Adobe Creative Suite 5: How Key Design Applications Increase Your Productivity

Key productivity features for everyday design operations in Adobe Photoshop CS5, Illustrator CS5 and InDesign CS5

Executive Summary

This report presents the findings of a market-specific benchmarking project conducted by Pfeiffer Consulting for Adobe Systems Incorporated.

Three applications were examined in particular, focussing on key productivity features introduced with Adobe® Photoshop® CS5, of Illustrator® CS5 and of InDesign® CS5. A dedicated research project about the productivity impact of 64-bit support on Photoshop performance is covered in a separate report.

Photoshop CS5. Photoshop CS5 introduces key productivity features for the digital imaging workflow, such as Content-Aware Fill, which can provide **very significant productivity gains over previous releases** (see chart below.)

Illustrator CS5. Adobe's vector drawing and graphic design application introduces **highly efficient productivity enhancements** to the graphic design and web creation process, including multiple-width strokes, improved artboard support, and powerful perspective drawing tools, among others.

InDesign CS5. The latest release of InDesign streamlines many aspects of page-oriented design with the addition of a new Selection Tool, Gap Tool, a highly efficient Span Columns feature, that **yield very significant productivity gains.**

64-bit Support. Support for 64-bit architectures, covered in a separate report, **provides significant productivity gains** for digital imaging and video production workflows.

Key Benchmark Results: Average of 21 Feature Productivity Benchmarks

| CS5 (37.36%) | CS4 (100%) |

Chart based on the average of all 21 feature productivity benchmarks conducted for this project. Reference value: Average time for Adobe CS4. **Shorter is better.**

Key Benchmark Results: Best result (Photoshop CS5, Content-Aware Fill)
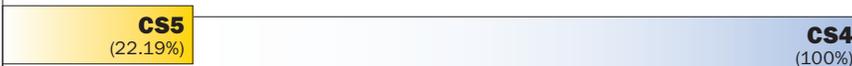
| CS5 (22.19%) | CS4 (100%) |

Chart showing the best result of 21 feature productivity benchmarks conducted for this project. Reference value: Benchmark result for Photoshop CS4. **Shorter is better.**

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Introduction

About this Report

This report presents the findings of a market specific benchmarking project conducted by Pfeiffer Consulting for Adobe Systems, combined with technology analysis of the latest release of the Adobe tools for creative professionals.

Productivity measures, based on the *Pfeiffer Consulting Methodology for Productivity Benchmarking*, compared workflow productivity based on the Adobe Creative Suite® 5 with previous releases of the software. Workflow benchmarks and efficiency measures analyzed the productivity impact of features introduced in key Adobe Creative Suite applications such as Photoshop CS5, Illustrator CS5, and InDesign CS5.

Additional research, covering performance and productivity of Adobe CS5 Production Premium, and the impact of 64-bit support on Photoshop performance are covered in separate reports. For details on the methodology used for the productivity benchmarks, please refer to the *Methodology* sidebar on the page 4, or to the complete benchmark report (see sidebar).

Structure of this Report

This report is structured in 4 sections:

Photoshop CS5: Expanding Performance and Productivity (page 3). The first section of this report analyzes key productivity features in Photoshop CS5.

Illustrator CS5: The Productivity of Creative Drawing Tools (page 5). The second section of the report concentrates on the productivity impact of Illustrator CS5 features such as variable width strokes.

InDesign CS5: Streamlining Common Design Operations (page 7). The third section of the report focuses on several productivity enhancements introduced with the latest release of InDesign.

About Pfeiffer Consulting

Pfeiffer Consulting's mission is to provide unique high-level, international market intelligence and strategic consulting for both content and technology providers.

Pfeiffer Consulting is the publisher of the *Pfeiffer Report on Emerging Trends and Technologies*, an online resource on trends in the technology and content industry, as well as numerous specialized studies and reports.

For more information, please visit: www.pfeifferconsulting.com.

Major Findings

▶ Productivity of Photoshop CS5 with benchmarked operations such as Content-Aware Fill is **significantly boosted over techniques available in previous releases**.

▶ Productivity features introduced with Illustrator CS5 include variable-width strokes, enhanced arrow creation options, faster ways of joining paths, and others, and **provide significant measurable productivity gains**.

▶ InDesign CS5 offers a new Selection tool that **makes object modification significantly faster** than with previous releases. Grid-enabled tools speed up the creation of multi-element designs.

About Pfeiffer Consulting

▶ Pfeiffer Consulting is an **independent technology research institute and consulting operation** focused on the needs of publishing, digital content production, and new media professionals.

▶ Download the complete **Adobe Creative Suite 5 Benchmark Report** at www.pfeifferreport.com.

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Photoshop CS5: Expanding Performance and Productivity

Major Points

▶ Content-aware fill **makes certain retouching operations almost five times faster** than with previous releases of the program.

▶ Simple productivity features such as drag/ and drop support for adding images to an open Photoshop document **provide over 3x productivity increase** for these common operations in the imaging workflow.

▶ Straightening images with Photoshop CS5 has significantly reduced the number of steps for this operation, **resulting in an almost 4x productivity increase over older releases.**

The Continuing Revolution

Few fields have evolved more over the past few years than digital imaging. One of the most important aspects of these dramatic changes is that they are occurring on both sides of the spectrum in parallel, redefining the consumer space as much as the professional creative application of the technologies involved.
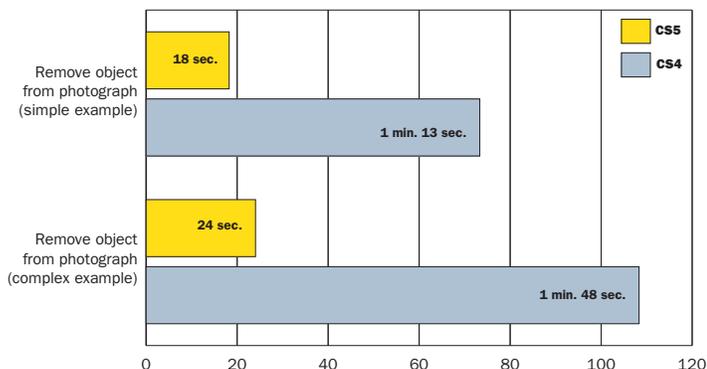
Photoshop has always been at the very core of this ongoing revolution, and one of the challenges the program faces with every new release is that it is expected to break new ground, to pique the creativity of the seasoned professional, as it were, as well as to alleviate the drudgery of repetitive, time-consuming tasks. It is to Adobe's credit that the program has a practically fanatical following, and Photoshop CS5 will certainly keep professionals busy for some time to come.

Photoshop CS5: Key Productivity Features

The most interesting features in any piece of software are the ones that manage to break new grounds in terms of technology, and make users more productive at the same time. This is the case of **Content-Aware Fill**, an impressive new Photoshop feature that automatically fills a selected area with elements from the surrounding background, in a way that in many cases is far more convincing than simple cloning or retouching could ever be. Not surprisingly, the impact on productivity is significant: Content-Aware Fill is likely to become a very popular feature in deadline sensitive production workflows. (See chart below.)

Adobe Photoshop CS5: Key Benchmark Results

Photoshop: Content-Aware Fill vs. Manual Cloning/Patching
Time-scale in seconds. Shorter is better.

Remove object from photograph (simple example)	CS5: 18 sec. / CS4: 1 min. 13 sec.
Remove object from photograph (complex example)	CS5: 24 sec. / CS4: 1 min. 48 sec.

Legend: CS5, CS4
Axis: 0 20 40 60 80 100 120

Photoshop CS5: Drag/Drop Image to Layer
Time-scale in secondsShorter is better.

Add single image as layer to PS document	CS5: 3.24 / CS4: 9.96
Add 3 images as layers to PS document	CS5: 6.03 / CS4: 18.89

Legend: CS5, CS4
Axis: 0 5 10 15 20

Content–Aware Fill replaces a selection with image texture, intelligently filling in the pixels based on texture color to create a realistic replacement. Productivity gains over manual techniques are significant. (Chart on the left.)
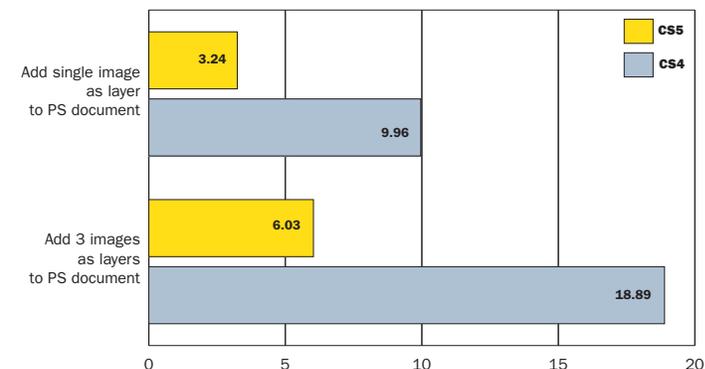
Photoshop CS5 supports drag/drop of images onto an open document, integrating added images as smart–object layers to the open file, making this operation much more efficient than with previous releases (Chart on the right.)

Methodology

This report is based on technology analysis and market-specific productivity benchmarks conducted by Pfeiffer Consulting for Adobe Systems Incorporated. It also includes elements from independent research and technology analysis projects conducted by Pfeiffer Consulting.

Productivity Measures

Pfeiffer Consulting conducted extensive, market-specific productivity and efficiency benchmarks of common creative workflows, comparing features and productivity enhancements introduced with several applications of Adobe Creative Suite 5, as compared with the previous release of Adobe Creative Suite.

Nature of productivity benchmarks

Experienced professionals performed segment-specific workflow tasks and assignments, defined in clearly repeatable steps and executed in a closely monitored way.

To ensure real-world results, no scripting was used for any benchmarks.

All statements in this report are factual and can be independently verified. For in-depth discussion of the benchmark methodology, system configurations, and comprehensive benchmark description and results, please download the complete "Adobe Creative Suite 5 Benchmark Report" at www.pfeifferreport.com.

Photoshop: Straighten Image
Time-scale in seconds. Shorter is better.
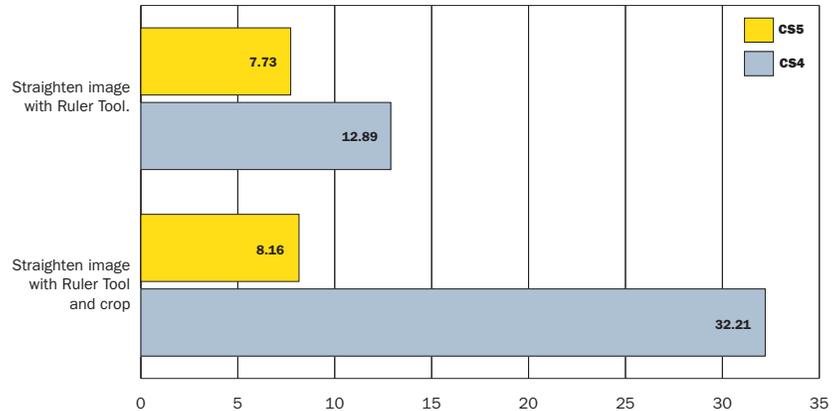
With Photoshop CS5, straightening an image is significantly simplified, eliminating several unnecessary steps and reducing a process that took over half a minute in previous releases of the program to just over eight seconds.

Other new productivity features benchmarked for this project may seem less spectacular, yet their impact on overall efficiency in workgroups is likely to be considerable. This is the case of the new capability **to drag/drop images directly on to new layers** in an open Photoshop document from Adobe Bridge, the newly introduced Adobe Mini-Bridge, as well as operating system windows. This is particularly useful when a designer has collected all the elements for a complex composition, and can now integrate them directly as smart objects into a target file, instead of having to open them individually. In the benchmarks for this project, drag/drop of images was over two to three times faster than achieving the same result in Photoshop CS4. (See chart on page 3.)

   Straightening images is a similar example of an operation that used to take several steps in previous releases — measuring the desired angle with the ruler tool, rotating the image, cropping the excess background space — that can now be achieved with the click of a button, reducing an operation that would take over half a minute to less then ten seconds. (See chart on page 3.)

   While not all of the productivity features introduced with Photoshop CS5 have been benchmarked for this project, there are many new additions to the program that will add to the efficiency of creative professionals:

Automatic color decontamination: Creating selections is one of the most essential yet one of the most challenging aspects of digital compositing and retouching, and Photoshop CS5 adds several new features to this process. Automatic color decontamination removes unwanted color from selections of objects with a background color cast, making it much easier to seamlessly integrate selected elements into different backgrounds.

Puppet Warp Tool: A new feature that makes it much simpler to warp or distort parts of an image, or to reposition elements within an image without creating the impression of unnatural deformation.

Adobe Repoussé: While Photoshop has had some limited 3D capabilities in the past, the new release of the program blurs the boundaries between 2D and 3D imaging more than ever before. Beyond the creative thrill that this feature can provide, it makes integration of 3D elements in a complex image composition much more efficient.

Adobe Camera Raw: Efficiently processing the raw image files from digital cameras has become a considerable productivity and quality imperative in modern imaging workflows. Photoshop CS5 expands the capabilities of previous releases by providing a wider set of essential processing options such as high-quality noise removal and sophisticated sharpening of images, options that can all be used to batch-process large numbers of files.

Illustrator CS5:
The Productivity
of Creative Drawing Tools

▷ The Beautiful Strokes feature-set in Illustrator CS5 provides a streamlined way of working with paths in illustrations and designs, resulting in **very significant productivity gains.**

▷ Working with arrowheads has been significantly simplified in Illustrator CS5, and resulted in **a 3x productivity increase** in the workflow benchmarks for this project.

▷ Joining multiple paths in Illustrator CS5 is a one-step operation, and was **over three times faster** in these benchmarks than with previous releases.

Re-Imagining Vector Tools

Like Photoshop, Adobe Illustrator is the center of a universe in terms of graphic design and vector illustration, and like its image-processing younger sibling, it has evolved immensely over the years. And where Photoshop has to deal with a runaway technology — digital photography and its myriad applications — Illustrator had to cope with the increasingly complex world of web-graphics and portable vector graphics, as well as the ever more tricky problems dynamic media bring to the graphic design process.

In other words, Illustrator has to cover an extremely wide gamut of graphic inspirations and production challenges, while trying to reduce the overall workload in the design workflow, and Illustrator CS5 — the 15th major release since the program's inception in the mid-eighties — contributes a considerable number of new creative and production features.
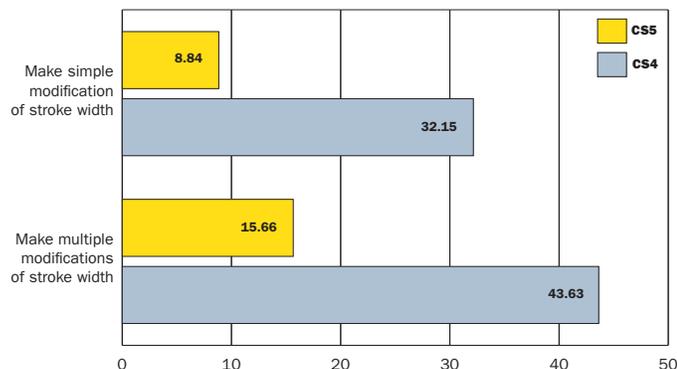
Illustrator CS5: Key Productivity Features

One of the most remarkable new features, in terms of creative possibilities as well as in their impact on design efficiency, is a set of options with the collective name **Beautiful Strokes**. In a nutshell, these tools and functions aim at turning the traditionally uniform paths of Bezier Curves in Illustrator into more natural looking strokes that more closely mimic hand drawn design elements. Using the

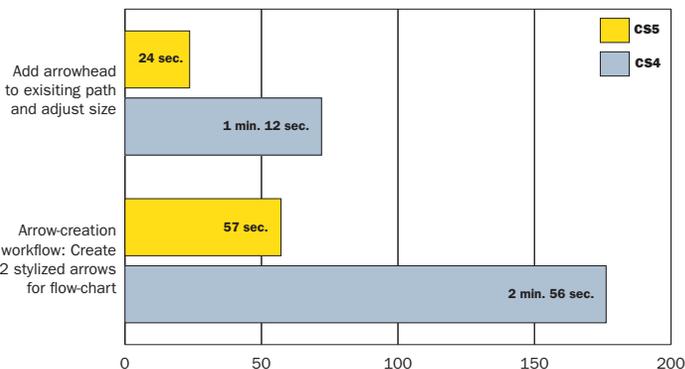## Illustrator CS5: Productivity of Common Drawing Operations

Illustrator: Beautiful Strokes
Time-scale in seconds. Shorter is better.

■	CS5
■	CS4

Make simple modification of stroke width
- CS5: 8.84
- CS4: 32.15

Make multiple modifications of stroke width
- CS5: 15.66
- CS4: 43.63

(scale: 0 10 20 30 40 50)

Illustrator: Working With Arrowheads
Time-scale in seconds. Shorter is better.

■	CS5
■	CS4

Add arrowhead to exisiting path and adjust size
- CS5: 24 sec.
- CS4: 1 min. 12 sec.

Arrow-creation workflow: Create 2 stylized arrows for flow-chart
- CS5: 57 sec.
- CS4: 2 min. 56 sec.

(scale: 0 50 100 150 200)

Illustrator CS5 provides designers with a significantly expanded set of features for working with paths and strokes. The new Width tool allows users to inter–actively modify the width of a stroke at any point along the underlying path, *making the creation of complex graphic designs much faster. (Chart on the left.) By allowing precise control over arrow heads and their strokes, Illustrator CS5 significantly speeds up the creation of information graphics. (Chart on the right.)*
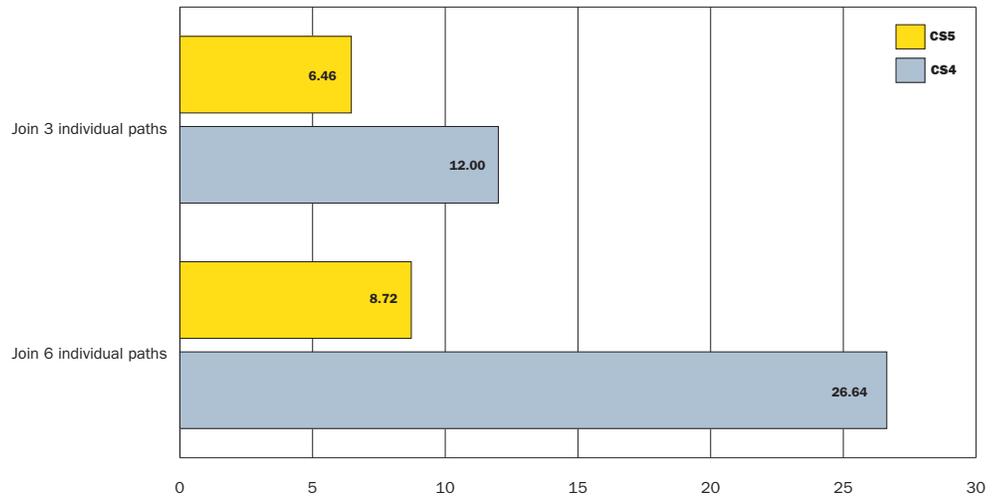
Illustrator CS5: Redefining Drawing tools

Significant productivity gains can be related to very simple, frequently repeated operations.

In previous releases of Illustrator, the common task of joining the endpoints of open paths needed to done on an individual basis, and often also required the endpoints of paths to be averaged in order to be joined.

Illustrator CS5 can complete this operation in a single step, even for multiple paths, resulting in significantly increased efficiency.

Illustrator: Join Paths
Time scale in seconds. Shorter is better.

Legend: CS5 (yellow), CS4 (grey)

Join 3 individual paths: CS5 = 6.46, CS4 = 12.00
Join 6 individual paths: CS5 = 8.72, CS4 = 26.64

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new **Width Tool**, a designer can now interactively modify the outline of a path: apart from providing a host of new creative options, this tool makes fine-tuning graphic designs much faster, as the benchmarks for this project show. (See chart on page 5.)

Precise arrowheads are another part of Beautiful Strokes that significantly increase overall productivity, particularly in rigid designs such as flow-charts or information graphics: in our benchmarks, adapting arrowheads to specific design requirements was over three times faster using the new feature-set than with previous releases of Illustrator.

The third feature benchmarked here may seem more unassuming, yet it will have considerable impact in the overall design efficiency: with previous releases of Illustrator, **joining individual paths** needed to be done one by one, in a process that often involved several steps. Illustrator CS5 streamlines this operation significantly. (See chart on page 6.)

The productivity features introduced in Illustrator CS5 go well beyond the three examples benchmarked here, and range from more intuitive operation of common tools to completely new drawing modes such as **natural media drawing tools** or the new **perspective tools** (see sidebar on this page):

Multiple Artboards: This feature, introduced in Illustrator CS4, has been extended in the new release to make many common artboard operations much more convenient and faster. Artboards can now be individually named, printed and exported; in addition, when printing multiple artboards, they will be automatically rotated for best output orientation.

Shape Builder: Creating complex shapes out of simple elements has long been a staple of Illustrator drawing techniques, and could require careful planning for sophisticated shapes. Shape Builder is a much more intuitive set of options to achieve these results, and allows for easy modification of complex shapes.

Pixel Grid Alignment: This feature, essential for creating graphics for low resolution output channels such as for web-projects and for viewing on mobile devices, insures that graphics and text to automatically align to the pixel-grid of the output resolution. This is particularly important for creating highly legible, small text elements.

Additional Brush Control: Also part of the Beautiful Strokes feature-set, strokes in Illustrator CS5 have been enabled with several new controls that make working with strokes far more efficient than in the past. **Stretch control for brushes** allows users to define areas that will not be stretched when a stroke is scaled. **Brushes with corner controls** provide an essential extension of handling complex stroke designs, by allowing specific designs to be used for angles.

Drawing in Perspective

Many design or illustration projects require the simulation of a 2 or 3-point perspective, a process that used to be very complex in previous releases of Illustrator; it usually required the designer to manually create perspective grids, and then use object distortion to adapt design elements to simulate perspective.

Illustrator CS5 makes this process significantly more intuitive. The new Perspective Grid Tool lets designers **create and modify very sophisticated 1, 2 and 3-point perspective grids**. Design elements can be drawn directly onto perspective planes, or created as a flat design that is later attached to the grid. Elements can **be moved around the grid with interactive, correct perspective distortion**, or returned to their 2-dimensional state if necessary.

While designs such as architectural simulations, say, of store front designs are immediately obvious applications for this new feature-set, it is likely that over time, **the perspective tools of Illustrator CS5 will have a profound impact on the design of interactive deliverables and user interface design** for sophisticated web projects.

InDesign CS5: Streamlining Common Design Operations

Major Points

▶ InDesign CS5 introduces a redesigned Selection Tool, that considerably reduces the steps necessary to scale, rotate, crop and resize design elements and their content. This results in a **streamlined layout process.**

▶ The new Span Columns feature in InDesign CS5 **makes working with multi-column text much easier than in the past.** Creating text that spans several columns, or introducing multi-column sections in a single-column document is significantly faster with the new release.

▶ The newly introduced Gap Tool in InDesign CS5 **increases layout efficiency** when working with multiple aligned objects.

Bringing Page-Oriented Design Into the 21st Century

While on-line, interactive content has certainly exploded over the past few years, page-oriented design continues to play a vital role in marketing and content production.

There is simply no substitute for printed documents in high-profile communication, and even in terms of interactive projects, the sophistication of page-oriented design is becoming increasingly important to stand out in the overwhelming mass of content that is produced every day.

This is the essential challenge InDesign has had to face: to reinvent the core page-design tools in an era where every designer needs to think about interactivity and multiple output channels, while refining the productivity of existing tools to keep up with the ever more stringent efficiency demands of production workflows.
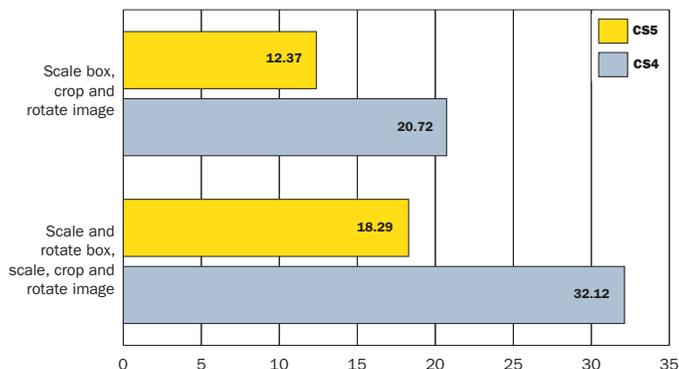
Key Productivity Features of InDesign CS5

There is no doubt that the extensive interactive feature-set for creating interactive content is the most significant new feature-set of InDesign CS5: While previous releases of Adobe's page layout tool have started to include some interactive features, it is the latest release that opens the flood-gates of interactive creativity for traditional designers (see sidebar on page 8).

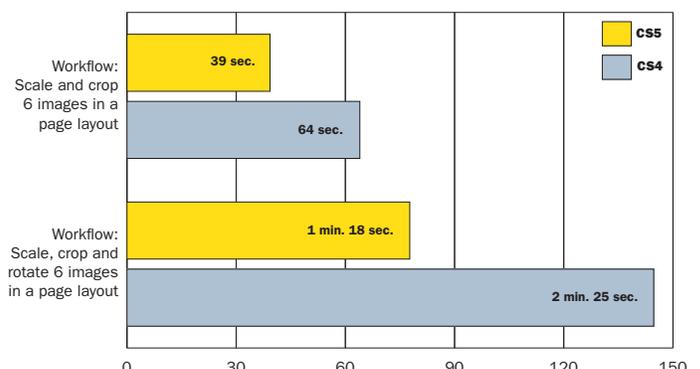## InDesign CS5: Impact of the New Selection Tool on Design Efficiency

InDesign CS5: Selection Tool
Time-scale in seconds. Shorter is better.

	CS5	CS4
Scale box, crop and rotate image	12.37	20.72
Scale and rotate box, scale, crop and rotate image	18.29	32.12

(x-axis: 0 5 10 15 20 25 30 35)

InDesign CS5: Selection Tool — Workflow Benchmarks
Time-scale in seconds. Shorter is better.

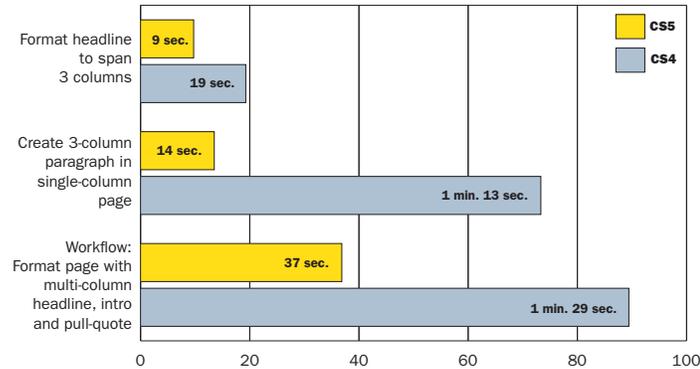|	CS5	CS4
Workflow: Scale and crop 6 images in a page layout	39 sec.	64 sec.
Workflow: Scale, crop and rotate 6 images in a page layout	1 min. 18 sec.	2 min. 25 sec.

(x-axis: 0 30 60 90 120 150)

InDesign CS5 introduces a new Selection tool, that allows designers to modify a variety of aspects of a design element such as size, rotation and even the crop of a placed image without having to change tools. (Chart on the left.)

The productivity gains linked to the new Selection Tool are particularly visible in workflow benchmarks: Scaling, cropping and rotating six images in a page layout took almost half as long with InDesign CS5. (Chart on the right.)

InDesign CS5: Span/Split Columns
Time-scale in seconds. Shorter is better.

Legend: CS5, CS4

Format headline to span 3 columns: 9 sec. (CS5), 19 sec. (CS4)
Create 3-column paragraph in single-column page: 14 sec. (CS5), 1 min. 13 sec. (CS4)
Workflow: Format page with multi-column headline, intro and pull-quote: 37 sec. (CS5), 1 min. 29 sec. (CS4)

Scale: 0 20 40 60 80 100

InDesign CS5: Gap Tool
Time-scale in seconds. Shorter is better.

Legend: CS5, CS4

Change gap between two images: 4.18 (CS5), 10.30 (CS4)
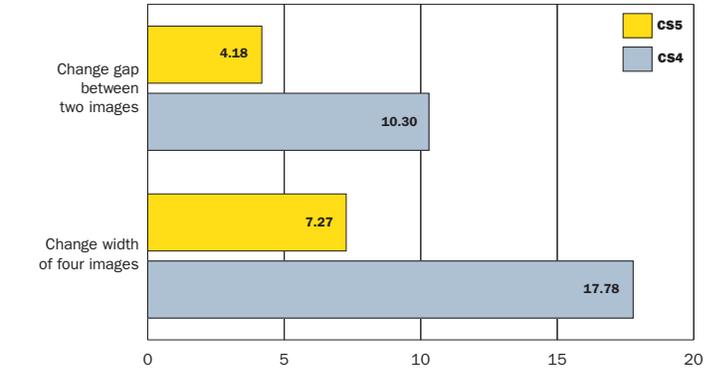Change width of four images: 7.27 (CS5), 17.78 (CS4)

Scale: 0 5 10 15 20

Creating text that spans several columns in a multi-column page layout is usually a complex, multi-step process. InDesign CS5 has added support for columns as a paragraph attribute, speeding up the page layout process of multi-column designs significantly. (Chart on the left.)

The Gap Tool is another innovation introduced by InDesign CS5. Its operation is disconcertingly simple — the user acts on the gap that separates design elements, rather than the elements themselves — and it makes the design process not only more efficient but also more intuitive. (Chart on the right.)

This isn't to say, however, that more conventional design operations have not received a significant overhaul in terms of productivity and efficiency. For these benchmarks, we have looked at 3 key productivity features introduced with InDesign CS5: the **Span Columns** feature that significantly facilitates design work involving multiple columns of text; the re-designed **Selection Tool**; and the aptly named **Gap Tool**.

Span Columns considerably simplifies the creation of text elements that would span two or more columns of text, a process that previously involved several discreet steps. Conversely, the Split Column option makes it easy to insert a multi-column text section, say, in a book. The productivity gains linked to this feature are very significant (see charts on page 7).

The redesigned **Selection Tool** in InDesign CS5 combines several features previously available only by switching tools: users can now resize and rotate text and image boxes, as well as crop and rotate placed images without changing tools, resulting in clearly increased design efficiency (see chart on page 8).

The **Gap Tool** provides a completely new approach to the page design process, by allowing the user not to work on the discreet design elements, but on the gap that separates them. This makes it much faster, for instance, to resize several images on a page that share the same gap (see chart on page 8). In addition, the Gap Tool provides a new take on the computer-based design process itself, and should provide interesting creative stimulation for professionals.

There are other ground-breaking features in InDesign CS5, which redefine the design process in a variety of ways:

Multiple Page Sizes: The most significant change, and one that design professionals must have been waiting for for a long time, is the possibility of creating pages of varying sizes within the same page layout — essential for instance when creating multi-page folded flyers.

Grid Placement: Creating grids is a complex multi-step task in most design tools, that requires drawing one element, then duplicating it several times. In InDesign CS5, text boxes, frames or image boxes, even simple lines, can be drawn as a grid of multiple copies. The number of horizontal and vertical copies can be adjusted interactively, as can be the space that separates individual elements. Combined with the Gap Tool, this feature makes the creation of complex projects such as multi-element posters or catalogs much faster than in the past.

PDF Export: The PDF export capabilities in InDesign have been expanded as well. In terms of productivity, the possibility of exporting complex PDF files as a background task, allowing users to continue working with the program while a PDF file is compiled, removes a significant bottle-neck in production workflows.

Interactivity for Designers

In the past, interactive digital content always has been a field for specialists, web-designers, Flash experts and programmers. Yet there is a growing demand for traditional designers to harness their know-how and creative vision for interactivity in ways that simply weren't possible with classic design-tools.

InDesign CS5 redefines the creative workflow for many interactive projects such as multi-media presentations or interactive magazines that would previously have required the help of an expert or a programmer: Designers now can create **path-based animations**, or use **animation presets** created in Flash® Professional. **Multi-state objects** are a powerful way of enhancing core interactive applications, and a new **timing panel** allows control of events without the need for a timeline.

Interactive projects from InDesign can be exported to SWF files for distribution, or handed off to Flash Professional for further refinement.

In terms of efficiency and productivity, the new interactive toolset of InDesign means that designers retain creative control of many interactive projects, and can **deliver rich-media publications in a much less time-consuming way than in the past.**