

# IT Consolidation on the HP BladeSystem

Bringing simplicity, agility and superior management  
to the data centre



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Solutions for the adaptive enterprise.



“Our entire Citrix solution is running on HP BladeSystem servers. This robust platform significantly reduces our costs, rack space and staff hours, while improving utilisation and performance.”

Stan Morton, Core Technology Senior Engineer,  
Carolinas HealthCare System

## Introduction

IT Consolidation is a hot topic in business today, with many enterprises already benefiting from the increased levels of simplicity, agility and manageability that consolidation brings.

If you are considering an IT Consolidation initiative for your organisation, this document will help you assess the qualities of a unique type of solution from HP based on our blade server infrastructure: the **HP BladeSystem**.

Starting with a typical business scenario, we'll look at some common IT challenges that you may be facing today. We will then consider how the HP BladeSystem can help, by examining the benefits it brings to the IT environment. Furthermore, we'll introduce the full lifecycle support provided by HP Services, who can help plan, design, implement and manage your IT Consolidation project for maximum success.

## The business drivers for IT Consolidation

If we look at a typical IT environment, we see several areas where IT Consolidation on the HP BladeSystem can provide significant benefits. If you relate to all – or even some – of these circumstances, we encourage you to read on and discover how the HP BladeSystem can cut through the complexity of your infrastructure.

### Lack of space

Company X is facing acute pressure on space in its data centres. It has too many traditional tower or rack-based servers taking up too much room. A major problem with these servers is that they have demanding wiring, cooling and power requirements. Often, there is a premium on data-centre space, which is increasingly becoming used up as more servers are added.

### Under-utilisation of resources

New servers are an easy-to-buy solution for the IT department, which is deploying a one-application-per-server strategy. As the number of requisite applications grows, so too does the number of servers. But each server is not fully utilised by its application and – in some cases – server utilisation can be as low as 6%, wasting significant IT resources.

### Business growth

Expected growth over the coming five-year period is high. Therefore, Company X needs scalable, industry-standard computing power to support its growing number of applications, users and technologies. Added to this, it also needs to migrate to a new operating system, as the existing platform – Microsoft® Windows NT® 4.0 – is no longer supported.

### Complex management

Currently, Company X has eight data centres located across Europe, all of which comprise many different types of server. Each data centre has its own IT department. And each IT department is struggling to cope with complexity and server sprawl. The complexity of the IT setup is incurring management and technical support costs – as well as the overhead of having to learn and operate different management tools for different resources. This results in IT staff having little time to spend on tasks that add real value to the business.

Over the following pages, we'll see how IT Consolidation on the HP BladeSystem could help Company X in all of these areas.

“The HP BladeSystem solution protects our investments. It optimises our processes and creates the best technical basis for future developments.”

Christoph Bigler, Director of Decentralised Systems and Services, Swiss Mobiliar

## Unlock the true power of your business

When you choose the HP BladeSystem as your consolidation platform, you are able to unlock the true power of your business.

It will help you simplify the IT infrastructure, improve operational efficiency while lowering IT costs, move IT resources from maintenance to innovation, and manage change more effectively. In short, the HP BladeSystem provides the simplicity, agility and value that your business needs.

### What is the HP BladeSystem?

The HP BladeSystem combines servers, storage, power and networking in an innovative modular architecture that simplifies the configuration and management of IT resources.

Its principal components are the ultra-dense blade servers that provide the computing power. Consisting of a motherboard, CPU, RAM, hard drive and LAN connection, blades are advanced, industry-standard servers that support multiple applications and operating systems.

### With the HP BladeSystem you can...

#### **Maximise your data-centre space**

Multiple blade servers can be housed in a single rack enclosure – as many as 48 blades in a 42U enclosure. And unlike traditional rack-based servers, all the power, cooling and wiring requirements are included within the rack enclosure itself. This means you can load the rack with a full complement of server blades for 100% utilisation of space. It also means you need fewer enclosures within the data centre, freeing up space by as much as 90%.

#### **Increase your IT utilisation rates**

A key benefit of the HP BladeSystem is the ability to support a virtualised server environment. With virtualisation, you can pool and share your server blade resources so that multiple applications can be run on a single blade. And using the HP ProLiant Essentials Virtual Machine Management Pack, application workload can be managed more easily, bringing simplicity and flexibility to the entire IT infrastructure. With virtualisation, you can do what before seemed impossible: reduce costs and increase agility – at the same time.

#### **Enhance your business agility**

HP blade servers are compact, flexible and scalable servers that enable you to grow your infrastructure at a rate that suits your business growth. For example, by keeping online spares in the rack enclosure, you can configure, build and bring additional servers into service quickly to meet peaks in demand. What's more, the Microsoft Windows Server™ 2003 operating system ensures you have the power and efficiency to meet both your current and future needs.

#### **Simplify your management**

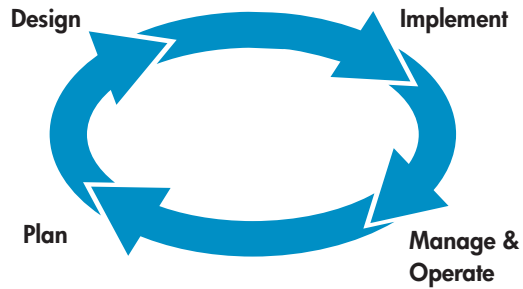
The HP BladeSystem helps you create a managed environment that reduces your operational costs. In combination with the HP BladeSystem Management Suite, the HP BladeSystem allows you to automate processes and maintenance tasks and allow your IT staff to become more efficient. What's more, because they are built on industry-standard technology, the management capabilities of the HP BladeSystem enable you to monitor and control all components of your infrastructure, not just your blade servers, from a single point of management.

## 2. Design

- Consolidation pilot
- Consolidation plan and design
- Consolidation benchmark

## 1. Plan

- Consolidation value workshop
- IT Consolidation assessment using AOG
- Availability assessment



## 3. Implement

- Consolidation implementation services
- Migration services
- Implementation and start-up services
- Project management

## 4. Manage & Operate

- Support services (HW/SW support)
- Proactive 24 Service and Mission Critical Partnership (to avoid problems before they happen)
- Operational services (selective out-tasking, outsourcing)

## Changing the way you manage IT

The superior manageability of the HP BladeSystem is enabled by an advanced suite of management tools called the BladeSystem Management Suite, which includes the following tools:

### HP Systems Insight Manager

The most popular and widely installed platform for detailed fault management and monitoring, HP Systems Insight Manager (SIM) alerts you to drive failures before they happen, so that drives can be replaced before they go down. It also includes the HP BladeSystem Integrated Management feature, which offers streamlined management and configuration access specifically for the HP BladeSystem. For more detailed information, visit: [www.hp.com/eur/hpsim](http://www.hp.com/eur/hpsim)

### HP ProLiant Essentials Rapid Deployment Pack

Rapid Deployment Pack (RDP) software enables quick and easy installation, configuration and deployment of your blade servers from a GUI- or web-based console. It also works seamlessly with the provisioning function of the HP BladeSystem, which allows a specific image to be assigned to a specific slot in the chassis. For example, if a blade server goes down, it can be swapped with a new one, and RDP will automatically configure it to the required image.

### Integrated Lights-Out

HP Integrated Lights-Out software empowers your IT staff with secure remote management control over your blade servers. They can install, configure, monitor, update and troubleshoot servers from afar, using any standard web browser, command line or script.

## Focus on virtualisation

At HP, we have worked closely with industry-leading partners to bring innovative virtualisation capabilities to the HP BladeSystem:

- The HP BladeSystem is compatible with Microsoft Virtual Server, which enables multiple operating systems to be run concurrently on a single blade server. This can maximise the utilisation of resources – especially for environments with different workloads.
- Using VMware Server with the HP BladeSystem enables the rapid creation of multiple virtual servers. Consolidating on these virtual machines effectively utilises the capacity of your servers for cost savings and improved agility.
- The ProLiant Essentials Virtual Machine Management Pack provides central management and control of virtual machines from both Microsoft and VMware. When integrated with HP SIM, it provides unified management of virtual machines and supporting server resources. This integrated approach provides the ability to manage both physical and virtual resources from a single management console.

## HP ProLiant Essentials Performance Management Pack

This integrated performance management solution detects and analyses hardware bottlenecks on your blade servers and shared storage devices. It provides proactive notification of potential bottlenecks, and can debug existing performance issues. Furthermore, it interactively displays performance information and logs it to a database for analysis, as well as setting up proactive alerts and notification using HP SIM.

## HP ProLiant Essentials Vulnerability and Patch Management Pack

This Vulnerability and Patch Management Pack integrates vulnerability assessment and patch management functions into HP SIM to identify and remedy security vulnerabilities quickly, efficiently and reliably.

For more information on the HP BladeSystem Management Suite, visit:

[www.hp.com/go/blademanagement](http://www.hp.com/go/blademanagement)

## Choose the right server for your needs

Although blade servers have many advantages over traditional servers – such as faster deployment, reduced power consumption and cabling, and more cost-effective acquisition cost – it is important to choose the server type that fits your business requirements.

For example, if you need 64-bit capabilities, or high levels of database scalability, a traditional HP ProLiant or HP Integrity server would be the better choice. Your local HP representative can help you determine your precise needs.

## Take advice from the experts

To help maximise your investment in HP BladeSystem technology, HP Services offers a full portfolio of consolidation services – from assessment to implementation to the ongoing management of your new infrastructure. Complementing these services is a unique set of tools that allows us to prepare the business case for consolidation, take an inventory of the current environment and make recommendations for the optimal solution.

## Further support

### HP Education Services

There are dedicated training courses available through HP Education Services that can help you plan, deploy and optimise your HP BladeSystem solution and get fully trained on HP ProLiant Essentials management tools.

Find out more at:

<http://education.hp.com/hp-proliant-essentials.htm>

### HP ProLiant Essentials Services

These cost-effective, productivity-enhancing service options include easy-to-buy HP Care Pack Services to support the design and deployment of your solution, as well as more comprehensive implementation support tailored to your unique IT and business requirements.

For more information, visit:

[www.hp.com/go/hp-proliant-services](http://www.hp.com/go/hp-proliant-services)

For more information on consolidating your IT environment on the HP BladeSystem, contact your local HP representative or visit: [www.hp.com/go/blades](http://www.hp.com/go/blades)

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