



White Paper

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Migrating Unix ERP Installations to a Windows Server Environment:

A Qualitative Assessment of Business Impact

A META Group White Paper



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Introduction

IT organizations face significant challenges and business requirements as they move key applications to new platforms. Enterprise resource planning (ERP) systems bind together various company functions — including human resources, inventories, and financials — while simultaneously linking the company to customers and vendors. Migration of these systems poses specific issues for both the information technology organization (ITO) and the business functions that rely on the ITO. To better understand the issues, needs, and goals of ERP migration efforts, META Group conducted a survey of 24 IT and business function decision makers whose organizations completed a migration of their SAP or PeopleSoft ERP system from a Unix environment to the Microsoft Windows Server platform within the past 18 months.

Along with understanding migration expectations, META Group also asked both IT and business management for their views on any business impact benefits gained in their functional areas. This white paper is a summary of these research findings, conducted independently by META Group to present a qualitative view of expectations and experiences. The findings are not intended to endorse any platform or vendor, but highlight areas of focus considered to be part of the migration and its results. META Group suggests that IT and business function management use these findings to help assess their own expectations and requirements.

Many organizations now have several years of experience with ERP systems. Some of these organizations are at the critical juncture of deciding whether to upgrade or to migrate. META Group views this situation as requiring an updated assessment of migration issues. This white paper goes beyond the technical issues that surround ERP migration activities to explore their business impact. It compares and contrasts IT and business functional views of resource requirements, involvement, critical issues, needs, and goals, as well as the end results.

The research findings are presented through the phases of migration, from justification through ongoing management, with that path used to present the views of both IT professionals and business function management. For each phase, the major issues of importance, emphasis, and value are expressed along with the realities experienced upon phase completion. Specific examples from individual respondents are given to highlight findings from a peer perspective, based on the type of organization surveyed and using available open-ended responses.



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This qualitative research effort highlights various interesting points, including a shortened time period for migrations versus initial implementation, significant server consolidation resulting from platform migration, and improvements in performance and gains in supportability and reliability.

Research Demographics

META Group spoke with 12 individuals from IT and 12 from business functions. All were deeply involved or impacted by the migration initiative and were in organizations that ranged in size from less than \$200 million in revenues to more than \$5 billion. Across both groups, the majority of respondents view the migration effort as affecting more than 50% of organizational employees in some way.

For the purpose of this research, the ERP discussion is limited to the movement of SAP or PeopleSoft systems from a Unix-based environment to run on a Windows Server platform. ERP systems are defined as binding more closely a variety of company functions, including human resources, inventories, and financials, while simultaneously linking the company to customers and vendors.

The Phases of Migration

META Group asked both IT and business function participants to offer insight about resources, activities, and interests across the phases of migration. For the purposes of this research, five migration phases were considered and defined as follows:

1. **Justify:** Analysis of current systems, processes, staff requirements, and costs against business requirements and alternative solutions
2. **Envision/plan:** Definition of the scope and budget requirements of the ERP migration, taking into consideration skill, process, and culture fit of existing and alternative technologies
3. **Build/stabilize:** Coordination and completion of the migration effort up to the point of deployment, including development, tuning, and quality assurance
4. **Deploy:** The point of transition to the new ERP platform
5. **Operate:** Ongoing management of the ERP system on the new platform, through a combination of support, interoperability, and integration extensions, and meeting change management requirements

Organizational Involvement and Consolidation

The first area to consider is the overall organizational involvement in the ERP migration effort. The highest percentage of IT staff resources is committed during the deployment phase of migration. Roughly 4x more staff members were involved in effecting the migration (i.e., the building, deploying, and operating phases) than in planning (i.e., the justifying and envisioning phases).



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As a result of the migration, IT management reports more than a 20% reduction in the number of servers required. This reduction in server count when moving from Unix to Windows is significant and somewhat counterintuitive and may be, in part, due to addressing the issue of excess capacity. In general, the conventional wisdom is that more Windows than Unix servers are required for a given workload. Moreover, in an ERP environment in particular, upgrading major ERP versions often requires about one-third more processing power to provide the same functionality, in addition to the processing power needed to support the new modules or functional components themselves. Taken together, these two factors would indicate that Windows Server performance is more than adequate in the majority of cases. Incidentally, the average number of users also increased slightly.

A director of information technology at a telecommunications company employing more than 25,000 people found even more significant consolidation was possible, reducing the number of required servers by more than 50%.

IT management stated that time requirements to manage the Unix platform took more staff time than preferred across the areas of support, training, performance monitoring, and vendor management. After the migration, time savings were achieved in all areas. One director at a midsize software vendor reported time savings of more than 10% across all areas.

The average migration period was only about seven months, which is in line with expectations (i.e., 6.4 months). Several years ago, initial ERP projects were considered to be on “fast track” schedules if the time frame was 18 months or less. Indeed, four to five years ago, one of the key IT priorities was time to implementation (along with the Y2K transition). More recently, managing costs and total cost of ownership (TCO) have emerged as top priorities, after more than two years of much tighter IT budgets. Clearly, the transition from Unix to Windows for ERP applications already in production takes at most only about one-third the time of the initial implementation, which in part may be due to the use of better installation processes and scripts.

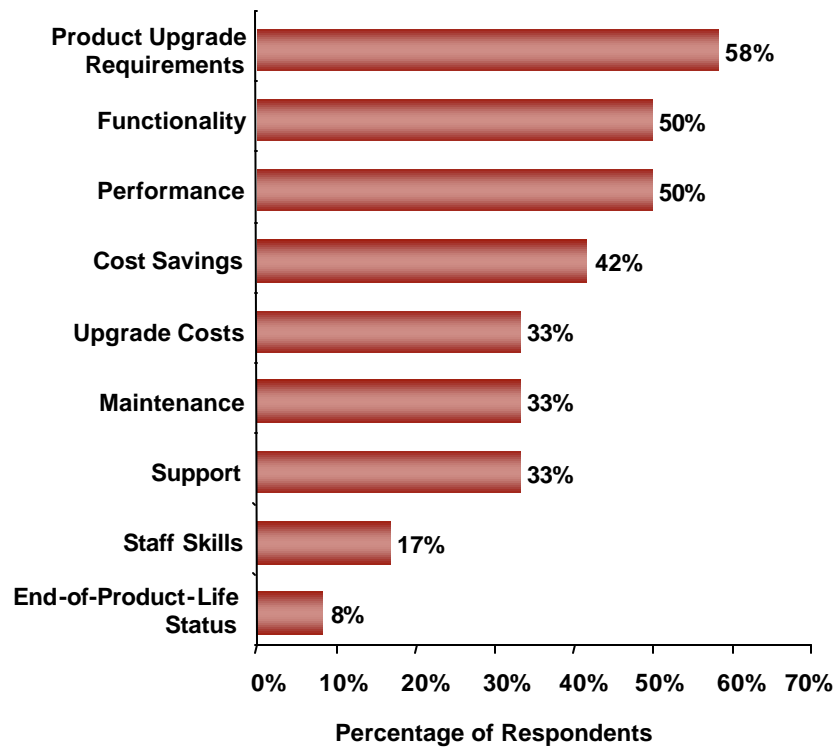
Justifying the Migration Effort

In order to recommend ERP migration, each organization faced the need to justify its pursuit. Requirements related to upgrading the ERP application provided the key IT motivation for migration, along with issues relating to functionality and performance (see Figure 1). The business analyst responsible for justification at a billion-dollar industrial products company viewed multiple areas as part of the justification process, with ease of use being the most important criterion.

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Figure 1 — The IT Perspective on Migration Motivation

Question: Overall, what was the primary motivation for the migration?



Average migration period of 7 months versus the expected 6.4 months

Note: Multiple responses allowed

Source: META Group

For the most part, the IT organization approaches justification of the migration from a technology-centric view, pointing at operational issues and outdated technology as primary motivators (about twice as important as the other factors cited). This is likely due in part to the timing of the initial implementation or last major upgrade, which in most cases was about four to five years ago. In addition, server upgrade life cycles have been increasing in length, from three years historically to roughly four years today.

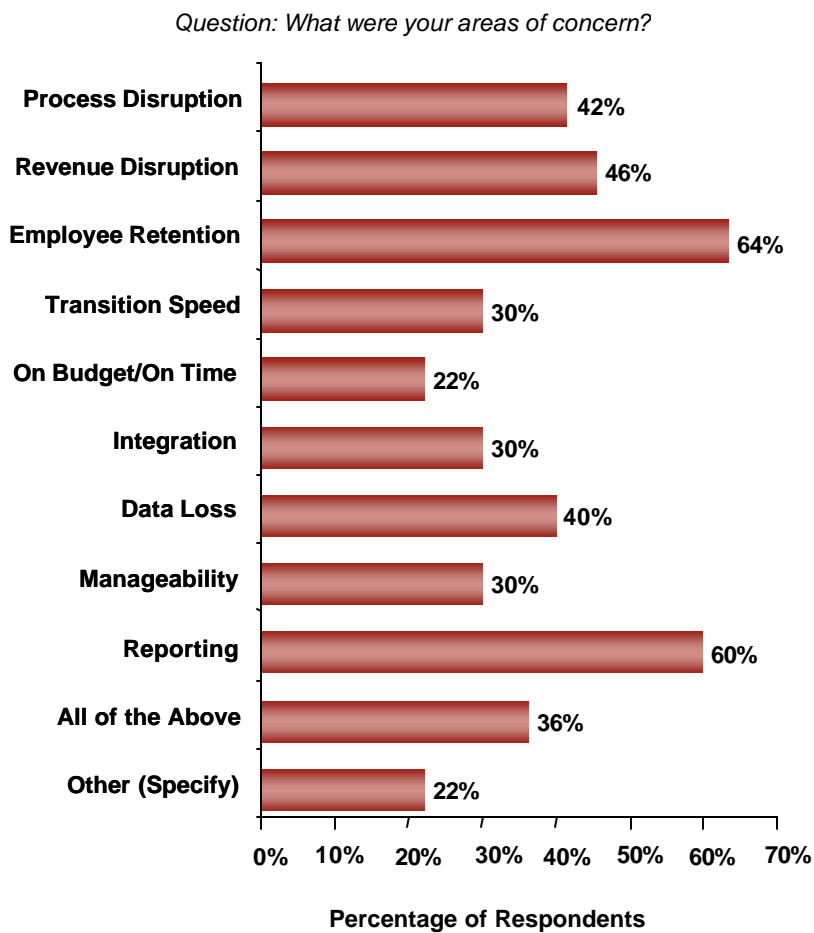
Key justifications for both the IT organization and business functions are reduced cost of ownership and reduction of costs driven by consolidation and standardization opportunities. The IT group also identifies several other goals, yet

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ease of use is identified as being most important. However, business units were more pragmatic and overwhelmingly cited TCO and cost reductions (75%) as most important, with the various other factors being viewed as having minimal impact (less than 10% each). Business functions add better performance to the list of justification criteria, and consolidation was also cited. This was especially true among companies that range in size from \$1 billion to \$5 billion in revenues.

Going into the migration, business functions were most concerned about retaining their employees through the transition and maintaining access to required reports. The next most important concerns, however, were process disruption followed by potential data loss (see Figure 2).

Figure 2 — Areas of Concern in the Business Function Migration Effort



Note: Multiple responses allowed

Source: META Group



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These survey results indicate that business function respondents were quite focused in their assessment of issues, as shown by one sales executive at a billion-dollar home furnishing firm stating that the most critical concern for his organization was reliability. On the other hand, IT organizational concerns spanned many areas, exemplified by the CIO at a \$10 billion packaged goods company, who considered all the areas to be of high importance as the initiative began.

Business function management was almost always asked for input as part of the migration process. Average business function participants spent about 3,000 hours (roughly three full-time equivalents for about six months) during the migration phases, with the most time dedicated to initial operation and the plan/envision phase. Despite the time commitments made, the majority of business function respondents wished they had committed more time to every phase of migration, with an average increase in time spent by their staff of more than 15%. In fact, a director of customer service at \$200 million e-retailer, whose team spent 2,500 hours, wished to spend more time across every phase except initial operation.

As IT respondents looked back on benefits to validate the initial justification, some interesting benefits for scalability, time savings, and flexibility were observed by the majority of participants. A project consultant at a midsize software company, in looking back on the migration, said, “The biggest surprise is how well the new systems are working. They are working much better than we had anticipated.” For almost half of the other respondents, the process went as planned and they reported no surprises. Other respondents pointed out areas that required increased focus beyond what was planned, including “the extra skills that we needed to implement.” Several others pointed to the time and resources required, with one commenting, “Stabilizing the system took a lot of time.”

Respondents also point to multiple issues they were planning to avoid or prevent by making the decision to migrate. One respondent pointed out that, “We avoided a lot of support issues,” while another mentioned the desire to “avoid license renewals.” Other respondents highlighted the environmental issues, with one respondent commenting on having “major hardware issues, database problems, and concerns regarding end of the life of the equipment,” while another desired to “to provide users with a better environment.”

The results of the migration were significant in certain areas. IT respondents saw significant improvement (more than 50%) in various areas of value — such as reliability, accessibility, and the ability to quickly scale to changing organizational requirements — and about double the more concrete savings for ERP cost management and IT staff time savings. The IT organization was expecting to reduce staff time requirements in several areas — technical support, vendor management,



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performance monitoring, and training — yet actual technical support and training improvements were relatively small (less than 10%). On the other hand, performance monitoring and vendor management savings were increased by 2x-3x.

From Envisioning to Ongoing Management

After an ERP migration effort has been justified, the work begins to make it happen quickly and effectively through the coordination of many IT activities. During each phase, IT management seeks to attain specific goals and meet requirements, while business functions participate and seek benefits in processes and tasks. The remainder of this paper focuses on these phases and the key highlights from IT and business function respondents who successfully migrated their ERP systems from Unix to a Windows Server.

Envisioning the Migration

As the migration was envisioned and planned, the IT organizations held a strong focus on ensuring compatibility and maintaining a good fit with current processes. This was most critical for midsize companies ranging from \$200 million to \$1 billion in revenues. However, the reality of budget constraints was foremost in the mind of IT participants, as they worked to balance these limitations against management of organizational expectations and the need to maintain adequate communication.

In moving toward the migration, IT staff leveraged third-party tools to improve by 50% their ability to conduct an accurate cost analysis. In addition, clarification of the transition path and milestones and the setting of functional specifications were enhanced by more than 20%. One IT director at a \$10 billion telecommunications company saw more than 20% improvement in all envisioning areas except milestones.

Coordination and Completion of the Platform Migration

Making the migration happen brought its own set of objectives and demands for IT staff. Tuning systems and business participation were cited as priorities, yet IT staff actually ended up spending twice as much time on tuning systems (versus business and process areas). Although IT organizations have improved business-unit participation (and nine out of ten business units were consulted to some extent), it is clear that additional progress needs to be made. Quality was an additional area of importance; one IT director at a mid-sized transportation services company was focused on the “quality of software delivered by the vendor.”

Multiple other areas received a high degree of consideration, including problem escalation paths, attaining vendor support, acceptance criteria, and required steps for a successful migration. Finally, as organizations completed the build and stabilize phase, they were most focused on issues for maintaining application



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availability. This was especially true among midsized companies ranging in size from \$200 million to \$1 billion in revenues.

Making the Move: Deploying Applications on the Windows Server Platform

With deployment in reach, IT organizations became very focused on ensuring that activities were coordinated and that downtime was avoided during the deployment phase. One administrator at a major hotel chain recognized that this focus was needed across virtually all the areas, and saw that the most critical need was for sufficient quality assurance.

As in the build and stabilize phase, IT management was sensitive to acceptance criteria and making sure the right escalation paths were in place. The most important area was to maintain server availability during system deployment.


IT respondents also highlighted the use of third-party tools and methods. During implementation, these respondents felt their use boosted performance levels by more than 20%. Small to midsize companies of up to \$500 million in revenues saw the greatest impact from the use of available tools across all deployment areas.

Managing the New ERP Environment

Once the new environment became operational, scaling to new requirements was the key focus area for IT respondents (cited twice as often as any other factor). The performance gains seen during the deployment phase continued, with three out of four respondents citing improved performance levels (by more than 20%).

In targeting what would make operational ERP activities successful, IT organizations stressed the ability to remain consistent in processes and approaches along with audit capabilities. But when it came to citing what was most important, consistency rose to the top. The actual average cost data (again based on a limited sample size) for IT staff, hardware, software, and services indicates more of a “do it yourself” approach to migrations when compared with initial deployments. Hardware and IT staff time dominate the cost mix for migrations, whereas services typically represent a larger portion of total costs during initial deployments.

From the business function perspective, the before-migration expectations versus the after-migration benefits offer interesting insight. Prior to the migration, business functions sought to reduce training requirements and increase availability, scalability, and cost savings as focal points. In these key areas, post-migration benefits were not perceived to be obtained by a high percentage of respondents. However, other areas that had significant increases in perceived



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benefits from pre- to post-migration include timeliness, resource savings, time savings, supportability, and reliability.

Almost half of business function respondents saw reductions in training requirements, end-user support, and downtime, with percentage savings for each area ranging from 4% to 6%. A marketing and business development executive at a small information services firm saw savings of more than 20% in all three of these areas for his organization.

More than half of business function respondents have also seen improvements in other areas resulting from the migration effort. These include improvements of 18% in consistency, 20% in accuracy, 20% in reporting enhancement, and 10% in performance. Availability and service-level improvements were smaller (less than 4%). One manager in the finance function of a billion-dollar construction company found that improvements exceeded 20% across availability, accessibility, service levels, and performance.

Bottom Line

We recommend that IT organizations and business units use the findings from this study when evaluating their own potential ERP migration scenarios. The majority of the findings were in line with expectations, but clearly there are several areas — such as planning for resource requirements, stronger IT and business function relationships, and steps to maximize system availability — that organizations can focus on to maximize migration success. Naturally, the business units generally had more pragmatic expectations, while the IT organizations tended to focus more on technology-related issues. In addition, there were also some areas with somewhat unexpected findings — again, from a qualitative, not a quantitative, perspective.

Windows platforms represent attractive alternatives for ERP application hosting today. This is a significantly different situation than was the case just four to five years ago. At that time, Windows was generally not considered for business- or mission-critical ERP projects, which were deemed to demand scalability, reliability, and manageability requirements beyond platform capabilities. However, given the improvements with Windows 2000 (and subsequent additional improvements with Windows Server 2003), coupled with the strong performance increases with Intel-based server systems, Windows is now a mainstream option for the vast majority of ERP projects. Moreover, despite the fact that major new ERP software releases generally require more processing resources, and the average number of users has increased, the number of servers required with existing production Unix-based systems was actually reduced with the Windows-based server configurations.



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Consolidation continues to be a key initiative in most organizations, and is also often cited by business units.

In addition, the study has identified several areas where the typical initial ERP implementation project, related resources, and cost profile differ dramatically from those characterizing the migration profile. For instance, the transition time frame is only about one-third of the time needed for ERP implementation (seven months on average versus more than 18 months initially). The mix of costs is also different, with integration services tending to dominate initial ERP implementation, whereas hardware and in-house IT staff are the primary factors in the migrations.

Moreover, while in all cases the migrations from Unix to Windows did result in several benefits, the actual benefits realized often were not in the areas that were anticipated beforehand. In general, respondents cited savings of about 50% in several intangible areas, such as accessibility and responsiveness, while the savings in the more concrete areas of actual costs and IT staff time were about 25%. For example, application data consistency, accuracy, timeliness, and reporting were dramatically improved, whereas training and direct cost savings improvements were smaller than expected. Both performance monitoring and vendor management savings were 2x-3x greater than the support and training savings. In addition, third-party tools played a significant role in the planning and cost analysis areas.

Both IT organizations and business units should plan to spend more time on migration projects. Most organizations would like to have been able to spend about 20% more time — for instance, in addition to the 3,000 hours spent by business units. But from the results of this qualitative research, the time is often considered well spent. The IT organization has seen improvements in many areas, including performance and scalability, while the business functions gain flexibility and cost savings in support of ERP systems. Therefore, as the evolution of ERP continues at a rapid pace, platform decisions add an additional dimension to consider for organizations that want to maximize ERP manageability and business impact.

Note: The results presented in this white paper are based on primary research, independently conducted by META Group and sponsored by Microsoft Corporation. Twenty-four telephone surveys with IT and business function management were administered in 2004.

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