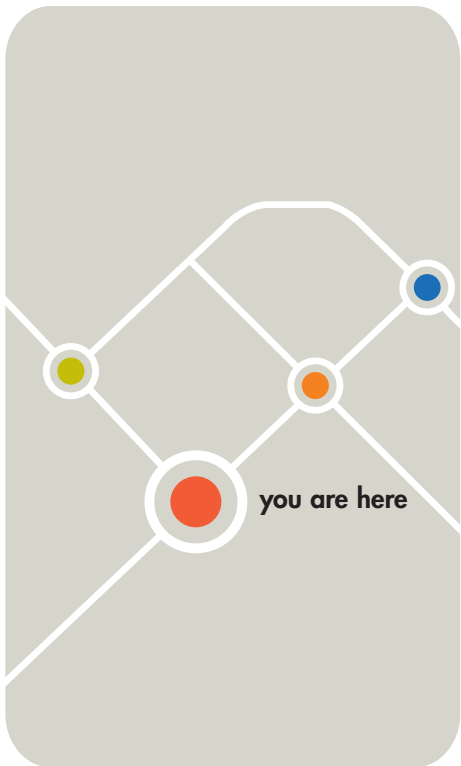
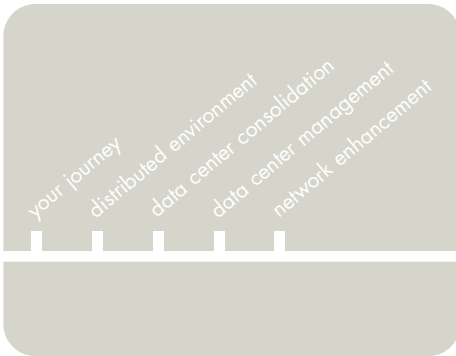


## collocation

This guide introduces you to HP's unique capabilities for helping you collocate your IT resources quickly and effectively. Case studies demonstrate the benefits and successes our customers have achieved through collocation.

This is one of six HP IT consolidation guides. If you are interested in a journey overview, hardware/data integration, application integration, moving to a utility computing environment, or gaining a deeper understanding of HP's leadership methodology and consolidation best practices, feel free to review the appropriate guide.





## where is your consolidation journey headed?

Most of today's data centers were designed and built more than fifteen years ago when mainframes were used for host-based computing. As client/server computing emerged, servers grew more powerful, but the network couldn't provide the bandwidth necessary to ensure end-user satisfaction. To meet specific business needs, various departments throughout the enterprise brought in servers, or had consultants design and build mini data centers.

The result? Server sprawl, redundant applications, and underutilized servers and storage. At the same time, internal and external customers demanded more responsiveness. So businesses turned to their IT departments.

Sound familiar? If so, you may also be facing an edict from senior management to control and manage an IT environment that is distributed throughout the enterprise. Of course, much of that environment is "owned" by departments that fear losing control of the technology necessary to support their own departmental functions.

### what's a CIO to do?

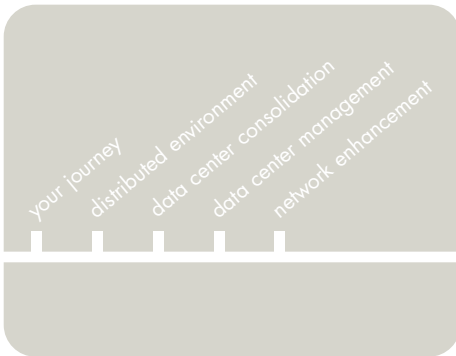
Embark on an IT journey that generates cost savings for the company, increases availability and improves response time for the IT department, enhances the end-user experience, and ultimately weaves IT utility through the fabric of the company.



## where you find yourself—in the distributed environment

A decade ago, a distributed environment was your best option. Due to high network costs, it made sense to push relatively inexpensive servers out near end users. Now, however, if yours is a typical distributed environment, the ability to be both reactive and proactive to the needs of your business is not what it should be.

Very likely, your distributed environment supports hundreds of individual applications on dedicated servers—each with its own gigabytes of storage—across the enterprise. One application may be replicated on multiple systems, each requiring its own operating system, application software, and support staff. Each application typically requires a development and test server environment—further increasing support costs and IT complexity. You may also have servers that are only used when application maintenance and testing are required, and terabytes of underutilized storage on hundreds of servers that other applications simply cannot access.



*ProLiant Essentials Workload Management Pack software controls and dynamically allocates system resources, optimizing performance and enhancing application consolidation on the Windows® 2000 server platform. HP OpenView management software manages your distributed environment and enables you to understand the collocated environment's performance.*

### reduced flexibility and other business problems

A distributed environment isn't designed to keep up with today's fast-changing business environments. For one thing, there's no uniform infrastructure to support failover. Securing and monitoring multiple servers in multiple locations leaves a company open to lapses in data integrity and availability. Surges in demand in one area increase response times and decrease user satisfaction, while another area may have excess capacity.

Another concern—application deployment across a heterogeneous environment is difficult and expensive to support when it includes multiple versions of operating systems, patch levels, and server and storage configurations. Integrating those applications requires that data translations be customized for each set of applications, increasing cost even more.

Operational issues aside, server sprawl also brings with it financial consequences. Production servers are typically sized for the anticipated peak workload, which means that average resource utilization is low. However, where demand growth exceeded expectations, servers may be overutilized, causing other problems as well.

If you find yourself in this situation, and want to embark on your journey as soon as possible, you can first bring your distributed environment under virtual control of your IT department with adaptive management software solutions from HP.

### understanding your environment

Ultimately, you have to decide how you're going to seamlessly incorporate the distributed environment into selected data centers—and how you're going to use it. But before you can do that, you need to know what works, what doesn't, and why. HP's management software suite helps you manage your diverse environment from end to end and provides vital information about all your heterogeneous systems and devices.



## collocating the IT environment

Collocating your IT environment could easily be your fastest route to lower costs—and future consolidation success. Driven by cost savings, 74% of the companies in a recent IDC survey already have collocated systems. And 65% plan to do more.

Besides cost savings, you'll benefit from increased security, better backup, and more effective disaster-recovery programs. And, the cost savings you derive from this first effort can seed your next consolidation project.

### two ways to collocate

#### 1. secure servers and storage in data centers

If you're attempting to manage a distributed environment, your first concern may well be security. How can you keep an eye on servers that are under employees' desks or in telco closets away from the watchful eyes of your staff?

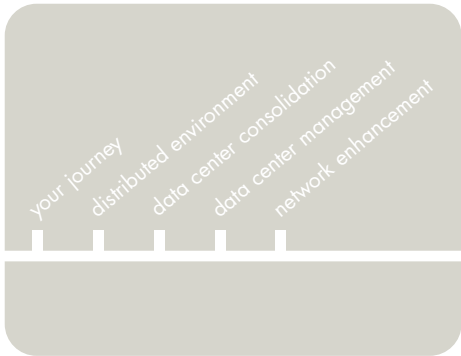
Security involves more than protecting your network from hackers or your data from theft. Your servers need a secure environment, too. You need solutions like uninterrupted power supplies to keep servers running during blackouts and brownouts, and systems that condition reliable power, and protect you from damage caused by events like fire or activated fire sprinklers.

Securing your data also means regular, effective backups. Data units located outside the data center are often in the purview of a nontechnical person, and may only be one small element of that person's job. If that person calls in sick or goes on vacation, who takes responsibility for the backups? That's never a concern in the data center.

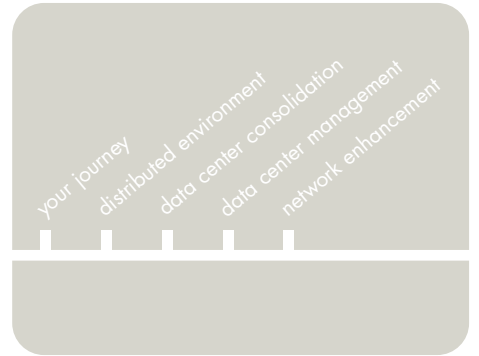
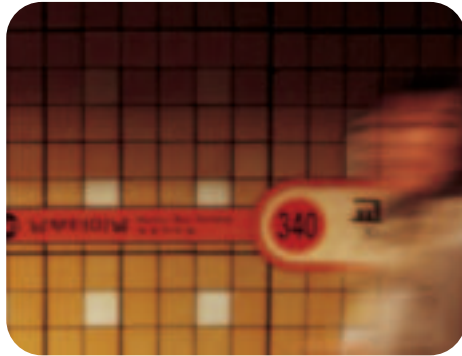
Collocating your servers and storage devices into a secured environment protects them from theft, high-tech vandalism, potential damage, loss of data, and more.

#### 2. consolidate your data centers

Collocation not only helps you overcome server and storage sprawl, it helps you overcome data center sprawl. For many companies, acquisitions and mergers have meant an increase in redundant data centers. And with those redundancies come multiple payroll, e-mail, CRM, and other applications that are handled in those data centers. Your journey's ultimate goal may be to simply eliminate those redundancies. Or your goal may be to weave utility computing throughout the enterprise. Either way, your best first step may be consolidating data centers—a project that virtually ensures success.



*What should you expect when you consolidate data centers? IDC reported that companies that did increased staff productivity 53%. Those same companies also increased IT efficiencies 26% and reduced downtime 31% based on their proactive data center efforts.*



*The company's hardware choice for the new data center was easy. With HP as a global strategic partner since 1992, the company was fully committed to the HP 9000 server architecture.*





## real-world example

### data center consolidation saves €10M annually

The European market for air express delivery services is becoming increasingly competitive. For established operators, this leads to a tighter focus on cost management. One leading international air express company, as part of a drive to identify cost reductions throughout the business, decided to replace more than twenty decentralized operations in Europe and Africa with a single data center in the London area.

To stay competitive, the company knew it had to cut costs. IT was an obvious target. By having everything in two centers, the company could save on staff and facilities costs. Overall, the air express company aimed to cut its IT budget by 20%.

### assistance based on experience

The company's hardware choice for the new data center was easy. With HP as a global strategic partner since 1992, the company was fully committed to the HP 9000 server architecture.

In the early stages of the data center project, HP Consulting played a key role in developing the high-level design of the architecture. HP consultants were also responsible for more detailed process design work.

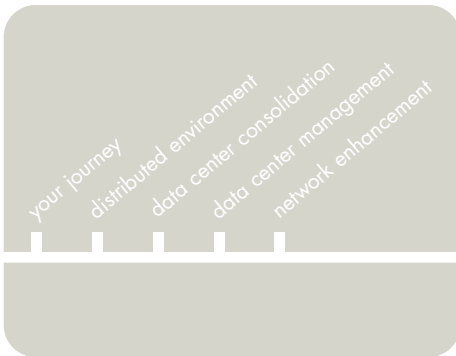
More than 400 reconfigured HP 9000 Enterprise servers were installed at two sites, which act as one virtual data center. All hardware was bought under a global Master Lease Agreement with HP Finance. The project also involved upgrading the company's private wide-area network.

### fast, effective return on investment

The implementation took only twelve months, and now enjoys 24x7 operational support across Europe—and soon in Africa, too.

The company will realize the savings calculated when the business case was originally formulated. In fact, the project is expected to pay for itself within three years, reducing IT operating expenses by about €10M per year. Savings of such magnitude play a significant part in enhancing the delivery company's overall competitiveness.

Increased resilience is another key benefit. In the past, only two of the company's European countries had standby sites, but now all data is replicated between two sites. HP provides mission-critical support services, and the data center also provides a platform for simplified processes and rapid software deployment.



## hp's management software does more than manage your environment

HP OpenView software is known for its ability to manage your environment—distributed or collocated. HP OpenView virtually collocates distributed IT systems. If you've already collocated your hardware to data centers, HP OpenView automates management and operations in them.

MeasureWare, PerfWear, Glance, and other HP OpenView tools give you important insight into response times and utilization. Why is that important? You must be able to prove that post-collocation response times matched or bettered response times prior to the project.

Maximize utilization on your Windows 2000 server platforms with ProLiant Essentials Workload Management Pack (WMP) software. WMP controls and dynamically allocates system resources so you can optimize performance and enhance application consolidation.

HP OpenView also manages your data center operations—from one management console. Imagine various servers, storage devices, network service elements, applications—even home grown ones—all managed from a single console. With HP OpenView, your IT environment, regardless of how vast it may be, becomes a singularly managed entity.

Knowledge, as has been said, is power, and on the IT journey, knowledge is also speed. Speed your journey by knowing what works, what doesn't, and how to manage the environment as it evolves.



### leverage hp's collocation experience

While you're likely to find substantial real estate savings, you also have the opportunity to reap substantial human resource savings, too. HP should know.

We consolidated twenty-six of our data centers in the Western Hemisphere to one facility in Atlanta.

As with many of our customers, HP's IT costs were growing rapidly—at approximately 18% per year—and it was taking 18 months to roll out updates to applications. The existing infrastructure model clearly couldn't support HP's growing needs. Each data center had its own order management and support systems, which meant multiple implementations of everything. Maintaining version control was very difficult.

HP had two goals—increase service levels and responsiveness, and get a handle on costs. So we initiated a systems consolidation project to combine twenty-six data centers into six, and eventually into one. The end result is the Atlanta Data Center, a 28,000-square-foot facility that today supports over 20,000 employees in 220 remote field offices.

HP's Atlanta Data Center consolidation met its goals, resulting in a nearly 20% IT cost reduction in the first year of operation, and a decrease in the growth rate of IT costs for subsequent years from 18% to 3%.

The new infrastructure also increased service levels. Centralized systems and standardized systems and processes mean application rollouts that were previously implemented in eighteen months now take just one night. Additionally, the scale of Atlanta's operation allowed HP to build a true high-availability environment with built-in system redundancies. Mission-critical system CPUs, disks, LANs, and power supplies have mirrors or backups to minimize downtime.

The center relies heavily on HP OpenView to manage its elements, which significantly reduces the need for staff. For example, just ten technicians support over 4,000 networked printers across 220 field offices.

When you manage from a single console with fewer people, problem resolution is easier. No other company offers software solutions like HP OpenView to make your consolidation journey faster and easier.



## planning now to enhance the network

A successful collocation also depends on redesigning the network. HP's Consulting and Integration (C&I) Services team can redesign your network. The team considers issues such as user response times, the network's ability to support peak workloads, and plans to shift workloads during site outages.

C&I Services works with the network providers, ensuring there's no single point of failure and incorporating expansion capabilities. HP Services provisions the new networking capabilities, too.

### a strategy for data center recovery

When you collocate from many data centers to just a few, data recovery planning is critical. After all, you've dramatically affected your existing data recovery plan one way or another by reducing data centers. So it is a good time to rethink enterprise backup, and move away from point solutions. HP provides high-availability solutions such as ContinentalClusters and MetroClusters.



With HP ContinentalClusters, you get fast, simple disaster recovery with links between primary and backup sites on opposite sides of a continent. What's more, HP ContinentalClusters solutions help IT managers restart critical applications, which means you fully restore operations in a matter of minutes, even after a natural disaster. HP ContinentalClusters complement MC/Serviceguard, HP's high-availability cluster software that leads the industry in functionality and has over 60,000 licenses in place around the world.

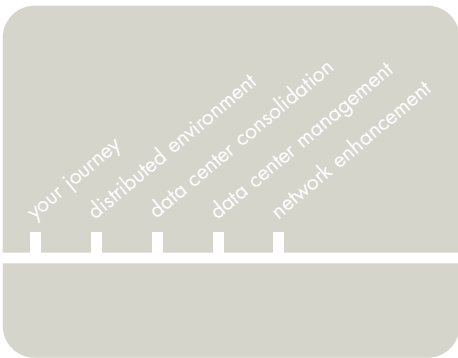
MetroClusters solutions, which include MC/Serviceguard foundation cluster software as well as storage and data replication solutions, offer cost-effective disaster recovery with automatic site failover, allowing for rapid site recovery times in the event of a fault, failure, or disaster. HP MetroCluster solutions deliver true disaster tolerance to organizations requiring minimal computing downtime.

#### easing the people side of data center consolidation

Cost savings vary with data center closures, but usually the two categories for the greatest savings come from facility and staff reduction. Despite the potential savings, the people involved often make data center consolidation challenging. There can be power struggles and stakeholder concerns over ownership. Friendships are even on the line. Transitional and post-consolidation issues, like retaining critical staff during and after the consolidation, are also important.

One major software developer planned to eliminate eighteen of nineteen data centers around the globe. When its IT staff heard about the proposed changes, most began applying to other companies for jobs—even though the software developer sent letters to employees assuring them of positions with the company after the consolidation.

HP helped the software developer ease the potential brain drain and work successfully through the data center consolidation in part because we brought the perspective of an interested third-party—and we have the necessary experience to make people feel more confident, and more at ease with consolidation solutions.





## why now?

While you can't control the changes your business encounters, you can manage how your business handles each change—as long as your IT department is agile enough to anticipate or react to new opportunities driven by a dynamic marketplace.

Our IT consolidation solutions help you create an adaptive infrastructure that will make your business more agile, thanks to

- measurement-based profiling and assessment services
- architectural models and roadmaps driven by agility design principles and metrics
- answers to key business and IT challenges
- ongoing measurement and management services that optimize performance and evolve the infrastructure

## why hp?

You need expertise to accomplish your desired results. Any partner must be a thought leader on this new technology frontier, and act as your trusted advisor—with the business experience to deliver solutions that meet your needs.

Our experience guiding companies on the consolidation journey has made HP the undisputed 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.

Each journey begins with imagination and courage, and gains momentum with experience. The farther you travel, the larger the savings in increased service levels and the greater the business flexibility to your enterprise. And that may mean the difference between simply surviving and genuinely thriving.

**Call hp and ask about IT consolidation.**

**When it really counts, hp delivers.**

Contact HP today to learn about adaptive infrastructure—through IT consolidation solutions based on the best of HP’s broad family of storage, software, servers, and services.

*Courage. Imagination. Vision. Partner with HP.*

**Ride the streamline—journey to the future.**

**Start now.**

To learn more about HP IT consolidation solutions, and how you can improve business agility, please visit [www.hp.com/large](http://www.hp.com/large).



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