Inside Microsoft Office

Building the Best Productivity Experience across the PC, phone and browser

The Microsoft Office Team

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# Prologue – who is this Paper For?

This paper is for Microsoft Corp. customers who want to understand our approach to delivering productivity software — why and how we do what we do. The Microsoft Office system has a rich, 25-year history, and we are incredibly excited about how Microsoft Office is going to evolve over the next 25 years. If you would like to better understand how we plan and build Microsoft Office for the work of today and the work of tomorrow, read on.

# Microsoft Office: What Sets us apart

## Vision

The core mission of the Microsoft Office team is to deliver fast, reliable, easy-to-use software that helps you engage in your daily activities. These are the basics that, when done well, delight our customers every day. Many of you tell us our attention to the basics is the biggest reason you love to use our software.

We also seek to understand how your expectations are changing and how technology is changing in order to deliver on the potential of software to transform how you work. Every day we learn from our customers, and every day we use that lesson to transform Microsoft Office into better productivity software. You tell us that the innovations make Microsoft Office fun and exciting to use.

The Microsoft Office system has changed an incredible amount over its 25-year history. Initially, we delivered a collection of solitary applications, dedicated to individual productivity tasks. The suite featured word processing, spreadsheets and presentations. Today, the Microsoft Office system is a connected suite with server and services capabilities, dedicated to individual, group and organizational productivity. We have built on the fundamentals and now offer business intelligence, collaboration and content management. For many of our customers, Microsoft Office serves as the primary vehicle to engage in daily business activities: coordinating geographically dispersed teams, managing and communicating with customers to ensure a high level of customer satisfaction, and consolidating multiple sources of data to communicate and calculate financial results. Microsoft Office provides the tools you use to transform your business. You replaced transparencies with Microsoft PowerPoint slides, you track information in Microsoft Access, and you use Microsoft Word to create memos, manuals and books. Microsoft Excel has become your tool of choice for business analytics. The Microsoft Office system provides a framework to customize and build on, helping your entire organization be more efficient and productive. We continue to evolve the experience to meet and anticipate your needs through innovation in the familiar applications, as well as through new tools such as Microsoft OneNote, Microsoft InfoPath and Microsoft SharePoint Workspace 2010.

As you use Microsoft Office for some of your most important activities, we remain dedicated to innovation on a global scale, making Microsoft Office the easiest and most complete experience for your productivity.

## Execution

We believe that great productivity software should do the following:

* Be easy to use, fast and reliable
* Deliver the results you expect across your pc, phone and browser
* Be engineered for the diversity of people everywhere
* Help you get more from it every day

We bring together a long-term vision for productivity, a single-minded focus on executing well on the everyday essentials, and dedication to breaking new ground with innovative ideas to provide you with the best tools for how you will work today and in the future. We revisit even the most basic parts of our products to improve the customer experience. We understand that when you say “fast,” you mean better results, faster. And we know that people want a predictable experience, even as they move content from device to device or share it with others. We are focused on bringing these different elements together to deliver great software for you, no matter where or when you do what you do.

### EASY, FAST and RELIABLE

#### Easy

We are constantly revisiting even the most basic parts of our products to improve the customer experience to make it easier to work with Office. For example, we know that nearly 20 percent of your clicks are devoted to Copy and Paste. You copy and paste an average of 300 times per month. When you copy a table from Excel and paste it into Word, or use the format painter to apply a style to a paragraph, you are tapping into our early innovations with the Copy and Paste commands. That may sound simple, but we support more than 400 different clipboard formats to ensure that your copy and paste experience is easy, fast and reliable.

We know that there is still plenty of room for improvement. The most common command people execute immediately following Paste is Undo — primarily because people often copy from a source with one kind of formatting, maybe white text on a dark background, and paste somewhere with a different kind of formatting, say black text on white. We’re adding Live Preview for Paste to Microsoft Office 2010 to help you see the different possible results before you commit. That way you won’t need to hit Undo.

We introduced Ribbon and the Microsoft Office Fluent user interface in 2007. Over the years, the menus in our applications had grown from a handful of commands to a dizzying array of menus and submenus. Customer feedback offered two seemingly opposite requirements: make the applications easier to use and at the same time make them more powerful. We knew that the menus were getting overloaded — people were having trouble finding the features they wanted. A bigger breakthrough was needed. Through hours of research, design and testing, we transformed the old menus and submenus into the Ribbon.

Were we successful in our goal of making Microsoft Office easier to use? We know that many users didn’t like the Ribbon when they first tried it. It was new, and not everyone wants “new.” But the usage data coming back on Office 2007 shows that more people are using more of the features across the board — in some cases, such as in Excel and Word, by a factor of four or more. The number of people with deepest usage of Microsoft PowerPoint has grown by five times. People are discovering new features, as well as old features they didn’t know existed, through the Ribbon. Customers tell us that, after one month, they highly prefer the Ribbon and would not want to go back. In one study we ran, 60.3 percent of respondents say their productivity has increased through the use of the Ribbon.

In 1991, Word became the first word processor to offer drag-and-drop capabilities. Today, we all take drag-and-drop functionality for granted. Soon we will be taking for granted the ability to use Live Preview before Paste. In a few years, we will not be able to remember what user interfaces looked like before the Ribbon. There are many other examples of our dedication to getting usability right: spelling check, undo and the entire print experience. Customers tell us they love our software for how well it does all of the little things that we all take for granted.

#### Fast

Performance is important to us, as we know it is important to you. No one likes to see the spinning wheel or have to wait for an operation to finish. Customer feedback on Microsoft Office Outlook 2007 told us we were not keeping pace with the ever-increasing size of mailboxes. Our engineers pored over the data and built many fixes for Microsoft Outlook 2010. We then back-ported those fixes and shipped them in Service Pack 2 (SP2). As a result, Outlook 2007 SP2 is now 26.2 percent faster on the most common e-mail tasks and 34.9 percent faster with large mailboxes. We were able to reduce writes to the hard drive by 82.2 percent over Outlook 2003, making everyday activities faster.

Sometimes we need to wait for processors, memory, hard drives or networks to catch up to our ambitious ideas. We first implemented background spelling check in Microsoft Word 95 because that’s when we could take advantage of 32-bit Windows and its multithreading support. Contextual spelling was implemented first in Microsoft Office 2007 because we needed even more dynamic processing to determine that a word, while correctly spelled, is not the correct word to fit into the rest of the sentence.

We know that when you say “fast,” you mean better results, faster. Integrated search, conversation view and SmartArt Graphics are all examples of innovations that help turn performance into productivity.

#### Reliable

Of course, customers expect their software to be predictable and reliable. From our research, we know that customers spend hours at a time in a typical Word session, similarly for Excel and PowerPoint. Outlook, of course, is open all day long, sometimes for days at a time. These applications have to be reliable through complex work sessions, robust when used with other applications, tolerant of laptop sleep and hibernation cycles, solid through changes of network infrastructure (wired to wireless, corporate network to home network, etc.) and changes in power (battery to plugged-in), and on and on. Our engineers spend countless hours testing the reliability of our products. We have entire labs devoted to unique pieces of hardware including large-format printers, specialized PC devices, unique displays and different input devices. We test and optimize for as many of the real-world scenarios as we possibly can, even a system crash. Early on, the Office team invented Microsoft Error Reporting, a utility that gathers information at the time of a catastrophic error. Customers like you opt in to send this information back to Microsoft, and we analyze the data for trends and root causes so we can build fixes that are made available to you as software updates.

### DELIVER the RESULTS YOU EXPECT

People also want a predictable experience, even as they move content from device to device or share it with others. For example, the average Microsoft Word document uses 16 different styles. Microsoft Word faithfully represents all of those styles with appropriate kerning and line spacing, as well as more complicated layout concepts such as gutters, balance of footnotes across pages, even and odd pagination, text flow around images, and so on. That fidelity is preserved across different Microsoft Office versions and operating systems, across mobile devices, and now, with the Microsoft Office Web Apps, across Web browsers. With the Office Open XML File Formats, third-party applications can work with this content and still maintain full fidelity.

Microsoft Word 2007 has 13 layout compatibility options. If you originally wrote your document using WordPerfect 5.x, Word for Windows 1.0 or even Word 5.0 for the Macintosh, you can rest assured that Word 2007 can render it with high fidelity so that you don’t have to clean up any formatting messes. Those documents will still print just like they did the day you created them.

Word features more than 60 other fidelity and compatibility options, including the ability to save font information right inside the document. Even today, one-half of 1 percent of customers still access WordPerfect help from within Office because they still have important documents stored in those legacy formats.

### ENGINEERED for DIVERSITY

#### Range of customer usage

Study participants provide us with millions of real-world data points, such as the average length of a document or the amount of time spent in an application. We also know that the averages don’t tell the whole story — Office is built to do the things that everyone does, and it’s also built for “the long tail,” millions of users with their own set of requirements. For example, in a sample set of 20,000 users, over the course of a month nearly every command in Office is used at least one time. Of all of the clicks in our applications, many commands represent a total of 0.001 percent (one one-thousandth of a percent) of the total. But if we took away any 10 of those commands, we could impact up to 5 percent of our user base — that’s approximately 30 million of you. Reducing the functionality by just a few seldom-used commands would have major impact. You use the table of contents command in Word only about 0.0004 percent of the time, but you value the time savings it gives you and you wouldn’t want to be without it.

#### Accessibility

We believe great software should be easy-to-use around the world. Office 95 was available in 26 languages. For Office XP, we supported 72 languages. We are proud that we launched Office 2007 in 48 markets and in more than 90 languages. Two additional markets were added in April 2008, and Office is now at least partially localized into more than 100 languages. Today we translate more than 1.6 million words in the user interface and over 6.2 million words of online content into these 100 languages. We firmly believe in extending the power of productivity software to the world.

We also have many customers who need special aids for their productivity tasks, such as screen readers, high-contrast color schemes or special keyboards. More than 175 partners develop assistive software on top of Office, and more than 360 accessibility centers throughout the U.S. enable people to try out the different assistive technologies within Office for free. The new “Save as DAISY XML” add-in, designed for Microsoft Office Word, allows users to save Open XML-based text files into Digital Accessible Information System (DAISY) XML, the foundation of the globally accepted DAISY Standard for reading and publishing navigable multimedia content ([http://www.daisy.org](http://www.daisy.org/)). This is just one of the many examples of how Office is built for the diversity of customer needs everywhere.

#### Customization

Another thing that you tell us is how much you want to customize your own individual experience. In the age of personal ring-tones and personal photos for screensavers, people demand a high degree of personalization to make their experience as individual as possible. We offer the flexibility you need to make the experience truly yours. For example, 12 million Office users customize their user interface in some fashion — with custom toolbars, by moving commands around, and showing or hiding particular menu items. In Office 2007, we created the Quick Access Toolbar where you can put your favorite commands for easy access.

You can customize the application behavior too. We know that 25 percent of our customers do some sort of development, from writing simple macros to complex Visual Basic for Applications (VBA) or Visual C# code. Macro recording helps you streamline repetitive tasks, providing a customized application experience.

Office has a rich programming model so developers can build applications that connect directly into the suite. Thousands of third-party add-ins are available for Office today providing a range of capabilities such as the ability to connect directly to FedEx for shipping, local document manipulation with Adobe PDF, third-party software integration with applications including Adapx and Mindjet, and high-end enterprise integration with solutions including SAP and Microsoft Dynamics. Through customization, programming and add-ins, people can make Office work the way they want.

### HELPING you GET MORE EVERY DAY

The Ribbon has been successful in helping people to discover more of the functionality that exists in Office. Microsoft Office Online is another important resource for helping people succeed. In April 2009, [Office Online](http://office.microsoft.com/) served 1.1 billion page views to more than 131 million unique visitors worldwide. Office Online has hundreds of training courses, more than 2,000 partner solutions, and tens of thousands more templates and help assets. There were more than 4 million visits to the training center in April 2009, and people downloaded over 500,000 training presentations that month.

Clip art turns out to be the most popular asset on Office Online. In April 2009, 37 million people downloaded 265 million pieces of clip art. It’s clear that people depend on us to help make their documents and presentations better. Providing a rich library of clip art is one of the many ways Office helps you every day.

A global customer base expects diverse learning opportunities; Office Online is localized into more than 90 languages, providing native language support on the Web and directly through the Office user interface. We provide tips and tricks, short video vignettes, and even detailed white papers. No matter what your learning style, Office Online can help you get more from your Office applications.

# OFFICE 2010: Delivering on the vision

Over the past two years, we have continued our quest to deliver fast, easy, reliable, innovative software for your productivity. Real-world customers presented us with compelling data that led to specific investments:

* Less than 2 percent of people were aware of the Document Inspector and other tools for working with their final output. The Microsoft Office Backstage view increases the visibility of these time-saving features.
* Sixty percent of people print more than 60 times per month. We’ve streamlined the print process, including Print Preview, in a single integrated print gallery.
* People average more than 70 e-mail messages per day. We’ve improved the tools for managing your inbox, including Conversation view, and introduced new features such as Ignore, Clean Up and Quick Steps that help you keep control of your mail.

We know that you are looking for innovative ways to work together. You expect software that helps you bring your ideas to life, and you need it to be available where and when you need it. Read on to learn more about how we are living up to those expectations.

## Bring Ideas to life

### Data visualizations

Beginning in 1990, when we first brought 3-D charting to Excel, through the Office 2007 release, when we revamped the charting engine to help you create rich, dynamic charts, we have focused on supporting your need for visual representations of your data. With Excel 2010, we introduce cell-sized charts called Sparklines to help you quickly summarize data in a small space. Sparklines help you visualize trends, and because they act like cells, you can build them quickly using simple operations such as Fill.

You tell us that Excel is your tool of choice for analyzing data, making decisions and sharing those findings. In Excel 2007, we enhanced table support with sorting and filtering. With Office 2010, we introduce Slicers, visual filtering tools to help you quickly segment your data and tell you at a glance what elements are in and out of your table. These innovations help you make fast, effective comparisons of data to draw insights and express your ideas.

Excel 2010 and Excel Services create new opportunities for reporting, compliance and complex calculations. The marriage of rich-client and Web-based services means that your powerful business analysis can now be shared via the browser, with improved performance and security.

More advanced customers demand innovative approaches to business-critical problems such as compliance, programmability and modeling. A new project, code-named “Gemini,” helps you work with spreadsheets with millions of rows. Using highly efficient and advanced sorting and compression algorithms, you can efficiently model and analyze almost any data, explore data interactively by sorting and filtering, or look up values across tables and join tables for more effective analysis.

### Document Formatting

People use an average of 16 styles in their documents, and 80 percent of documents use 20 styles or fewer. Most people use the bold command. The next most common formatting is font size. That is followed by font face and then font color. Somewhere way down the line are all caps, small caps and double strikethrough, used by a tiny segment of people. With the richness of styles available in Office today, you tell us that you produce better-looking documents and you tell us that Office is fun to use. In Office 2010, we are adding even more effects for text, including outlines, shadows, reflections, glows and bevels. These effects will help you create fantastic-looking documents for communicating your thoughts in all the richness you imagine.

Office continues to make it easier to produce great-looking documents. The Ribbon brings font, paragraph and style galleries within easy reach. The Paste gallery gives you more control when cutting and pasting content. Live Preview helps you see the results before you commit, so you can select the option that works best for your document.

### Images

Did you know that 1.2 exabytes (a billion billion bytes) of video data was taken with phones and cameras in 2007? Perhaps it is not surprising, then, that Insert Picture is the fourth most common command on the Insert tab and is used by nearly one-third of our customers. We know that 95 percent of documents with pictures have fewer than 20 pictures inside them. Of those with pictures, 45 percent of them have only one image, but some have more than 1,000. People like to crop and apply effects to their images, but the in-product tools available for image manipulation have been rudimentary. This often forced people to use other tools to fix up their images before bringing them into their documents.

In Office 2010, we are adding a variety of rich image-processing tools such as the ability to color-correct or recolor the image within the document. You can apply artistic effects such as watercolor, sponge, chalk, rain and so on for a dramatic look. The background removal tool brings a foreground element out of a picture to lay it over a different background.

Video editing software can be expensive and difficult to learn. With PowerPoint 2010, you can edit videos without using additional video editing programs. PowerPoint 2010 even helps you work with large video files: you can break your file into smaller, more manageable pieces or reduce the file size for easier sharing.

### Business Process

We know that you need to collect information from the people who matter most to your business. We’ve invested in helping organizations streamline business processes with electronic forms that are easy to design, deploy and use. That information can then be used across your enterprise. Gathering consistent, accurate information helps ensure downstream success of business processes. InfoPath 2010 electronic forms provide the necessary structure and rules to help you collect the right information the first time.

InfoPath helps business gather information from people. In the real world of business process management, where users are often the most essential ingredient of a process’ success, you need to know that the information you collect is accurate. You want to ensure that across all work styles in your organization — remote, desk-bound, terminal-based, mobile and even Web-based — you can rely on a forms solution to automate one of the most challenging aspects of process management.

Because InfoPath is fully integrated with the Microsoft Office SharePoint Server solutions for Windows Workflow Services, Single sign-on, Business Connectivity Services and others, deploying electronic forms is a natural extension of your Office-based collaboration and productivity management solution.

InfoPath forms solution offer Web-based form filling, online and offline forms solutions, mobile solutions, and embedded solutions using hostable InfoPath controls. By providing this comprehensive array of form-filling tools, you can deploy highly tailored forms solutions to meet a variety of needs.

## Work together

Today it is even more important for people to be able to work with customers, partners and each other. Communication is a critical component of work. Nearly 85 percent of workers have access to e-mail. E-mail volumes are on the rise, with the average worker receiving more than 70 e-mail messages per day. We know that average Outlook users read about 1,800 messages per month, and they delete about 1,500 messages per month. Outlook 2010 provides a greater ability to stay on top of your e-mail. For example, you can drop out of an e-mail thread if it is not important to you just by clicking Ignore.

Outlook 2010 has other tools to help you manage your inbox too. Quick Steps combine multiple actions, such as Meeting Reply or Team E-Mail, into a single click. Quick Steps are preconfigured, but you can create your own with ease. Arrange your inbox by conversation to help you keep track of long threads with multiple responses. MailTips provide you with helpful information before you hit send.

We see more than 230 million Office documents attached to Windows Live Hotmail messages every month. This represents the common “send for review” process we all participate in. It is easy to send an attachment, but managing different versions of documents and collecting all the input into a single result is still time-consuming. People no longer want to wait for a colleague to send them the file, nor do they want to wait when someone else has checked out the file for edits. Office 2010 provides co-authoring to enable people to work together — at the same time or at different times. The end result: you get to pull together a better document in less time.

In looking at the usage data, we realized that outside of Open, Print and Save, many people are not using the other features to help send, share, inspect, finalize and protect documents. Many people don’t know those commands exist or where to find them. With the success of the Ribbon in Office 2007, we take another step forward with Microsoft Office Backstage view. The Microsoft Office Backstage view is designed to provide easier access to all the commands you need to perform on the document as a whole. So when you need to send or share files with others, you can go to the Microsoft Office Backstage view and find all of the options conveniently located and organized. We’ve surfaced the important tools such as the Document Inspector, so you can be sure to remove the review comments before you send the file outside your group or to make sure you don’t have hidden rows in your spreadsheet before you commit to that budget figure for next year. We’ve also merged Print with Print Preview so that you can see how your document will look and you can specify the most common printing options right in one easy view.

In addressing e-mail, collaboration and file sharing, we’ve made Office 2010 much more powerful for the way you work with other people day in and day out.

## Use Office anywhere

We are incredibly excited to bring the Office experience to all three of the major form factors customers are using for productivity: the PC, the phone and the browser. The PC remains the most powerful platform for your work, and Office 2010 will provide many new enhancements even beyond those mentioned earlier in this paper. Customers want the flexibility to work anywhere, and with Office 2010, we introduce the Office Web Apps for easy, fast, reliable Office experiences from any browser. Office Web Apps bring streamlined versions of Word, PowerPoint, Excel and OneNote to the browser to help you maximize productivity when you are away from your own PC. Office Web Apps will have the familiar Office Fluent user interface and will offer essential editing capabilities with no formatting or data loss. The Office Web Apps also will provide everyone the highest-fidelity viewing experience outside of the core desktop applications. The Web Apps will be available from most browsers and across platforms.

Microsoft Office Mobile has enhanced tools for mobile phones, providing always-on, always-connected access to the Office documents you need most. To date, we have delivered more than 6 million copies of Office Mobile onto Windows Mobile-based phones worldwide. With Office Mobile 2010 we also will deliver the following:

* Full compatibility with the Open XML File Formats
* SmartArt Graphics for viewing documents and presentations
* Over-the-air sync for OneNote notebooks
* The ability to sync SharePoint content to the device and take it with you

We recognize the diversity of mobile platforms in the market today, so we are extending the Web App experience to virtually any smartphone and feature phone browser with viewing support for Word, Excel and PowerPoint.

## Simplify Deployment and Lower Management Costs

Effective desktop management is a critical component of cost management and worker productivity. For the IT professional, the challenge is always to do more with less. For the user, the challenge is to keep up with the speed of business. Microsoft Office supports a mobile, collaborative work force on a broad array of devices, while helping IT keep costs down. We have invested in several areas to help IT spend less time and money on migration and management for their workers. Integrated identity and security management across the PC, phone and browser means intellectual property is protected. Support for online and offline access to e-mail, collaboration workspaces and electronic forms results in anywhere, anytime productivity. Flexible delivery options deliver savings for deployment, update and application compatibility testing. In an environment where users demand more flexibility in their work style, IT adds significant value to an organization by meeting this demand with even fewer resources than in the past.

## Still More

This is only a brief summary of all of the exciting advancements coming in Office 2010. There are many more topics to discuss, such as all the amazing work around interoperability and open standards for this release, and all the IT flexibility we will be offering for management and deployment. With a product suite as comprehensive as Office, this paper just scratches the surface.

# ****Conclusion****

We hope this paper has helped you understand how the Microsoft Office team thinks about delivering the best productivity experience across the PC, phone and browser. Combining our dedication to a long-term vision for productivity with our focus on executing well on the everyday essentials, plus the groundbreaking new directions, we believe that we are uniquely positioned to provide you with the best tools for how you will work today and in the future. As we approach the release of Office 2010, we thank you for being a customer. We have enjoyed building these great products for you over the past 25 years, and we look forward to continually improving them over the next 25.