

Multimonitor Computing



Multiple monitors increase productivity, reduce errors and improve morale

No longer used only by professionals in the financial or graphics industry, multimonitor computing has quickly become an affordable and effective way to boost productivity. The advent of high-quality, low-cost displays has brought multimonitor configurations into the mainstream – making true multitasking a reality. ▶

“Making workers more productive is at the heart of every IT decision,” says Chris Connery, vice president of market research for DisplaySearch, an NPD Group Company, research and consulting firm focused on the display market.

“Previously cost-sensitive IT professionals were reluctant to make dual-monitor recommendations,” he says. “Now, with decreasing price points and clinical evidence demonstrating an increase in worker productivity, multimonitor use is no longer a luxury reserved only for financial traders, graphics specialists or video game enthusiasts.”

An additional recent innovation in desktop monitors, which also helps to improve worker productivity and make it easier to multitask, is the advent of larger, wide displays, adds Connery.

“With the introduction of these larger, wide displays at slightly higher price points, the current business case for dual-displays is potentially even more justified, because on a pixel-by-pixel basis, it can be more cost effective to roll out multiple 17-inch or even multiple 19-inch displays across the enterprise than it is to roll out single larger size wide displays.”

Additionally, the infrastructure that supports dual displays is already a part of the current IT infrastructure with no need to wait for better support and compatibility, for example with Windows Vista. (Windows Vista is the next version of Microsoft’s Windows operating system (OS), slated to supersede Windows XP.)

Industry consensus is that the introduction of a new Microsoft operation system may help to accelerate the adoption of multiple and wider displays in business environments as corporations start to standardize on this new OS.

“As price points for wide displays continue to drop and new, smaller-size wide displays also enter the market at more affordable price points, the implementation of dual-wide monitors will further take hold,” says Connery.

Organizations realize significant gains in productivity by simply implementing multiple monitor computing in any situation where multiple screens of information are an ordinary part of daily work. Compared to other technology upgrades, multimonitor computing has an extremely low learning curve and does not require the significant training investment that companies typically face when implementing a new technology.

Multiscreen Display Study Verifies the Benefits of Multimonitor Computing

Multimonitor configurations increase productivity

- Overall, participants in the study were 10 percent more productive
- Allows users to move and size a variety of information and images across any or all screens

Multimonitor users get more work done with fewer errors in comparison with single-screen users

- Participants made 33 percent fewer errors and were 18 percent faster in errorless production
- Considering the value of errorless work, multimonitor computing can significantly impact a company’s ROI

Multimonitor computing positively impacts employee satisfaction

- 29 percent of respondents felt multimonitor configurations were more effective for tasks, while 24 percent thought they were more comfortable to use in tasks
- 39 percent found it easier to move around sources of information

Source: NEC Display Solutions of America, University of Utah and ATI Technologies, “Productivity and Multi-Screen Displays” study, 2003

Benefits of using LCD technology in multimonitor configurations

- Ultra-thin bezels allow for near edge-to-edge viewing and for the monitors to be placed closely together
- Reduced footprint allows for the placement of multiple displays in a limited workspace
- LCD displays require less energy and emit less heat than CRT monitors
- LCD displays are equipped with wide viewing angles, making them excellent for wide multimonitor viewing



Ergotron DeskStand 100 Double Side-by-Side Flat Panel Monitor Stand

The DeskStand 100 positions up to five monitors on one base and up to eight monitors on a two-base configuration. Ergotron’s patented Paraview Technology allows viewing of multiple monitors simultaneously, adjusting their position to a comfortable, ergonomically correct location. Cable management system organizes and routes cables.

Productivity Increase at Forbes

At Forbes.com, the editorial copy desk team took an average of 20 minutes to publish a story onto the Web site. Much of that time was spent navigating the multiple windows of their publishing application. Editors had to continually minimize or page flip in order to move text and data onto the publishing application. In order to work faster, a solution was needed to make the process more efficient.

Forbes.com analyzed their production workflow, meticulously documenting each step of the process. They determined two desktop displays would increase efficiency of the team and decided to provide their copy desk editors with dual monitors.

After just two weeks, the editorial team was able to cut their production time in half by expanding their available workspace. Editors were able to drag-and-drop text and view applications concurrently, which allowed them to identify mistakes or errors much faster.

“The added desktop space allowed the editors to increase the screen resolution and font sizes which resulted in a noticeable decrease in eye strain and fatigue,” says Michael Smith, Forbes.com general manager of operations. “The dual displays have really made an impact on our process and with our people.”

Study Tracks Gains

These productivity gains are confirmed by a study entitled “Productivity and Multi-Screen Displays.” Conducted by NEC Display Solutions of America, ATI Technologies and the University of Utah, the study examines how multiple monitor configurations increase user productivity and usability. It also demonstrates that users of multiple monitors have greater productivity than their single monitor counterparts.

“The study reveals multiscreen users get on task quicker, work faster and get more work done with fewer errors editing documents, spreadsheets and graphic files in comparison with single screen users,” says Dr. James Anderson, professor at the University of Utah’s Department of Communication and head of the study. “The technology required to support multimonitor computing is not only affordable, it has become standard within

Usability Benefits: Multimonitor vs. Single Monitor Display

- 45%** Easier task tracking (finding windows, referencing text, etc.)
- 38%** Easier to move around sources of information
- 32%** Faster to perform tasks
- 29%** More effective for tasks
- 28%** Easier task focus
- 24%** More comfortable to use in tasks
- 19%** Easier to recover from mistakes
- 17%** Easier to learn how to accomplish tasks

Source: NEC Display Solutions of America, University of Utah and ATI Technologies, “Productivity and Multi-Screen Displays” study, 2003

operating systems and LCD [liquid crystal display] monitors. Multiple monitor configurations are poised to become the new standard in the workplace.

By enabling users to work between multiple applications and resolving the need to view and process multiple information sources simultaneously, multiple monitor configurations allow users to move and size a variety of information and images across any or all screens.

“Increasing screen real estate is a natural next step for corporations whose employees rely heavily on computers for day-to-day tasks,” says Andres Maldonado, director of product marketing, NEC Display Solutions of America. “Displaying onscreen information over more than one monitor can significantly increase productivity and LCD displays are ideal for use in multimonitor configurations with their reduced footprint, space and energy requirements.”

Multimonitor users also make fewer errors. When reviewed under the lens of error reduction, multimonitor computing can impact a company’s ROI. The study results show that respondents increased their errorless production by 18 percent using multiscreen configurations.



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— Dr. James Anderson, Professor, University of Utah,
Department of Communication

Increased Flexibility

Both Windows and Mac environments support multiple video cards in one computer for multiple monitors. And there are also video cards that support dual monitors from a single card.

Flexibility is another advantage. Most multiple monitor configurations allow each monitor to have its own resolution and color depth. Each monitor can also be set at independent resolutions and refresh rates.


LCD monitors also allow rotation to a portrait orientation. Many computing tasks, such as page layout, word processing and Web browsing, are better suited to the portrait orientation. With dual monitors, you can have the best of both worlds — traditional landscape orientation on one monitor and portrait mode on the other.

Dual Screens Increase Staff Morale

Additionally, multimonitor configurations can positively impact employee morale, making users feel more comfortable with their ability to complete tasks by allowing for quick navigation and higher task focus. Participants in the NEC study considered multiscreen configurations significantly more useful than single screens and preferred multiple monitor setups on every measure of usability. They found them 29 percent more effective for tasks, 24 percent more comfortable to use — and found it 38 percent easier to move sources around.

Flat panel LCD monitors have a tiny footprint that easily allows the physical placement of multiple monitors on a single desk — an option not provided by bulky CRT (cathode-ray tube) monitors.

Professor Anderson believes specific tasks are more likely to benefit from multiple monitors than other tasks. “For someone who does the same sort of thing routinely, there will be an optimum size and orientation configuration. So be careful of the one-size-fits-all solution.” Multiple displays are the best solution for tasks that routinely include multiple applications or that utilize multiple data sources (text, graphics, browser and/or numbers). Multiple displays are significantly more effective than a single screen (even a large one, because of the need to manage open windows).

The only problem, says Anderson, is that “Once you work with multiple monitors, it is hard to go back to a single screen.” 

Dual Monitor Technology for Your Business:

No longer used only in the financial or graphics industries, other applications are benefiting from the use of dual monitors.

Research and Writing:

With a word processor open in the primary display, and a Web page or image browser open in the secondary display, staffers can write about what they’re researching without forcing an Alt-Tab or click down into the taskbar to bring up the research subject. It might sound insignificant at first but it can enhance productivity.

Entertainment:

Simply launch a DVD presentation and it will start up full screen in the secondary monitor automatically, while remaining in a window on the primary display. This means staff can Alt-Tab or open up a word processor and do work while watching a video.

Business:

Multitasking is easy when employees can simultaneously run two or more applications on side-by-side displays, or stretch a spreadsheet across two screens to see more and do more. This saves time on closing and reopening applications, or switching back and forth between windows.

Training:

For effective presentations, you can choose to have the secondary monitor simply mirror the program on the primary display.

Web Development:

If your firm engages in Web development technologies, then you will be interested in what dual monitor technology can do for professional developers. Keeping one monitor in portrait orientation with the other in landscape mode can offer an extra measure of convenience for site-building tasks.