EXECUTIVE SUMMARY

Today’s CIO faces multiple challenges — technology is changing, budgets are no longer elastic, users are more demanding and infrastructure is increasingly complex and more difficult to manage. As such, the notion of service is essential to the CIO: not only the services provided to the end users by either the IT department or the external service provider but also the levels of service expected by end users.

Our survey results show that today’s key issue for CIOs is how to align their IT strategies and investments to better support and underpin the business, its strategies and its processes. The CIO’s key concern is no longer just cost cutting. Innovation and business transformation are key to the CIOs we surveyed across Europe. To achieve this, investment priorities for CIOs focus on application modernisation, security improvements and infrastructure modernisation.

IDC believes CIOs do not necessarily have the tools to achieve their objectives. They need help on several issues. CIOs must navigate the latest technology choices at their disposal, such as automation, virtualisation, convergence, SOA and SaaS. In addition to these emerging technologies, which they must evaluate, IDC contends that another concern has been added to the CIO’s list of things to do: how to take advantage of key service delivery models such as global sourcing — taking advantage of cheaper, offshore resources — and utility computing — paying for IT on a pay-as-you-use basis, thereby unlocking cost savings and increasing flexibility via access to a near-instant infrastructure.

For CIOs to navigate the expanding range of choices, IDC believes the modern CIO must first and foremost build a decision map of their own enterprise and seek answers to key strategic questions, such as, how risk averse is my company? Are we comfortable with outsourcing part of our IT or are we more comfortable delivering IT services in-house — therefore retaining more control? Alternatively, is managed services the ideal intermediate sourcing solution for us? To what degree is keeping control important to my company?

Once these questions have been answered, only then will the CIO be able to make the right recommendations and take the right technology and service model path that suits the company and will guide it to success.
CHALLENGES FACING THE CIO

Being a chief information officer has always been a big task, but in today's environment, the difficulty of this task is compounded by the pace of technological change. The job of a CIO is therefore increasingly becoming a question of how to manage this complexity. On the one hand, IT budgets are always tight — although sometimes increasing; on the other, end-user expectations are always on the up.

The modern CIO has to divide his (or her) time and budget between ensuring the current systems are available and offering the right performance levels, upgrading the infrastructure to improve levels of services and/or reduce costs while also considering the long-term direction of the IT strategy. Too often, CIOs complain they have to spend too much time on fighting fires or reacting to short-term issues, and have little or no time to plan ahead.

Essentially, CIOs have to:

- Do more with less — in terms of budget or skills
- Continually increase levels of services to the organisation
- Manage more complex environments — due to the increasing number of devices as well as the increasing number of ways corporate IT infrastructures can be accessed
- Become PR experts as end-user expectations must be proactively managed
- Consider how to take advantage of changes in service delivery models to better balance the above issues

One of the major challenges for the CIO is that today's end users understand IT better than ever before. They are users in the workplace, but also consumers of IT in their personal life. As such, everyone has an opinion: everyone thinks they have the solution to the CIO's problem. This is rarely the case. The CIO's perspective on IT is unique for many reasons: first he or she is responsible for the job at hand, therefore the availability of the systems. Secondly, he or she has to make it all happen within budgets.

Key End-User Priorities

IDC's survey shows that to cope with day-to-day challenges, a large proportion of European enterprises have decided to increase their IT budgets — also on external providers. This underlines the importance of IT for the running of any organisation and ties strongly with another key result: the alignment of business and IT is paramount. This is a trend that has been increasing for the past three years or so and one that has replaced a more singular focus on cost.
According to our survey results, some of the most pressing IT investment priorities for European organisations are as follows:

- **Application consolidation and modernisation.** This is key for two reasons: first, in many organisations, "legacy" versions of applications — and the infrastructure systems supporting them — are creaking under the growing pressure placed on them, particularly as IT and business alignment is becoming stronger. Consequently, investments are needed. Secondly, too many companies have too many applications, which fuels complexity. Consolidating on a core set of applications, therefore, makes a real difference in management complexity.

- **Investing in improving IT security.** In today’s networked environment, the security issue is never going to go away. Hackers, worms, denial of service attacks — as well as rogue insiders — ensure that security remains a key concern for CIOs. As enterprises increasingly rely on IT for day-to-day business transactions — also over the Internet — securing the IT infrastructure is key. Without adequate security, money will be lost and, more importantly, brands can be damaged.

- **System infrastructure modernisation.** This is the most basic of requirements, but it must never be overlooked. Infrastructure — IT or not — do age, and must be maintained and eventually replaced. Modernising the infrastructure is not the most exciting of tasks, but it can be the most visible — especially when it is not done adequately. Further, it goes hand in hand with the modernisation of the application layer: no sense in building new on old, creaky foundations.

- **IT governance and IT service management.** As outsourcing gains momentum, managing the relationship with the IT supplier is key to the enterprise, and not just at contract renewal time. Those companies that are the most satisfied by IT outsourcers have the deepest, most collaborative governance procedures in place.

The notion of service is key in today’s environment. The CIO is no longer seen as the person in charge of a cost centre — he is in charge of a vital part of the organisation, which provides a vital service to all company employees. It has not only become a service centre, but it is fast becoming an innovation centre.

Over the past few years, end-user expectations with regards to IT have increased dramatically and the IT department must keep up with those rising expectations or face the risk of losing control. Because of that, the CIO must ensure that the infrastructure is able to support the workload — and is not only modern, but also adapted to future technology changes. Additionally, as service is vital and changes inevitable, it is equally as important for the CIO to keep control of its service providers. To that effect, IT governance and IT service management are key.
Do CIOs Have the Tools to Achieve Their Objectives?

As previously noted, CIOs will find it difficult to achieve their objectives, especially since, we could argue, all CIOs operate with at least one limitation: a lack of time, money or skills (and in the worst case all three).

The focus for most CIOs over the past five to 10 years has been to make their IT operations as cost efficient as possible. They have achieved this sometimes on their own — and sometimes by using external resources. However, this raises the question of where the CIO goes from here to continue to improve IT operations both in terms of efficiency and new technology. Now, we are at the second or third generation of IT services investment — and "more" is always required. In IDC’s opinion, CIOs who focus only on providing IT for lower budgets will find it hard to support the expectations of the business in the mid to long term.

IDC contends that we have entered a phase beyond cost reduction and cost control. Today, and for the foreseeable future, innovation and business transformation are key to the provision of IT. Cost remains an important issue, and it will not go away. However, enterprises have moved beyond that. In essence, cost is the canvas on which the painting is painted — and most of the attention has turned to other issues such as business output and end-user productivity improvement.

More often than not, CIOs are finding they may have the necessary skills and time to keep the IT operations at a status quo or even make some improvements. However, the reality for many CIOs is that they do not have the time or the skills to thoroughly investigate the new technologies and delivery models in order to decide how these can best be applied to the organisation. For many, they need to find a way to remove at least one of their limitations — and this is why many turn to external service providers for help.

The New Issues — Complexity Increases but Will it Help or Hinder?

As if things were not difficult enough, the pace of change is bringing new technologies to this over-complicated equation. These new technologies are designed to bring efficiencies to the enterprise, but in the short term implementing them and managing these new technologies only add to the complexity.

- **Automation.** This is an increasingly important part of IT for the enterprise and vendors alike. The enterprise is keen to automate as many functions as possible to first reduce cost and second eradicate human intervention (and therefore human error). On the other hand, vendors are also using automation to provide higher levels of services, achieve service repeatability and maintain margin levels, without which they would not be able to operate. The policy-based rules that must be put in place for automation also emphasise the need for stringent preparation and IT service management. IT services specialists have a wealth of experience in this domain.

- **Virtualisation.** This is an up and coming technology which allows the "pooling" of resources to complete a given task. For example, instead of having five servers to deal with five different applications, virtualisation allows the five applications to be loaded and dealt with on one or two virtualised servers. In
other words, virtualisation is the disassociation of a data process with its underlying IT infrastructure. It is becoming commonplace in datacentre and storage environments, where it enables server consolidation to take place.

**Convergence.** This is where the IT (data), voice and video networks are merged into a single IP platform. Within this framework, economies of scales can be achieved, while management of the converged network is simplified — replacing multiple contracts by a single one. Additionally, extended applications can be rolled out to the end users in order to increase productivity. Convergence is the platform shift which enables unified communications to take place.

**Service-oriented architecture (SOA).** The concept behind SOA is essentially a collection of building blocks of core business functions (called services) that can be linked together to create a more flexible application infrastructure. IDC believes that SOA will be a de facto part of any new initiative and will be a key part of the foundation of IT infrastructures and applications.

**Software as a service (SaaS).** This is the model by which enterprise software applications are purchased, used and accessed in a different way. Applications are not bought by an enterprise for a named number of users. They are purchased on an access basis from a service provider. As such, enterprises choosing this model reduce their license fees, but have no need to invest in costly upgrades.

These four new technologies are beginning to have an impact on IT infrastructures and the way enterprises deal with IT. They are all helpful in increasing productivity and/or reducing cost and complexity. However, the difficulty remains in transitioning to these new technologies.

CIOs are increasingly looking to service providers to help them understand exactly how these technologies can best support the organisation's strategic objectives. In the short term, any implementation of the four technologies mentioned is going to be disruptive and potentially difficult. However, IDC believes the benefits outweigh the difficulties and with the right partner and proper planning, convergence, virtualisation, SOA or SaaS can deliver real benefits to the enterprise.

However, while these new technologies may increase complexity of IT, at least in the short to mid term, new service delivery models hold the promise of easing some of the limitations that the CIO is facing, in particular money and skills, which could ease the pressure to concentrate on complex technologies. IDC believes the two most important service deliver models that are now mainstream are:

**Global sourcing.** Initially considered purely a labour arbitrage model, global sourcing itself has come of age and is now a model much more focused on the delivery of services, where possible at the highest level of automation based on standard processes. As such, CIOs must ensure they take full advantage, if applicable, of the global sourcing model, which enables vital cost reduction in key infrastructure areas such as remote management or process-driven delivery to a consistent quality.

**Utility computing.** Another model that must be taken on board when externalising part of the IT function is the utility computing model. Within this model, IT is charged on a pay-as-you-use basis. Essentially, the advantages to the enterprise are twofold. Utility computing enables vital cost savings (the
mapping of IT spending with usage peaks and troughs) and the ability to scale up as and when required by the business, as utility computing gives the customer access to a near-instant infrastructure without having to invest in hardware, software and storage.

Traditionally, CIOs were faced with a stark choice — delivering IT themselves or outsourcing. Today, there is much more subtlety and choice in the market. Doing it all in-house is possible, although it requires significant investment in time, money and skills. Outsourcing is possible and although it has traditionally been criticised for being an inflexible model — one that is less able to adapt to technology changes — vendors are keen to adapt. Finally, the alternative solution in terms of sourcing model is to opt for a managed services contract that bridges the gap between the first two options.

Within a managed services engagement the CIO and the enterprise retain more control of the IT function, and contract with a service provider as an extension of their own IT department, therefore allowing more flexibility. The CIO must navigate these choices.

**NAVIGATING THE NEW CHOICES**

As is so often the case, the availability of limitless options does not make the choice easier. More often than not, the choice is harder to make. But CIOs must navigate these options — and they need to make the right choices to support the demand from the business within the scope of budgets and to deliver required service levels on time and to quality.

**Strategic Choices**

IDC believes CIOs face four key strategic issues to help their organisations achieve their business objectives.

1. **Choosing the right sourcing model.** Given the budget, skills and objective constraints, the CIO must find the best possible sourcing model to achieve the IT department's strategic goals. Essentially, the choice boils down to do-it-yourself (DIY), hosting, managed services or outsourcing.

   DIY is always an option for the enterprise, especially when internal IT skill levels and availability are high. Most companies, however, prefer to seek external help — even if only for the non-essential and cost-intensive elements of IT services such as hardware support. Increasingly, the pressure brought to bear by new technology is pushing the company to find external service providers to supplement their IT department.

   Hosting is also a good way for enterprises to deal with IT. It allows them to get the benefits of using IT without having to invest in, own and maintain the underlying infrastructure. While this model is successful, it is often undermined by the lack of control over IT assets. In other words, hosting brings with it the perception that the enterprise has less control over the IT function. As such, more conservative companies or industries shy away from hosting major parts of their infrastructure.
Managed services is the service model which bridges the gap between DIY and the full outsourcing model. Within this framework, the enterprise is given more flexibility to externalise the parts of the infrastructure it chooses, without relinquishing control over the assets or the staff. As such, managed services is the transfer of operational responsibility over key parts of the IT functions. This model is very successful and allows most companies to ease into a relationship with their chosen IT service supplier — for example, choosing to have their desktop under service, and then broadening the remit of the services contract to other parts of the infrastructure. In this model, the service provider is an extension of the internal IT department. However, it is important to emphasise that managed services is not limited to the desktop environment. It also extends beyond the front office and is a successful model for the datacentre environment too.

Finally, outsourcing is the model where the internal IT department is transferred (whole or in parts) to the service provider. Staff will often transfer to work for the service provider. Equally, assets are now under ownership of the service provider. This model is very mature and well established across Europe, with a degree of variation per country. The main advantage of this model is that it allows the enterprise to focus on its core competencies and to leave IT to the outsourcing specialist. Conversely, the main drawback was traditionally the lack of flexibility, although outsourcers are now keen to be more accommodating.

2. **Set parameters and prioritise objectives.** IDC believes this is vital in determining the success of the relationship between the enterprise and IT department (and/or service provider). Both the board and the CIO must be very clear from the outset about the objectives of IT within the next business cycle (typically two to three years). Tough parameters and priorities must be set. For instance, cutting the cost of IT or increasing service levels must be stated as the overarching factor shaping IT strategy. Once these strategic directives have been stated, the CIO must prioritise its objectives within the confines set by the board. These can be consolidation of the application and server infrastructures, upgrading to new (standardised) desktops, implementing a converged infrastructure, etc.

3. **Think long term.** The third decision the CIO must navigate revolves around long-term objectives. As stated earlier, CIOs often complain of having to fight fires and be reactive at all times. The only way to avoid this is to plan ahead and build in long-term strategic moves to the IT business plan. It is at this stage that long-term strategic investments are decided by agreeing a technology roadmap, for instance, moving the company's IT to an SOA infrastructure within two to three years, etc.

4. **Get board backing.** The final essential requirement once all has been set is to secure board backing for IT investment. This is crucial prior to engaging any external service provider.
Tactical Decisions

On a more tactical level, and within the parameters set by the CIO, choices must also be made:

1. Once this four-step approach has been undertaken, the CIO will be more free to shift emphasis depending on the particular requirements in any given quarter. For instance, the CIO might increase its use of managed services (out-tasking) to free up internal resources and keep the cost-cutting momentum going.

2. The CIO can better align business and the IT function by linking up the different IT (hardware, software, services) and business processes. Such end-to-end systems management provides more visibility of the impact of IT over the business.

3. Choose a phased approach and pilot new technology solutions. It is important for the CIO to prioritise, as mentioned in step 2. Technology decisions must be made for the long term of IT in the enterprise. Should new technology be implemented? If so, which ones? Are they relevant to the company — and what is the cost benefit analysis? Implementing virtualisation, convergence or a utility computing model in the enterprise is a positive move, but cannot be achieved at the same time for four main reasons: time, skills, budget and risks. It is up to the CIO to use service providers to help out in piloting new areas within the enterprise. After such pilots, then full-scale implementation can take place, in a phased approach.

4. Single versus multisourcing. Choosing a multivendor strategy is a crucial decision to make. Traditionally, CIOs were faced with a stark choice — do it all yourself (DIY) or outsource. Managed services (out-tasking) now provide more flexibility. Today, sourcing itself is changing, within the outsourcing and managed services model. Multisourcing is on the increase across Europe as enterprises decide to break up their infrastructure services contracts and choose a service provider for each part — for example, desktop infrastructure, network infrastructure and application infrastructure.

   CIOs must decide on a tactical level whether to outsource or out-task in a single chunk or whether to break it up. There are pros and cons for both multisourcing and single sourcing. Single sourcing can provide more cohesion, but less flexibility, while multisourcing provides more flexibility and potentially best-of-breed service levels, but it is less holistic in providing an end-to-end view of IT in the enterprise.

5. Use more process automation for the delivery of IT to the end user. Service providers have made significant efforts in using templates or automation for their IT services. This allows them to cut costs and provide a more predictable transition for new services (solutions have all been precosted and pretested). CIOs must take advantage of such automation to cut the cost of IT, which will free up capital for them to invest in innovative solutions or new technology implementation.
6. Finally, CIOs must reflect the time and environment they live in. Because green and environmental issues have become increasingly important to global consumers, it is important for the CIO to try and establish green credentials by making the right sourcing or supplier choices when deciding on how to deal with IT.

**How to Ensure the Right Resources are Available**

So given the complexity of the task, how can a CIO make all this happen? IDC knows that few CIOs would recommend their job to anyone — but most manage to find the right solution suited to their company in the end.

IDC believes this is all about making the right choices and seeking help from the right partner. There is not a single model or answer that will fit every CIO's needs. IDC believes that CIOs must create a decision map and navigate it to find their way through the IT decision maze they live in. Some of the key questions they must ask are:

- What is the profile of the enterprise they operate in? Is the company a technology risk taker or innovator or is it more conservative? Answering this question will help find the right sourcing model for the business.

- What is the company's attitude towards control of IT and people assets? Does the company view IT as a core business, or simply an enabler? These questions will further help clarify the sourcing choice.

- Can the company realistically afford to recruit and retain the most qualified IT staff? Will the company be able to keep this up for the new technology fronts opening up all the time? These questions should help decide whether the company believes it is feasible to adopt a DIY model or if external help is needed.

Finally, CIOs must answer the most difficult question of all: What is the ultimate role of the CIO within my company? Someone who maintains the status quo, enables business growth, and finds and promotes IT innovation to create business differentiators? Should the CIO focus on the infrastructure at all, or would it be better to spend time on mapping and improving the links between business process and the application and infrastructure layer.
CONCLUSION

Overall, the CIO’s job is a challenging one and it can be very unrewarding. However, for those who love a challenge, it is the right job. IDC believes a CIO’s job is not technical, nor is it business focused. It is both. The success or failure of a CIO comes down to key difficult choices and the ability to navigate and understand the key technology innovations on the horizon.

To succeed, a CIO needs clarity, and therefore a sound long-term strategy for the business. Key to this is the sourcing strategy that he or she recommends, develops and implements in the enterprise. Broadly, there are three available models:

- The DIY model, which is costly in terms of time and money but also rewarding.
- Outsourcing, which frees up resources and transfers control of IT to an external party. Some view this model as inflexible.
- Managed services, which bridges the gap between these two options and offers an element of control while at the same time allowing the enterprise to benefit from the expertise of the external provider. There is no perfect solution for a company. The CIO must decide which model best suits his or her company.

Securing funding for strategic IT changes is key, as most of the CIO’s time is spent on maintenance and reactive tasks. It is therefore vital to take time and allocate budget for the long term.

New technologies appear all the time, and finding the right one for the enterprise is a challenge. The CIO must provide flexibility to the end user and the business in general. Technology must enable that. Virtualisation, utility computing and convergence as well as other technologies all fit the bill. The CIO must evaluate all of these technologies. If they don’t, their competitors will. Then the CIO must decide on how and when to implement the technologies.

Overall, IDC believes that in evaluating technology the CIO must first and foremost think business, and go through a cost benefits analysis. Just as technology has empowered end users over the past three decades, CIOs need to be empowered to make the right sourcing and technology choices for the company. There is no silver bullet, and the CIO must find the right solution for his or her company’s particular needs.
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