

**SAP Solution Brief  
SAP NetWeaver**



## **CONSOLIDATION WITH SAP NetWeaver™**

### **Deploy a Consolidated Technology Infrastructure Based on Enterprise Services Architecture**

With the SAP NetWeaver™ platform, organizations can meet business requirements by implementing crucial IT practices in a flexible, step-by-step approach at lower costs. Consolidation with SAP NetWeaver is an IT practice that helps you consolidate a fragmented, heterogeneous environment and allocate computing power according to changing user needs. Consolidation is enabled by the adaptive computing capability of SAP NetWeaver and its components, such as SAP® Enterprise Portal, SAP Business Intelligence, SAP Master Data Management, and SAP Exchange Infrastructure.

Many companies today face a maze of patched-together systems and applications that make it increasingly difficult to find information. And with so-called best-of-breed point product solutions and inflexible supporting systems, implementing change can be prohibitively time-consuming and expensive.

In many cases, enterprise IT systems have evolved over several generations of technology. Older systems might include main-frame and even minicomputer systems, each with proprietary application programs and user interfaces. Because these proprietary systems are difficult to replace using “forklift” techniques, enterprises would typically keep them running, and then migrate slowly to newer technologies.

Over several generations, this has often resulted in a jungle of custom application interfaces and dedicated user interfaces. Users may be able to transfer data among the different systems, but the overhead required – from the custom interfaces to patched-together business processes – places a heavy burden on the entire IT infrastructure.

For IT executives, a fragmented infrastructure leads to compromised IT responsiveness, increased risk, and lack of IT governance. Complex systems need substantial support, and they impede the integration of new components into the common infrastructure. This reduces system utilization and rules out extensive resource distribution. For the end user, the fragmentation is manifested as diminished usability (since they often must log on to multiple systems), incoherent information, and compromised reliability.

### **The Solution: Consolidation with SAP NetWeaver™**

The solution is to consolidate these systems by removing the dependencies between top-level business processes and lower-level supporting technologies. The SAP NetWeaver™ platform simplifies this consolidation by offering specific implementation activities that help you address today's requirements while at the same time creating a migration path to the Enterprise Services Architecture blueprint. Consolidation occurs at the user-interface, process, information, and system levels and is enabled by the adaptive computing capability of SAP NetWeaver.

#### **Consolidation**

An incremental approach to consolidation avoids the risks of a “big bang” upgrade while allowing an IT organization to develop the skills and processes necessary to manage this important transition. SAP NetWeaver addresses consolidation at a number of levels, as follows:

- User-interface consolidation
  - Separates and unifies the user interface and back-end system
  - Introduces a role-based and personalized user-interface model
  - Cuts implementation time with prebuilt iView windows and business packages with internal portal-linking application functions and extends with external portal for suppliers, distributors, and customers
- Information consolidation
  - Delivers a complete, end-to-end, reliable, and open business intelligence solution, enabling the smart enterprise
  - Enables companies to store, augment, and consolidate master data with high quality
  - Improves corporate decision making through correct and consistent data
  - Reduces errors through cross-system data consistency

- Process consolidation
  - Reduces integration and maintenance costs of IT systems by providing a common central repository for interfaces
  - Supports cross-component business process management within the same solution
- System consolidation
  - Frees business applications from underlying system dependencies by flexibly deploying enterprise software on any hardware
  - Provides the fastest path to lower total cost of ownership
  - Is driven by the SAP NetWeaver adaptive computing capability

### **System Consolidation and Adaptive Computing**

Companies know that the quickest return on investment comes from consolidating system resources – and by supporting adaptive computing; that's what SAP NetWeaver lets you achieve. Adaptive computing is a new approach to designing hardware, software, and system services in ways that reflect the business-driven reality of continuous change, and the need for constant adaptability. Adaptive computing empowers the user to be able to run any application service, anytime, on any server. (In this context the term “application service” is used to describe any kind of IT scenario, solution, or application component.)

Adaptive computing works by flexibly assigning hardware resources to support specific application services, using standardized building blocks for the computing, network, storage, and control elements of the data center. By supporting adaptive computing, SAP NetWeaver provides a way to virtualize application services, and provides a single, central point of control for assigning computing resources.

## **The SAP Approach**

SAP's approach to adaptive computing takes full advantage of the advanced technology of SAP NetWeaver by embracing the four building blocks of the IT landscape – computing, storage, network, and control. Adaptive computing thus enables the following capabilities:

- Hardware and operating system provisioning
  - Makes it possible to easily add and remove computing resources with minimal administrative effort
  - Supports a variety of operating systems
- Data storage
  - Uses application services; instances involving SAP® applications are managed and assigned to a dedicated computing resource
  - Requires no local disk space to run SAP applications; stores application data on a centralized storage system within the network
- Network provisioning
  - Builds connections between the computing and storage building blocks
  - Provides a transport layer for virtualization
  - Supports different network topologies (TCP/IP, iSCSI, Fibre Channel)
- Adaptive computing controller
  - Provides a single point of control to operate, observe, and manage an adaptive business solution
  - Uses standard technologies such as J2EE , XML, and CIM
  - Interfaces with the controller command interface of the SAP Solution Manager tool for communication with third-party software

## **“Virtualizing” the Landscape**

To create an adaptive framework, the enterprise must “virtualize” the IT landscape. The old paradigm, dedicating particular hardware to a permanent application, will now give way to a new model: organizing the hardware, including CPU, disk, and memory, into pools that can be called upon to share the computing load when and where needed. One pool or several pools can thus be called into action.

The following scenarios provide examples of virtualization achieved with adaptive computing with SAP NetWeaver.

### **Retail**

A retail business is running both mySAP™ ERP and mySAP Customer Relationship Management (mySAP CRM). From 8 a.m. to 5 p.m., ERP demands most of the computing power, but at 5 p.m. the ERP activity slows down. CRM activity now picks up, because the company's remote sales reps are uploading the orders they have collected throughout the day.

Instead of using dedicated hardware for the daily ERP peak and dedicated hardware for the nightly CRM peak, this business can buy just enough hardware to cover the higher of the two peaks and can use adaptive computing to determine which service is accessing what hardware at any particular time. For instance, perhaps five application servers run in ERP during the day, two application servers in CRM. At 5 p.m., two ERP application server services can relocate to become CRM application server services. Now CRM has four application servers to handle the load.

### **Manufacturing**

A manufacturer has a complicated IT landscape that includes several testing and development systems, several training systems, and several production systems. Instead of dedicating hardware to all of these environments, the company can use one pool of hardware to “bring up” the environments that they need for a given time frame. When the applications are not needed, they can be saved to disk and stored for the next time they are needed.

Adaptive computing can therefore cut waste in system resources and cost.

## Business Benefits

A consolidated technology infrastructure based on Enterprise Services Architecture delivers on its promise: it can cut costs, boost productivity, grow top-line revenue, improve competitive advantage, and provide flexibility to adapt to continuous change.

You can reduce costs by distributing computing activities across various server systems. By supporting adaptive computing capability, SAP NetWeaver lets you take a new approach to the design of hardware, software, and systems services, including application service virtualization and shared services. This approach decouples application services from specific physical servers and enables a dynamical reassignment to the best-fitting available resources – whether servers, networks, and storage – to meet real-time business and operational requirements.

In summary, benefits of consolidation with SAP NetWeaver include the following:

- Lower total cost of ownership
  - Reduced cost of maintaining multiple user interfaces, data sources, and system interfaces
  - Better server utilization
  - Harmonization of IT landscapes
  - Higher service levels with lower costs
  - Standardized approach to the four building blocks of the IT landscape – computing, network, storage, and control
- Productivity
  - Reduced cost of operations
  - An IT infrastructure that supports higher computer utilization
  - Reduced operational complexity

- Flexibility
  - Ability to run new processes with the same systems to address new business needs
  - Ability to flexibly assign and use hardware resources
  - Easy setup and integration of new components into a common infrastructure
  - Management of increasingly complex system landscapes, with central point of access to all application management tasks

Perhaps most important, the consolidation IT practice puts technologies and techniques in place that lead naturally to Enterprise Services Architecture, where underlying system resources are completely transparent to application services.

## Consolidation and the Power of Adaptive Computing

With 80% of the IT budget currently going toward the maintenance and overhead associated with keeping existing systems running, the only way to grow profitably is to reduce these fixed costs and spend more on IT activities that support innovation. SAP NetWeaver delivers the platform – and the tools – to help you perform core IT practices for consolidation, leading to lower costs and an improved ability to drive change.

With adaptive computing, companies can reduce complexity and cost by flexibly assigning computing activities across various server systems and utilizing existing hardware resources. Many hardware partners, including IBM, Fujitsu Siemens Computers, Dell, and HP have already tested their offerings on adaptive computing.

## Find Out More

Contact SAP to learn more about adaptive computing with SAP NetWeaver. Additional information is available on our Web site at [www.service.sap.com/adaptive](http://www.service.sap.com/adaptive).