying the network to determine what servers a company has, where they are, and what they're running, an IT department makes its first decisive step to an adaptive infrastructure. Moving those computing resources to fewer data centers, and centrally managing them with a professional IT staff, leads to important benefits that make life better for everyone.

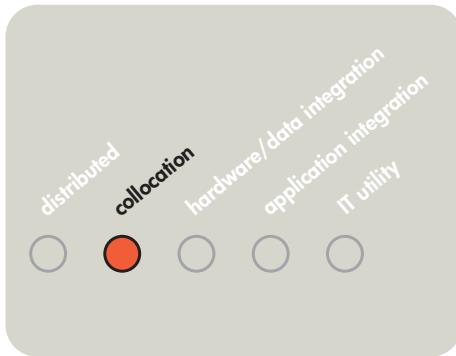
enhanced security—Fewer servers in fewer locations are easier to secure. Keycards for buildings and passwords for software access, for example, are more effectively controlled at two locations than ten. And servers inside data centers are more secure than those under desks. Enabling a consistent security policy is one of collocation's most dramatic results.

greater control—Along with improving security, collocation offers numerous other advantages, such as making it easier to keep track of hardware. Network enhancements are another benefit, reducing bandwidth costs, eliminating sites, and boosting bandwidth capabilities. Of course, you don't have to have fewer locations to enhance the network and reduce your TCO.

An Australian producer, marketer, and distributor of steel and steel products, inherited four disparate network environments through company acquisition. The steel producer wanted to reduce the cost of running its LAN/WAN via consolidation, but wasn't even certain of the cost or extent of the environment or its assets.

HP helped the company perform a baseline audit to establish costs, then developed and executed a network consolidation plan that reduced the expense of connecting a desktop to the network from \$1,650 per year to \$1,330, yielding a 22% internal rate of return.

business continuity and improved network management—Consolidation also invites you to reassess and improve your business continuity program. Given a less scattered infrastructure, you can plan to provide service, despite security threats, physical disasters, or downed lines.



BusinessWire

Moving information is the heart of BusinessWire’s operation. Without its computer systems, the company simply can’t operate. To ensure continuity of operations, BusinessWire has long had disaster recovery systems in place. But as the new millennium dawned, it faced the need to replace those systems with a new, always-on solution that provided plenty of room for future growth.

The solution BusinessWire implemented includes three HP rp7400 servers running HP-UX— two servers at BusinessWire’s headquarters in San Francisco and one in New York City. The servers run HP OpenView software for system management, HP MC/Serviceguard for local automatic server fail-over, and Continental Clusters for pushbutton server fail-over to New York from San Francisco and back.

OpenView

Many companies have found that HP OpenView is essential for optimizing an enterprise’s entire heterogeneous environment, including networks, servers, applications, and storage.

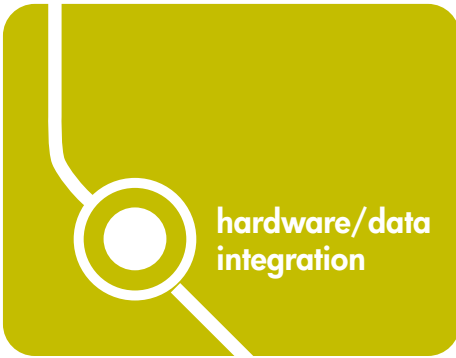
As a common interface on a number of different levels, devices, systems, or domains, HP OpenView also easily monitors those sites and proactively adjusts the network to an optimum level. The network more readily facilitates improved user response time, supports peak workloads, or shifts them in the face of site outages, and enables expansion, too.

traveling faster and more effectively

Ultimately, collocation enables you to run the same application on a single operating system in fewer servers, based on the needs of your enterprise. Best of all, the enterprise—and your IT department—gains nearly immediate benefits, doing more with fewer IT resources. And collocating sets the stage for another step in the journey—hardware/data integration.

“If one device is having a critical problem, OpenView highlights the problem on a monitor or triggers an alert. Having a comprehensive monitoring system in place means we can keep our operational overhead expenses down by having a relatively small number of people monitor a large, multicomponent infrastructure.”

—Steve Messick, Senior Vice President, National Systems and Technology, BusinessWire



hardware/data integration: approaching critical goals

Reducing the volume of servers, and centralizing the storage you oversee, means you can optimize the systems you have—improving performance and maximizing the availability of applications and data, while lowering overall operating costs.

Server integration cuts back on the number of systems when more powerful servers of the same architecture host a single application or multiple instances of a single application.

With a storage area network, or SAN, any application running on any server accesses all the corporate data, as required and if allowed. In a SAN-based environment, storage consolidation significantly reduces the cost and complexity of large installations by placing data on centralized, highly available storage systems.

security pass

The need for increasingly vigilant security grows in direct proportion to the growth of accessible online data. Because a SAN has fewer access points than an environment with many servers, each with directly attached storage, a SAN makes control easier and simplifies implementing a data confidentiality policy. A SAN also ensures that there is just one copy of data, regardless of the number of application instances, and serializes access for these applications.

Fewer servers also tighten the security perimeter, making it possible to introduce more complex intrusion detection systems and other security systems. Alarm monitoring is simpler and more accurate, and so is compliance.

Also, a SAN makes it easier to build data-availability and disaster-tolerance features into the server consolidation program. Adding replicas of data sets, locally or remotely, a SAN provides a more comprehensive high-availability solution than RAID technology at the controller level.



MTR Corporation speeds up with systems consolidation

In late 2001 MTR chose HP to lead a systems consolidation project to simplify and streamline its IT infrastructure, while avoiding costly escalations in management time and cost as it grows.

After the systems consolidation project concluded, internal estimates concluded that the new systems recorded about 40% system performance improvement, and up to 20% reduction in TCO.

UK communications leader sets pace in Internet market

A European telecommunications company focuses on delivering end-to-end Internet capabilities—everything from e-commerce consulting and solutions to core networks and Internet connectivity. They migrated their existing Microsoft Exchange environment, run on more than 100 HP ProLiant servers in 20 locations, to Microsoft Exchange 2000, at the same time upgrading to more powerful HP ProLiant 6500 servers—adding greater flexibility and reducing operating costs.

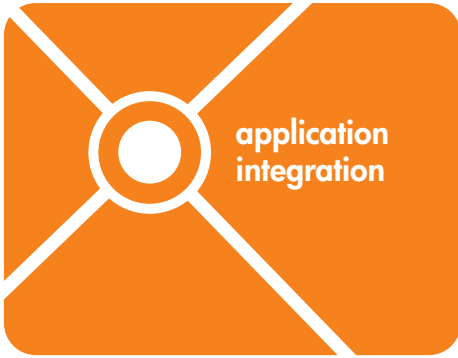
benefits travel far and wide

Founded more than a century ago, one of the world’s leading telecommunications companies had a diverse messaging system spread globally and needed a sole platform to serve as the basis for collaboration and future solutions integration. HP ProLiant servers deployed to approximately 150 locations worldwide now host Microsoft Exchange—and the redundancy in the new system avoids the single-point-of-failures that were common with the telecom’s legacy messaging system.

Together, a large U.S.-based financial institution and HP replaced seventeen servers with four HP Superdome servers. The consolidation cut TCO, increased return on assets, and saved floor space. The bank also reduced maintenance and licensing costs, eliminated obsolete hardware, increased scalability, and enhanced capacity planning and availability. All this, while maintaining or enhancing customer service and delivery, and cutting time-to-market for new products.

“HP was the obvious choice for the systems consolidation, not only because of our long-standing relationship but, more importantly, because it was able to offer support across our heterogeneous computing environment.”

—Daniel Lai, Head of Information Technology, MTR Corporation



application integration: route to reduced complexity

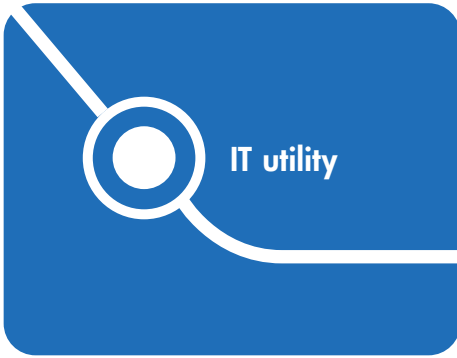
When you integrate applications, you transition from departmental silos of data to a cohesive, enterprisewide view. Key decision makers get access to valuable data, in real time. You also minimize unused capacity by consolidating applications with different usage patterns onto a single server. Application integration allows you to streamline resources, standardize systems, reduce costs, and increase your system's performance.

As you move along your journey, it becomes easier to shift from multiple applications accessing multiple databases to literally integrating databases and applications. And when you rationalize applications, you build in cost savings, as well as new flexibility.

fragmented information systems inhibit global competition

Since 1995, 3Com's business has diversified into several product lines through mergers and acquisitions as well as launches into new business opportunities. But with each acquisition and merger, such as a 1998 merger with U.S. Robotics, came another warehouse, and 3Com soon found itself with seven disparate systems, each designed to support the revenue associated with the individual business and not the consolidated business 3Com had become.

Selection of HP was based on 3Com's need for 7x24 availability that supported a consolidated, global solution. In only 10 months, 3Com, by partnering with HP, Informatica, and BusinessObjects, was able to shut down its disparate data warehouses and go live with its Wisdom enterprisewide business intelligence solution that gives 3Com a worldwide view of finance, sales, and manufacturing operations.



IT utility: the ultimate destination

Collocating, integrating hardware and data, and integrating applications are all necessary steps toward building a truly adaptive infrastructure. Pulling together IT centers across a network and implementing storage area networks to create a single set of resources helps you move to the IT utility you need to access capacity on demand, employ flexible technology, operate in a highly automated environment, and execute in real time.

IT utility capitalizes on three key elements of an adaptive infrastructure

The first key element in achieving IT utility involves combining technologies, products, services, and solutions to deliver and support a continuously available environment—ensuring the stability and efficiency of your business in the face of change. You maintain service levels while you reduce costs.

Syntellect's Hosted Services Group (HSG) uses HP servers to host application services for virtual customer interaction networks that combine Internet, data, fax, and telephone to process customer bills, customer calls, customer orders, and inquiries. To help maintain high availability of their solution, HSG has contracted with HP Services for Critical Systems Support (CSS). To ensure fail-over protection at a server level, HSG's two HP server rp5400 are clustered with HP MC/Serviceguard, as well as two HP 9000 K-Class servers. If a server goes down, they can count on high reliability.

The second key element is the ability to match resource capacity to service demands in real time. This requires dynamic control and scalability in servers and storage that couple with services and software, as well as managed services, all to ensure you won't run short of capacity or pay more than necessary for the right amount of resources at the right time. With HP's Instant Capacity on Demand, or iCOD, when demand increases, iCOD instantly ignites CPUs to add capacity to your service environments.

The third key element is the ability to monitor and control resource health, track use, and report on infrastructure operations that impact the business. When a system has a single management station, overall management of the cluster is significantly simpler—further decreasing downtime.

"We're an application service provider and our money is made by usage of our systems. HP understands this criticality. We use iCOD for instant capacity because we can implement additional CPUs on demand and utilize only the processors we need to provide seamless capacity for our customers."

—Pat Medlock, Director of Operations,
Syntellect Hosted Services Group

start now

To learn more about HP IT Consolidation solutions, and how they can improve business agility, please visit www.hp.com/large.

no end to your advantages

Whichever particular pathway your company chooses, and whatever time-frame it takes to get there, building an adaptive infrastructure and enabling IT utility ultimately makes your business more agile to meet market demands, more productive for your employees, more responsive to customer requests, and more profitable for the shareholders.

partnering with hp for your journey

Years of deep experience guiding companies on the consolidation journey has made HP the unqualified leader in refining IT infrastructures to deliver greater business value. If your company is serious about cutting costs, increasing flexibility, reducing complexity, optimizing assets, and extending the value and reach of the enterprise through consolidation, HP is your best choice.

Your expertise is knowing your business and what it takes to delight your customers and consistently beat your competition.

HP helps you design, build, integrate, manage, and evolve your consolidated IT infrastructure in a way that makes sense for your business. As Rob Rakowski, KinderCare's Manager Host Systems Administration, said, "HP has been more than just a vendor, they've been a true partner. From our multiple servers, to support, and specifically our HP XP256, HP has allowed us to save time, money, and given us the flexibility to succeed. As a result, we can do what we do best—teaching and caring for children."

The stories presented here are just a few of the hundreds of recent consolidation journeys in which HP has played a key role. For companies as varied as the ones on these pages, HP's technology, solutions, and diverse experience served as a trusted guide on the journey to building an adaptive infrastructure.

helping you arrive

What can the consolidation journey mean to your company? The farther you travel, the larger the savings in increased service levels and greater business flexibility to your enterprise. And in today's environment, that may mean the difference between simply surviving and genuinely thriving.



start now

To learn more about HP IT Consolidation solutions, and how they can improve business agility, please visit www.hp.com/large.



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