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WHITE PAPER

Bridging the Information Worker Productivity Gap in Western Europe: New Challenges and Opportunities for IT

Sponsored by: Adobe

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September 2012

EXECUTIVE SUMMARY

In June 2012, IDC undertook a global survey of information workers and IT professionals in the United States, the United Kingdom, France, Germany, Australia, and Japan to better understand today's information worker needs and challenges. A key goal of our survey was to uncover significant time wasters and opportunities to address workforce productivity. This paper reports our findings and provides recommendations for IT.

Our survey shows that information workers in Western Europe waste a significant amount of time each week dealing with a variety of challenges related to working with documents. This wasted time costs the organization €14,492 per information worker per year and amounts to a loss of 19.5% in the organization's total productivity.[1] For an organization with 1,000 people, addressing these time wasters would be tantamount to hiring 195 new employees.

This should be welcome news for executives seeking to redeploy resources to spur innovation, increase profits, and compete effectively in new markets. It should also capture the attention of CIOs who have been tasked with increasing the organization's productivity. In IDC's 2011 survey of CIOs in the United States and Western Europe, CIOs ranked increasing productivity third on the list of business initiatives that were expected to drive IT investment in 2012 — just behind reducing the organization's costs and improving the organization's business processes.[2]

IT is responding with new investments in collaboration tools. Asked about key IT initiatives for 2012, CIOs ranked improving the organization's collaboration tools third — behind cloud services and consolidation/virtualization and ahead of big data and analytics, application consolidation, security and risk management, and a host of other key IT initiatives. Translating investments in collaboration tools into real productivity gains has proven to be somewhat elusive in the past, as a decade of IDC research into the hidden costs of information work shows. What is standing in the way?

One of the key findings of our June 2012 survey is that information work is inherently document intensive. Much of the time that information workers spend at work involves working with documents or forms in one way or another — whether researching and

[1] See the Appendix for the survey methodology and an explanation of how costs are calculated.

[2] *The CIO Agenda for 2012 and Beyond: A Look at CIO Sentiment and Priorities*, IDC #233098, February 2012

pulling information together for documents; reviewing, approving, and signing documents; managing the document review process; or working with forms and forms data. General-purpose collaboration tools don't fully address information workers' needs related to these *document-based* activities.

Specifically, information workers need tools and best practices that make them more productive in the following areas:

- Creating and managing documents
- Collaborating around documents and working with forms
- Working with documents on mobile devices

As our June 2012 survey also found, some significant gaps in perception exist between information workers and IT when it comes to current and future needs — gaps that will only widen with the rapid growth of cloud and mobile computing. Closing these perception gaps is essential if IT is to deliver against its key productivity improvement objectives, and this paper looks to help IT achieve that goal.

KEY CHARACTERISTICS OF INFORMATION WORK

If we stop to consider how information work has changed over the past decade, we see that many of the changes have been dramatic. A far greater percentage of employees work remotely or from a home office today, and workgroups often span the globe. Web and video conferencing and tools such as instant messaging and instant meetings let people collaborate in real time across distance, time zones, and organizational boundaries, and mobile devices help them be productive "on the go." Increasingly, enterprise social networks are enabling information workers to share and find relevant information, locate needed expertise, and come together in self-organizing groups.

No one would argue that investments in collaboration tools haven't brought returns; they have. At the same time, as our research over the past decade into the hidden costs of information work shows, information workers continue to waste a significant number of hours each week on a variety of unproductive activities.

Certainly, many factors can contribute to this loss in productivity. In some cases, the culprit is inefficient business processes and/or lack of automation. To some extent, it's the result of too many separate applications that force the information worker to become "the glue" between multiple systems.

To gain a better understanding of the nature of information work today — and glean insights into the activities that cost information workers time — IDC conducted a global survey of 1,200 information workers and IT professionals in the United States, the United Kingdom, France, Germany, Australia, and Japan in June 2012. Our survey results highlight significant differences in perceptions between information workers and IT around current and future needs and reveal opportunities to improve workforce productivity. This paper provides a detailed analysis of our findings for Western Europe.

Information Work Is Document Intensive

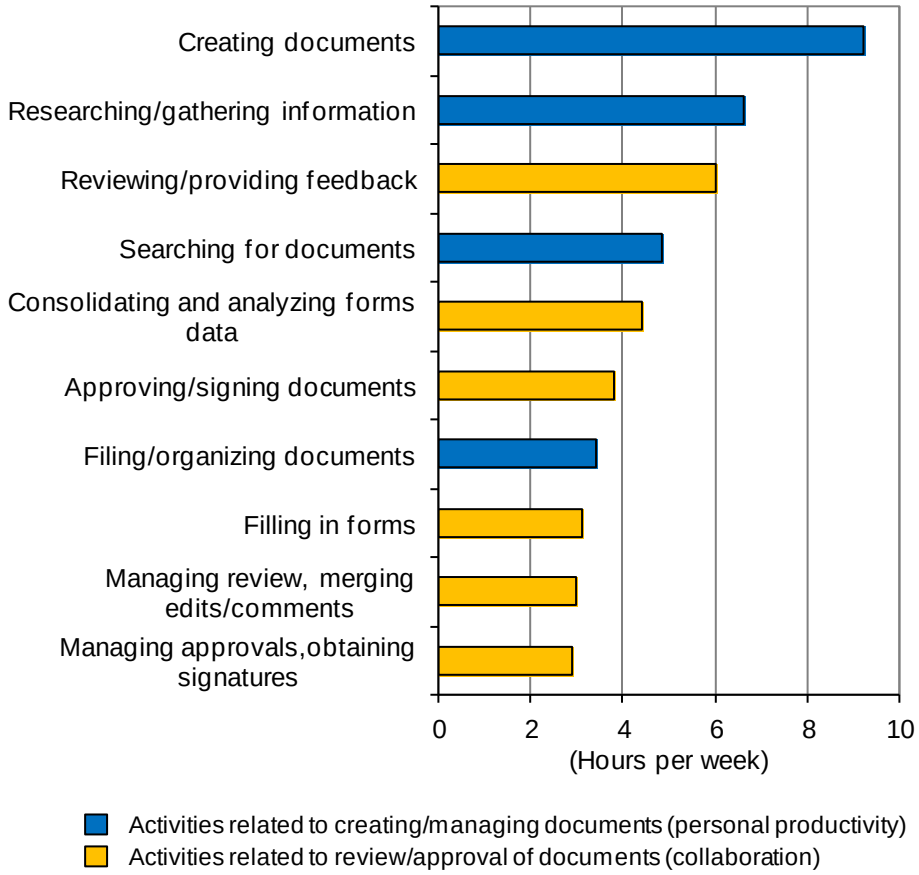
Our survey reveals that information workers spend most of their time at work each week performing one document-related activity or another (see Figure 1).

Information workers spend most of their time at work each week performing one document-related activity or another.

FIGURE 1

Information Work in Western Europe Is Highly Document Centric

Q. Thinking about your typical workweek, how many hours would you say you spend on the following document-related activities?



n = 420 information workers in Western Europe, evenly split across the United Kingdom, France, and Germany

Notes:

Multiple responses were allowed.

Total is 47.1 hours, which is greater than the 44.3 hours information workers say they work each week; subsequent calculations are based on the higher number (47.1). (See the methodology in the Appendix.)

Source: IDC's *Information Worker Survey*, June 2012

Information workers spend half their time in activities related to document creation and management, including researching and gathering information for documents, searching for documents, and filing and organizing documents. This is time spent working individually, where tools that help improve personal productivity come into play.

Information workers spend half their time in activities related to document creation and management, and they spend the other half in activities that involve working collaboratively with documents.

They spend the other half of their time in activities that involve working collaboratively with documents — that is, getting their documents reviewed and approved; merging edits and comments from multiple reviewers/versions into a single document; managing approvals and obtaining signatures, wet stamps, or other marks of approval on documents; reviewing documents received from others and providing feedback; approving or signing documents; and dealing with forms or forms data. Almost two-thirds of this time is spent collaborating with people who don't sit nearby — that is, people from the information worker's team who work from other locations, people in other groups, and people from outside the organization. This is where collaborative tools can help bridge distance, time zones, and organizational boundaries.

Information workers today increasingly require the ability to work "on the go." Most want to use their mobile devices to perform the same document-related tasks they use their PCs for today. All of these devices are being connected to the organization's network and email systems, and this adds to the complexity of managing networks and applications for IT.

Information workers need to be able to work "on the go" using smartphones and tablets. Most want to use their mobile devices to perform the same document-related tasks they use their PCs for today.

Further, as our survey shows, the "bring your own device" (BYOD) trend has begun to take root in Western Europe: 13% of the smartphones information workers use at work — and more than a third of the tablets — are BYOD today. This further exacerbates challenges around document and application security and is forcing IT to rethink its approach to device and information management.

In any case, the demand for mobility is not something IT can resist — no matter how much it might wish to: It is being driven by information workers at every level of the organization today, from executives on down.

Information Workers Spend Hours Each Week Dealing with Document Challenges

Despite significant investments in personal productivity tools and collaborative applications over the past several years, information workers in Western Europe spend a significant percentage (43.3%) of their time dealing with a variety of challenges and frustrations related to working with documents (see Figure 2).

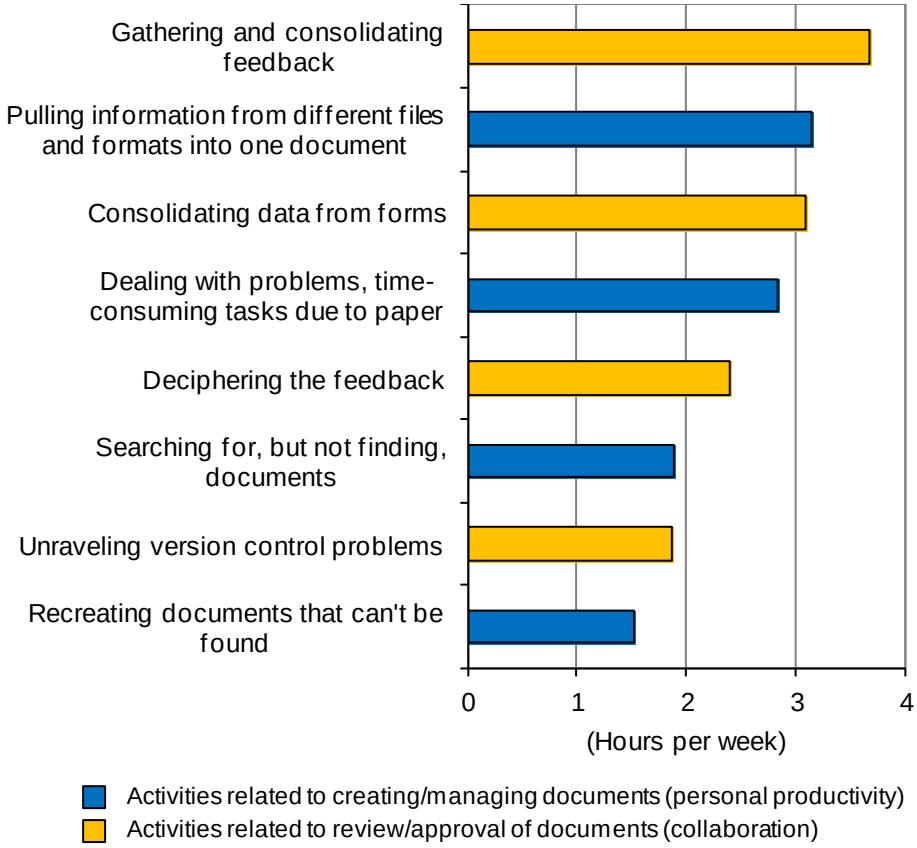
Time wasted in the course of dealing with document-related challenges costs the organization €14,492 per information worker per year in compensation costs alone.

As our research shows, much of this time is wasted time: IDC estimates wasted time costs the organization €14,492 per information worker per year in compensation costs alone.

FIGURE 2

Information Workers in Western Europe Spend a Significant Percentage of Their Time Dealing with a Variety of Document Challenges

Q. There are many things that can take up a lot of extra time when working with documents. How many hours a week do you spend on each of the following?



n = 420 information workers in Western Europe, evenly split across the United Kingdom, France, and Germany

Notes:

Multiple responses were allowed.

Total is 20.4 hours, or 43.3% of the time spent on Figure 1 activities.

Source: IDC's *Information Worker Survey*, June 2012

Subsequent sections of this study look in more detail at the three areas we highlighted previously — areas we believe IT should target for productivity improvements: creating and managing documents (personal productivity), collaborating with others around documents, and working with documents on mobile devices. We believe IT has an opportunity to make improvements fairly inexpensively.

BOOSTING INFORMATION WORKERS' PERSONAL PRODUCTIVITY

Let's begin with information worker challenges related to personal productivity. Information workers in Western Europe spend 9.4 hours per week dealing with challenges around creating and managing content (see Table 1). Much of this is wasted time.

Fruitless searches and missed opportunities for content reuse are entirely wasted time, and at least a quarter of the time information workers spend dealing with issues that arise using paper documents and pulling information together from multiple sources into one document is also wasted time. This means they waste 4.9 hours per week dealing with challenges related to document creation and management.

Information workers spend 9.4 hours a week dealing with challenges related to document creation and management. At least 4.9 hours of this is wasted time.

TABLE 1

Information Worker Time Spent/Wasted Dealing with Challenges Related to Personal Productivity in Western Europe

	Hours Spent per Week	% of Time Spent	Hours Wasted per Week	% of Time Wasted	% of Organizational Productivity Lost
Pulling information that exists in different files and formats together in one document	3.1	6.7%	0.8	1.7%	1.3%
Dealing with problems and time-consuming tasks that arise with paper documents	2.8	6.0%	0.7	1.5%	1.2%
Searching for, but not finding, documents	1.9	4.0%	1.9	4.0%	3.2%
Recreating documents because the current or the right version can't be found or got lost	1.5	3.2%	1.5	3.2%	2.6%
Total	9.4	19.9%	4.9	10.4%	8.4%

n = 420 information workers in Western Europe, evenly split across the United Kingdom, France, and Germany

Notes:

Percentages are based on reported 47.1 hours per week spent on Figure 1 activities and 80.6% of employees being information workers. (See the methodology in the Appendix.)

All numbers in this table may not be exact due to rounding.

Source: IDC's *Information Worker Survey*, June 2012

Time wasted in document creation and management activities costs the organization €6,250 per information worker per year. The cost in lost productivity is huge when we add this up for the organization as a whole: It amounts to an 8.4% loss in the organization's total productivity. Eliminating the time wasters related to creating and managing documents would be equivalent to adding 84 new employees in a 1,000-person company.

Time wasted in document creation and management activities costs the organization €6,250 per information worker per year.

Persistence of Paper Documents a Contributor

Despite attempts to eliminate paper via document automation and other technologies over the years, paper continues to be prevalent. We asked information workers in Western Europe what percentage of the time they spend dealing with documents is spent working with documents in paper rather than electronic form; the answer is 21.9%. Use of paper is declining, but only modestly: 38.1% of information workers in Western Europe say the percentage of documents they deal with that are paper based has declined in the past year, but 13.3% say it has increased. As noted previously, dealing with problems and time-consuming tasks that arise with paper documents eats up 2.8 hours of an information worker's time each week.

Paper continues to be prevalent: 21.9% of the time information workers spend dealing with documents is spent working with paper documents today.

Reasons for the persistence of paper include requirements for physical signatures (and lack of comfort with electronic signatures), old habits, the need to file or submit documents in paper form (or fill out forms by hand), and the need to print documents for use in the field where it's difficult to take along a PC.

IT is somewhat aware of the continued reliance on paper: Over a third of IT respondents say their organization's systems are still far too paper based. IT underestimates the impact this has, however, on both productivity and costs.

Implications for IT

IT needs to focus more attention on improving information workers' personal productivity related to creating and managing documents and eliminating the time wasters. Content management and search technologies are only part of the answer.

IT should engage with information workers to define strategies for reducing the need for paper and improving the efficiency of business processes that require transitions in and out of paper. Paper documents aren't searchable and are difficult to manage, and we believe the persistence of paper documents and forms in the organization is a contributor to all of the time wasters itemized in Table 1. Capture, esignatures (where legally enforceable or recognized), vaulting, and other document-based technologies can help address many of the root causes of the continued reliance on paper. Increased use of tablets can help here too: IDC research shows tablet users print significantly fewer documents. We believe information workers are aware of the disadvantages of paper-based documents and are looking to IT for help with both tools and best practices.

Capture, esignatures (where legally enforceable or recognized), vaulting, and other document-based technologies can help address many of the root causes of the continued reliance on paper.

Document-oriented technologies can also make it easier for information workers to pull information together from multiple electronic formats/sources to create new documents and create "collections" of related documents that can be managed as single objects with rich metadata that makes the content more discoverable.

Document-oriented technologies make it easier to pull information together from multiple formats/sources, create new documents from existing content, and create "collections" of related documents.

ADDRESSING INFORMATION WORKERS' DOCUMENT COLLABORATION NEEDS

As noted previously, information work in Western Europe is highly collaborative: On average, information workers spend a little over half their time collaborating with others inside and outside the organization. A majority of this time is spent

collaborating with people in other locations, departments, or organizations — underscoring the need for tools that make it easier to collaborate across distance, time zones, and organizational boundaries.

Time spent collaborating includes time spent on document review and approval processes and dealing with forms and forms data. Information workers in Western Europe spend almost a quarter of their workweek dealing with challenges related to document review and approval and working with forms (see Table 2).

Information workers in Western Europe spend almost a quarter of their workweek dealing with challenges related to document review and approval and working with forms.

Again, much of this is wasted time. Time spent unraveling version control issues that are created by awkward collaborative processes and consolidating data from forms (a task that begs for better automation) is entirely wasted time. Similarly, we estimate conservatively that a quarter of the time information workers spend gathering and consolidating feedback and deciphering that feedback could be eliminated through the use of better document-based collaboration tools.

TABLE 2

Information Worker Time Spent/Wasted Dealing with Challenges Related to Collaboration in Western Europe

	Hours Spent per Week	% of Time Spent	Hours Wasted per Week	% of Time Wasted	% of Organizational Productivity Lost
Gathering everyone's feedback and consolidating it into a single document	3.7	7.8%	0.9	1.9%	1.6%
Consolidating data from forms	3.1	6.6%	3.1	6.6%	5.3%
Deciphering the feedback	2.4	5.1%	0.6	1.3%	1.0%
Unraveling version control problems created by awkward routing, review, approval, or signature processes	1.9	4.0%	1.9	4.0%	3.2%
Total	11.0	23.4%	6.5	13.7%	11.1%

n = 420 information workers in Western Europe, evenly split across the United Kingdom, France, and Germany

Notes:

Percentages are based on reported 47.1 hours per week spent on Figure 1 activities and 80.6% of employees being information workers. (See the methodology in the Appendix.)

All numbers in this table may not be exact due to rounding.

Source: IDC's *Information Worker Survey*, June 2012

This adds up to 6.5 hours of wasted time each week at an annual cost of €8,242 per information worker. Again, the cost to the organization in lost productivity is enormous: an 11.1% drop in total productivity. Addressing these time wasters would be the equivalent of adding 111 new employees in a 1,000-person company.

Information workers waste 6.5 hours per week dealing with document collaboration challenges — at an annual cost of €8,242 per information worker.

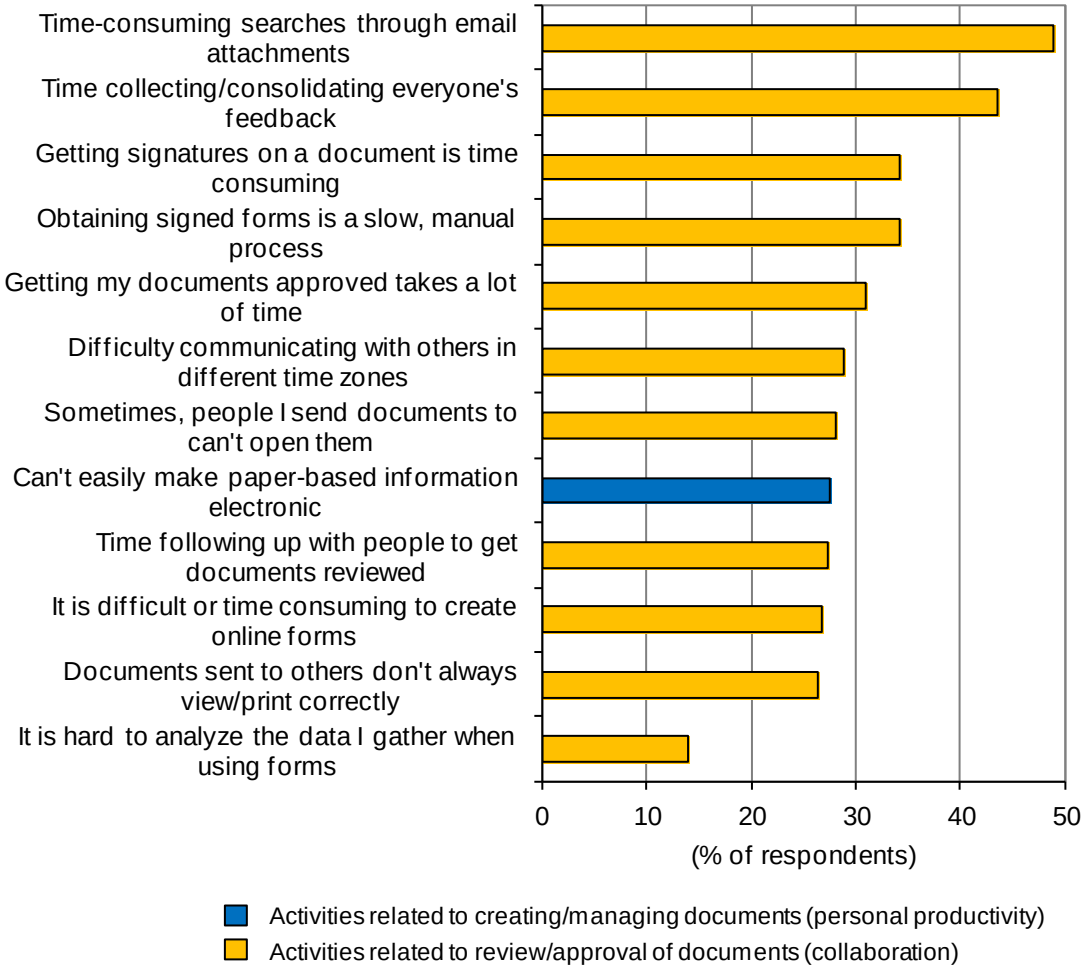
Need for Document-Based Collaboration

Time wasted in edit, review, and approval processes and dealing with forms can be traced to a variety of frustrations that improved document collaboration processes can significantly ameliorate or eliminate altogether (see Figure 3).

FIGURE 3

Information Worker Frustrations Related to Working with Documents in Western Europe

Q. What are some of the biggest frustrations you face working with documents?



n = 420 information workers in Western Europe, evenly split across the United Kingdom, France, and Germany

Note: The figure shows the percentage of respondents who rated each item 4 or 5 on a scale of 1 to 5, where 1 means they strongly disagree and 5 means they strongly agree.

Source: IDC's *Information Worker Survey*, June 2012

These findings suggest that the general-purpose collaborative applications provided to information workers in the past (including messaging, team sites, conferencing, and so forth) don't fully address the highly document-centric nature of information work: Information workers also need support for *document-based collaboration* (see Figure 4). Capabilities include:

General-purpose collaborative applications don't fully address the highly document-centric nature of information work: Information workers also need support for *document-based collaboration.*

- **Commenting and annotation.** Two-thirds of information workers in Western Europe say being able to see other people's comments on documents they have been given to review and/or the use of commenting tools in the document itself would save them time.

- **Document portability and fidelity.** More than a quarter of information workers in Western Europe say the people to whom they send documents can't always open them (because they don't use the same desktop software); similarly, more than a quarter say the people to whom they send documents can't always view or print them correctly. Altogether, more than a third of information workers in Western Europe cite one or both of these frustrations. Information workers in smaller companies are more affected than those in larger companies, likely because larger companies have standardized their desktop software to a greater extent. Still, this is a significant area of frustration for information workers across the board.

- **eForms.** Forms-related workflows are an area of frustration for half of information workers. Information workers in Western Europe spend 7.5 hours per week filling in forms and consolidating/analyzing information they have collected via forms; nearly half of this is wasted time. Today, this is largely a manual effort: Only 4% of our information worker respondents in Western Europe are using an electronic forms product.

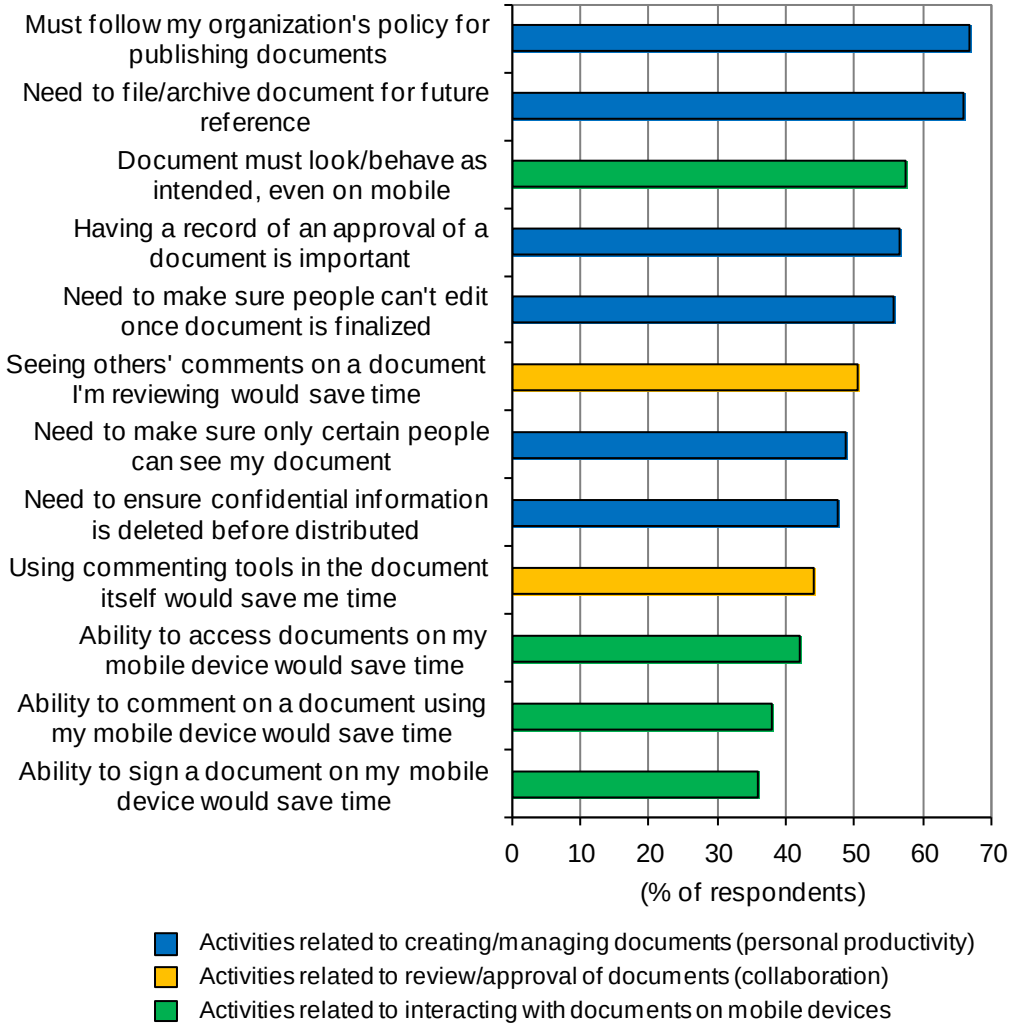
- **Signatures and approvals.** Information workers in Western Europe spend 6.7 hours per week obtaining signatures on documents and getting documents approved, as well as signing or approving documents. This is a good target for better automation.

- **Document security and governance.** The moment a document leaves the author's hands, document security concerns begin — especially when a document is shared with external collaborators.

FIGURE 4

Specific Information Worker Needs in Working with Documents in Western Europe

Q. Regarding your specific needs related to working with documents, please rate the following...



n = 420 information workers in Western Europe, evenly split across the United Kingdom, France, and Germany

Note: The figure shows the percentage of respondents who rated each item 4 or 5 on a scale of 1 to 5, where 1 means they strongly disagree and 5 means they strongly agree.

Source: IDC's *Information Worker Survey*, June 2012

Importance of External Collaboration

IT seriously underestimates the importance of external collaboration to the organization's information workers. We asked IT respondents in Western Europe what percentage of their employees collaborate with people outside the organization; their answer was just 23.4%. (The number wasn't much higher when we asked what they thought this percentage would be two years from now.) In fact, 91.4% of information workers already collaborate with people outside the organization on a weekly basis, and the average information worker spends 4.8 hours per week doing so.

IT seriously underestimates the importance of external collaboration. The vast majority of information workers collaborate with people outside the organization on a weekly basis.

SaaS Adoption

In organizations where IT fails to address information workers' external collaboration needs, information workers devise their own strategies. The need for easy collaboration and sharing of documents with people outside the organization has driven user adoption of cloud-based (SaaS) file upload/sharing services, many of which are geared more to consumers than enterprises.

In organizations where IT fails to address information workers' external collaboration needs, information workers devise their own strategies. This has driven adoption of SaaS file sharing services, many of which are geared more to consumers.

IT organizations in Western Europe are aware of this and are struggling to respond by putting policies in place. These policies range widely from forbidding employees to use SaaS services that are not expressly sanctioned and supported by IT (54.4%) to trying to discourage the use of such services (18.9%) to capitulating and letting users do as they wish (4.4%). Increasingly, IT is engaging with users to understand their needs and put solutions in place to support them — solutions that keep IT in control and ensure information is secure (15.6%). Some are embracing a cloud-first strategy (6.7%).

SaaS is on IT's radar: One-fifth of information worker applications in Western Europe are SaaS today, and IT respondents expect this percentage to grow to more than a third within two years. IT expects to increase SaaS use across a variety of collaboration use cases, including email/calendar, online forms, Web and video conferencing, team sites, extranets, online file sharing, and esignatures.

As we know from other IDC research, concerns around compliance with country-specific laws that enact the EU Data Protection Directive play a role in deciding how and where cloud services are used. Still, in this day and age, two years is a long time frame, and we think IT needs to be more aggressive — especially where external collaboration is involved. Just 22.8% of IT organizations in Western Europe have deployed a SaaS extranet solution today to at least 10% of their users. Past efforts to develop and deploy extranets to meet users' external collaboration needs haven't been entirely satisfactory: 40.6% of IT respondents say building extranets to enable secure collaboration and file sharing has been an expensive proposition and they need a better alternative. SaaS offers a way forward. Other promising use cases for SaaS that IT should explore include online forms, online file sharing, and esignatures where legally enforceable or recognized.

Document and Application Security

While half of IT respondents in Western Europe agree that enabling easier/better collaboration with people outside the organization is important to users, IT is extremely concerned about the security of information that is exchanged with external collaborators: Three-quarters say it's critical to ensure the security and privacy of information in documents and files — especially when they travel outside the firewall. IT's concerns appear to be well founded: 21.7% say their organization has experienced an information leak within the past 12 months (see Figure 5).

21.7% of IT respondents in Western Europe say their organization has experienced an information leak within the past 12 months.

Organizations are employing a variety of document security strategies to protect sensitive information in their documents, including file encryption, passwords on individual documents, digital signatures/certificates, secure file upload/managed file transfer/portals, and digital rights management (DRM) or enterprise rights management (ERM). Western Europe is in the lead when it comes to the use of digital signatures/certificates (60.6% versus 44.4% outside Europe) and DRM/ERM (38.3% versus 23.3% outside Europe), but use of these technologies varies by country — both are in wider use in France and Germany than in the United Kingdom. (Germany and France were early adopters of digital signatures. Legislation in these countries is more granular due to strict employment and commercial practices; in Germany, greater government regulation of certificate authorities [CAs] has led to a higher level of confidence in the security of digital signatures.) Secure file upload/managed file transfer/portals are in use in about half of organizations (compared with 68.3% in the United States). All of these are valuable strategies and have different applications, and we recommend IT organizations proactively investigate those they haven't already put to use.

Organizations are employing a variety of document security strategies to protect sensitive information in their documents.

The need to manage and secure sensitive information and documents is also closely related to application security, another top concern for IT and the number one issue for 82.8% of IT respondents in Western Europe when it comes to deployment and support of desktop applications — ranking higher than cost, compatibility with IT's existing operating system and application environment, ease of management and deployment, impact on the complexity of the desktop stack, and the skill sets and additional support staff needed to support the software, among other concerns.

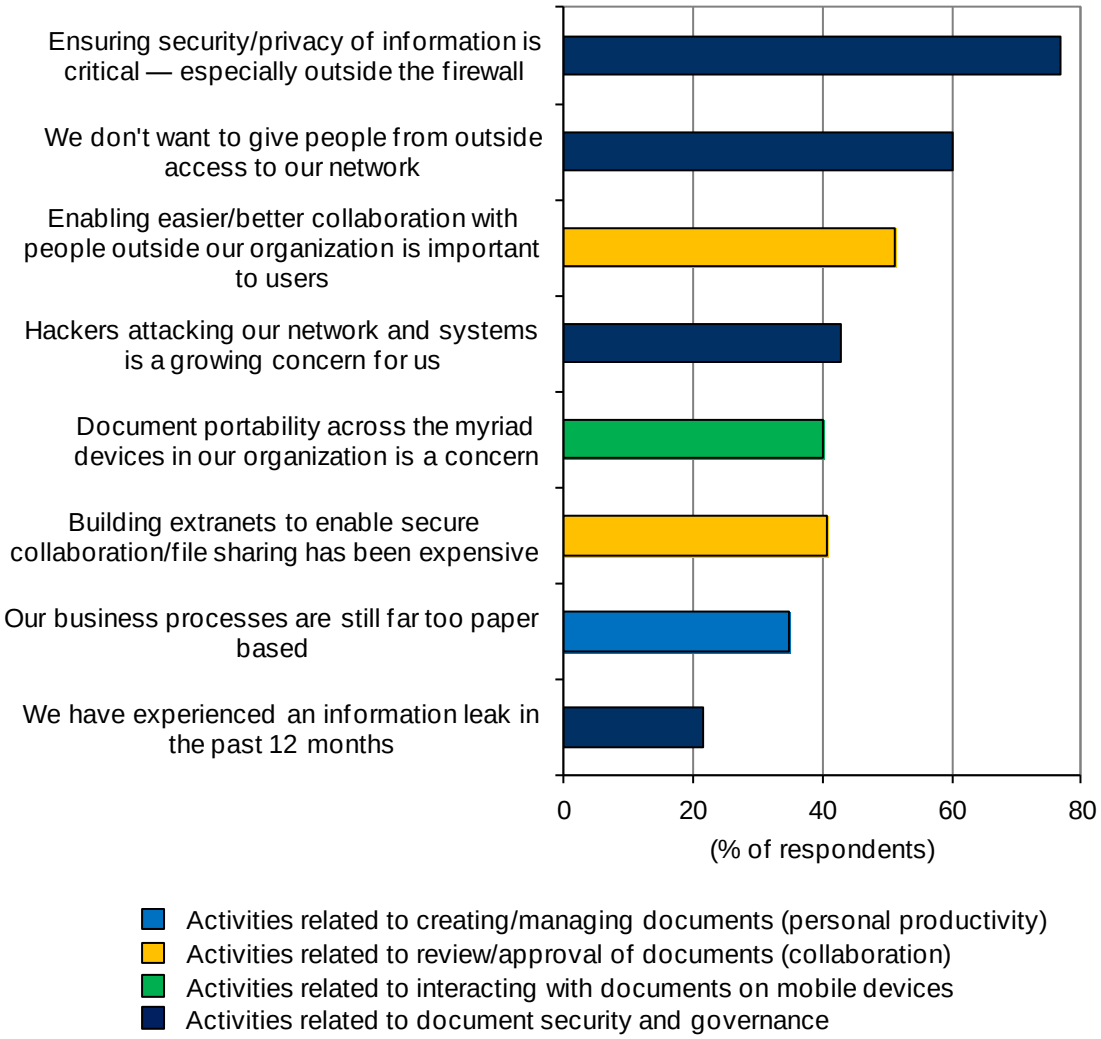
The need to manage and secure sensitive information and documents is also closely related to application security. IT has significant exposure in this particular area, however.

IT has significant exposure in this particular area, however. Only 29.4% of organizations in Western Europe have a policy in place to apply security patches within two weeks of release, and only 58.3% have a policy in place to apply them within a month; about a fifth have no policy at all. This is further complicated by the fact that it is time consuming for IT to manage desktop software upgrades for the existing, predominantly PC-based environment: 38.3% of IT respondents say it takes them more than 45 minutes per PC to roll out an update. Adopting deployment automation tools can significantly reduce the time and effort required.

FIGURE 5

Top-of-Mind IT Concerns in Western Europe

Q. Please rate your level of agreement with the following statements…



n = 180 IT respondents in Western Europe, evenly split across the United Kingdom, France, and Germany

Note: The figure shows the percentage of respondents who rated each item 4 or 5 on a scale of 1 to 5, where 1 means they strongly disagree and 5 means they strongly agree.

Source: IDC's *Information Worker Survey*, June 2012

Implications for IT

Given the significant amount of time information workers waste in activities related to document review and approval and working with forms and forms data, IT should proactively investigate *document-based* collaboration technologies that provide the following capabilities:

- Commenting and annotation, which enable information workers to see others' comments on documents they are reviewing
- Document portability, which ensures information workers can open, view, and print documents others send to them using their device(s) of choice with full fidelity
- eForms, which help automate data collection and consolidation
- eSignatures, which streamline the approval process

The significant gap in perception between IT and information workers around the importance and pervasiveness of external collaboration and sharing may help explain why information worker productivity improvements have been so difficult to achieve. The user base that IT needs to support around collaboration and secure sharing of documents with people outside the firewall is much, much larger than IT realizes, and IT needs to focus greater attention on two key areas: facilitating external collaboration (particularly around sharing of information) and document and application security.

The user base that IT needs to support around collaboration and secure sharing of documents with people outside the firewall is much, much larger than IT realizes.

ADDRESSING INFORMATION WORKERS' PRODUCTIVITY NEEDS ON THE GO: MOBILE

Information workers want to be more productive "on the go" and are pushing IT for support. The number of mobile devices on the enterprise network has grown rapidly over the past few years:

- Half of information workers in Western Europe use a smartphone for work today, and nearly two-thirds expect to a year from now.
- 13.8% of information workers use a tablet for work today, and a third expect to a year from now.

The push for smartphones has been driven by information workers at all levels of the organization. Tablets, on the other hand, have been driven largely by executives. There have been plenty of stories in the press about CEOs marching into IT and demanding email and network support for their iPads, and our survey data suggests this trend will continue: More than a third of executive information workers in Western Europe use tablets for work purposes today, and almost two-thirds expect to within the next 12 months.

Mobile Use Cases

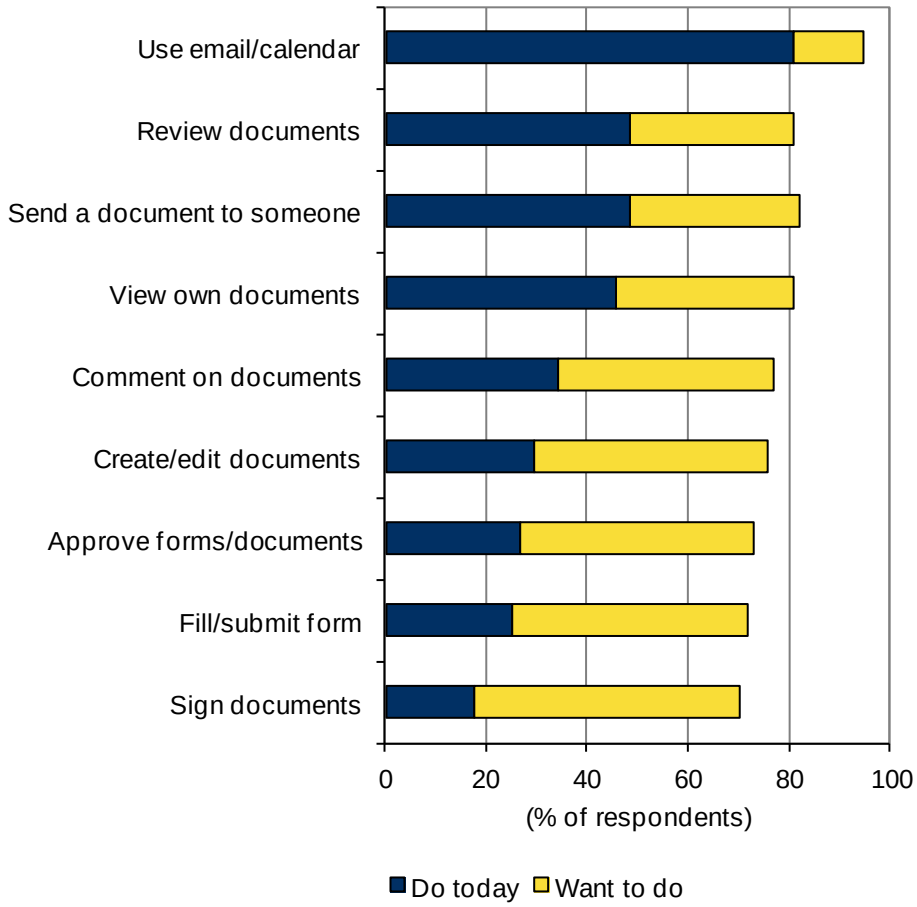
Information workers in Western Europe who use mobile devices for work are using their mobile devices to perform many of the same document-oriented tasks they perform on their PCs, and they hope to be able to do a lot more with documents in the future (see Figure 6).

Information workers in Western Europe perform many of the same document-oriented tasks on their mobile devices that they perform on their PCs, and they hope to be able to do a lot more in the future.

FIGURE 6

Information Worker Use Cases for Mobile Devices in Western Europe

Q. Which of the following work-related activities are things you are doing today using a smartphone or tablet, and which are things you would like to be able to do?



n = 420 information workers in Western Europe, evenly split across the United Kingdom, France, and Germany

Base = current mobile device users, n = 215

Source: IDC's *Information Worker Survey*, June 2012

In our conversations with IT organizations about mobile collaboration, we often hear that once users are given access to email and calendaring from their mobile device(s), they then request access to documents. Certainly, the need to open and view email attachments is a catalyst, but as our survey shows, information workers want to be able to perform the full range of document-oriented activities using their mobile devices — whether it's commenting on, editing, or signing documents; filling out forms; or approving forms or documents. As Figure 4 shows, information workers believe the ability to access, comment on, and electronically sign documents using their mobile devices will save them time and improve their productivity.

Our survey results suggest that IT is in reactive mode when it comes to mobile productivity and is somewhat underestimating information worker demand. For example:

- While half of information workers in Western Europe use a smartphone for work today, IT's estimate is closer to a third; and while nearly two-thirds of information workers expect to be using a smartphone a year from now, IT's estimate is that about half of information workers will be using a smartphone two years from now.
- Three-quarters of smartphone and tablet users would like to be able to perform the full range of document use cases listed in Figure 6. While more than three-quarters of IT organizations in Western Europe plan to enable these use cases in the next two years or are evaluating them, only a little over a third of IT organizations support these use cases today.

Support for BYOD

As noted previously, a growing percentage of the mobile devices attached to the enterprise network are provided by employees. Here, too, we find a gap in perception between information workers and IT in Western Europe: According to information workers in Western Europe, 13% of the smartphones and more than a third of the tablets they use for work are BYOD; IT's estimate is close for smartphones (10.1%) but is much lower (6.6%) for tablets.

Although IT foresees growth in these percentages over the next two years, IT appears to be responding cautiously to user demand: Only 19.4% of IT respondents in Western Europe say their organization is encouraging employees to bring their own devices to work.

Implications for IT

We believe information workers will continue to push for mobile enablement of document use cases, and IT needs to provide more proactive support. In some organizations, mobile support is provided by a separate team (or is outsourced entirely), which can reduce IT's visibility into emerging user needs. IT needs to decide whether mobile devices represent a tactical convenience or a strategic platform for information worker productivity and application deployment — and plan accordingly.

We also expect user demand for BYOD will continue to grow. Embracing BYOD can offer significant cost savings to the organization: Some IT organizations we have spoken with tell us BYOD is allowing them to shift the responsibility for monthly carrier charges back to the employee, reversing the decades-old trend to company-provided mobile phones.

User demand for BYOD will continue to grow. Embracing BYOD can offer significant cost savings to the organization.

As employee-owned devices increasingly hold sensitive documents and other confidential information, IT's role is shifting away from device management to the management of the information on those devices. Document security will become more important.

In addition, IT must also evolve its desktop management practices — especially in an increasingly multidevice world. Two-thirds of IT respondents are already factoring in device support when planning new desktop software purchases, and IT is embracing a variety of strategies that simplify application provisioning and management, such as software and hardware consolidation, client virtualization, and "hotdesk" strategies. But managing networks that are characterized by the rapid proliferation of devices of all types — a proliferation that is accelerated by BYOD — represents a major challenge for IT. Going forward, better automation of desktop and application management will become increasingly important to freeing up IT resources for innovation and new solution delivery.

IT must evolve its desktop management practices — especially in an increasingly multidevice world — if it is to free up resources for innovation and new solution delivery.

IMPORTANCE OF DOCUMENT STANDARDS

With the rise of mobile computing, the importance of document standards has once again come to the fore: Standards are critical for document interoperability across diverse computing platforms, and given the central role documents play in the life of an information worker, strong support for widely adopted document standards should be an important criterion for desktop software evaluation.

Document standards generally fall into two categories:

- Authoring standards (e.g., ODF and OpenXML)
- Distribution standards (e.g., PDF, EPUB)

Generally, authoring standards are good for document creation but aren't strong when it comes to document sharing and collaboration, which is where document distribution standards come into play. Without standards, information workers have no guarantee that those with whom they share documents will be able to open, view, or print them with full fidelity.

The PDF Standard

Portable Document Format (PDF) is a file format that encodes and renders documents in a manner that is independent of both the application software (authoring tools) used to create them and the computing platforms (hardware and operating systems) used to view them. PDF supports rich media, embedded Web links, CAD information and vector graphics, and other types of content, including 3D diagrams. The PDF standard, which includes several specializations defined for specific use cases, is published by the International Organization for Standardization as ISO 32000.

PDF viewers are ubiquitous and freely available on PCs, smartphones, and tablets, and PDF is by far the most commonly used document distribution standard in organizations today. 78.2% of our IT respondents in Western Europe say PDF is widely used in their organizations, and 70% of our information worker respondents use it (after Microsoft Office, it's the document tool or technology they use the most).

PDF is by far the most commonly used document distribution standard in organizations today.

In addition to printing and distributing documents, PDF is also widely used for archiving. Use of PDF is higher in larger organizations (77.1% of information workers in organizations with 50,000+ employees use PDF versus 61.8% of information workers in organizations with fewer than 500 employees).

PDF-Based Software Solutions

Many vendors have implemented elements of the PDF standard in their software solutions. Authoring tools, for example, may include a "Save as" PDF option for easy PDF creation; this helps smooth the transition from document creation to distribution.

Other vendors offer software tools that implement a more significant percentage of the PDF standard. These tools enable information workers to create interactive PDF documents that provide a richer user experience; for example, filling out a form or interacting with embedded rich media or 3D graphics.

Finally, a few vendors offer tools that extend the PDF standard with additional functionality; these extensions may well find their way into future versions of the PDF standard. In addition to helping information workers with document creation/management and collaboration activities, these tools can help information workers automate some of their document-driven business processes; for example, signing contracts, redacting sensitive information, or "electronifying" paper via optical character recognition (OCR).

Additional Capabilities of Advanced PDF Solutions

Advanced PDF solutions merge multiple document formats and content types into a single document, preserving the original documents' look and feel.

Advanced PDF solutions can help address all three of our information worker productivity areas. For example, in the area of document creation and management, advanced PDF software enables information workers to merge multiple document formats and content types into a single (PDF) document, preserving the original documents' look and feel. They can also append new content to an existing PDF. Support for multiple file attachments and portable collections makes it easy to group associated documents together so they can be managed as a single object. These capabilities can reduce the amount of time information workers waste today pulling information from different files and formats together in one document, searching for documents, and recreating them when they can't be found.

OCR capabilities can help information workers "electronify" their paper documents — making them searchable, reusable, and much easier to manage and reducing the need for paper.

Similarly, advanced PDF software may include OCR capabilities that let information workers "electronify" their paper documents — making them searchable, reusable, and much easier to manage and helping information workers reduce their reliance on paper. The use of PDFs on mobile devices (particularly tablets) offers another opportunity to reduce the amount of paper the organization needs to deal with (the need to print documents so they can be used where it's difficult to take a PC was a leading reason why paper remains prevalent in the organization): As IDC research shows, tablet use significantly reduces printing.

Advanced PDF software can help address the myriad challenges associated with document-based collaboration discussed previously, including gathering and consolidating feedback on a document and eliminating version control problems that arise with awkward routing, review, approval, or signature processes. As noted

previously, electronic forms are underutilized today, and dealing with forms costs the average information worker several hours each week.

Advanced PDF software responds to many of IT's document security and information privacy concerns — especially in regard to documents that travel outside the firewall — with a variety of document protection strategies, some of which (for example, password protection) are already widely used and some of which (for example, digital signatures) deserve to be. Support for redaction gives information workers an important tool for ensuring confidential information is deleted from documents before they are distributed — a pain point that is highlighted in Figure 4.

Advanced PDF software responds to many of IT's document security and information privacy concerns — especially in regard to documents that travel outside the firewall. Such tools implement a broad range of document protection strategies.

Finally, advanced PDF software can provide support for mobile information workers who wish to create, edit, review, sign, and approve documents on their smartphones and tablets and interact with forms.

Implications for IT

Most organizations aren't leveraging the full power of PDF today, and this is a missed opportunity. Information workers need strong PDF tools along with training, support, and best practices, and we believe this is an area where IT can have a significant impact on information worker productivity at minimal cost to the organization.

Most organizations aren't leveraging the full power of PDF today, and this is a missed opportunity where IT can help. Information workers need strong PDF tools along with training, support, and best practices.

First, IT needs to ensure users have basic PDF capabilities. As noted previously, more than a third of information workers in Western Europe voice frustration that others are often unable to open, view, or print their documents. This is a problem the PDF standard has addressed since inception, and yet PDF users struggle just as much with this as non-PDF users. Why has this problem persisted? IT certainly appreciates the benefits PDF brings in regard to document distribution: 68.2% of IT respondents in Western Europe agree that a key benefit of PDF is document portability across all their devices (especially mobile). As the saying goes, however, "the devil is in the details," and PDF creation tools are not all created equal. IT can help by rigorously evaluating PDF software tools to ensure they produce high-quality PDF files with full fidelity across all devices.

Then, IT should explore how advanced PDF software can improve information worker productivity. Too often, use of PDF begins and ends with document distribution. Advanced PDF software can help improve information worker productivity in three key areas: document creation and management (personal productivity), document edit/review/approval (collaboration), and mobility.

CONCLUSION AND RECOMMENDATIONS

In the past, IT has focused plenty of attention on providing users a variety of real-time and asynchronous collaborative tools that make it easier to connect with others electronically and work across geographical, time zone, and organizational boundaries. These solutions are essential to the way we work today: It would be difficult to imagine returning to a world without email and calendaring, Web conferencing, and so forth.

IT has focused plenty of attention on providing real-time and asynchronous collaborative tools. These solutions are essential to the way we work today, but they aren't enough.

But these technologies don't address many of the information worker's needs and challenges related to working with documents. As our research shows, some of these challenges arise as information workers work independently on document creation

and management activities; others are related to document collaboration. In addition, information workers need to be able to work with documents on their mobile devices. IT should engage with users to prioritize the most significant document-oriented challenges for their organization and address them with specific remedies.

The potential payback is enormous: As our study shows, a significant percentage of an information worker's time is wasted, at a cost of €14,492 per information worker per year in Western Europe. Just as IT organizations are looking to increase the percentage of the budget that is tied to innovation (as opposed to "keep the lights on" activities), organizations need to reexamine how information workers spend their time and look for ways to shift a greater percentage of it to real value creation. Recovering lost information worker productivity would enable organizations to invest more of their existing resources in sales, support, product development, and market development.

Organizations need to reexamine how information workers spend their time and look for ways to shift a greater percentage of it to real value creation.

As IT embarks on its assessment of the current state of information work in the organization, it should keep in mind the following:

- IT should investigate solutions — such as advanced PDF software — that make it easier to work with documents and address the information worker productivity challenges we have discussed in this paper. These solutions complement the organization's existing investments in collaborative applications, and the cost of the additional tooling can be modest. Where PDF is already in use, IT should assess how effectively it's being used because implementations of the standard vary in completeness and quality.

IT should investigate solutions — such as advanced PDF software — that make it easier to work with documents and address the information worker productivity challenges we have discussed in this paper.

- IT needs to rethink information worker productivity in the context of the industrywide shift under way to what IDC calls the 3rd platform — that is, an IT infrastructure that leverages cloud, mobile, social, and big data technologies. IT needs to become an enabler of mobile information work, and it should proactively investigate SaaS solutions for external collaboration, which — as we have seen — is an important and nearly universal requirement of information work today.

- Because information work involves a significant amount of external collaboration, the tools and best practices that IT provides must, at the same time, address the security concerns that arise when documents are shared with people outside the firewall. This requires adoption of document-based tools and best practices that minimize the chance of information leaks, which are already a problem in many organizations.

IT must also address the security concerns that arise when documents are shared with people outside the firewall.

Adopting document-based tools and best practices can minimize the chance of information leaks.

- IT needs to significantly improve its desktop management practices — both to reduce its exposure to security threats and to reduce the amount of time it spends dealing with administrative (keep the lights on) tasks. This will become increasingly important as the number and the variety of devices that are attached to the enterprise network continue to grow and as IT is called upon to manage and secure information that lives in the cloud, on premise, or in hybrid environments.

Above all, IT should begin with a gap analysis. The organization's information workers will be the best source of insight and inspiration when it comes to prioritizing needed improvements. The first step is closing the perception gaps between information workers and IT.

APPENDIX

Methodology

The information for this white paper came from a global survey of 1,200 information workers and IT professionals in the United States, the United Kingdom, France, Germany, Australia, and Japan conducted in June 2012. We surveyed both information workers (n = 840) and IT professionals (n = 360) across a broad range of industries and company sizes (we screened for companies that have at least 50 employees who have dedicated PCs). Respondents were randomly recruited from international panels, and the survey was conducted over the Internet in local languages. We recruited 200 respondents per country, including 140 information workers, 30 IT management, and 30 IT staff. Data was not weighted.

For the purposes of our study, we defined an information worker as a full-time (non-IT) employee who is connected to the Internet and uses a computer to work with documents on a weekly basis as part of his or her job. Working with documents includes activities such as creating documents; sending documents around for review, approvals, and signatures; creating forms to gather data and filling in forms; and reviewing, approving, and signing documents that others send out. Our information worker respondents represented a good mix of functional areas, and 62% of them were managers or above.

IT management included IT executives, vice presidents, and directors (also managers in Japan) who have decision-making authority over or are involved in evaluating and/or making recommendations in regard to their organization's desktop productivity software.

IT staff included managers, supervisors, and others who are directly involved in the evaluation/selection, testing, support, or deployment of their organization's desktop productivity software.

We asked information worker respondents detailed questions about the time they spend each week on a variety of document-oriented activities; the time they spend dealing with various challenges working with documents; their frustrations and needs in this regard; who they collaborate with; and their needs related to mobility.

We asked IT respondents detailed questions about IT's priorities, key concerns, and current practices related to desktop software evaluation and deployment; support for mobile information workers and BYOD initiatives; current and planned adoption of SaaS information worker applications; support for external collaboration; and attitudes about document and application security.

Information Worker Productivity Cost Calculations

To calculate the cost of lost productivity for an information worker, we multiply the percentage of time wasted by average annual compensation:

- Information workers in Western Europe say they work 44.3 hours per week, but when they were asked to break down their workweek into the activities listed in Figure 1, the number of hours totaled 47.1. This has been a common response pattern in all of IDC's Hidden Costs of Information Work surveys over the past decade: When information workers are asked about time spent by activity, the total invariably exceeds the number of hours the respondents say they spend at work each week. Although this may be the result of some perceived (though unintended) overlap in our list of activities, we think it's indicative of the fact employees generally aren't asked to perform task-based time accounting (when they are, it's not using our specific list of activities; there are no industry standards here). Our calculations of the percentage of time wasted are all based on the higher figure (47.1) to be conservative.

- Our estimates of the percentage of time spent dealing with frustrations (refer back to Figure 2) that should be considered wasted time are based on a decade of information worker productivity research, and we believe the estimates are conservative (refer back to Tables 1 and 2). The potential for increased productivity will be higher in many organizations.

- Cost calculations assume an average annual compensation of €60,000, including benefits and payroll-related costs (see www.statistics.gov.uk and epp.eurostat.ec.europa.eu). These exclude other fixed per-employee costs such as office space, equipment, management time, and so forth to be conservative.

To calculate the impact of lost information worker productivity on the organization as a whole, we multiply information worker productivity costs by the percentage of employees who are information workers:

- According to IT respondents in Western Europe, 80.6% of their employees have dedicated PCs (the percentage ranges from 78% in Australia to 84.2% in the United States); hence they are likely to be information workers by our definition. This means improving the productivity of the organization's information workers by 10% is equivalent to increasing the overall organization's productivity by 8.06%.