As business boundaries become more elastic, it is more urgent to ensure that knowledge or information workers can collaborate effectively with partners and colleagues outside the firewall. Often, of course, those partners follow different processes and do not have access to enterprise systems, so collaboration can be a challenge.

To address this challenge, solutions are available that support a wide range of capabilities—from fully converged social collaboration solutions to simple e-mails with file attachments. To meet short-term needs without complicating long-term plans, line-of-business (LOB) managers should target a “sweet spot” that falls between the extremes of high-end solutions and web-based e-mail. This sweet spot is where necessary collaboration capabilities converge with minimal tuning required by users or IT administrators. Those necessary capabilities are are discussed in greater depth later in this paper.

With the increase in touch popularity, knowledge workers are increasingly requesting tablets for business use. Tablets can be a boon to user productivity—especially as software vendors build touch capabilities into their applications—and many organizations are evaluating tablet options. While doing so, LOB managers should carefully consider how their choice of tablet will affect intercompany collaboration.

If intercompany collaboration is important to your business operations, then the best tablet choice is the one that provides the most direct route to the sweet spot through flexibility and compatibility with existing tools, processes, and infrastructure.

This paper compares business tablet options with a focus on intercompany collaboration and concludes that Windows 8* tablets running on Intel® architecture are better choices than the alternatives. Windows 8 tablets are flexible because users, IT departments, and LOB managers can adapt them to suit their needs using their existing Windows skills—from user interface (UI) changes to in-house application development. They also integrate seamlessly with most enterprise users’ existing toolsets and workflows and with the backend IT infrastructure. As a result, they deliver the convenience of a touch UI and a sleek form factor while standardizing on the workplace cornerstones of Microsoft Office* and Active Directory Domain Services (AD DS).
A Day in the Collaboration Life of an Information Worker

Consider a typical workday for a modern information worker. “Sarah” arrives at her office at a little before 9:00 in the morning and powers on her PC. She launches Microsoft Outlook* and downloads a Microsoft Word* document from her colleague. It is the new sales guide, which she must review before the 10:00 meeting with department managers. She tracks her changes and uploads the document to the team’s Microsoft SharePoint* site so that others can add their comments to hers.

At 10:00 she launches her company’s video conferencing and screen-sharing application, Adobe Connect*, and joins the meeting with colleagues from various company locations. Sarah’s manager downloads the sales guide from SharePoint, and then shares her screen so the team can discuss the document. After the meeting, Sarah collates all team feedback into a single document and coordinates a meeting with the project’s vendor, who will finalize the copy in the Word document Sarah sends by email, and lay out the sales guide in Adobe InDesign* for final production as a PDF.

This very common scenario illustrates moderately sophisticated, incompletely integrated collaboration tools. The internal team uses SharePoint efficiently for joint document editing, but must resort to e-mail when sharing that work with external vendors. With a fully integrated set of tools that includes integration between Microsoft Exchange Server* and a voice over IP (VoIP) solution, Sarah might be able to chat with her manager in real time using webcam video, or she might telephone a colleague by clicking a contact name.

A Range of Collaboration Capabilities

Across town, another information worker goes to her company’s Cisco TelePresence* room for a whiteboard brainstorming session with colleagues from around the world.

In another business and with different tasks, a product manager’s collaboration needs are simpler. He reviews a presentation using Skype* for both the conference call and to share his screen with his dispersed team members.

Scenarios much like these occur repeatedly as your team members go about their daily work. Indeed, your team members’ effectiveness is bound to their ability to exchange data, files, and ideas seamlessly with colleagues. That effectiveness could lead to what Forrester analyst TJ Keitt calls an “information advantage,” which is a competitive edge derived in part from the ability to share and act on information more rapidly than the competition.²

If collaboration is to become an information advantage, information workers must be able to share content without barriers, whether the recipient is across the room, in a different department or network subdomain, or in a different company.
An Overstuffed Toolbox?

Many hardware and software vendors are eager to help your business users share content without barriers. Some of the largest enterprise software and hardware vendors play in this space, including IBM, Microsoft, Oracle, and Cisco. And the ongoing need for collaboration and potential value of the market continue to attract new startups and new solutions, such as those from lesser-known but well-regarded vendors such as blueKiwi, Moxie, Huddle, Jive Software, Mzinga, and many more. Enterprise collaboration is also a topic of ongoing research and interest to industry analysts including Forrester, Gartner, and IDC. Why all the attention? Because enterprise collaboration software is predicted to be a market worth $4.5 billion by 2016, with rapid growth expected between now and then.3

But not all solutions are created equal. These vendors deliver a wide range of functionality, as shown in Figure 2. The graph represents feature richness on one axis and ease of implementation on the other to illustrate the spectrum of solutions currently available. At the upper extreme of this spectrum (quadrant B, upper-right) are comprehensive, feature-rich social collaboration solutions, which are large-budget projects driven from the top down. They would likely include advanced capabilities such as integrated VoIP and video capabilities for face-to-face meetings and screen sharing over the network. At the low extreme (quadrant C, lower-left) are simple collaboration tools like webmail and telephone that require little or no setup action by anyone except the individual user or department manager.

Converged Solutions

Industrywide, a great deal of resources are spent evaluating, analyzing, and promoting comprehensive collaboration and social suites such as those represented in quadrant B. Such solutions can integrate traditional e-mail–based collaboration with social functions to enable relationship building, not just data sharing. Their goal is to enable an ongoing conversation inside and outside the firewall, and as IDC states, “activity streams, discussion forums, blogs, and wikis are becoming assumed functionality of enterprise social software to facilitate collaboration in real time and in context.” Examples include IBM SmartCloud for Social Business*, Salesforce.com Chatter*, and Cisco WebEx Social*.

Because of the reach and scope (not to mention price tag) of such solutions, their adoption must be a company-wide initiative driven by top leadership with early planning and input from IT managers. With a nearly unified voice, analysts are predicting that comprehensive solutions are set to transform business, and analysts are generating enormous volumes of research and reports to help enterprise IT organizations choose the right solution. A glance at the criteria that analysts consider essential reveals the ambitious nature of these solutions:

Figure 2. Collaboration solutions range from the very simple, which require no IT intervention, to the very complex, which are top-down initiatives deployed and managed by IT.
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- Social capabilities such as blogs, wikis, and activity streams
- Mobile user experience optimization
- Sophisticated native platform analytics, including predictive analytical capabilities
- Platform scalability and extensibility
- Prepackaged integration with collaboration tools and applications from major vendors

Easy-to-Implement Solutions
By contrast, the simplest solutions in quadrant C, webmail and telephone, are rarely discussed as collaboration solutions because there is no multibillion-dollar market driving further innovation in that space. Everyone can use them, whether inside or outside the firewall, and they are already deeply entrenched in the normal daily workflow of most information workers.

Some solutions that are more sophisticated than webmail and telephone could still be placed in quadrant C because they do not require IT intervention. Google Apps* is one example of such a solution. Without IT assistance, a team could use the consumer-oriented version, Google Drive*, for basic collaboration functions, such as document sharing and common content creation tools, inside and outside the firewall.5

The Collaboration Solution Sweet Spot
For most LOB managers and their information workers, the collaboration sweet spot lies between webmail and telephone at one extreme and complex converged solutions at the other, as in Figure 3.

When a team’s collaboration approach is in that sweet spot, users are empowered with essential capabilities that easily extend beyond the firewall and are not weighed down with rich features they might not want or use. We find that the sweet spot’s essential capabilities are as follows:

- **Shareability**: Content created on one team member’s device must be viewable and editable on others’ devices.
- **Work flow integration**: The solution must function with minimal disruption to user work styles. It should require little or no re-training and must integrate seamlessly into information workers’ workflow.
- **Multitasking support**: Information workers are accustomed to working with multiple windows open on their laptops or desktops. They might have open a content creation program (such as Microsoft Word), an e-mail and calendaring application, and one or more instant message or other communication windows to collaborate with colleagues. In high-end quadrant B solutions, these
functions might be served by one or two applications that call in multiple services. But in the collaboration sweet spot, users accomplish these tasks through multiple applications and windows. Therefore, it is important users’ tools have sufficient processing power and task management capability to support easy switching between windows.

- **Infrastructure integration:** The solution must function with little disruption to IT—either to the current infrastructure or to the company’s future collaboration plans.
- **Security:** At minimum, the solution should support encryption for secure exchange of data while in transit and while stored on devices.

Your organization might be among those that are evaluating converged collaboration options with long-term plans to arrive at a fully converged solution. However, as businesses invest more in their infrastructure with such solutions, they increase dependency on that infrastructure and impact information workers’ abilities to collaborate outside the firewall with organizations and individuals that use different tools.

Meanwhile, as your IT organization evaluates and tests a comprehensive solution, your team members need a solution that works readily with current workflows and tools without weeks or months of procurement plus extensive backend overhauls. The ideal solution is the one that provides the shortest path to the sweet spot without creating future complications for IT’s long-term plans.

**Collaborating Beyond the Corporate Boundary**

Like Sarah, your team’s approach to collaboration probably includes a variety of tools, from video conferencing systems to cloud-based team workspaces like Microsoft SharePoint. However, information workers must also collaborate with partners, customers, and suppliers outside the firewall. This need can introduce complications into the relatively seamless collaboration process used by internal teams because corporate collaboration tools are often not available to non-employees.

Without those tools, how do you securely and reliably share information with external parties? Most information workers have a simple but effective answer: e-mail and telephone. A recent survey of 2,000 office workers found that 65 percent of respondents work around collaboration obstacles by using e-mail to collaborate with team members outside the company. They use e-mail—even though almost a third of them are frustrated by e-mail limitations, such as attachment size—because it works. Even if external partners cannot log on to your company’s feature-rich social collaboration solution, you can exchange documents through e-mail and collaborate over the phone. In other words, regardless of the feature richness of an enterprise’s current or planned internal collaboration tools, most users default to simple quadrant C tools when they need to collaborate with people who are beyond the reach of more sophisticated solutions.
Information workers sometimes jump to the conclusion that they can enhance this basic collaboration toolset with mobility by adding a tablet such as an Apple iPad*. How great it would be, they might think, if they could whip out an iPad to share a presentation with a customer instead of a laptop—by comparison, a bulky device.

And they are correct—thin, light, and always on, tablets are attractive tools and can be very effective, especially for information consumption activities such as viewing a document, watching a video, or viewing a website. However, LOB managers should not let flexibility, mobility, and convenience overshadow the limitations of iPads or other tablets when it comes to integration into a collaborative workflow in a corporate environment, which requires more than information consumption.

While the sleekness and convenience of an iPad or a Google Android* tablet are attractive, the reality is that these devices are significantly different platforms from the PCs that are most prevalent in the workplace. This difference can make tablet deployment a risky prospect because a change in end-user devices can raise collaboration barriers rather than remove them. How well will the new devices integrate with internal tools and processes already in place? How compatible are they with Microsoft Office, which most people with whom you will need to collaborate are using?

These questions are important because the longer it takes users or IT to integrate new devices into the work environment, the higher the total cost of ownership (TCO) on those devices. And if too much adjusting is required to make the device work for the business environment, the sleek new tool could become just another way to update Facebook.

Apple iPads and Google Android tablets are well suited to certain business tasks. For example, their compact form factor makes them ideal for quickly and easily sharing video or product literature with customers or colleagues, and Apple iCloud* is a simple, secure way to store and share information. However, these devices fall short in some of the collaboration sweet spot characteristics, especially shareability, multitasking support, and infrastructure integration. While there might be many reasons to equip your users with Apple or Android mobile devices, extending users’ collaboration ability is not one of them.

Collaboration Trouble Spots
You met Sarah, a typical information worker, at the beginning of this paper. She uses several collaboration tools throughout her work day and, partially because they are technologies supported by IT, the collaboration works quite smoothly. But when users need to collaborate with others outside the organization, they might encounter barriers that impede collaboration. If you are exploring ways to enhance your team’s ability to collaborate, you have probably already encountered barriers such as those discussed below.

Content Decay
Content decay occurs when content produced on one type of platform looks different when viewed or edited on another type of platform. For example, if Sarah creates slides in Microsoft PowerPoint 2013*, and an external collaborator views them on his iPad using Apple Keynote*, Apple’s presentation software for iOS*, then the slides could look quite different. The same is true for Microsoft Word or Excel* documents opened in Apple Pages*, Apple Numbers*, or office productivity software for Android.
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Content decay can be more than a mere annoyance, especially in highly regulated industries where documents must be captured correctly and archived. In these cases, content decay could undermine compliance and complicate discovery and retrieval efforts.

While it is true that Apple iWork*—Apple’s office productivity software comprising Keynote, Pages, and Numbers—can open Microsoft Office documents, iWork does not fully support Office features. Fifty-five Microsoft Word features are either partially supported or not supported in Pages for iOS, including headers and footers, which are not supported. Note also the crucial difference in the Microsoft Word “track changes” function in iWork for iOS: “Changes to body text continue to be tracked. All other changes are accepted on import.” Figure 4 shows the different views rendered when a Microsoft Word document with multiple changes and reviewers is opened in Pages for iOS. To its credit, Pages warns the user that the document might look different and lists the factors affecting the view. In the example document used for Figure 4, two of those factors could have substantial impact on collaboration:

- Tracked changes in parts of the document other than body text are accepted as final
- All marginal comments are removed
Sixty-seven popular features in Microsoft PowerPoint are either partially supported or not supported in Keynote for iOS. More than 200 features of Microsoft Office Excel are either partially supported or not supported by iWork for iOS. Figure 5 illustrates some differences in presentations created with Microsoft 2013 and viewed in Keynote for iOS.

The differences shown in Figure 5 are primarily aesthetic and can be resolved without too much difficulty. However, sometimes the differences can significantly change the intended meaning of a slide, document, or spreadsheet, as in Figure 6. Some PowerPoint 2013 chart formats are not supported in Keynote for iOS. In these cases, Keynote either imports the chart as an image or removes the chart altogether, leaving a blank slide.

Many of the differences between Microsoft Office and iWork for iOS are trivial, and iWork for iOS supports most Microsoft Office functionality. However, even a small gap can be significant when reliable collaboration is at stake. In some cases, colleagues who use iPads to review Microsoft Office documents can encounter substantial differences in the way their device renders the document. These differences can cause misunderstanding and can lead to inefficiency and additional review cycles.

Users of tablets based on Android can encounter similar content decay when viewing Microsoft Office documents on office productivity software for Android, such as Kingsoft Office® and MobiSystems OfficeSuite Pro®. These programs’ vendors do not document the compatibility of their products.
with Microsoft Office on a feature-by-feature basis, stating simply that the applications can create, open, and edit documents created with Microsoft Office. However, a side-by-side comparison shows differences similar to those seen in the comparison of native Office documents to Office documents viewed in iWork for iOS.

Device and Service Proliferation
Another barrier is the fact that multiple devices and platforms are now used for business communication and collaboration. Sometimes called consumerization of IT, this trend means that users have a choice of widely available devices, applications, and browser-based services they can use to do their jobs—without the involvement or approval of corporate IT. Users see this reality as a boon to their productivity, but it can also impede collaboration. Widespread adoption of various devices, apps, and services by definition means diminished adherence to common standards, which can lead to confusion, misunderstanding, and wasted time. You have probably heard or had conversations like this many times:

- **Team member:** The file is too big for my company e-mail limits. I can Skype you and share my screen so we can review it.
- **External collaborator:** Skype is iffy on my wireless connection, especially for sharing video. Can you just upload the document to Dropbox and call my mobile?
- **Team member:** Dropbox is blocked here for security reasons. I’ll send it through my personal webmail.

This conversation and many more like it demonstrate both the benefit and a problem with the consumerization of IT. While it can increase user freedom, it can become a collaboration barrier when too many options undermine the common ground of standardization. This lack of standardization can become much more serious than mere inconvenience: it can introduce real risk and compliance hurdles. Speaking of a survey his firm conducted, Fahim Siddiqui, chief product officer at Intralinks, concluded that, “The enterprise now extends to a broad network of relationships with business partners and customers and a wide range of interactions, from simple ad hoc communication to deep relationships spanning workflow and secure content exchange and collaboration. Without the right controls in place, security and compliance are jeopardized, and ultimately, IT departments are accountable.” A standardized solution that supports such controls is much less likely to generate resistance from IT and can therefore be a more viable solution for users who are requesting touch-based tools, including tablets.

Security Concerns
Concerns over security can also stand in the way of collaboration. Although internal collaboration tools and processes are built with security and compliance in mind, enterprises cannot give unfettered access to partners outside the firewall. This means that the security and compliance measures built into these internal tools might extend only as far as the network boundary. This limitation is not automatically a problem—e-mail encryption can provide a measure of security for most messages and attachments. However, security limitations can be a collaboration roadblock for information workers who deal with highly sensitive or highly regulated data. Some enterprise IT organizations attempt to mitigate these concerns by restricting the user experience, perhaps by disallowing services like Dropbox and implementing strict mobile device management (MDM) policies. But the proliferation of devices and browser-based services make the restricted user-experience method of security difficult at best. If the end points are so locked down that users cannot do their jobs, most users will find a way around the policies. As the Intralinks survey found, “…respondents were very much aware of the security and compliance issues around using e-mail, FTP sites, and other consumer-grade file sharing services (69 percent cited malware as issues and 63 percent cited information theft as issues). This suggests that organizations have not addressed the need to provide employees standardized, secure file-sharing tools for collaborating beyond the firewall.”
Company Culture and Personal Work Styles
Every company has unique collaboration processes and requirements, in addition to unique expectations about how collaboration is best accomplished. This combination of tools, processes, requirements, and institutional history composes a company culture—an accepted way of doing things. In addition, each team’s information workers are accustomed to certain tools and workflows. Company culture and personal work styles can make changes difficult. Collaboration tools or devices that require significant changes in user work styles are as likely to create obstacles as they are to remove them because users will work around them or simply not use them.

The Shortest Path to Collaboration Success
Collaboration solution vendors build capabilities into their software that are intended to help you overcome these obstacles. For example, some solutions integrate video conferencing, VoIP telephony, and presence awareness with users’ Microsoft Outlook mail and contacts. The hope is that this integration makes the collaboration functionality easy to use within employees’ normal workflows. But what is true of fully converged, quadrant-B solutions is also often true of these integrations: they do not necessarily extend to the vital team members who work outside of the company.

The shortest path to the collaboration sweet spot for intercompany collaboration is through standardization. When you standardize information workers’ tablets on elements that most organizations have in common, you can support users’ needs for tablet and touch flexibility without creating additional collaboration hurdles. That standardization is easily accomplished through PCs, laptops, and mobile devices based on Intel architecture running Windows 8. This platform provides the best experience with the tools your users are already using—namely Microsoft Office—and supports users’ work styles with the least adaptation. In other words, unlike iPads, Android tablets, or fully converged collaboration solutions, devices running Windows 8 integrate seamlessly into user work styles with little disruption, and no new tools to learn.

Support Emerging Work Styles and Converged Collaboration Solutions
The Intel and Windows 8* platform is the best choice to support emerging and future work styles and IT-driven converged collaboration projects because it allows adequate room for expansion. Because Windows 8 is a touch-first OS, you can easily include tablets and smartphones, integrating them into the existing client infrastructure. Office 2013* and Office 365* support cloud and social elements through seamless integration with Microsoft SharePoint*—tools which will likely integrate with any converged collaboration solutions your organization deploys.

For example, Microsoft Office is the foundation of most information workers’ work styles—which is why other office productivity suites, such as Google Apps and iWork for iOS—strive to make their document formats compatible with Microsoft Office. This dominance by Office means that, wherever on the collaboration spectrum your organization eventually lands, the exchange of information both inside and outside the firewall will continue to revolve around Word documents, Excel spreadsheets, and PowerPoint presentations. When you standardize with devices that run Microsoft Office natively, your team members can seamlessly collaborate with their colleagues in other companies with 95 percent certainty that their Office documents will be viewed in their native environment. When that native environment is powered by Intel architecture, the user benefits from collaborative engineering between Intel and Microsoft that delivers enhanced performance, such as faster encryption and better support for multitasking.

While there is a slight learning curve as users learn the new Windows 8 interface, our experience shows that most users will quickly acclimatize, especially once they experience Windows 8 on a touch device and understand its logic. Windows 8 is even better for near-future computing models where touch, keyboard, and mouse are part of a fluid, natural user experience that is consistent regardless of where the employee is working. Some of the newer Windows 8 tablets,
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such as the Lenovo ThinkPad Tablet 2*, support a wide range of peripherals and connectivity options that simplify collaboration and other tasks common to information workers:

Table 1: Ports and connectors found on the latest Windows 8 tablets enhance the tablet’s functionality as a collaboration and content production tool

<table>
<thead>
<tr>
<th>Port or Connector</th>
<th>How It Helps</th>
</tr>
</thead>
</table>
| MICRO 2.0        | • Easily share files across devices without using web-based services  
|                  | • Attach practically any peripheral |
| 2.0              | • Connect to a larger monitor to share content with multiple viewers |
| MICRO SD         | • Tablet becomes a content production tool rather than merely content consumption  
|                  | • Tablet could become primary device instead of a supplement |
| MINI HDMI        | • Connect to a larger monitor to share content with multiple viewers |
| DOCKING PORT     | • Connect to a larger monitor to share content with multiple viewers |

Gain Support from Enterprise IT

From the perspective of IT, the Intel and Windows 8 platform is easy to implement and requires no additional backend infrastructure. Unlike iPads, Android devices, or even tablets based on Windows RT*, Windows 8 devices can easily join an enterprise domain, and administrators can manage them with tools they likely already use, such as Microsoft System Center Configuration Manager* and Windows Intune*. In addition, a platform rollout can occur as part of the organization’s normal refresh cycles, allowing both IT and LOB managers to plan budgets predictably. If your organization has a volume licensing agreement with Microsoft, it might already be entitled to the Windows 8 licenses it would need, eliminating the additional expense of software licensing.

These factors mean that LOB managers who want to equip their teams with Windows 8 devices powered by Intel architecture will likely encounter less resistance from IT than they would with other options.

For External Collaboration Success, Keep It Consistent

As more applications build touch capabilities into their software, touch-based tablets are becoming an increasingly attractive option. Users love the thin and light form factor, the responsiveness, and the long battery life that tablets bring to the workplace and are asking LOB managers for tablets as either a supplement to a laptop or as a replacement device. Before rushing to purchase iPads—the consumer tablet leader—or Android tablets due to their low price point, LOB managers should carefully consider how their choice of tablet will affect intercompany collaboration.

When your users’ ability to share information beyond the firewall is critical, the best business tablet is one that supports essential collaboration requirements, creates the fewest obstacles, and can be easily tuned to the enterprise environment. Windows 8 tablets meet this description because they are fully compatible with infrastructure, software, and processes that your organization and external colleagues likely already use. These tablets also offer the flexibility your organization’s application developers and IT administrators need to make them productive, well-managed tools. The Apple and Android alternatives will be more difficult for most users and organizations to tune to their needs, especially in businesses that use Microsoft software on the backend and whose users are accustomed to Windows and Microsoft Office on their computers.
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1 Alternatives include Apple iPad* devices and tablets running Google Android* or Windows RT*.
5 Because they could does not mean they should. Line-of-business managers would need to consider the degree of compatibility with other software, such as Microsoft Office*, in addition to security and compliance implications. Google Drive* is included merely to illustrate the capabilities of quadrant C solutions.
9 Apple Keynote* advises the user of such changes when the user opens the imported presentation in Keynote.
10 Kingsoft and MobiSystems do not document the compatibility of their office productivity suites for Google Android* devices on a feature-by-feature basis, stating simply that the applications can create, open, and edit documents created with Microsoft Office*.