IDC EMEA, 389 Chiswick High Road, London, W4 4AE, U.K. Tel.+44.20.8987.7100 www.idc.com

WHITE PAPER

End-Users' Feedback: Transform IT and Increase Business Performance Through Itanium-Based Standardization

Sponsored by: HP

Nathaniel Martinez Thomas Meyer

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IDC OPINION

In recent years, Itanium-based servers have developed into an alternative to conventional RISC platforms, bringing standardization to the whole Enterprise, and reducing costs. Itanium based servers run enterprise mission critical applications while supporting multiple operating systems (OS). Increasingly, organizations are investigating use of Itanium-based servers certified with more than 5,000 ISV applications as part of a standards-based approach to datacenter change. Usually, direct aims include improving current price/performance limits, flexibility, interoperability and speed of implementation. While the benefits in terms of higher grade of standardization and reduction of cost are attractive, IT directors considering Itanium need further guidance in mitigating risk of change with practical steps to get from a to b. This white paper explores areas of Itanium use on the basis of customer experiences and industry trends.

The paper discusses:

- Changes in company behavior to align IT and business objectives, subsequently leading to the search for new approaches and new choices to satisfy growing demands.
- The role Itanium plays in these considerations and reasons for customers' increasing preference to adopt Itanium.

The specific benefits customers have experienced after deploying Itanium and some of the inherent drivers for Itanium adoption such as standardization.

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METHODOLOGY

The research for this paper builds on several sources and expertise. Firstly, IDC's systems research team has established close relationships with technology vendors, channels, and suppliers to study, understand and monitor the evolution of datacenter architectures and IT infrastructures. Secondly, the IDC Quarterly Server Tracker research sizes the market for different systems in considerable depth. Thirdly, in-depth interviews were conducted with a number of large mainstream organizations evaluating or deploying Itanium servers to better understand their Itanium deployments plans. Finally, IDC completes an annual Systems Survey that collects information on business spending and IT priority in 1,000 companies of various company sizes and industries.

THE TRANSFORMATION OF IT INFRASTRUCTURES: CHALLENGES AND OPPORTUNITY AHEAD

Situation Overview

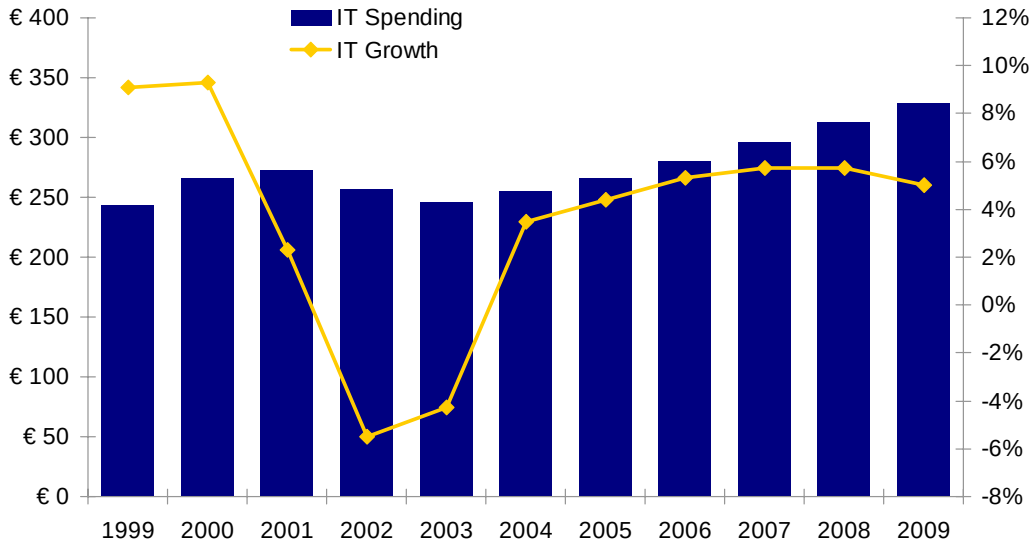
Difficult economic conditions following a frenzy in IT spending at the end of the 1990s forced most IT departments to take a back seat in the organization, driving focus on the maintenance of existing IT infrastructure instead of undertaking large-scale IT projects. IT upgrades rather than IT investments, capable of generating growth for the enterprise, became the priority.

However, in recent years the need to refresh obsolete equipment has rekindled demand for new infrastructure along with selected solutions and services. Indeed, many of the technology organizations that had invested in building their Internet infrastructures and implemented strategies to address the Y2K bug along with mission-critical applications have reached end of life and need to be replaced to address the challenges of new market conditions and new IT environments.

Business refresh cycles initiated late in 2003 continued through 2004. Although companies are still waiting for stronger improvements in the economy before committing themselves to major investments, 2005 will see IT departments coming back at the forefront of organizations as larger projects are being initiated (see Figure 2). This graduated surge in business spending heralds a period of moderately strong market expansion extending into 2006 and beyond. Western European organizations will spend an estimated €266 billion on IT in 2005. Even in 2003, the worst year for IT spending since 1992, total spending was still recorded at €246.3 billion (see Figure 1).

FIGURE 1

Western European IT Market Growth Patterns



Source: IDC, 2005

While the level of spending is considerably high, many organizations are still constrained in their IT investments as one CIO of a food and cosmetics company said: *"We have invested a lot of money in shutting off legacy applications last year and we still are. (…) We will reach a higher-grade of flexibility, functionality and cost reduction in the next year. Our budget will decrease since we do not have to support the old systems anymore."*

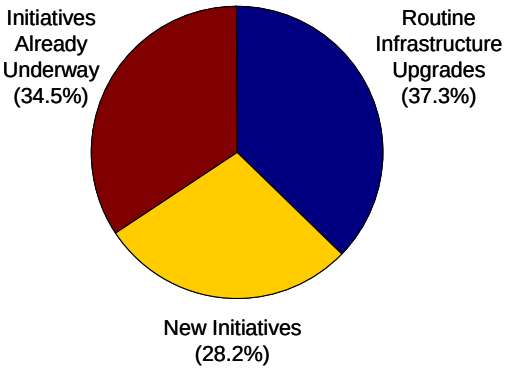
"[Due to the introduction of Itanium] we will reach a higher-grade flexibility, functionality and cost reduction in the next year," CIO, food and cosmetics industry

This statement coming from the head of an IT organization combined with end-user surveys on the allocation of their IT budgets in 2005 (Figure 2) illustrates the current climate IT departments are operating in and the changes they are undertaking. IDC believes the IT organizations have reached an inflection point, which heralds a new wave of transformation in the datacenters.

FIGURE 2

Benchmarking IT Transformation: The Move Toward New Initiative Projects, 2003–2005

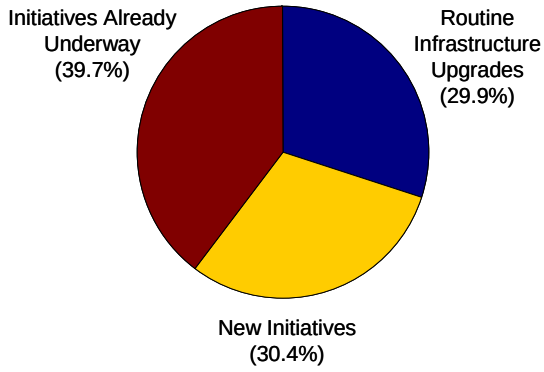
2003 European IT Spending Distribution



Q. How will your company's IT spending in 2003 be distributed across the following 3 categories?

Base = 184. Only companies with 10+ employees and $25,000+ IT spending

2005 European IT Spending Distribution



Q. How will your company's IT spending in 2005 be distributed across the following 3 categories?

Base = 152. Only companies with 10+ employees and $25,000+ IT spending

Source: IDC Project Barometers 2003 and 2005

The IT Department Challenges

The challenges that IT departments are currently facing are twofold. The first is internal to the organization and pertains to the cost of IT. Business executives perceive IT costs as too high. In many instances, the size of the IT budget is as large or larger than company profits while IT asset utilization and other IT productivity metrics are below where they should be. The second challenge is in response to ever-faster changing market conditions, which increases the pressure on organizations to become more dynamic. IT has historically responded slowly to business change. This divide is particularly painful in fast-cycle industries like retail, high-tech, manufacturing and consumer goods, where the speed of business cycles outstrip the speed at which IT can react to new market demands. As a result, organizations are increasingly looking into maturing their approach of the IT function to make it a key enabler of increased flexibility through the enterprise.

These trends have invoked many different responses in the IT industry, but two interrelated trends in particular have responded to the customer need.

On the one hand, companies such as HP, IBM, and Sun have introduced over-arching concepts that tie in both IT operations and business requirements. In HP's case this is under the umbrella name of Adaptive Enterprise and includes a host of products and solutions aimed at improving flexibility, agility, and ROI both for IT and business divisions.

At the same time, the advanced features that component technology providers such as Intel incorporate in their chip designs allow OEMs to provide value more speedily and built on top of these to differentiate and better answer customer needs. So, the future is pointing towards advanced standard components such as security features on the chip available with Itanium which are customized by the OEM to fit specific solution needs.

The market response to the challenges outlined above has resulted in the considerable traction of Itanium servers in the marketplace as organizations increasingly see the technology as a prominent alternative in different parts of the infrastructure. Early feedback collected from end-users who have implemented Itanium-based server solutions leads IDC to view Itanium-based technology as a sound and viable option that IT departments need to consider. IDC carried out in-depth interviews with a number of large mainstream organizations that were evaluating or deploying Itanium servers. Based on these experiences, IDC sees Itanium as a catalyst for IT organizations looking into moving away from merely maintaining existing infrastructure to enabling higher grades of business agility, increased efficiency in the organization, and ultimately further contribute to the bottom line.

The following sections review different approaches to Itanium deployments based on continuous surveys undertaken by IDC and specific in-depth interviews. This white paper details challenges and best practices on the road to Itanium implementation, from both an IT and business operations perspective.

TRANSITIONING TO ITANIUM: THE EVALUATION PROCESS

According to IDC server market data, Itanium servers are gaining considerable traction in the marketplace as a viable alternative in different parts of the infrastructure. A lot of companies have gone through the evaluation phase and have had Itanium systems in production environments for some time. Here, IDC shares its findings based on continuous user research as well as in-depth studies around the marriage of business and IT goals and how Itanium can facilitate this new world order.

Identification of IT and Corporate Goals and Strategies: The Role of IT

As the European economy is trending toward recovery, growth-oriented and competitive initiatives are topping most CEO and Line of Business Executives' agendas for 2005. Improved sales productivity, marketing productivity, and product development efficiency followed by customer care (a critical foundation for growing sales) are the common high priorities among European organizations. These are the business initiatives with the strongest cross-industry appeal, and that will drive large IT investment volumes in 2005. These priorities also represent a shift from the cautious tone of the past several years, in which cost reduction and regulatory compliance dominated senior management agendas. Respondents from one Itanium workshop mentioned the following corporate goals and strategy:

- "Grow revenue and market share." — Claudio Ambroggio, Systems Manager, Motorola, Italy
- "Increase profitability." — Bernd Schuetz, CIO of Blanco, a manufacturing company in the metal industry, Germany
- "Cost reductions." — CIO of a food and cosmetic company, Switzerland
- "Expand at 20% a year through acquisitions." — Sammie Baldini, IT specialist Arla, a dairy product cooperative, Sweden
- "Internationalization of operations." — , CIO of a chemical company, Germany

Already at this point, the consensus among IT executives IDC interviewed was that the IT function now has serious business implications for the success of the organization as a whole and plays a leading role in the implementation and fruition of corporate objectives. The clear alignment of IT and business goals also includes customer touch, for example. The VP of technology for an insurance company, Finland stated *"innovation and increase of customer satisfaction"* based on technology. This was supported by the CIO of a chemical company aiming to *"rely on state of the art technology to drive performance improvement and better customer support."*

"The introduction of new technologies need to bring tangible benefits such as innovation and increase of customer satisfaction," VP technology, chemical industry

This implies aligning IT priorities with the overall organizations' business priorities. To achieve this aim, the IT function needs to become less dependant on rigid and obsolete existing infrastructure that renders a fixed-cost structure on the financial books. It needs to transform its cost structure into a variable one by relying on technology that allows greater flexibility in terms of performance, capacity, and financial costs. This translates into the following statement from the CIO of large chemical manufacturer, which recently deployed Itanium-servers: "*First of all, we have to support the main goal of the company, which is to increase profitability. For us, as the IT department, this means costs have to be lower than 2% of the real revenue, no matter what the plan was. We have to be able to react according to the company's situation. This means that if the company's revenue is higher than planned, we can push in an unplanned project. But sometimes, like at the beginning of the year we have to slow down. So, the major issue is to reach flexibility within the IT costs, which is not very easy with only 20% variable budget.*"

Risk Mitigation

As shown above, companies focus on cost and benefit — the effective use of assets — not surprisingly, because these are the things that owners of companies care about.

However, the IT director has a less measurable but more important role — managing the risk inherent in IT infrastructure. In large organizations there are several types of risk that IT directors needs to worry about:

- Audit
- Operational environment
- Asset longevity
- Supply chain
- Project expectations

Typically, organizations are characterized as being risk averse, risk neutral, or risk taking. Of course it is more complex than that; organizations need to understand and balance each of these risks, to do that there is a need to take impartial advice on infrastructure and build systems that measure risk.

Importantly, most of the customers interviewed stated that their businesses faced barely any disruption in the architecture switch to Itanium. Clearly, this does depend on a range of factors (including project planning, existing infrastructure, type of application), but what it does illustrate is that customers can approach a transition without worrying about the business impact.

Cost: Think Like an Accountant

But cost as a factor does not go away. Adding to the challenge to build better IT is the business executive's perception that IT costs are too high. For some organizations, the size of the IT budget is as large or larger than company profits, and for most, IT asset utilization and other IT productivity metrics are below where they should be.

IT directors have the lead role here. As financial directors consider the costs and benefits of investment across all the functions of the company, the IT director needs to consider all the investment and cost saving opportunities available.

The transformation of the IT function implies that IT organizations' success will be assessed on metrics such as cash flow, as well as cost. Business performance measurements — leads generated, sales closed, and product life cycle management — will replace more crude indicators of IT efficiency. IT directors will increasingly rely on tools and techniques imported from the financial services industry, such as portfolio management, return on investment, risk analysis, and profitability to base their investment decisions.

By streamlining the IT environment and ultimately reducing system management cost and dramatically lowering cost of ownership, the IT function is able to return to the front seat of the organization. More importantly, simplified IT infrastructure will help the organization to react quickly to changing market conditions.

Aligning IT with Corporate Goals and Strategies

Most companies have adjusted to closer integration of IT and business goals; this was clearly reflected by the overwhelming endorsement from respondents. When asked about their IT department's goals and strategy, respondents contended priorities that are in support of the corporate objectives. These include:

- Performance:
  - "*Most up to date systems with the best performance."* (Interviewee: systems manager for a telecommunications company, Italy)

"[Itanium servers are the] most up to date systems with the best performance," systems manager, telecoms industry

- Profitability
  - *"First of all, we have to support the main goal of the company, increasing profitability."* (Interviewee: CIO of manufacturing company in the metal industry, Germany)
- Flexibility and cost
  - *"Reach a higher-grade flexibility, functionality and cost reduction in the next year by shutting down legacy applications."* (Interviewee: CIO in the food and cosmetic industry, Switzerland)
  - *"Deliver cost effective solutions for the company."* (Interviewee: IT specialist for a dairy product cooperative, Sweden)

"[Itanium systems] deliver effective cost effective solutions for the company," IT specialist, dairy industry

- Centralization and consistency
  - *"Internationalization of course is within IT also the first goal. The things we do here are intended to become the same for all sites worldwide."* (Interviewee: CIO of chemical company, Germany)
- Reliability and access to information and data
  - *"Solutions reliability and quality, correct and timely information, speed of service. Solutions that align with the processes."* (Interviewee: VP technology for an insurance company, Finland)
- Competitive advantage
  - *"Improve competitive positioning."* (Interviewee: IT project manager at a University, Norway)

IT plays an important role in helping organizations to fulfill their corporate goals but more so, IT missions and business objectives are two sides of the same coin. They rely on each other — stand and fall together. In the evaluation phase of introducing new technology, this is an important realization.

The Need for New Approaches: The Itanium Proposition

Most customers at this stage will have completed the bigger picture and included the following steps in their evaluation:

- Step 1
  - Identify the IT and business goals
- Step 2
  - Think about risk mitigation and cost control
- Step 3
  - Align IT and business operations goals

The next step requires going into greater detail regarding the current and future look of the IT environment and relating the big picture to the technology implementation.

To fulfill the corporate missions of supporting overall business objectives, mitigate risk, and reduce costs related to IT, head of IT departments interviewed came to the conclusion that it is important to rely on a technology platform that allows the following:

- Increased business agility
- Flexible server consolidation
- Simpler OS and hardware migrations and standardization
- Enhanced availability and security

As part of their corporate IT strategies, these respondents reported their decision to deploy Itanium servers in their infrastructures. The rest of this document will review how, and in which circumstances these Itanium deployments helped to achieve the organization's IT and overall corporate objectives.

Table 1 summarizes feedback from in-depth interviews IDC conducted with organizations that have deployed Itanium-based servers. It lists the goals and objectives interviewees were looking out to fulfill prior to deploying Itanium in their infrastructure and how they benefited from it subsequently.

TABLE 1

Itanium Customer Experience Comparison – How Does Itanium Best Fit Your Company? (Customer Responses)

Goals	Existing Business and Infrastructure: Challenges and Concerns	Transitioning to Itanium:Key Benefits Perceived by Customers	Customer Advice and Conclusions Impact
Cost benefit	• Cost effectiveness and price/performance • Consolidation capability • Smaller systems	• Fewer systems make easier monitoring and management for higher level of performance • Saving on licenses, services, and maintenance • More bang for the buck and more space in a rack • Better performance for applications that did not parallelize well	• Higher grade of flexibility • Less heat development and power consumption • High performance in terms of reliability, availability, and scalability • Highest single CPU performance for floating point operations
Risk Mitigation	• Better compatibility and stability of OS • Had concerns that some of the incumbent architectures are reaching end of life in terms of additional performance	• Secure past IT investments while guaranteeing high availability and business continuity • Offer better prospect. Plenty of room for performance improvement • Support for mainstream environment	• Business disruption due to downtime in transition. As with any other migration, needs careful planning. • Important to rely on an external partner who has extensive experience in migration and to not underestimate internal resources
Standardization	• To increase flexibility • Alignment of IT function with corporate goals and objectives • Support of Windows in HPC environments	• IT function no longer a bottleneck • Staff knowledge and skills are still relevant. Change of processor does not require significant training	• Business continuity • Increasing ISV support • No additional training necessary
Sourcing strategy	• High-cost structure due to heterogeneous server environments and multiple OS support • Reduce lock-in to select software platforms and applications on company's criteria	• As software availability increased, wider range of platform choices for any applications	• Ability to treat Itanium as any other architecture in IT infrastructure • Migration to a new platform is time-consuming and requires careful planning and thorough negotiations with vendors

Source: IDC Itanium customer interviews, 2005

ITANIUM: CRITICAL SUCCESS FACTORS ON THE ROAD TO IMPLEMENTATION

New Technology Introduction

"Speed of adoption of the new technology was not a major issue," VP technology, insurance industry

Interviewees qualified their transitions to Itanium-based servers as smooth and invisible to the end users. As with any new installation and transition to new technologies, the overall speed of the project is essential for companies in terms of cost and ROI. In the words of the VP for technology of a Finnish insurance company: "***Speed of adoption of the new technology*** *was not a major issue. Since the OS was to be the same (Windows), we believed that even the change to 64-bit would not be such a big deal. And we are not concerned about the hardware change as our attitude was "it is just hardware." In the end, the "biosystem" that takes care of the computer in the 64-bit system was a bit different than the previous 32-bit system but this did not cause major problems."*

Similarly, **internal staff knowledge and training** did not represent a hurdle that came up during deployment. As the system manager of an Italian telecommunications company reported: "From a staff management point of view this is related to an operating system (Linux) and we were comfortable with it."

Both **business continuity** and **security** received positive responses. As the VP for technology of a Finnish insurance company said: *" I was not concerned with business security as I would have been able to use the old system if there had been a problem. Security was a minor concern in the sense we were previously operating under Unix/AIX and moving to Windows implies we have to patch Windows once a month. That was an issue, but in the overall scheme of things this was an acceptable problem."*

Mitigating Migration Risk

There are risks involved with any kind of transition, and the key to a successful transition is to understand and put in place processes to control risk. This section looks at different types of risk interviewees assessed when first considering moving onto Itanium and offers some strategies and feedback for minimizing the dangers.

Making it a Part of Company Strategy

One misconception with Itanium-based servers is that they are relatively untested. Often there are groups within the organization that need to convince other parts of the company that Itanium is a good choice. Much of this is down to the cost and feature comparisons, as well as other factors we have discussed above. However, other factors can be important in minimizing perceptions of risk.

The endorsement by hardware vendors such as HP, Fujitsu Siemens, Groupe Bull and by software platform vendors such as SAP, Microsoft and Oracle have made Itanium-servers more acceptable to some. As this infrastructure specialist for a Dairy Cooperative in Sweden observes: *"Endorsement have influenced the choice of Itanium because of the consolidation question and the prospect of saving money on maintenance."* And in the words of the VP for technology of Finnish insurance company, *"We are happy with running SAP with Itanium, and Itanium servers have proven to be very reliable. At the moment, SAP platforms are fulfilled, and other application workloads on Windows don't require Itanium-level power."*

Moving forward, the credibility and recognition on the market will move up rapidly as OEM support for the high-end Itanium solutions is extending. At the beginning of 2005, we saw Fujitsu Siemens join HP, Unisys, NEC, Bull, and SGI et al in this segment with the PRIMEQUEST brand. In addition, ISV support for Itanium has gained tremendous momentum in recent quarters, reaching 5,000 applications now running on Itanium.

Choosing the Right Project

IT professionals should perform a close analysis of a site's installed base of servers and should take a careful inventory of the systems deployed within their organization. These actions will help IT professionals make better decisions about which systems to keep, which to update, and which to replace altogether.

IDC suggests that IT professionals take a number of steps down the road of leveraging standardization to reduce cost and complexity within their corporate network of servers, storage, and network devices. The top pointers for such an approach include the following:

- Develop a road map for your future IT acquisitions, deployments, and deactivations.
- Use a standardized approach when and where it makes sense, but only use it where it provides tangible return on investment or significantly better long-term total cost of ownership.
- Think about software as an integral component in any long-term standardization plans. The right software roadmap can make a future transition to standardized hardware that much easier.
- Leverage standards, which makes sense in today's IT environment. But how you approach standardization, and to what degree standards can be woven into your existing IT infrastructure is a matter for you and your senior business management to decide. This is an area where starting afresh can be very costly, and an IT team must "pick its spots" by identifying which areas of infrastructure will benefit first and best from leveraging standard hardware and software components.
- End-users can benefit from vendors that can transfer years of experience, know-how and skills with x86 standardization to Itanium servers.

- Understand that moving toward a standards-based infrastructure is a long-term strategy, not one that will begin and end in a one, two, or three-year time frame. In that respect, it is important to ensure that the selected server architecture has the scalability, reliability, and availability required for the applications available currently and in the years to come.

In that context and based on customers' experience feedback, IDC believes that Itanium represents a viable platform alternative to standardize IT infrastructure as it offers capacity performance, flexibility, and simplicity for the present and future corporate needs.

A Focus on Sourcing Strategy Will Pay Itself Many Times Over

After making sure that the company is behind a transition getting the right team in place is critical to making sure that the project runs smoothly. In the words of the CIO of a German Metal Manufacturer: " *Find a partner who has experience in migrations or transitions and make sure you have a good relationship to all the partners or people you work with."*

IT directors are sometimes more geared towards technology aspects than business aspects. As a result of this, they often excel at understanding what will work and what will fail. However, when designing IT management strategies, they occasionally pay too little attention to creating a balanced sourcing strategy. As an example, many organizations recognize that competition among their suppliers is an essential part of improving the performance of those suppliers. They then forget this wisdom when moving to single-source or large-scale outsourced agreements for crucial parts of their infrastructure.

As with the other items we have discussed, there has to be a balance. Among the crucial questions a sourcing strategy should answer are:

- What are the meaningful criteria when sourcing a product?
- Which decision-making process provides optimum results?
- How many suppliers can be managed?

FACILITATING SYSTEM STANDARDIZATION AND OPERATING SYSTEM CHOICE WITH ITANIUM

Standardization Will Weed out Complexity and Dwarf Cost

IT departments are often in a state of disarray because of the increasing difficulty of managing heterogeneous and complex IT environments. The standardization of carriers' fleets on a single type of plane has helped low-cost carriers to emerge and pose serious threats to traditional airlines and their inherent high-cost structure. Similarly, IT departments can reduce cost and simplify IT management by standardizing their infrastructure.

Redundancy, caused by longtime use of mission-critical systems built by different IT organizations over time, is often discovered through the process of server consolidation and workload consolidation. Often, the same business processes are handled by two, three, four, or more computer systems, each handcrafted by a different IT organization. Customization can bring competitive advantage, but often the one-off aspect of a given system poses more difficulties than it presents competitive advantages that bring extra profits. IDC sees this duplication of IT efforts as an opportunity to simplify existing IT infrastructure, thus reducing operational and maintenance costs — whether the follow-on work to reduce the complexity is done by internal IT or by external services partners and channel partners.

"[Itanium delivers when] first of all standardization is important," CIO, chemical manufacturer

Or, as the CIO of a German chemical manufacturer reported when asked to rationalize its choice for Itanium: *"First of all standardization is important. We try to reach as many goals with as little effort as possible to keep costs down. This led to the decision that we will do everything with SAP, everything regarding mail will be done with Lotus Notes, also as a development platform and for the rest we will use Microsoft Office and that is it. CAD or other small applications are available but not relevant enough for this discussion. So based on these standards, we choose the hardware platform, which is not too hard when choosing servers."*

Reducing the number of operating systems or applications carries many of the same benefits as reducing hardware configurations. Those benefits include a smaller number of environments to maintain expertise on, potentially smaller numbers of support and maintenance contracts, as well as a reduced need for a variety of hardware configurations. In the words of the CIO of a Swiss food and cosmetic specialist that standardized part of its infrastructure on Itanium to consolidate on SAP:

"[As a result of the transition to Itanium] we will reach a higher grade of flexibility, functionality and cost reduction in the next years," CIO, food and cosmetics industry

"We have invested a lot of money in the shutting down of legacy applications last year and we still are. 50%–80% of our revenue is administered with SAP. We are now migrating frozen products on SAP-production and delivery, so that we can shut off the old systems. We will reach a higher grade of flexibility, functionality and cost reduction in the next years. Our budget will decrease since we do not have to support the old systems anymore."

Itanium Delivers Advanced Standardization Features and Benefits While Offering Broad Compatibility

When evaluating the benefits of a new technology, the view on the user side often tends to be with regard to short-term gain. Itanium also delivers some very important advances in terms of datacenter infrastructure. In particular, Itanium servers offer a wide spectrum of choice throughout the software continuum as they are supported by a rich ecosystem of highly scaleable, open-standard 64-bit datacenter solutions, including a virtualization solution, five operating systems, three application development and deployment platforms, and 5,000 business applications and tools (refer to Figure 3).

Virtualization

Itanium servers, ranging from 2-way to 512-way machines, allow both scale-up and scale-out virtualization. Suppliers like HP offer a wide spectrum of virtualization capabilities in addition to the ones already available with Unix, Windows, and Linux operating systems. Depending on the business value sought and the strategic importance to the enterprise, virtualization capabilities can range from:

- Element virtualization
- Integrated virtualization
- Utility computing

Virtualization can have many purposes, depending on the requirements of the applications. IDC has detailed an extensive list of virtualization technologies and benefits in *Clarifying the Concepts of Virtualization, On-Demand, and Utility Computing* (IDC #G01L, March 2004). In summary, IDC views the main advantages as the following:

- Better performance
- Better scalability
- Better data availability
- Better application availability, reliability, and resilience
- Better flexibility and agility
- Better resource optimization

Operating System Choice

The ability of Itanium-servers to support diverse industry-leading operating environments — including HP-UX 11i, Linux, Microsoft Windows server 2003, OpenVMS and NonStop OS — comforted respondents in their choice of this technology. They felt it enables them to conduct business on their own terms, as they are now able to deploy solutions easily and quickly while facilitating the consolidation of demanding workloads across multiple operating environments.

It also allows companies to approach change and migration at their own pace. Much like the inclusion of different CPU types in the same box available through HP. IDC believes this is a significant differentiator by giving the customers control over their own destiny.

Additionally, customers can mix-'n'-match legacy applications with new product developments and deployments within the same type of system or systems. Interoperability and standardization is moving up the stack and away from the box, so offering these operating system choices means being one step ahead of the competition.

At last, the wide range of operating systems supported has spurred an increasing number of ISVs to certify their packaged applications on Itanium-based servers adding to the number of tools available on these operating environments for building business-specific custom applications. As a result, Itanium servers represent a rich set of server solutions, which can address a full range of requirements and can support a wide range of customer workloads.

Middleware

The proliferation of distributed heterogeneous composite applications implied by Web infrastructures and the multiplication of devices has required the deployment of multiple OS and development environments in order to reduce total cost of ownership and decrease time to market. As a result, organizations have invested heavily in various integration software and middleware technology. In order to meet the challenges of heterogeneous environments, leading Itanium server vendors such as HP have developed strategic relationships with market leaders to optimize the support for middleware solutions around J2EE, .NET, and open source platforms.

Business Continuity and Security

Organizations are concerned about business continuity as they increasingly rely on IT to conduct business on a day-to-day basis. For many organizations, it is not possible to continue business functioning without the IT infrastructure available and running 24 x 7. The increasing awareness of risk brought on by both physical and cyber attacks on the IT infrastructure and resources has made business continuity and security a top-of-mind concern for not only the CIO, who has a direct responsibility to be concerned with these issues, but also the board and CxO level who have become more aware and involved in these matters.

In the words of the CIO of a German chemical manufacturer: *"For the back office we changed to Itanium for two reasons. The first was the bad performance with the old platform. The old platform included iSeries 840 and 830, both double available so that we could switch to the other system in emergency situations. Both had 12 processors. The more SAP-applications we started using, the lower the performance became. Secondly high availability did not work anymore because of a software change. Our company is known for just in time delivery and short delivery times, people order and we produce immediately and deliver on the same day. (…). The lack of high availability was a major issue. As we looked for an alternative we found out the cost for proprietary hardware was too high and it would be less expensive to implement new hardware. (…) We had to stay in the 64-bit range but we did not want to change to Unix servers. The only hardware that fit all of our requirements was Itanium."*

"The only hardware that fit all of our requirements was Itanium," CIO, Chemical Industry

The ability of Itanium-servers to run OpenVMS brings many of the abilities of the Alpha version — in particular a famed reliability feature called clustering that links separate machines into a tightly knit group. One machine in a cluster can fill in for another that's taken down for equipment failure or an upgrade, for example.

Similarly, the availability of NonStop systems on to fault-tolerant designed Itanium servers offers a standard-based alternative to traditional mainframe systems and other high-end systems. NonStop Itanium servers are typically aimed at running specific workloads, including OLTP, business intelligence, and decision support (data warehouse) in high availability environments where real-time integration and access to disparate information and the absolute absence of downtime are primordial.

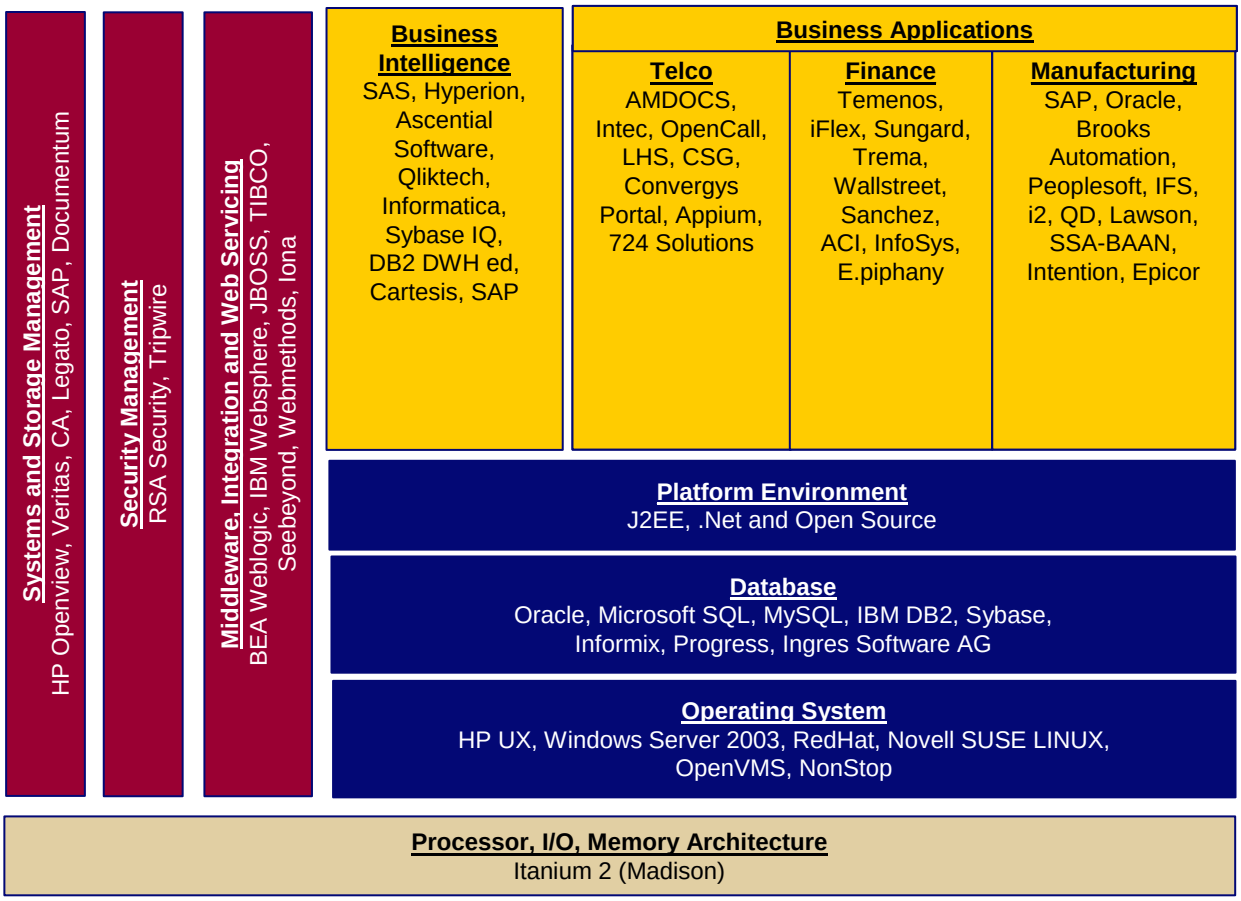
5,000 ISV's Applications and Tools Support and Growing

At last, Itanium servers offer top-notch scalability, reliability, and availability performances to run data-intensive applications such as databases, ERP, SCM, business intelligence, and vertical-specific applications found in both high-end performance and technical computing environments. The Itanium ISV's ecosystem grew from 3,000 applications in January 2005 to more than 5,000 in August and continues to grow at similar run rate, a clear indication of the strong endorsement by the software community of Itanium servers' capacities.

Itanium servers constitute a viable option to deploy or even consolidate back-end databases with support for IBM DB2 v8.2, Microsoft SQL Server 2000 (64-bit), and Oracle10g. It also represents a sound alternative to deploy both front-end and back-end enterprise applications. Back-end deployments on Itanium can include ERP, SCM or vertical-specific applications. Front-end deployments can include network edge, system management/reporting, security applications, and software engineering.

FIGURE 3

Itanium Architecture and ISV's Ecosystem — A Wide Spectrum of Choice Throughout the Software Continuum



Source: IDC, 2005

ITANIUM: A SOUND OPTION FOR THE FUTURE

This paper has discussed the challenges companies face to drive profitability and competitive edge and the re-evaluation of IT and business in this process. Specifically, IDC has investigated the increasing need for new technology for IT to deliver to the lines of business. The nirvana is a dynamic IT environment where everything is metered, measured, and can be attributed to P&Ls. However, we are not there yet.

In the meantime, customers need to look at practical approaches: this means technologies and solutions to increase current efficiencies and start setting up the IT infrastructure, so the key phases are *future proof* and *ability to be agile and adaptable* not only in technology but also in business response terms.

Investigating market growth and the different choices has shown that Itanium is emerging more frequently as an alternative to traditional technologies in customer environments. Increasingly, organizations are relying on Itanium to address some of the most critical needs of their business, considering the impact of economic constraints, increasing price/performance and information access demands as well as the alignment to the overall company strategy.

Furthermore, IDC looked at the issues IT directors are dealing with and where Itanium makes sense. Some of the advantages expressed by customers in their environments included:

- Minimal migration risk
- Minimal disruption of the production environment
- Minimal education expense
- Increase in performance
- Increase in scalability
- Increase in reliability
- Increase in flexibility
- Increase in choice (supplier, operating system, etc.)

That said, is Itanium always the right choice? Clearly, not always. However, IDC believes that many large organizations are including Itanium in their strategies for the reasons above and as the references, best practices, and application portfolio for Itanium expands, IDC expects this to accelerate.

Certainly, part of the management of any project is the management of expectations. So, in conclusion, if the goals, metrics, and schedules are clear, "*go with Itanium,"* as one infrastructure specialist for a dairy cooperative reported, *"in our experience, expectations have been exceeded with our Itanium implementation. We have better cost effectiveness, fewer systems, easier monitoring of the systems, and much higher performance".*

"In our experience, expectations have been exceeded with our Itanium implementation," infrastructure specialist, dairy industry

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Marketing Department

Tel: +44 (0) 20 8987 7100

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