SAP ERP

HOW TO PLAN FOR AN
SAP® ERP 6.0 UPGRADE

CONTENTS

This document provides decision makers the information they need to evaluate, plan, and perform an upgrade to the SAP® ERP 6.0 application. It also introduces the tools and services SAP offers its customers during the transition to this new enterprise software.

Through extensive experience with customer upgrades, SAP has learned how important it is to safeguard production systems for your mission-critical activities – which is why SAP ERP 6.0 strongly supports system requirements for stability and availability while at the same time offering the high degree of adaptability and flexibility you need for business process innovation.

WHY CUSTOMERS ARE CHOOSING SAP® ERP 6.0

What is driving the upgrade to SAP's new enterprise software? Most customers are making the change to achieve one of the goals listed in Figure 1.

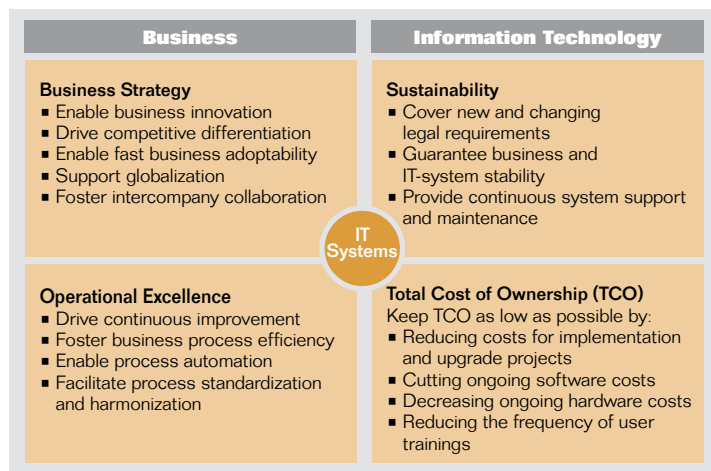| Business	Information Technology
Business Strategy ■ Enable business innovation ■ Drive competitive differentiation ■ Enable fast business adoptability ■ Support globalization ■ Foster intercompany collaboration	**Sustainability** ■ Cover new and changing legal requirements ■ Guarantee business and IT-system stability ■ Provide continuous system support and maintenance
Operational Excellence ■ Drive continuous improvement ■ Foster business process efficiency ■ Enable process automation ■ Facilitate process standardization and harmonization	**Total Cost of Ownership (TCO)** Keep TCO as low as possible by: ■ Reducing costs for implementation and upgrade projects ■ Cutting ongoing software costs ■ Decreasing ongoing hardware costs ■ Reducing the frequency of user trainings

(IT Systems)

Figure 1: Reasons for an ERP Software Upgrade

Here's how the SAP® ERP 6.0 application helps you achieve these goals.

Improved business strategy. In a world where industry requirements are rapidly changing, SAP ERP 6.0 gives you the functionality you need to stay on top. It offers hundreds of new features and functions not available in the SAP R/3® 4.6C software you've been relying on for years.

Among these enhancements are a new general ledger, which improves financial reporting via enhanced closing procedures, and an enhanced employee self-services function, which enables employees to view and maintain job-related information.

In addition, SAP ERP 6.0 is the foundation for SAP's 28 industry solutions. These solutions support key industry-specific business scenarios with applications that are tailored to perform the specific job functions each organization requires. (A switch framework on the SAP NetWeaver® platform enables you to activate both generic and industry-specific functionality from within the new enterprise software.)

Sustainability. With SAP ERP 6.0, SAP ensures business continuity by delivering all the functionality available in previous core SAP R/3 software and ensures legal compliance and system security through the continuous delivery of support packages,

> **"We can execute the same straight-through payment and bank reconciliation processes almost anywhere in the world, and this lowers our cost of operations."**
>
> Roger Shannon, Assistant Treasurer, Brown-Forman

patches, and "hot-fixes."
(Note: The mainstream maintenance period for SAP R/3 4.6C ended on December 31, 2006; extended maintenance is offered until December 2009 for an additional fee.)

In addition, SAP ERP 6.0 helps your business comply with an increasing number of national and international legal requirements for financial reporting and corporate governance. It provides comprehensive functions that reduce the overall cost of managing internal controls and ensures adherence to regulations issued in statutes such as Basel II (the Revised International Capital Framework) and the Sarbanes-Oxley Act – regulations that increase workloads and operational costs in financial organizations.

Operational excellence. Customers are choosing SAP ERP 6.0 because they trust SAP to supply future-directed technology. SAP has a rich history of innovation and is continually striving to empower every aspect of business operations.

Because SAP ERP 6.0 is powered by the SAP NetWeaver platform, it allows you to build new business solutions rapidly while realizing more business value from your core IT investments, which remain stable. The platform supports new cross-functional business scenarios and helps lower total cost of ownership (TCO) by reducing the need for custom integration and offering complete life-cycle management of applications.

A case in point: Tasty Baking Company's sales volume increased by 11% during the nine months following its implementation of SAP ERP, while staffing levels across most functions remained the same or decreased. The implementation process has acted as a catalyst for process transformation and overall belt-tightening.

SAP ERP 6.0 is also the foundation for enterprise service-oriented architecture (enterprise SOA) and helps align people, information, and business processes across organizational and technical boundaries – for example, by unifying enterprise

> **"We are looking at a reduction of turn-around time for all problem tickets of more than 50%. And we also expect the total number of resources deployed in support of SAP installations to be reduced by 15% to 20%."**
>
> Anantha Sayana, Head of Corporate IT, Larsen & Toubro Limited

portal, business intelligence, and infrastructure exchange functions to support cross-functional business scenarios. The new enterprise resource planning (ERP) software enables customers to take an important step toward enterprise SOA, the basis for future SAP and partner applications and the enabler of future business innovation.
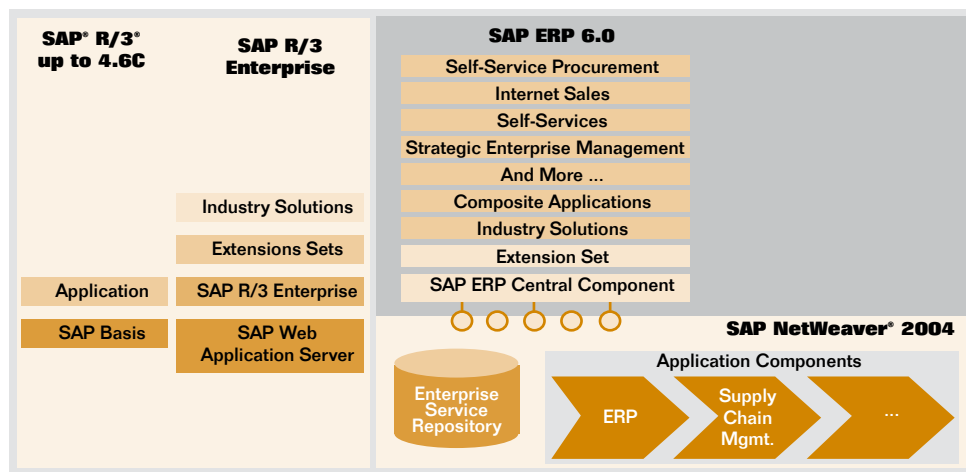

Figure 2: Evolution of ERP Applications from SAP

Lower total cost of ownership. Last, but certainly not least, SAP ERP 6.0 offers you and all SAP customers the opportunity to reduce TCO – by simplifying your existing software landscape through consolidation, maximizing the use of SAP standard functionalities, replacing custom modifications, and eliminating unused modifications.

In addition, the SAP Solution Manager application management solution can help you reduce the total cost of IT ownership and

> **"The SAP NetWeaver platform allows for smooth integration between different applications and easier interoperability with non-SAP systems. This is a plus for customers in terms of lowering total cost of ownership."**
>
> Melinda Dharmadi, General Manager, Enterprise Resource Planning (ERP), PT Excelcomindo Pratama Tbk

achieve a faster return on your investment by facilitating software deployments that can help you do the following:
- Map applications to business requirements and create templates
- Optimize application performance
- Manage change during the entire solution life cycle

The tool also enables intensive knowledge transfer through on-site service procedures and access to SAP Best Practices offerings. SAP ERP 6.0 lets you deploy new functionality incrementally and leverage prepackaged business applications that are available for specific industries.

UPGRADE SCENARIOS

Customers who are motivated to upgrade to SAP ERP 6.0 generally pursue at least one of the four key goals just discussed — improved business strategy, sustainability, operational excellence, or lower TCO — as the primary goal of their upgrade.

SAP takes three major approaches to upgrading, each driven by a different motivation and leading to a different ROI and payback period:

- **Technical upgrade**: Focuses on risk mitigation and sustainability of the existing SAP solution
- **Functional upgrade**: Focuses on reducing TCO by reducing system complexity — for example, by returning custom modifications and custom code to SAP standard code
- **Upgrade with strategic business improvements**: Considers major reengineering and implementation of new strategic business applications as part of the project scope

These approaches are summarized in Figure 3.

The three major approaches can be complemented by other compelling changes such as system landscape consolidation, the implementation of shared service center(s), and so forth.

In summary, the more your upgrade decision is driven by business improvement goals, the better your expected ROI. Upgrade experiences and customer statistics confirm that the decision for an SAP software upgrade is usually determined by a mix of business, technology, and strategic criteria.

Most upgrade projects start with a technical upgrade, which is followed in subsequent projects by the implementation of business improvements. From this perspective, a technical upgrade is the key enabler for growth and continuous business innovation.

Technical Upgrade

Customers who are focused on the integrity of their system often execute a purely **technical upgrade**. Technical upgrades are performed to replace an existing ERP application without changing that application's standard functionality or degree of complexity. This lean approach to change minimizes potential disruptions by ensuring the continuity of business operations and system stability while the upgrade is executed. In addition, a technical upgrade offers you the possibility of reducing TCO by combining the upgrade project with a system consolidation and an operating system and database (OS/DB) change. A new service offering — SAP System Landscape Consolidation and Harmonization services — supports combined upgrade and consolidation projects. For more information on this service, see the SAP Service Marketplace extranet at service.sap.com/slo or send an e-mail to CMIS@sap.com.
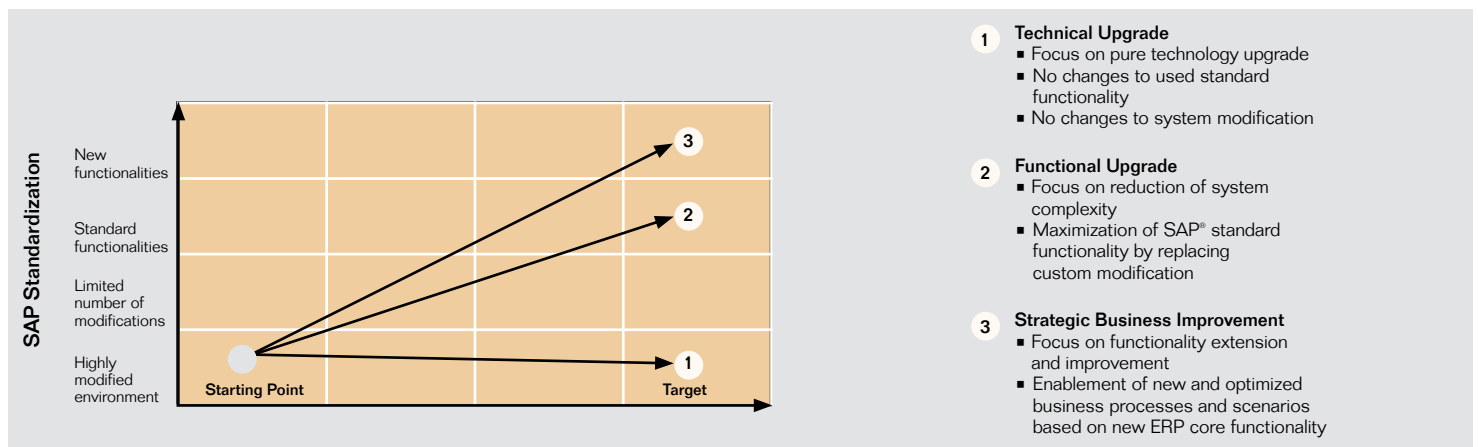

Figure 3: Possible Upgrade Approaches

Functional Upgrade

In contrast, customers who are focused primarily on functional excellence or TCO reduction tend to execute a **functional upgrade**. A functional upgrade proceeds on the basis of a technical upgrade but attains greater impact by streamlining the software landscape and replacing custom modifications with SAP standard functionality. In this way, a functional upgrade simultaneously reduces TCO and increases customer ROI. It also safeguards mainstream ERP maintenance and legal compliance functions in areas such as financials and human capital management.

> **"In the course of the upgrade, we were able to replace around 50% of all of our previous release's individual modifications with the standard functions offered by SAP ERP. To us, this clearly indicates that SAP is getting better at thinking along the lines of other companies' needs and mapping the requirements of industrial processes in its solutions."**
>
> Manfred Schmid, Chief Information Officer, Carl Zeiss Optronics GmbH

Strategic Business Improvement Upgrade

Customers can obtain the greatest value from their SAP ERP 6.0 upgrade by maximizing all four goals in their upgrade road map to execute a **strategic business improvement upgrade**. This kind of upgrade extends the synergies realized in technical or functional upgrades by implementing entirely new business applications and processes on the basis of SAP ERP core functionality.

Starting with the initial focus of a purely technical upgrade, the majority of SAP customers (about 70%) expand the scope of their upgrade project in later stages to effect either a functional upgrade or a strategic business improvement upgrade.

BEST PRACTICES DURING AN UPGRADE PROJECT

Before you can begin pursuing the goals that will improve your business, you need to justify your decision to upgrade to SAP ERP and prepare to implement it. Take the following steps:

- Define the SAP ERP functions that would deliver specific strategic advantages to your organization and help you realize key objectives
- Quantify the potential cost savings and value enhancements SAP ERP can help you achieve
- Perform a business-case analysis to evaluate the proposed expenditure and project the ROI
- Develop an implementation strategy to support timely realization of program benefits

To ensure these important preliminary steps are fulfilled, SAP ERP upgrade projects proceed in three separate phases as shown in Figure 4.

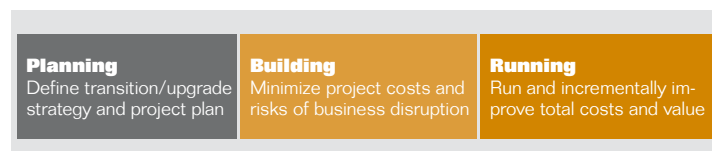| Planning	Building	Running
Define transition/upgrade strategy and project plan	Minimize project costs and risks of business disruption	Run and incrementally improve total costs and value

Figure 4: The Phases of an SAP® ERP Upgrade Project

Planning an Upgrade

During the **planning phase** of an upgrade project, you must define your transition and upgrade strategy and develop a corresponding upgrade project plan. The plan should describe your company's current IT structure, its future business direction, and the IT structural changes it must perform to maintain success. This is the time to decide whether your company should undergo a technical or a functional upgrade, since this decision will drive the overall upgrade time and budget.

Like most customers, you want to know how long your upgrade to SAP ERP is expected to take. Because every SAP R/3 customer is different, upgrade times vary. But SAP has gathered some general averages that can help you answer the "timing" question. Overall, the ramp-up time involved in upgrading from SAP R/3 4.6C to SAP R/3 Enterprise, SAP ERP 2004, or SAP ERP 6.0 is

three-and-a-half months. This average is based on a technical up-grade. Two main factors drive the overall upgrade timeline: the number of customer modifications (user exits, copied SAP trans-actions, custom reports, core modifications, custom programs, and so forth) and the thoroughness and relevance of existing testing scenarios and scripts. The more modifications you have, the longer your upgrade will take.

Handling Modification

SAP estimates that 30% of your total upgrade time will be spent updating custom code to get it to work in the new ERP software, and another 25% to 30% of upgrade time will be spent in testing. Why? All the code you have written on SAP R/3 is based on older technology and previous versions of the ABAP™ programming language. It will not necessarily work the same way in SAP ERP 6.0. So the custom code must be modified and tested to ensure it does work in the new application — and that takes time.

In addition, copying SAP transaction codes and standard SAP programs is particularly problematic during an upgrade because SAP does not update the program code in customer-specific soft-ware. As a result, you may have to completely recopy and modify the custom code during the upgrade or attempt to migrate back to standard SAP coding (which will probably involve about the same amount of time). By converting back to SAP standard functionality and eliminating as much custom code as possible, you will save a great deal of time and money during your next ERP software upgrade as well as during the application of every support pack applied after the upgrade. This can lead to a tremen-dous reduction in the TCO of your SAP software investment.

Simplifying the Testing Process

SAP surveys performed over a number of years indicate that testing continues to be a top customer pain point. Although the actual amount of testing required during an upgrade depends completely on your individual ERP landscape, there is no getting around the fact that a big part of your total upgrade effort will

involve testing. You can begin preparing for this in the planning phase by starting to update test scripts with your company's current business processes.

SAP has made this job easier by limiting the changes to the end-user interface in SAP ERP 6.0. If you plan to continue using this GUI, you enjoy a big advantage. Because the new interface is so similar to the previous one, you will need very little end-user training — especially if you are upgrading from SAP R/3 4.6C or SAP R/3 Enterprise software. The interface is also a big help if you have adopted automated testing, since the scripts that were pre-viously created can easily be reused with very little rework. And if you have not yet adopted automated testing, now is the best time to do it. Automated testing provides an excellent ROI over the life of your SAP software, especially with support packages and future upgrades.

SAP helps you strike a balance between too much and too little testing by providing tools — tools you are already paying for in your maintenance contracts — that let you plan and execute tests across your entire SAP software landscape in a streamlined, cost-efficient manner. These tools include SAP Solution Manager and the extended Computer Aided Test Tool (eCATT).

Additional Tools, Preparations

The upgrade road map in SAP Solution Manager will point you to more than 300 accelerators that can make your upgrade even easier. Among these is an upgrade project plan in Microsoft Project format. The road map details SAP's methodology and step-by-step approach to executing the upgrade to SAP ERP 6.0. It can be accessed at SAP Service Marketplace at service.sap.com/upgrade along with other key upgrade information.

SAP Solution Manager also helps drive better documentation, change management, automated testing, and end-user training. To find out more about how it can help with your upgrade, see SAP Service Marketplace at service.sap.com/solutionmanager.

When planning for an upgrade project, you and all stakeholders should consider parallel ongoing or subsequent projects – for example, OS/DB migrations or system consolidations. In most cases, you will also want to consider a transition to Unicode, since Unicode is the way to the future and a prerequisite for upgrading systems based on the multidisplay, multiprocessing (MDMP) code pages system or blended code page to SAP ERP 6.0. To minimize time and cost, you may find it helpful to integrate the different aspects of the project, combining the technical upgrade, system consolidation, Unicode migration, and OS/DB changes into one project.

Finally, you should determine what additional hardware the project may require. This might include a 10% to 15% increase in central processing unit (CPU) and memory consumption. For more specific information about additional resource requirements, see OSS note 79991, available via the SAP Service Marketplace extranet at service.sap.com/unicode.

Building the SAP ERP 6.0 Landscape

During the **building phase** of the project, the actual upgrade is carried out in accordance with previously defined project plans and business cases. This is when you focus on minimizing project costs and implementing procedures that will mitigate the risk of business disruption.

You spend the building phase updating your customer-specific programming or migrating back to SAP standard functions, testing business processes to ensure they work exactly the same way they did before the upgrade. If you are performing a functional upgrade, you also need to ensure that the new business processes work as desired. You need to conduct performance and load testing to ensure optimal execution, train end users on the latest functionality and business processes, prepare roles and security authorizations for the SAP ERP 6.0 environment, and prepare for a seamless go-live.

User training requirements are minimal if you are upgrading from SAP R/3 4.6C or SAP enterprise software and have decided to continue using the SAP GUI for transaction processing. Many customers, when commenting on how easy this upgrade was, point to the fact that the user experience is relatively the same – a big asset.

The length of time required for the building phase depends completely on the number of custom objects and business processes that require testing. As mentioned earlier, customers that use automated testing can reduce the overall time frame for the update as well as reduce the size of the staff required to perform integrated testing. If you decide that automated testing is not the best approach for your organization, then you should consider getting your end users involved very early in the process to update manual test scripts and get them used to the new system.

WHAT SAP CUSTOMERS ARE SAYING ABOUT THE UPGRADE

Customers who have already implemented SAP ERP 6.0 report positive experiences. After a successful upgrade, they gained a wide range of options for optimization. Many customers have achieved savings by consolidating systems and standardizing processes globally, while others see potential benefits from optimizing business processes and implementing new functions. Companies like the software's greater transparency and holistic performance management functions, which enable them to become more innovative.

Following are a few snapshots of individual projects and quotes from an April 2006 SAP survey.

Noord-Holland: Benefiting from Enhanced Functionality and Integration

The administration group of the Dutch province Noord-Holland, which provides services for a population of 2.5 million people, upgraded to the most recent version of SAP ERP. Driving the upgrade was the need for new functionality to support the grantor management process that funds social programs for constituents. The provincial government cites the benefits of a total solution covering the entire grantor process – a solution that includes document management and integration with the financial department – as the main reason for collaborating with SAP.

"The move to SAP ERP 6.0 provides us with the newest functionality, which is closer to our business processes and [to the] primary process of grantor management," says Derk Riesthuis, program manager at the Provincie Noord-Holland. "We completed our ERP upgrade on time and within budget and are now up and running with a robust application and technology that helps improve our business processes and enhance visibility for our managers. The new architecture of SAP ERP allows us to collaborate more effectively and operate more flexibly at a lower overall cost."

Erdgas Zürich AG: Meeting Future Business Challenges Flexibly

Swiss utilities company Erdgas Zürich AG provides the city of Zurich and 30 additional communities with natural gas. The company needed an ERP solution with industry-specific functionality such as energy data management to enable it to react flexibly to the expected future liberalization of the natural gas industry. With the enhanced functionality of the newest version of SAP ERP, Erdgas Zürich AG now benefits greatly from improved operational efficiency.

"The upgrade to SAP ERP 6.0 provides us with the flexibility we need to master future challenges in the gas industry," says Bernhard Hegmann, project lead, IT and Organization at Erdgas Zürich AG. "The ramp-up program was completed on time and budget and runs reliably. The direct communication line to SAP via the ramp-up coach was a key success factor."

Fischer Advanced Composite Components: Upgrading in Just 45 Days

"Fischer Advanced Composites upgraded to SAP ERP 6.0 in 45 days. This could not have been accomplished without support from SAP," says Michael Dolejsi, project manager at Fischer Advanced Composite Components.

NOVA Chemicals: Moving Toward Continuous Productivity and Innovation

"The upgrade [to SAP ERP] is our first step in realizing the increased value of SAP ERP to drive continuous business process productivity and innovation. The upgrade was accomplished easily, quickly, cost-effectively, and with minimal disruption to our business," says John Wheeler, CIO at NOVA Chemicals.

To find further information on SAP ERP customer success stories, please visit www.sap.com/solutions/business-suite/erp /customersuccess/index.epx.

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