



## CASE STUDY

metagroup.com



800-945-META [6382]



# Lufthansa

---

*A SAP NetWeaver Case Study:*

*Business Value Impact for Lufthansa's  
Implementation of the SAP NetWeaver component,  
Enterprise Portal (SAP EP)*

April  
2005



---

METAGROUP

## Table of Contents

<b>Executive Summary .....</b>	<b>3</b>
<b>Company Profile.....</b>	<b>4</b>
<b>Lufthansa AT A GLANCE.....</b>	<b>4</b>
<b>The Way towards eBase as a Corporate Portal Platform.....</b>	<b>5</b>
<b>eBase Today: Based on SAP Enterprise Portal.....</b>	<b>6</b>
<b>eBase Adoption and Business Value Impact.....</b>	<b>9</b>
<b>Key Findings and Future Plans.....</b>	<b>13</b>
<b>Appendix.....</b>	<b>17</b>
<i>What is SAP NetWeaver?.....</i>	<i>17</i>
<i>Case Study Methodology.....</i>	<i>18</i>

## Executive Summary

- SAP NetWeaver Enterprise Portal (SAP EP) is the key component of eBase, Lufthansa's central platform for the exchange of knowledge and the digitization of business processes
- eBase aims at increasing the efficiency and speed of business processes throughout the Lufthansa group. Moreover, eBase facilitates the harmonization of business processes across the group and the standardization of web application management. Also, eBase is the basis for the exchange of knowledge and best practices among all Lufthansa employees
- The business value impact of eBase is growing continuously. A central program co-ordination makes sure that profitable scenarios are exchanged across the different divisions in order to multiply the business value effect
- Examples for such scenarios are as follows:
  - Better information transparency and increased process efficiency through Knowledge Management at Lufthansa Systems
  - Digital Workplaces for improved end user productivity
  - Technology convergence resulting in annual savings of 1.6 m € for a Voice over IP infrastructure that is supported by the portal platform
  - Process cost reduction such as in the ticketing process for external personnel leading to annual savings of 1.0 m €
  - Effort reduction of up to 80 percent through self services, e.g., in appraisal interview and report generation processes
- Looking at future developments, Lufthansa sees the SAP NetWeaver Enterprise Portal (SAP EP) as the cornerstone of its digital transformation process

## Company Profile

Lufthansa was founded in Cologne Germany in 1953. The airline quickly developed an excellent reputation with a large network in Europe and its flights to North America. Today Lufthansa is one of the world's leading and most successful airlines. The Group ranks among the leaders in the international airline business. In 2003 Lufthansa transported on international routes more passengers than any other International Air Transport Association airline, and was the world's number one cargo carrier.

*Position  
in the Market*

The Lufthansa Group today is engaged in six strategic business areas, encompassing more than 400 subsidiaries and affiliates operating all over the globe. Its core business is the operation of domestic and international scheduled passenger and cargo flights to more than 450 destinations in a global network. Additionally, the Lufthansa Group offers an extensive range of related services, such as aircraft maintenance, repair and overhaul (MRO), catering, IT services and the training of cockpit and cabin staff.

*Organizational  
Structure and  
Business Units*

The weak economies of some of the world's most industrialized countries, combined with the after-effects of global events such as 9/11 and the SARS outbreak, have resulted in a worldwide slowdown in the demand for air travel. The entire air transportation industry therefore is facing its greatest economic crisis ever. Despite the present predicament however, Lufthansa's strategy remains focused on the sustained and value-creating growth of the entire Lufthansa aviation group. To that end, the Group will cement the strong position of its operations and enlarge its overall business activities. Value-oriented management will direct all its activities, focused as always on quality and innovation and service.

*Market  
Environment*

### Lufthansa AT A GLANCE<sup>1</sup>

**Employees:** 93,246  
**Headquarters:** Cologne, Germany  
**Revenue:** 15,957 m €  
**Net profit:** 36 m €

**SAP Installed Solutions:**  
 SAP NetWeaver, SAP Enterprise Portal (SAP EP), SAP R/3, SAP IS A&D, SAP BW  
**Number of SAP users:** ~73,000<sup>2</sup>

<sup>1</sup> Financial figures from Annual Report 2003.

<sup>2</sup> In the final stage of the eBase program.



## The Way towards eBase as a Corporate Portal Platform

The foundation for eBase was laid in 2000 when Lufthansa conducted a strategic analysis on the benefits of a central portal and security infrastructure. This report identified the strategic value of such an infrastructure and led to the board decision to start the project and establish a corporate portal platform. At that time, there was no central portal or central intranet structure in place at Lufthansa. It was rather a landscape of separate web servers with static content. Considering that, the major benefit drivers for the decision for a central portal infrastructure were as follows:

*The Beginnings of eBase*

- Consolidation of web servers
- Easier web content management
- More efficient workflow functionality
- Better application integration

Just as the project started, the terror attacks of 9/11 occurred and had a large impact on the entire airline industry, including Lufthansa. However, recognizing the enormous benefit potential of eBase as a central portal infrastructure, Lufthansa continued with the eBase program and achieved a first milestone with the establishment of the first eBase version, which basically consolidated the previous web servers into a single intranet. The next step, namely the implementation of the SAP Enterprise Portal (SAP EP), was kicked off in early 2003. This initiated the new generation of eBase as it is known today at Lufthansa.

*Impact of 9/11*

The decision to choose SAP as the vendor for the portal software was made after a thorough evaluation process. In terms of matching the functional requirements, the SAP Enterprise Portal (SAP EP) ranked similar to other vendors' products within the evaluation process. However, what made the difference were the following criteria:

*Decision for SAP*

- Lufthansa believed SAP offered the best “fit” to Lufthansa’s landscape of back-end systems, a considerable part of them mainly based on SAP application products such as R/3.
- Lufthansa recognized that the SAP Enterprise Portal (SAP EP, as part of the SAP NetWeaver platform, was an open solution that could be integrated also with non-SAP systems. Lufthansa felt there was considerable commitment from SAP to comply with open and accepted standards.
- Lufthansa felt that SAP was the strategic partner they wanted to choose, in order to succeed in such a complex software implementation program.

After the implementation project was kicked-off in spring 2003, the central eBase portal platform went into production in early 2004, and was from then on ready for use by the Lufthansa employees. Lufthansa’s expectations at go-live for eBase were multiple:

- eBase is aimed at increasing the efficiency and speed of business processes throughout the Lufthansa group.
- eBase is to facilitate the harmonization of business processes and the standardization of web application management.
- eBase must be flexible enough to be used across the different divisions in order to leverage economies of scale on an overall basis.
- At the same time divisions must be able to use it in specific application scenarios for their own businesses.
- eBase aims to be the basis of the exchange of knowledge and information and operational “best practices.”

*eBase Objectives*

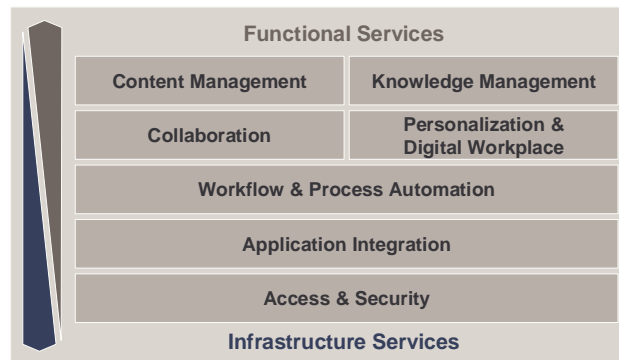
## **eBase Today: Based on SAP Enterprise Portal**

The implementation of the new generation of eBase represents a significant milestone for Lufthansa towards the digitization of business processes. The following has been achieved:

- eBase was transformed from a multitude of homegrown intranets to an integrated, central platform consisting of two main components: the SAP Enterprise Portal (SAP EP) and Documentum’s web content management system.
- Content in eBase is no longer static but dynamic, and provides the users what they need for their daily work.

*eBase at a Glance*

- eBase supports flexible business processes through its ability to integrate with Lufthansa's back-end business applications.
- The Single-Sign-On functionality and comprehensive role concept of eBase enable the "Digital Workplace" concept. Once authenticated, the employees have access to their personalized information and business applications. eBase becomes the single point-of-entry for their daily work.
- Before the implementation, the coordination of communication often was difficult and time-consuming, whereas with eBase, the exchange of information and knowledge is much easier. Collaborative work scenarios are realized across working groups and project teams.



**eBase  
Functional  
Architecture**

**Figure 1: eBase Functional Architecture**

The eBase functional architecture consists of seven building blocks and provides an integrated offering of functional and infrastructure services, as described in Figure 1.

The backbone piece of the eBase system architecture is the SAP Enterprise Portal 6.0. It is integrated with Documentum's Web Publisher, and Novell's iChain and eDirectory. The implementation of eBase followed a phased approach as a consequence of the complex system architecture. Coming from an information-driven intranet landscape, it was a logical first step for Lufthansa to concentrate on the content-related aspects of eBase. Lufthansa took specific measures to ensure user acceptance and to ease the transition to the new system. Lufthansa decided to keep the "look & feel" of the original eBase and to develop a specific style guide for the SAP Enterprise Portal (SAP EP) which was well received by Lufthansa's users. Often, those users did not even realize that they were working in the new eBase environment. After the successful implementation, a phased roll-out plan was put into place. The focus was first on content aspects, and is now shifting towards process

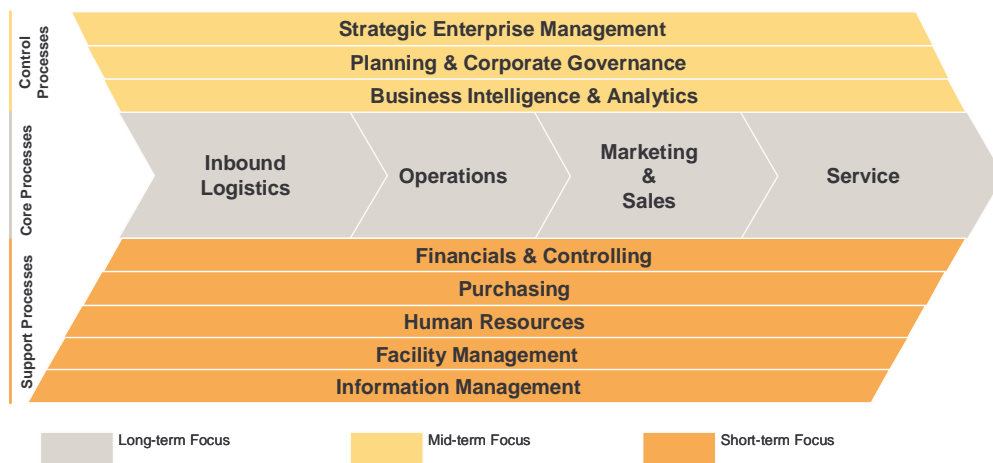
**Phased  
Implementation  
Approach**

**Program Roll-Out  
Strategy**

optimization and application integration. eBase, like any other major implementation, could not be deployed with equal speed in all divisions at the same time. Therefore Lufthansa defined the following specific criteria in order to identify and prioritize the transformation processes.

The roll-out program distinguishes between core business processes and secondary business processes. The secondary processes include support processes and control processes as described in Figure 2.

**Business  
Process  
Coverage**



**Figure 2: Business Process Categories**

The decision to start with the support processes was made with the following considerations in mind:

- eBase is an innovative system infrastructure based on the recently released SAP Enterprise Portal 6.0. Even though platform operations ran smoothly from the beginning, risk minimization was an imperative of the entire program.
- As natural when working with new technologies, both the central Corporate Portal staff and developers at Lufthansa Systems were, at the beginning, in the early stages of the learning curve. After the employees have become familiar with eBase as a development framework, more critical business processes can optionally be integrated into the platform.
- Support and Control processes are most likely to match the needs of several business divisions. This is not the case when thinking about using eBase for core processes such as the check-in process at Lufthansa Passage, the passenger air travel division.

In order to drive the transformation process a central co-ordination was needed. Therefore the central Corporate Portal team, as the “owner” of the portal, was given the mandate not only to set up and run eBase, but also to provide eBase services to the divisions. Though the Corporate Portal team strategically develops the platform as a group standard, the decentral adoption process is planned and scheduled by the divisions themselves. In order to get the divisions involved and avoid “deadlock” situations when best practices are missing but are demanded by early adopters, the Corporate Portal team adopted a strategy of “Innovative Partnerships.”

*eBase  
Transformation  
Process*

As a result of these partnerships, business processes and applications which are implemented on eBase act as “lighthouses.” Examples of such lighthouse projects and their multiplier effects are illustrated later in this document. One of the major advantages of this approach is the organic spreading of the eBase idea throughout the Lufthansa group. As a consequence, the number of employees with access to eBase has been continuously increased. Currently, 30,000 employees use eBase, with 73,000 planned in the final stage of the project.

The acceleration of the transformation and roll-out process is also required from an economic point of view. Hence, Lufthansa defined the following three business value categories, which define the overall success of eBase:

*Dimensions of  
Business  
Benefits*

- Measurable benefits with bottom line effect, e. g. reduced labor cost per cost center and reduced material cost per process.
- Measurable benefits with no direct bottom line effect. Among these are benefits that improve business process efficiency, but have no direct cost effect.
- Qualitative benefits such as increased information transparency or improved usability.

## **eBase Adoption and Business Value Impact**

eBase aims at facilitating a company-wide transformation process towards the digitization of business processes and the more efficient use of information technology. The following examples illustrate some benefits Lufthansa has already realized during this process.

The availability of the central eBase infrastructure enables economies of scale:

- eBase provides an adequate security standard across all business divisions. This avoids isolated security solutions and, hence, reduces operating costs.
- The standardized content management process leads to improved retrieval and information access for employees: Lufthansa Technik, the MRO (Material and Repair Overhaul) service provider, has identified so far some significant six-figure cost savings in this area.

*Economies of Scale through a central infrastructure*

eBase, as a central platform, not only reduces cost but also facilitates innovation. In the area of Knowledge Management and Collaboration, eBase offers extra functionality such as TRENDS search functionality and collaboration rooms. An example for this functionality is the implementation at Lufthansa Systems AS, a subsidiary of Lufthansa Systems Group. Their main line of business is IT development and consulting services. Since many of their 400 employees work at their customer sites, and also since the use of near-shore resources in Eastern Europe is widespread, Lufthansa Systems AS has a high need to exchange knowledge about projects, skills, and customers through modern communication. eBase now helps the consultants to share information on projects and customers and to speed up their daily work. Further, one of the expectations is to increase the profit margin in fixed price projects. Today, other units have started to show interest in the adoption of this "best practice" for their own needs. As a consequence, a further roll-out to all 4,400 employees of Lufthansa Systems Group is planned.

*Better Information transparency and increased process efficiency through Knowledge Management*

Lufthansa Cargo, the air freight division, is currently facing stiff competition from low-cost airlines and parcel service providers which is resulting, not only in cost pressure, but also in the need of increased flexibility and speed. Thus, Lufthansa Cargo has recently undergone a strategic reorganization aiming at the efficiency increase of all major business processes. The expectation with respect to eBase is twofold:

*eBase as a Facilitator of Change*



**“The SAP Enterprise Portal enables the Digital Transformation at Lufthansa.”**

- Dr. Thomas Endres, CIO

- eBase becomes a facilitator of the reorganization program.
- eBase supports a sustainable decrease of the business process cycle times.

A further successful eBase scenario is the establishment of Digital Workplaces which are individually designed for the needs of different roles in the Lufthansa organization. Depending on their roles, users have individualized access to sources of information and business processes. Examples for such business processes are self service scenarios within the ESS/MSS (Employee Self Service / Manager Self Service) program at Lufthansa's HR IT department. The stock options program for managers, which went live in 2004, has already generated significant business value. In the past, the process of signing up for the program was mainly paper-based. Today, managers can trigger the process electronically from their Digital Workplace. With all necessary information already in the system, manual processing of the paper forms is eliminated and data errors are avoided. As a result of the electronically available information on who has already signed up for the program, the HR department has a much better overview on who has not yet and should therefore be reminded. Further business value impact is expected to come from other scenarios that are being realized, for example:

*Increased effectiveness through Digital Workplaces*

*Improved process visibility*

- The Self Service for performance reviews will lead to a decrease in process cycle times on the manager side of up to 70 percent. The reduction is linked to the avoidance of double entries in the feedback form and increased information transparency across the personnel of a cost center.
- The Self Service HR Reporting will enable managers to request standard reports directly from their Digital Workplace. This will lead to an effort reduction of up to 80 percent in the HR departments. Today, they are still gathering the required data from different systems and providing the information to the managers.
- Lufthansa Systems Group is currently implementing an Executive Information System on eBase. The System is based on the access of reports of an SAP Business Information Warehouse through the SAP Enterprise Portal (SAP EP).
- A new employee Self Service for master data management went live in December 2004. This system enables employees to maintain address and banking account information. They are also able to register family members who are then entitled to buy Lufthansa tickets at special rates. Another huge success was the Self Service to donate working time for the victims of the recent tsunami catastrophe in South Asia. The electronic scenario was used by 80 percent of all donors.

*Process Cycle Time Reduction*

The underlying success factor for all of the Self Service scenarios is the change in the way processes are executed. With eBase, employees interact in two-way processes and not one-way as in the past. The concept of the Digital Workplaces is closely related to the objective of improved business processes. The SAP Enterprise Portal (SAP EP) makes back-end workflows executable at every user's front-end. Efficient business processes are, therefore, no longer a question of automation but of integrating people.

An example of this concept is the IDA (Industry Discount Authority) ticketing process. This process handles the administration, approval and processing of reduced flight tickets for external personnel. The new solution based on eBase will go live in spring 2005 and is estimated to generate a business value of approximately 1,000,000 € p.a.

***Reduced Process Costs Through Standardization and Automation***

To harmonize and to automate a business process is also the objective in the invoicing forecast project at Lufthansa Systems. Today the time critical process is based on manual activities and the exchange of spreadsheets. With eBase the process will be fully automated and will be using workflow functionality in order to reduce the error rates and to increase the ease of work for the managers of the production units.

Furthermore, via eBase, Lufthansa plans to optimize the purchase requisition process. The compliance of end users to the purchase requisition process is expected to increase by some 30 percent at Lufthansa Systems (as one example), which will lead to a significant cost reduction in the invoice verification at the end of the process.

***Better Process Compliance***

A prerequisite for more efficient business processes is the ability to integrate different application systems. eBase has already demonstrated its value in this respect when email access was provided to employees with no PC workplace at Lufthansa CityLine, the regional carrier within the Lufthansa group. The integration between the SAP Enterprise Portal (SAP EP) and Microsoft

***Ready-to-Use Solutions***

Outlook resulted in such an easy-to-use solution that employees could immediately start working with it. No extra training cost was incurred.

As outlined, eBase delivers value to the different business divisions within the corporate group. However, the overall strategic benefits for Lufthansa must not be overlooked. The business value of eBase is more than the simple summation of individual business cases:

- eBase is a central facilitator for the standardization of business processes across the group which allows increased organizational flexibility and enables shared services and economies of scale.
- eBase helps to optimize the use of information technology within the group - with the SAP Enterprise Portal (SAP EP) reducing the variety of servers, platforms, programming technologies etc.
- The strategic objective of learning from each other's "best practices" is significantly accelerated by the use of eBase.
- eBase is centered around the individual employee and empowers them in their daily work.

## Key Findings and Future Plans

META Group believes that Lufthansa achieved compelling results with regards to implementing the eBase vision. Based on the business value impact the company has seen, and the wide variety of areas where Lufthansa has been able to capture value, the move to the SAP Enterprise Portal (SAP EP) component has been successful. META Group also believes that the decision to move to eBase was a sound decision. Especially given the macro-economic conditions the company was operating in, the achieved harmonized portal platform ready for use for all the various divisions contributes to Lufthansa's overall strategy to gain greater control over operational costs.

*Sound Decision  
and Successful  
Evaluation  
Process*

META Group believes that Lufthansa has not yet realized the full impact of the benefits that eBase is about to bring, and therefore should continue on this path. This is a phenomenon which META Group has written about in other research notes. In this research, META Group has found that companies are finding that the organizational challenges posed by an implementation of SAP NetWeaver technology are taking a forefront to the technical ones, as they try to take an infrastructure technology from a traditional applications provider and apply that technology to a large number of business divisions, each of which has their own ideas about what the optimal platform technology should be. Lufthansa is a perfect example of this phenomenon, although given the very nature of eBase this would have been a challenge for them regardless of which vendor they selected. In any event, this effort involves much communication and coordination on the part of Lufthansa and other customers to enact this kind of change. The Corporate Portal team also recognizes that the technology may be more applicable for some divisions than for others, and that they need to work carefully with each group to understand each group's specific infrastructure needs.

**Organizational  
Challenges**

Additionally, since the portal component is the core of eBase, the implementation success is subject to the "network value" that a portal represents (META Group Delta 1266 from 2002 and 1151 from 2001; 2843 from 2004.). Like a telephone or a fax machine, a portal is an infrastructure "node" and is thus more valuable as more users are interacting with the portal – adding and sharing content, collaborating and communicating, running applications. With this in mind, other META Group research has shown that the number-one post implementation issue with an Enterprise Portal is "getting users to use the Portal." (Enterprise Portals Framework Multi-client Study, Fall 2003.) Taking these two concepts together, it is thus not surprising that the "time-to-value" for Lufthansa's implementation will continue to be a work-in-progress, as the Central Portal team works with the divisions to get more users interacting with the technology. However, META Group sees the first year results as a promising indicator for even greater business benefits in the future.

**"Network Value"**

Lufthansa conducted a rigorous due diligence in assessing SAP Portal (SAP EP) and its features/functionality compared to competitive offerings. They found, and META Group agrees, that the SAP Enterprise Portal (SAP EP) was on par with other offerings.

For Lufthansa, the decision thus came down not to technology, but to the existing application landscape which they planned to use eBase to integrate with, in addition to SAP's support of open standards. Lufthansa's Human Resources systems, for example, are SAP applications. Lufthansa therefore chose the SAP Portal (SAP EP), since one need for eBase was a common platform and toolset for employees to use to better collaborate and communicate, and since a number of the early applications targeted for eBase were along the lines of employee self service. META Group believes that this was a sound and fairly typical decision, based on discussions with other clients and an understanding of their experiences.

The eBase roll-out involves the coordination of a large number of organizations within Lufthansa. After interviewing multiple key decision makers and understanding the manner in which the technology was rolled out, META Group believes that Lufthansa could have intensified the level of cooperation between the Corporate Portal team and the various divisions, which maybe would have led to even faster initial success.

Again, this is fairly typical and META Group finds many companies struggling with this right now. But at Lufthansa, the transformation planning was organized well (with program management circles, and product management circles between divisions and the central unit). However, somewhere along the way, this careful planning did not result in a completely coordinated decentral roll-out. The co-operation and partnering between the divisions and the Corporate Portal team could have been tighter both on an operational and on a strategic level to keep all efforts going in the same direction. META Group believes that it is important that both the central Portal team and the divisions understand the "network" effect described above, so as to alleviate a self-perpetuating scenario, whereby the divisions are complaining that they are getting no value out of the portal so they refuse to contribute to it, and thus the portal then supplies less overall value because fewer divisions are using it. META Group has found customers trying to solve similar problems by instituting formal IT Governance programs, where leaders from both IT and the business divisions meet on a regular basis to look to future business technology implementations and discuss and plan for all the organizational, operational, and financial implications involved.

*Co-operation  
between Central  
Units and Division*

However, the progress the company has made and the measurable benefits they have experienced to date shows that Lufthansa is on the right path. META Group conducted the research at Lufthansa as part of a larger project to understand what SAP customers were recognizing in terms of benefits from their implementations of SAP NetWeaver. In addition to the research at Lufthansa, META Group conducted more than forty interviews with key decision makers at other customers, in industries ranging from hydro-electric energy generation and distribution to the retail premium beverage and food products. In addition, META Group conducts ongoing research with a large number of clients who are utilizing the SAP technology.

*Successful  
Portal  
Implementation*

In this context of what META Group has studied at these other customers, META Group believes that what Lufthansa is doing with the SAP Enterprise Portal (SAP EP) and the eBase approach is on the cutting edge of SAP Enterprise Portal deployment. META Group has found that SAP NetWeaver has had similar quantitative impact at other customers, but typically these customers are using the SAP Enterprise Portal (SAP EP) in addition to other SAP NetWeaver components – especially SAP Information Exchange (SAP XI).

*eBase is on the  
Cutting Edge of  
Portal Deployment*

Because of the key strategic nature of eBase, Lufthansa represents some of the best success that META Group has seen for an implementation of the SAP Enterprise Portal (SAP EP). As Lufthansa works through the organizational issues described, and addresses the technology roll-out with greater cooperation and discipline, META Group believes Lufthansa will see substantial upside from their utilization of this technology. Over time many companies will be faced with a similar rationalization decision, and Lufthansa is already making the difficult decisions involved with putting an innovative infrastructure in place. Over time, the divisions will be able to learn best practices from one another. This platform will also position Lufthansa for future investments, such as future SAP ERP upgrades which will require the portal functionality, as well as other plans they have, discussed below.

The next generation of Lufthansa's telephony infrastructure will be Voice over IP-based, and this application will be driven through the SAP Enterprise Portal (SAP EP) across the Lufthansa Group. The administration of the telephony infrastructure such as the setting up of mailboxes, and the redirections of incoming calls, will be organized via eBase. The savings resulting from this move will be 1,600,000 € p.a.

*Future  
Developments*

"eBase@home" is another idea, where employees could access their respective Portal environments remotely. Lufthansa also envisions mobile workgroups and communities as a future scenario - also to foster new forms of work outside the physical organization.

Moreover, in the long-term they will look to see which core processes, in addition to the secondary processes as described, can be integrated into the Portal platform at the various divisions. There are a significant number of divisional companies and smaller business units across the Lufthansa Group, so they do hope to benefit from this central approach in the future. META Group believes that the core building block pieces are in place with the eBase Portal, and Lufthansa can continue to realize greater benefits as the technology gets adopted more widely.

In this way, Lufthansa can look at a number of upcoming technology-related projects, and further exploit the re-usability of the technology and the flexibility it allows them. At the same time, this path is the beginning of the transition to an Enterprise Services Architecture, where business processes get broken down into services, and these services can be snapped together with other business services, enabled by technology components including those from the SAP NetWeaver platform.

As Lufthansa sees it, all these future developments substantiate the digital transformation process, i.e. the consequent digitization of business processes and the cross-functional utilization of best practices. The digital transformation heavily relies on a closed loop system of business on one hand and IT on the other hand. While business constitutes the framework of requirements to IT, IT not only picks them up, but also creates momentum for business to advance and to become more competitive.

## Appendix

### ***What is SAP NetWeaver?***

SAP NetWeaver is an application and integration platform that allows organizations to link people, processes, and information. Furthermore, SAP NetWeaver enables a services-oriented architecture.

SAP NetWeaver's components include: SAP Enterprise Portal (SAP EP), SAP Mobile Infrastructure, SAP Business Intelligence (SAP BI), SAP Master Data Management, SAP Exchange Infrastructure (SAP XI), and SAP Web Application Server (SAP Web AS).

SAP NetWeaver's onboard development and management tools that allow programmers to build new processes and applications to run on the SAP NetWeaver platform include: SAP NetWeaver Developer Studio, SAP Visual Composer, SAP Composite Application Framework, and SAP Solution Manager.

## **Case Study Methodology**

In developing this case study, META Group worked with Lufthansa to identify and gain access to key business and IT stakeholders at Lufthansa who had familiarity with the SAP NetWeaver technology and/or the business systems that were built upon the platform.

META Group conducted nearly fifty hours of interviews, transcriptions, and synthesis to analyze and document these cases. Interviews were held in October and November of 2004 at the Lufthansa facilities in Frankfurt, Germany.



### **About META Group**

*Return On Intelligence<sup>SM</sup>*

META Group is a leading provider of information technology research, advisory services, and strategic consulting. Delivering objective and actionable guidance, META Group's experienced analysts and consultants are trusted advisors to IT and business executives around the world. Our unique collaborative models and dedicated customer service help clients be more efficient, effective, and timely in their use of IT to achieve their business goals. Visit [metagroup.com](http://metagroup.com) for more details on our high-value approach.

