COMMUNITY
RESEARCH REPORT

The changing shape of the desktop

No more like-for-like

Josie Sephton, Dale Vile and Tony Lock, November 2010

The desktop computing element is one of the most important aspects of any IT infrastructure, and keeping it in good shape is the key to maintaining end user productivity and satisfaction. But with technology advances and new options emerging in this space, what needs to be considered when looking at how to take the client computing environment forward? And should IT departments look to preserve or disrupt the status quo? In this report, we consider these questions based on input from a survey of 445 IT professionals.

KEY FINDINGS

The desktop environment is ready for change

Desktop modernisation plans have been on hold for many organisations as a result of reluctance to press ahead with Vista, and challenging economic conditions. Organisations that have historically embarked on significant periodic refreshes have been less active. Only 18% have implemented a major upgrade recently, for example; much lower than the 25-33% we would expect based on a typical 3 to 4 year cycle. Clearly many organisations have some catching up to.

Investment in the desktop is bouncing back

With finances starting to free up and Windows 7 neutralising the previous Vista road block, the evidence of catch up plans and activity is already evident. Almost two thirds of those who have historically embarked on periodic refreshes are either in the process of a hardware upgrade or are planning one within the coming year. Operating system upgrades are frequently a part of this; there is also significant movement around office productivity suites.

Awareness that like-for-like not being the only option is growing

The pause in proceedings has allowed an awareness among companies that like-for-like is not the only option. They have had the opportunity to consider alternatives to the traditional Windows/MS Office based fat client desktop. Although many companies are likely to continue with like-for-like, it is no longer a given.

IT needs to factor in more alternatives around devices, including from the consumer market

While IT hopes for a more locked-down world, the reality is that they expect a growing number of users to increasingly bring their own devices into the workplace. Furthermore, as a result of changing expectations, most say that users now have an influence over desktop modernisation plans. This highlights a need to address the 'consumerisation' of IT more proactively.

A broader approach to upgrade is potentially more beneficial

A broader approach to refresh, including hardware, OS and office productivity tools, reduces migration overheads, leads to a more up-to-date desktop, and drives a number of benefits around user satisfaction and productivity, as well as reducing the need for IT support and power savings.

Upgrade should be used to deal with existing shortfalls

The upgrade process provides an ideal opportunity to deal with existing shortfalls, particularly around management capabilities and processes, which are often not front-of-mind for many companies, and tend to continually get pushed to the bottom of the list in terms of priorities.

The study upon which this report is based was independently designed and executed by Freeform Dynamics and performed in collaboration with The Register news and information site. Feedback was gathered via an online survey of 445 IT professionals from the UK, USA, and other geographies. The study was sponsored by Intel.

Introduction

It is clear that the usual desktop refresh cycle has been interrupted, by both technological and economic disruptors. However, the indication is that organisations are now ready to take the desktop estate forward again.

But the interruption of the cycle has meant that alternatives to the status quo have had a chance to become more established. These include not just rivals of the more widely established Windows operating system (OS), in the form of Mac OS X and Linux, but also office productivity suite alternatives to Microsoft Office such as OpenOffice, and hosted solutions in the form of GoogleApps and similar.

As plans start to roll out, however, businesses aren't just faced with decisions around hardware, OS and software applications. Other factors are an integral part of the decision-making forward, and will have a significant impact on the route taken. These include risk-related factors such as data encryption on laptops, and remote device lock and/or wipe mechanisms for lost or stolen systems, as well as how, if at all, virtualisation will play a part in the desktop estate. Desktop refresh can also bring shortfalls around desktop maintenance and support into focus, such as preventative maintenance processes, security management, and monitoring and early detection, that have tended to be 'swept under the carpet', but that run the risk of causing problems if they are ignored for too long, and therefore add to the list of things that IT needs to work through.

If this isn't enough, into this mix is thrown the thorny issue of consumerisation, with users increasingly wanting to bring their own devices into the workplace, whether IT supports them or not.

It is against this background that we explore the changing shape of the desktop estate, and consider how these factors are playing out in the workplace today, and what lessons can be learnt for businesses going forward.

Inputs to this report

As a foundation for our discussion, we will be using input gathered via a research study completed in September 2010, during which feedback was gathered via an online survey from 445 respondents. Where relevant, for comparison purposes, we also refer to the study into desktop modernisation, published in 2009 (see References and Further Reading section for details).

Those who participated were mostly IT professionals from a range of organisation sizes and industries, with representation predominantly from the UK and USA, and a number of respondents from other geographies (see Appendix for more details).

The study was designed and executed on an independent basis by Freeform Dynamics Ltd (www.freeformdynamics.com) and conducted in association with ***The Register*** news and information site (www.theregister.com). The work was sponsored by Intel.

A gradually changing landscape

When talking about PC systems, it is important to understand that any discussion needs to consider a number of different dimensions, including the nature of the equipment itself, what is installed on it, its age and specification, and of course, the types of users involved, and the workloads they need to perform.

It is beyond the scope of this report to consider each and every interaction between these different dimensions, but it is useful to consider some specific facets of device usage and the way they are impacted by systems' usage and the demands they address.

A continual thread throughout the analysis is the segmentation of users, which we have split into three distinct groups:

Laptop users	Very broadly, users in this segment are employees working in at least partially mobile professional people-facing roles such as management, sales, professional services and so on.
Demanding desktop users	This segment encompasses power users in financial or technical roles, for example, that place great demands on the equipment they use in terms of performance and functionality.
Other desktop users	Including transaction-oriented staff working in various administration-based and other roles for which the PC is mostly just a window onto corporate systems, with much more modest needs for local processing capability or for personalisation.

Distribution of different user types

Carrying on with this theme of user segmentation, a good place to start the discussion is the overall desktop landscape in terms of the distinction between desktop and laptop users. Desktop users outnumber laptop users in the majority of organisations and whilst there has been a shift compared to the situation to a year ago, this hasn't been very dramatic; laptops still make up less than a quarter of the overall estate in almost half of respondent organisations (Figure 1).

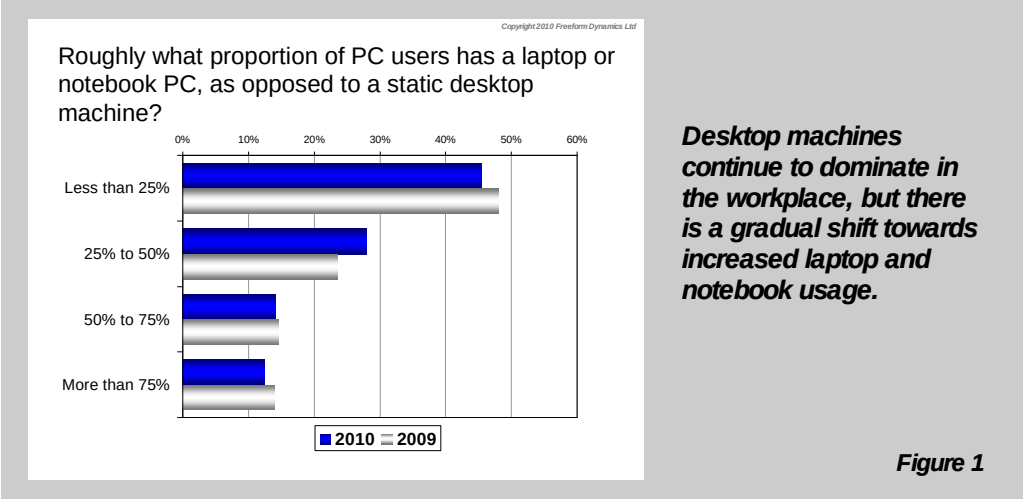


Figure 1

If we focus on desktop machines, although a high proportion still have relatively modest needs, the balance is shifting, and user bases are generally becoming more demanding over time. In around 40% of cases, demanding users make up more than half of the desk based PC users (Figure 2).

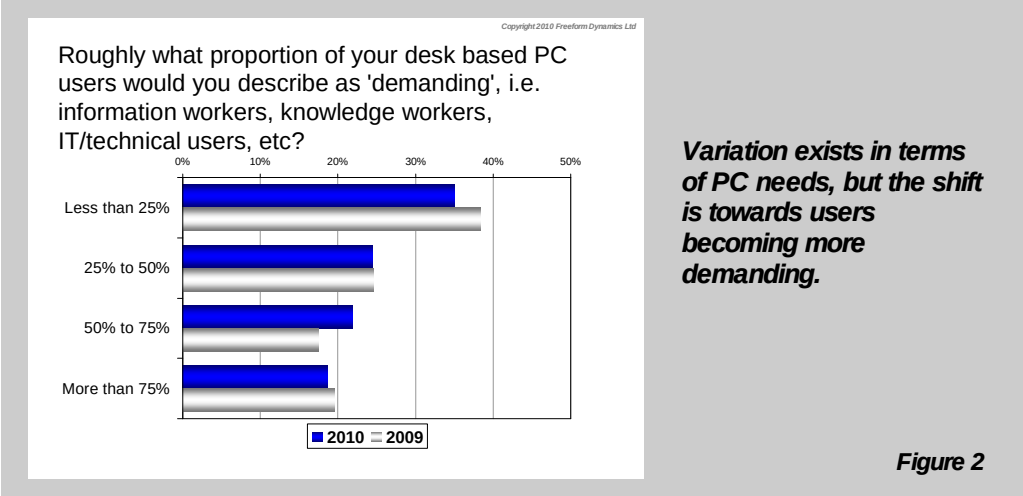


Figure 2

Up-to-dateness of equipment

So how does this translate into how up-to-date the equipment is that users are working with at the moment? When we look at this across the user segments defined earlier, we find that needs are addressed differently, depending on user type. Laptop and demanding desktop users are given much higher priority than other PC users, in terms of how up-to-date their equipment is. Following on from our desktop modernisation report from last year (see References and Further Reading section for details), this elevated priority has become accentuated over the past twelve months (Figure 3).

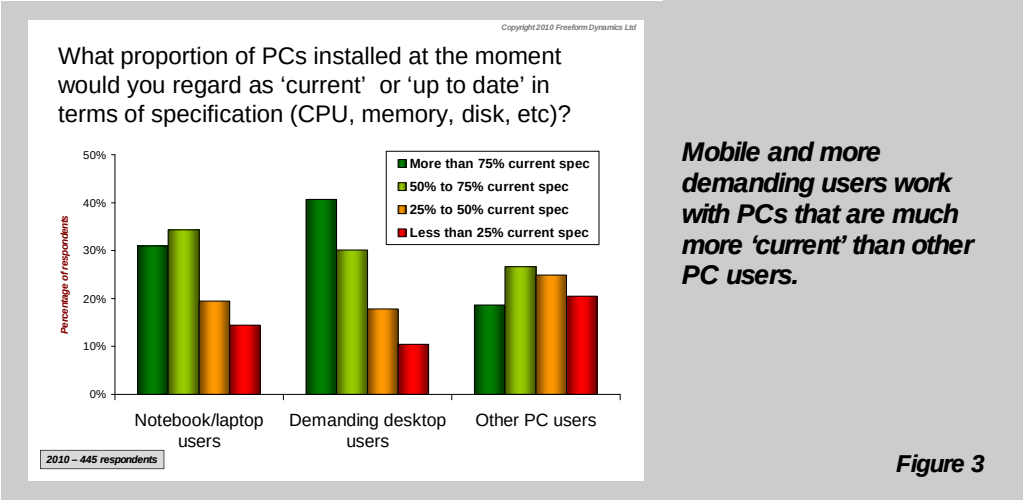


Figure 3

Note on methodology

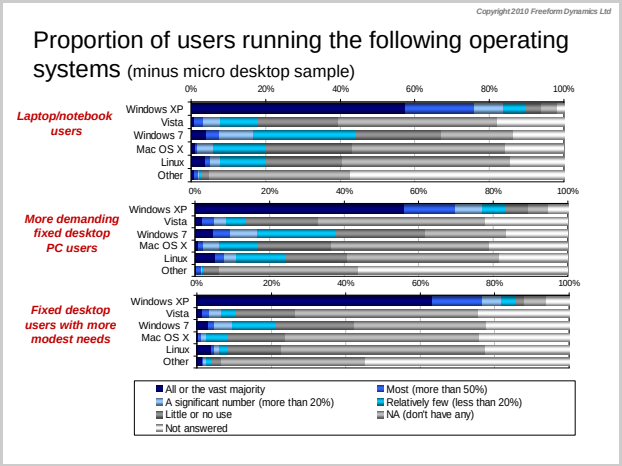
Before we go on to look at how different operating systems are being implemented across businesses, it is worth noting that our experience carried out over many projects, indicates that the Internet based sampling methodology used attracts a disproportionately high percentage of Linux advocates. These users generally fall into the category of very small organisations, comprising, service companies, single contractors and small businesses that are usually running fewer than 10 machines. These often do not have a separate IT department, and will avoid use of Windows.

There is nothing wrong with this category of users, per se, but they tend to skew the sample, which can give a misleading impression of market as a whole if the bias is not taken into account.

For the sake of our analysis, in order to avoid this skew, and the impact it has throughout the results, we will focus on companies running > 10 machines, where relevant. Where stated, analysis does not include organisations in the very small (<10 PC) category.

Use of different operating systems

When we look at the operating systems deployed, there is a distinct dominance of XP across all users, with more than two thirds of respondents having XP deployed on at least half of their desktop estate. This is particularly true for users with more modest needs. Notably, the number of Vista implementations is relatively low, and already being surpassed by Windows 7 (Figure 4).



It continues to be a Windows world, with XP still dominating, although other OSs have some, albeit modest, appeal.

Figure 4

OS and office productivity suite migration plans

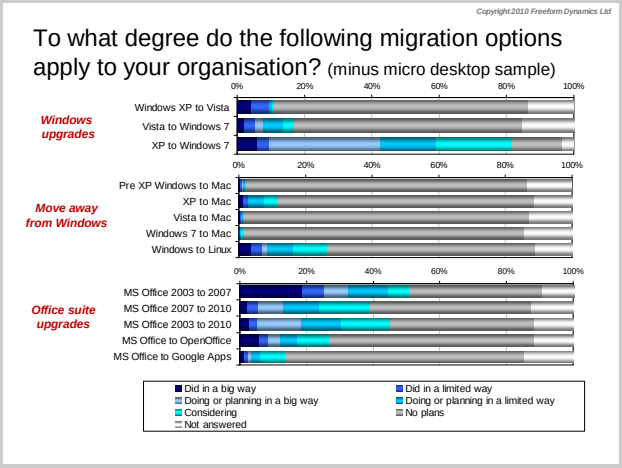
There are a number of things happening around the various operating system (OS) migration options that companies are either implementing or considering. To begin with, it is highly likely that Windows will continue to be massively dominant compared to other operating systems. Drilling down further into these Windows-centric companies, although an XP to Vista migration is relevant to some, these are relatively few in number. Where businesses are still looking to implement Vista, this is most likely because the budget has already been agreed and the migration is already well underway.

The main area of activity is the move from XP to Windows 7, with Vista being bypassed. What is particularly interesting is the amount of planned activity, with over 80% of Windows-centric companies having Windows 7 on the agenda in some shape or form. Vista, and problems associated with its implementation caused a slow-down in OS refresh. This in turn resulted in suggestions from the market that alternatives such as Apple's OS X were in a strong position to gain a lot of ground. Macs running OS X have always had a good representation in some job roles and verticals, especially around creative work, while some very senior managers and other high-pay users have adopted them based on style as well as usability. It is however, arguably functionally equivalent to Windows 7, and a shift away from Microsoft hasn't really materialised in a big way.

Why is Windows 7, which is based on the same technologies that were introduced with Vista, driving the market in a way that Vista never managed to achieve? Vista faltered in the market because organisations were put off by the resource demands of the new OS, as well as the challenges in migrating workloads to the platform from XP. These challenges, coupled with the fact that the OS changes didn't deliver sufficient value into the business, were enough to make many businesses put any OS upgrade plans on hold. Irrespective of Vista's failure in the market, it laid the groundwork around areas such as the driver architecture and security that were critical in moving Windows forward, and that Windows 7 was able to build upon.

Windows 7 has addressed many of the issues associated with Vista, to provide a stable environment that requires fewer resources to perform well, but without compromising on the areas where Vista did deliver, most notably on management, security and the enhanced user interface. Crucially, it has also implemented the capability to run XP applications in a virtual mode, at least in certain license flavours of the OS.

It isn't just the OS where there is a lot more movement either, ongoing or in the pipeline. The office productivity suite is also entering a period of increased activity, although admittedly not of the same order of magnitude as the OS, as there is less catch-up happening. This is because upgrade activity did not slow as much as it did for hardware or OSs. Similar to Windows, Microsoft Office is still dominant in the enterprise space, however, some companies have shown a preference for alternatives such as OpenOffice. There is still relatively little appetite for Google Apps, the on-line service, which is having to deal with sensitivities around data storage, and, more recently, is also having to contend with other online variants, including offerings from Microsoft (Figure 5).

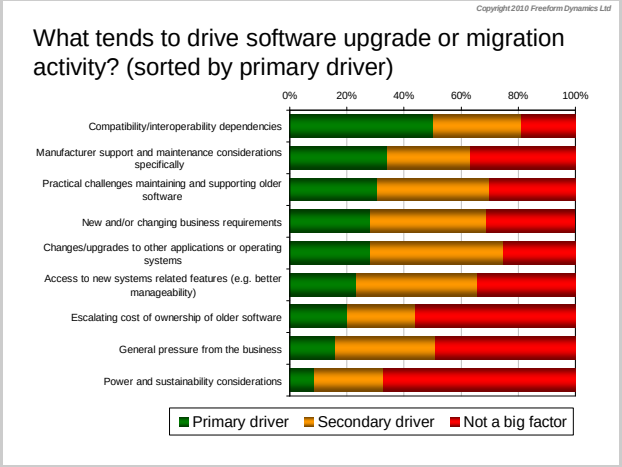


There is increased activity around both OS and office productivity suites, with Windows 7 the dominant OS, and MS Office the main office productivity suite. But alternatives such as Linux are making their mark.

Figure 5

Interdependencies between hardware, OS and office productivity suite

This increased simultaneous activity in migration to Windows 7 and upgrading the office productivity suite is not a coincidence. A move to a new OS will tend to pull other related things such as software upgrades along with it, to address compatibility and interoperability dependencies. Dealing with more than one area of upgrade at once can make sense, from an overall support and learning curve consolidation perspective and to minimise disruption (Figure 6), even if it adds additional workload to the project planning and testing cycles.

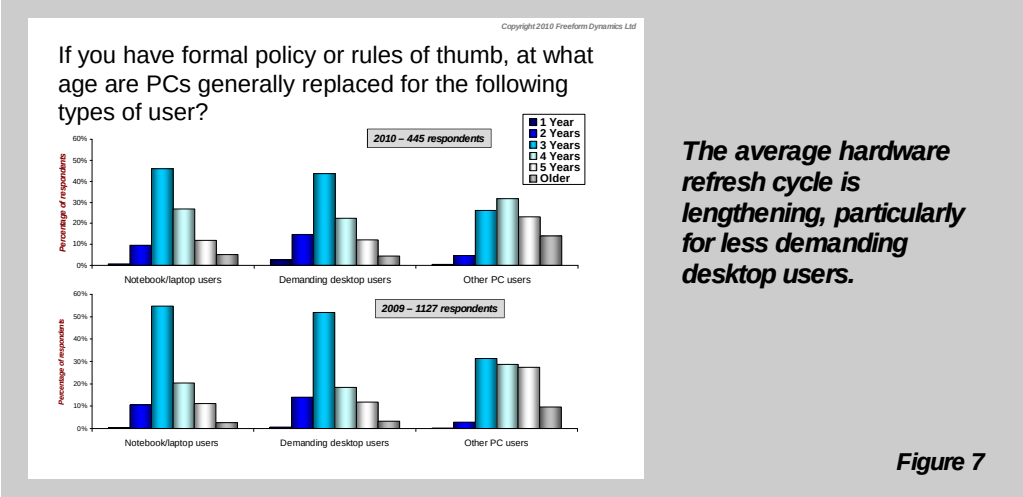


Compatibility and interoperability dependencies with the OS are top of the list in software upgrade decisions.

Figure 6

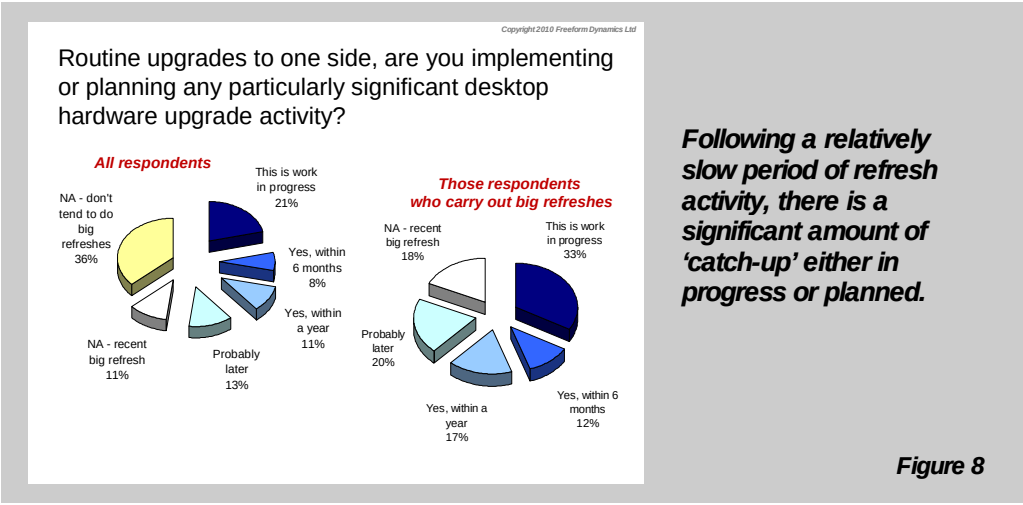
So, we can see that there is uplift in refresh and upgrade activity around both OS and applications, but is it a similar story with hardware?

If we begin with what respondents have told us about hardware refresh, we see that, on average, this takes place every 3 to 4 years. If we compare the situation now to last year, we find that the cycle has lengthened, and, as might be expected, this is more marked for less demanding PC users (Figure 7).

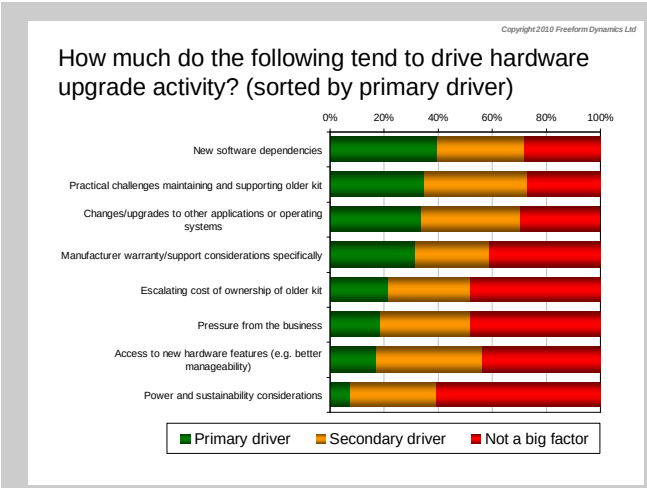


When we look at how businesses map into the refresh cycle, some interesting findings emerge. A third of respondents don't tend to do a periodic big refresh. Of the remainder, only 18% have carried out a recent refresh. If we assume that recent is within the past year, this suggests that refresh activity has been quite low. Based on a 3 to 4 year cycle, the average should be 25-33%.

Of the companies that do a big refresh, almost two thirds are either in the process of a hardware upgrade or are planning one within the coming year. This suggests that, similar to the OS, and to a lesser degree the office productivity suite, there is a lot of catch up activity going on or about to begin, and the desktop estate is moving into a period of much higher activity, with a lot of seemingly inter-related activity (Figure 8).



The fact that hardware refresh activity is gathering pace at the same time as OS and office productivity suite upgrades is no coincidence. Interdependencies across these three areas are more likely to drive simultaneous upgrades than other factors, such as pressure from the business or power and sustainability considerations, which are not considered to be major factors by many companies (Figure 9).



Software dependencies play a key role in driving hardware upgrades, along with factors such as supporting older kit, and OS upgrades.

Figure 9

More than just hardware, OS and software

We have discussed what is happening at a high level with the desktop estate, but when thinking about the desktop, other considerations play an important part. If we look at things from a configuration perspective, particularly around the areas of risk, virtualisation and power initiatives, some interesting findings emerge.

Risk factors need to be considered

Initiatives associated with risk, incorporating factors such as back up and data protection, are being undertaken with varying degrees of rigour. Top of the list is the encryption of data on laptop/notebook hard drives; over three quarters of respondents have implemented it or are considering doing so. Based on our regular interactions with IT managers, this number seems high, but is comparable to other research we have undertaken in this area, specifically around security. A possible explanation is that the responses refer to either selective encryption associated with specific applications, or to targeted devices of specific users, rather than to encryption being carried out across the entire desktop estate. It is also interesting to contemplate if it is only specific data sets that are being encrypted, rather than the whole disk or user directories being protected, as is now possible using software built into operating systems such as OS X and particular versions of Windows, or whether organisations are using specialist encryption software sold by specialist providers.

The survey reported that remote device lock and/or wipe mechanisms for lost or stolen systems are either implemented or being considered by around half of the respondents. On the face of it, this figure looks high compared to our experiences with organisations, but might be accounted for when we recognise the growing number of well documented and high profile security breaches, where a laptop or notebook has been central to the incident. Reports of these losses may have prompted many to take appropriate precautionary measures or at least to investigate the potential for their use. Again, our experiences and other research work suggests this is more likely to be used on laptops or other mobile devices of specific users inside a business rather than across the entire estate. The embedding of such functionality into devices, for example by Intel as part of its vPro offering and other vendors, holds the potential for organisations to adopt this approach more widely going forward. However as with all solutions, it is essential that good operational processes are wrapped around the tools to ensure their effective use and end-user acceptance.

Other initiatives associated with risk come even lower down the list in terms of priority, with remote back-up and recovery options for mobile and home PCs coming at the bottom of the list. This is possibly because businesses think that they are covered already or they have just not considered the issue in enough, or any, depth. Irrespective of the reasons, given the increasing amount of company data carried on such devices, this could have serious ramifications if it is not properly addressed.

The failure to attach high importance to these areas is not a deliberate avoidance of them. Due to a perceived lack of suitable or affordable solutions, and associated difficulties with their implementation, organisations have lived with such shortfalls for years, and this has created an underlying complacency and resignation (Figure 10).

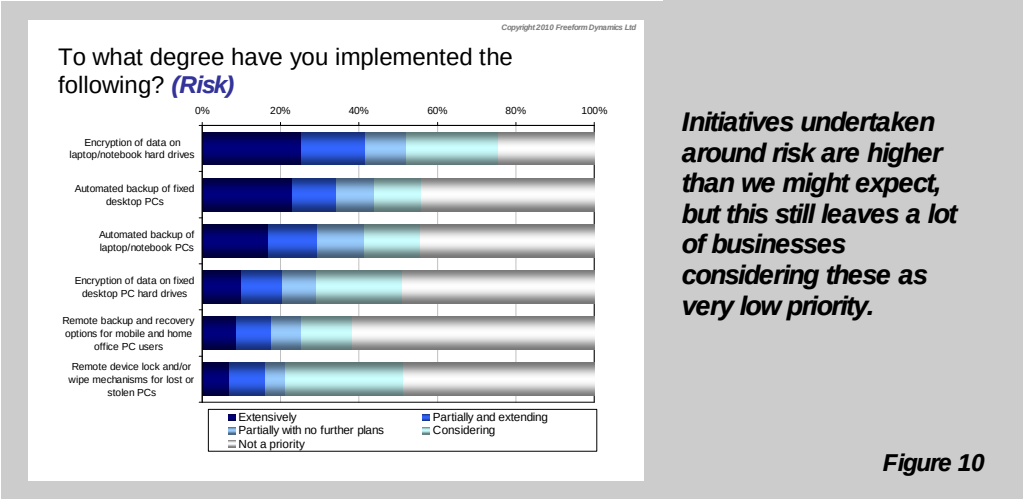


Figure 10

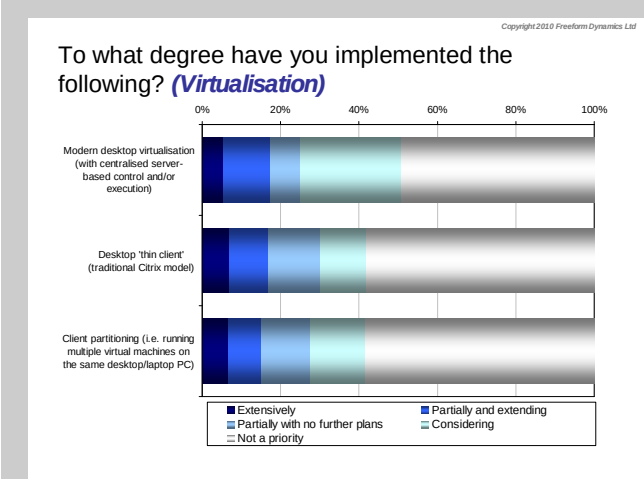
Routes to virtualisation

While many companies are still continuing with a traditional fat client in their desktop environment, alternatives around desktop virtualisation are attracting attention, and companies are much more willing to take these into consideration as part of refresh projects. This was something we touched on earlier in this report. Around half of respondents have implemented or are considering some form of virtualisation.

The biggest challenge for organisations investigating whether to deploy some form of desktop virtualisation lies in the fact that the term covers several different solution architectures, each of which fits different user needs. Assessing which solution best fits each category of user in the business requires time and effort. When the categories are established, needs in terms of connectivity, mobility, security and application / service access can be used to work out which of the various desktop virtualisation options fit each case. Following on from this, it is possible to start establishing which user categories may justify the (inevitably different) business cases and costs for each solution option.

For example, in the past, the only feasible desktop virtualisation option widely available utilised terminal services, perhaps coupled with thin clients. This type of virtualisation is most likely to be associated with less demanding, office based users, as their desktops can be virtualised more easily. But these users only make up a portion of the workforce of many companies, and as we saw earlier, users are becoming more demanding over time. To cater for these types of users, organisations will need to decide if any of the full machine virtualisation, application streaming or a combination of the two architectures may be appropriate and affordable (Figure 11).

What is clear is that the understanding of the various desktop virtualisation approaches is very low and organisations are seeking to learn which approach best fits which type of user behaviour. Even after this level of understanding is established, it is clear from early adopters that making a business case can be complex and there is a great desire to find examples of good practice in both the implementation and ongoing operation of such systems.

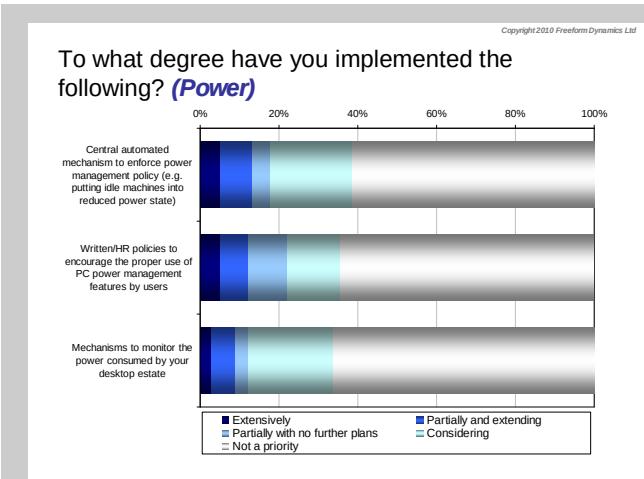


Implementation of virtualisation is still low, as a result of confusion around the technology, but it is increasingly on the agenda for many businesses.

Figure 11

Green is less of a priority

In spite of the attempts by vendors to get green initiatives onto the company agenda, power considerations are still not a priority for most companies, but are becoming more important moving forwards. While power saving initiatives may not have been very actively pursued by many companies, they are often linked to, and shrouded by other measures, such as a better managed desktop estate, which may in turn drive even higher power savings than simply using devices with inherently lower demands (Figure 12).



While power considerations are very low priority for many, better management of the desktop and newer equipment are likely to drive power savings through, anyway.

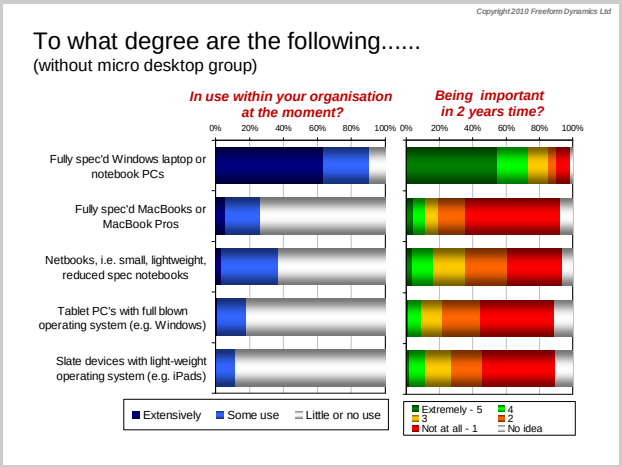
Figure 12

The device challenge

Given the growing focus of portable devices, and the increasing number of alternatives available, it is worth considering how companies are adopting the variants, and how this will change in the future.

The current picture with portable devices in the workplace is one dominated by more traditional fully specified laptops or notebooks, with around 90% of respondents using these either extensively or at least to some degree across their business. More lightweight devices, such as tablet PCs and slate devices, generally have much lower levels of use and are less distributed across roles throughout organisations, suggesting that these have yet to have any significant impact in the workplace.

More interesting is the fact that respondents are telling us they expect that nothing much will change in the next two years; fully specified laptops or notebook PCs will continue to dominate, while other devices will only have a limited place in the organisation of the future, perhaps being adopted as second or third devices rather than as straight replacements for laptops (Figure 13).



Traditional laptops and notebooks are the predominant portable devices in use today, with little change expected going forward.

Figure 13

It is important to consider these findings in context. Respondents are made up of a high proportion of IT professionals (see Appendix A), and as such, the findings above are very much an IT-centric view of the world, where alternatives are not considered important.

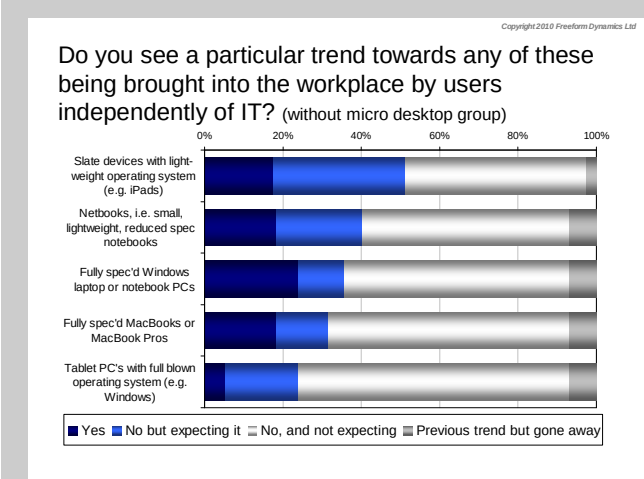
Consumerisation is happening already

When we look at what respondents see users doing independently of IT, however, a different picture emerges. Irrespective of the more locked-down world that IT envisages or for which it hopes, users are already actively bringing a range of devices into the organisation, and the expectation is that this trend is set to continue. In this evolving scenario, the shift is very much away from familiar laptops and notebooks favoured by IT as a supportable known quantity.

This suggests that users are potentially a fly in IT's ointment, disturbing the status quo IT desires. A possible course of action for IT is to try and resist the trend towards consumerisation. The likelihood of being able to do this, however, is low, and is likely to result in issues arising around security, management and integration within the business as users side step IT and its perceived restrictions. A better course of action for IT is to embrace, or at the very least, move towards addressing consumerisation, as this will allow for things to happen in a more controlled way, with properly defined mechanisms. This, in turn, should enable better management of the desktop estate, as well as more controlled costs and lower risk exposure.

Before we move on with our discussion, it is interesting to note that the main category expected to drive consumerisation is slate devices based around a light-weight OS, such as the iPad. This also happens to be the category that IT sees as being least important in workplace today.

While we can infer that alternative devices are likely to have an impact on the workplace, it is too early to say what this will look like, or how big the repercussions will be in the medium term (Figure 14).



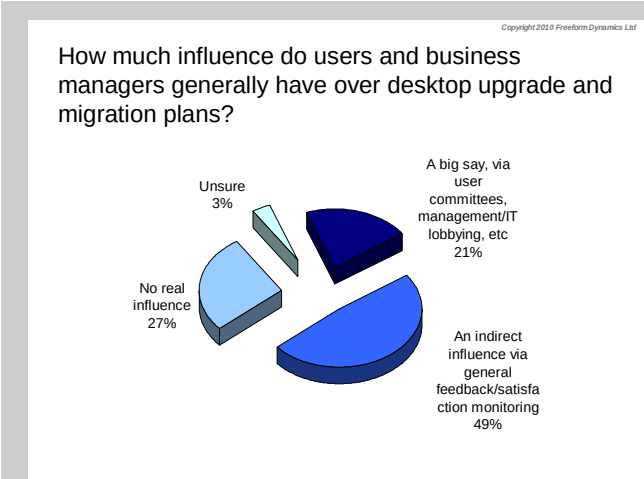
Consumerisation may prove disruptive, as users are likely to bring alternative devices into the workplace whether IT like it or not.

Figure 14

A note on methodology

The order in which respondents answered the questions suggests that the issue of consumerisation is not sufficiently front of mind at present, but when it is raised, it is generally accepted that it is happening already, and will have an impact on the business going forward. If we had asked about user trends before asking about what devices are likely to be used in two years time, there may have been a greater acceptance that a higher proportion of alternative devices would be in use.

While consumerisation is changing the shape of the desktop from the outside, in, many businesses are already being more proactive in their acknowledgement of users' needs and wants, either through routes such as user committees and management/IT lobbying, or more indirectly, through general feedback and satisfaction monitoring (Figure 15).



Companies already recognise the need to take on board user requests, with many actively seeking user input.

Figure15

Desktop management and support: a red flag?

We have seen some interesting dynamics with desktop plans, but how are things evolving from a desktop maintenance and support perspective, particularly given that we have already highlighted some things within this as areas of weakness in our report on desktop modernisation from last year (see References and Further Reading section for details)?

From the feedback, we have observed very little change or improvement to desktop maintenance and support over the past 12 months. In some cases, notably around preventative maintenance processes, security management and end point security measures, and especially around

monitoring and early detection, there even appears to have been a reduction in capability overall, highlighting the continued need to pay attention to the various aspects of support and maintenance.

Looking at the results more closely, there are some large gaps between more reactive capabilities, such as patch management, diagnostics and repair arrangements, where companies report a higher degree of capability, and those that demand a more proactive approach, such as preventative maintenance, which come much lower down the capability ladder. In spite of these acknowledged shortfalls, relatively few are prioritising improvements in these areas. This presents a similar picture to last year's findings, which is surprising. Every IT professional recognises that having good management tools available is absolutely essential in order to ensure both the quality of service delivery to the users of desktops and laptops, as well as ensuring that such systems are properly secured. With growing pressure on IT staffing levels and a requirement to enhance security and desktop availability, the utilisation of effective management tools coupled with good practice and processes are essential (Figure 16).

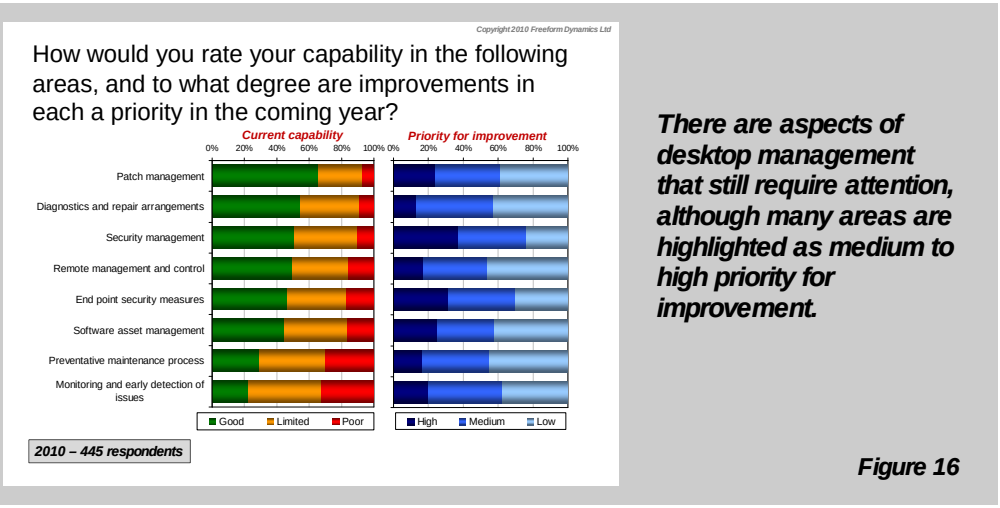
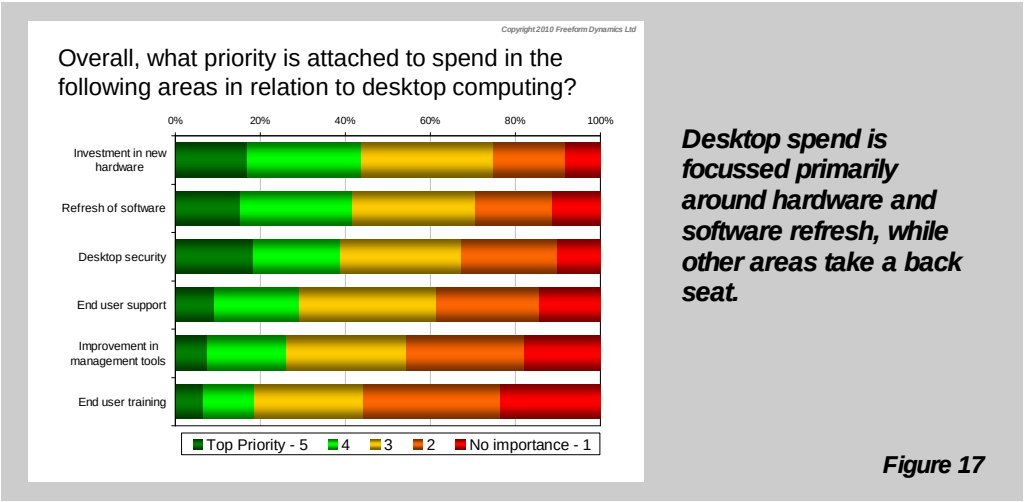


Figure 16

Any discussion around the desktop needs to take into account likely investment considerations. The key priorities for businesses at the moment are hardware and software refresh, which is as we might expect, given the limited activity in these areas last year, and the 'catch-up' we reported on in Figure 8, earlier in this report.

Of greater significance is the fact that two thirds of the respondents attach relatively low importance to end user support. As we know from our ongoing research with enterprises, supporting end users is a high cost for the business and an area where users are quick to express any dissatisfaction. End user training also ranks very low, with some 80% not considering it particularly important. The danger in neglecting training is that staff may not be able to use their desktop hardware and software correctly, securely, or to its full potential. As well as users taking longer to get to grips with equipment and software, it could also lead to ingrained inefficiencies that companies will find difficult to reverse. Poor training clearly results in greater pressure on support staff to field user queries, and can, if not addressed, also expose the organisation to potential risk through "inappropriate" or unexpected use of machines or systems.

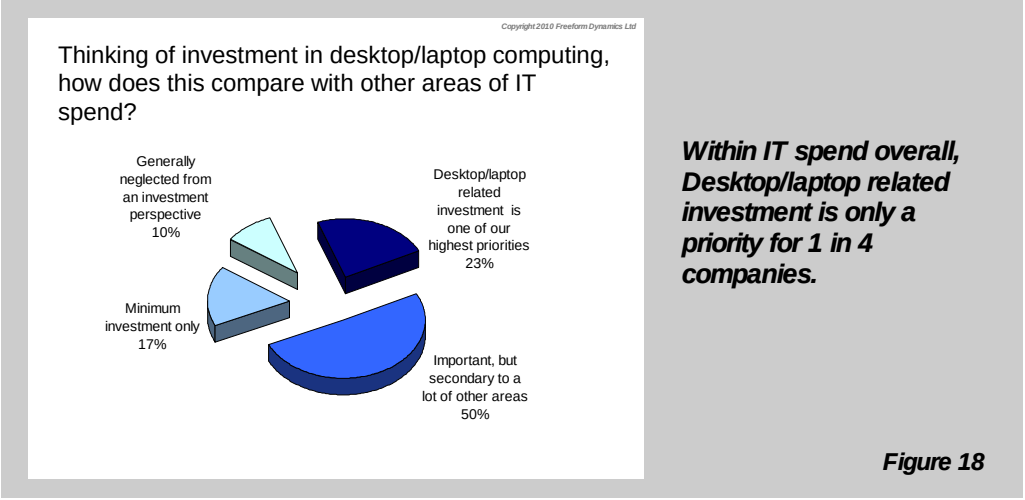
It is interesting to note that investments in hardware and software are ranked as higher priority than other investment possibilities. This could be indicative of the fact that the business case for matters such as desktop support, end user training and management tools is either not well known by business managers, or poorly explained by IT. It remains to be seen if the potential deployment of various desktop virtualisation solutions, or the increasingly sophisticated expectations of users for constant service availability, will encourage further investment in management tools and processes. It is clear that IT needs to get much better at making the business case for such tools to be acquired, an area in which IT continues to have a poor record (Figure17).



Making the case for investment

We have seen many factors at play with respect to desktop upgrades, and have observed that a lot of companies are now moving forward with plans for upgrade and refresh.

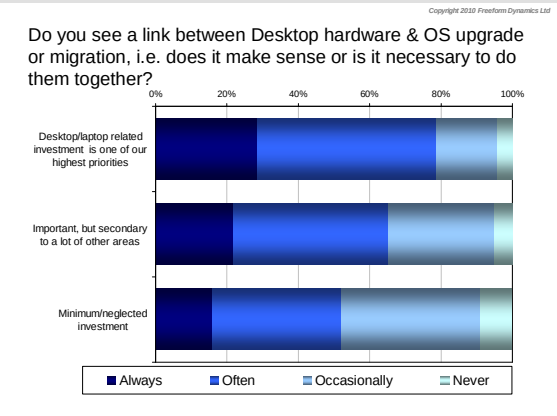
Only a quarter of companies consider desktop/laptop related investment as the main priority within overall IT spend, while around the same amount have either have neglected it or apportioned only minimum investment to it (Figure 18).

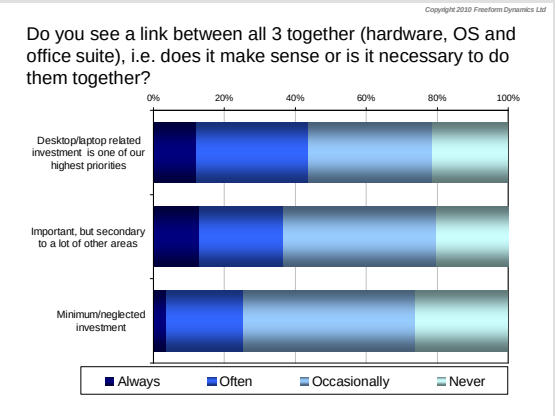


Whether these companies are putting desktop/laptop at the top of the IT spending list because they see the pain to be removed by doing so, or the advantages to be gained, or simply because 'it is their time, now', is there anything we can learn from them?

If we come back to the earlier discussion around the links between hardware, OS and office productivity suite when upgrading or refreshing, a correlation emerges between this and prioritisation of desktop/laptop investments. Companies with desktop/laptop investments at the top of the list are much more likely to link a hardware and OS migration.

There is a similar, albeit not quite as strong correlation when the office productivity suite is brought into the refresh/upgrade mix. This is not surprising, as dependencies between the office productivity suite and other applications are much more likely to exist, that make it difficult to tie in an upgrade with hardware and OS migration. For example, it is not possible to use some hosted CRM software with Office 2010 at the time of writing (Figures 19/20).

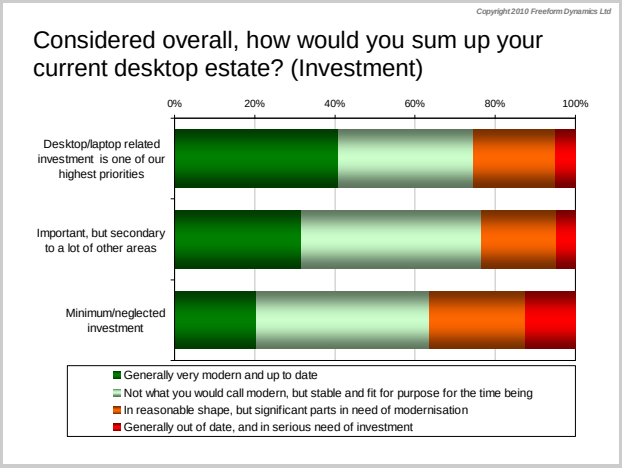




Correlations exist between prioritisation of desktop/laptop investments and linked migrations and upgrades.

Figures 19/20

The benefit to those companies who treat desktop/laptop investment as a high priority, and that, by default, approach desktop modernisation in a more all-encompassing way, is that they are much more likely to have a very modern and up to date desktop estate (Figure 21).



Companies that prioritise desktop/laptop investments run much more up-to-date estates, and experience benefits associated with this.

Figure 21

Companies that fall into this bracket will benefit in a number of ways. Desktop estates will be more up-to-date, and will result in higher levels of user satisfaction, and better user productivity, thanks to improved desktop facilities. Machines will tend to go wrong less often, as they are newer, and when they do, they are more likely to be covered by a maintenance contract, freeing up IT to focus on other areas. They will also use less power, which can quickly translate into potentially significant cost savings for companies running a large number of machines.

Pulling it all together

If we stand back and pull everything together across our findings, some top line advice emerges for anyone reviewing the current status of their desktop computing environment and considering modernisation:

As the market around desktop modernisation begins to move again, and companies are entering a ‘catch-up’ phase, consider addressing both hardware and OS at the same time – something that

has always been the major pattern in the past. For companies entering this phase, there are a number of things worth considering:

- Make sure that all decisions around desktop evolution take into account user segmentation. Many companies have a mix of user types with different requirements. Accept that users are becoming more demanding, and are now more vocal in expressing their wants and requests.

- While moving forward with a traditional fat client desktop environment that supports more mainstream OS and software might be the easiest way forward, it doesn't necessarily follow that companies have to go along this route, simply because they always have. Be receptive to other options such as virtualisation, along with OS and office productivity suite variants.

- Where possible, think about bringing the office productivity suite into the mix when scoping modernisation initiatives, although be aware of all potential dependencies before committing to this.

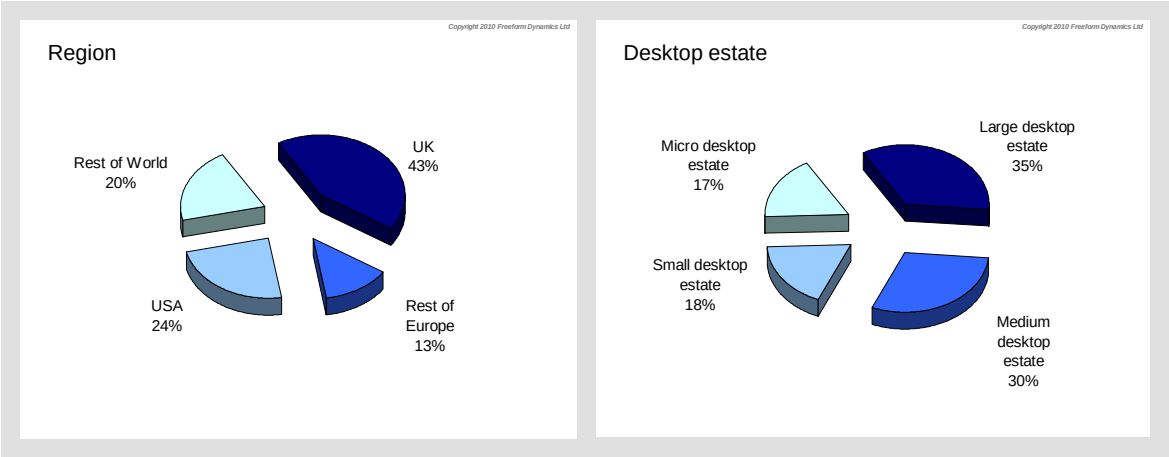
- Keep an eye on management capabilities. Some serious shortfalls exist, many of which are a rollover from the previous times, but are still not considered as high priority challenges to be addressed. Continually pushing these to the 'bottom of the list' may cause problems down the line. Use any refresh and upgrade plans as an opportunity to address management capabilities and processes, identifying gaps and poor capability and prioritising them for remediation. Benefits almost certain to accrue, but very difficult to measure, include higher machine availability, lower risk to data loss and overall reduction in the lifetime cost of ownership of systems.

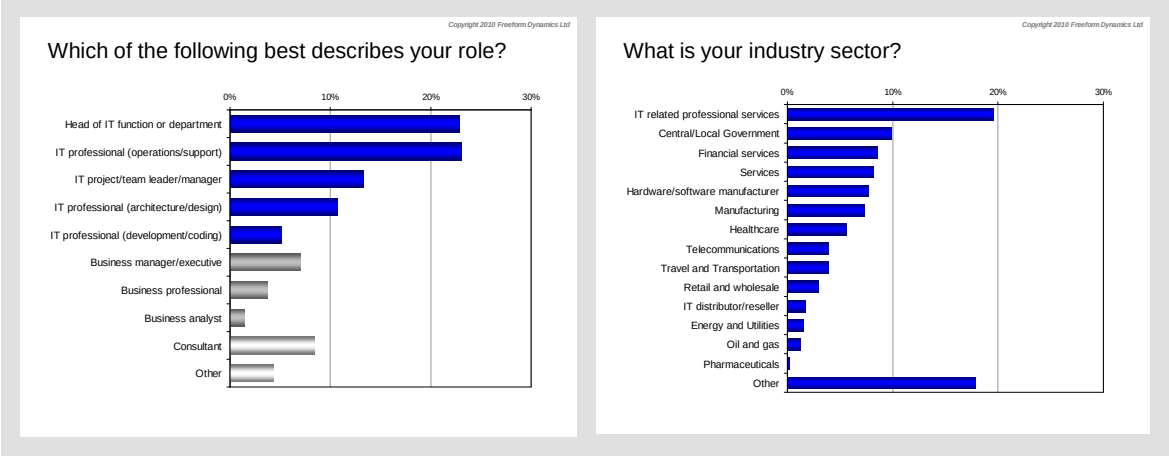
- Consumerisation will happen, even if IT doesn't want it to, so it makes sense to approach it head on, rather than ignoring it. Consider how it will impact IT, and plan a sensible strategy for dealing with it.

Appendix A: Study Sample

Feedback was gathered via an online questionnaire published on The Register news and information site (www.theregister.com). The respondents – totalling 445 – were largely IT professionals, representing a good cross section of job functions, and working in a range of different industry sectors.

The composition of the sample by organisation size and geography are as follows:





Acknowledgements

Our thanks go to all those who participated in the study, whose feedback has been invaluable in providing insights into the practicalities and opportunities in this interesting, diverse and complex area.

References and Further Reading

Additional reports that may be of relevance, and that are available for download, free of charge, from the Freeform Dynamics website are:

1. **Linux on the desktop**
   Lessons from mainstream business adoption
   http://www.freeformdynamics.com/fullarticle.asp?aid=678

2. **Desktop Virtualisation**
   Early days for mainstream adoption
   http://www.freeformdynamics.com/fullarticle.asp?aid=790

3. **Desktop Modernisation**
   A service delivery view
   http://www.freeformdynamics.com/fullarticle.asp?aid=848

Further reports that may also be of interest can be obtained from www.freeformdynamics.com

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