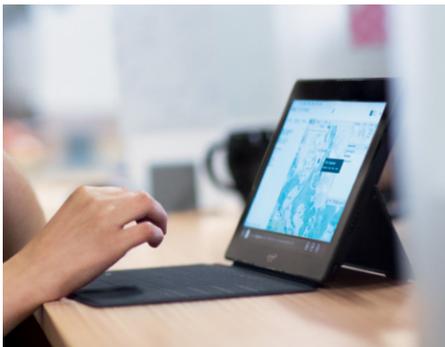(intel®)

Boosting productivity with the Adaptive Personal Workspace

Technology has transformed the workplace but personal workspaces are still defined by desks and wires. Now workers can shape their environment around the demands of their job with Intel® Adaptive Personal Workspace solutions.

Executive Summary

In a single day you may need to work on the move one moment and collaborate with colleagues the next; or settle down to concentrate on more involved tasks before leaving the office for a meeting across town. Sometimes you need a keyboard and a monitor, but just as often these might be unnecessary. In every case, however, the limiting factor in your ability to switch workstyles like this will be the technology available.

Mobile devices, from phones to laptops, have transformed the workplace – though an all-mobile approach isn't suitable for everyone or even most people – but the workspace itself has not kept up. Still largely defined by desks and wires, which limit its flexibility, its form remains constant while your needs vary from task to task. Until now.

With Adaptive Personal Workspace solutions from Intel, featuring wire-free or single-wire docking, the transition from one workstyle to the next becomes almost seamless, boosting productivity and enhancing your working experience.

By cutting the wires for peripherals that bind technology – and us – to a desk or workstation, Intel Adaptive Personal Workspace solutions are the next great leap toward workspaces that harmonize on demand with the workflows they're supposed to facilitate.

Mobile devices have transformed the workplace but the workspace is still largely defined by desks and wires. Until now.

Author

Brian O'Regan
Solution Architect - Client Computing
Intel Sales and Marketing Group

Business Challenge: Untangling the wired workforce

The way we expect to be able to work and the realities of what most businesses' technology can support are diverging.

For many of us, 'work' is no longer considered a physical place that we visit daily, at set times, but simply something we do. As such, we want technology to support the way we work rather than define it; to help us do what we do best, better, and to improve our experience rather than frustrate us.

Herein lies the challenge for businesses: applying the right blend of technology to creating a workspace that empowers people to shape work around their lives and even their lifestyle. One that adapts, seamlessly, to the task at hand, whether we're collaborating, concentrating or working on the move.

Docking solutions based on lockable, mechanical mating through proprietary connectors are an inelegant solution, as well as an obstacle to creating an environment where anyone can work anywhere, and at any time. And, while the recent developments in USB3.0 docking provide a positive development in convergence – supporting one-wire display, network and user-interface – it still requires a wired connection from dock to device.

Enabling the Adaptive Personal Workspace

By cutting the wires for peripherals that bind technology to a desk or workstation, we can create a workspace capable of adapting to the workflows it is supposed to facilitate, enormously improving productivity and working experience.

Intel Adaptive Personal Workspace solutions promise to usher in a new era of workplace transformation, providing instant productivity and "on-the-go" mobility through wireless docking or single-wire solutions.

Wireless docking from Intel
With Intel wireless Adaptive Personal Workspace docking, after a one-time initial pairing with a simple button-push, you can expect that as you approach your desk, the monitor and workstation peripherals will connect and activate. By the time you sit down you'll be ready to work, and to disconnect you simply pick up your PC and go.

The range of possible applications is vast. In a wireless docking-enabled workplace a team can get together to collaborate in a meeting room before breaking off to pursue their individual actions at a workstation with a keyboard and monitor. With no intervention the workplace has seamlessly and automatically adapted to their requirements.

In a healthcare environment, a consultant with a tablet or mobile PC could gather colleagues around a mobile workstation to review reports or hi-res images on a larger screen without leaving the ward. And a hospitality scenario might include managers whose schedule requires them to work across a hotel or leisure site throughout the day. With Intel® Wireless Docking they have the freedom to quickly and easily connect to peripherals on demand, as required.

Thunderbolt* 3 single-wire docking
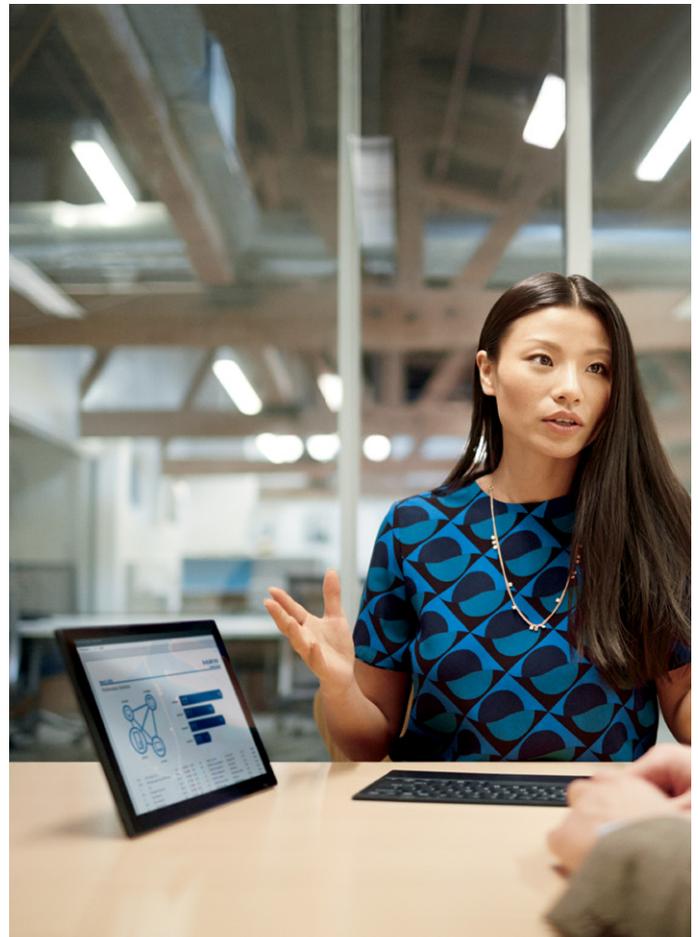There are some use cases, such as media work or design, which demand high quality, 4K visual displays and heavy data

throughput. In this scenario a Thunderbolt* 3 dock, which uses USB-C technology, enables next-generation docking with high-capacity data transfer and power supply over just a single wire.

Thunderbolt 3 is fully supported by Intel and it now means that even users requiring high workstation performance can still use the latest Ultrabook™ device form factors. Thanks to Thunderbolt 3 it is now possible to enable the thinnest and lightest laptops to connect over a single cable to high-performance storage, external media drives, multiple HD displays, HD media and editing systems, without the need to connect to a separate AC power supply. With just one wire the workforce can enjoy the improved experience of working with thin and light Ultrabook systems while still keeping the power, capability and expandability of a traditional workstation.

Solution Value: Productive, empowered and happy in the adaptive workspace

The adaptive workspace enables users to switch seamlessly from desk-based to mobile working as the job dictates; to come together to collaborate and break off again without connectivity barriers getting in their way.

So untangling the workplace with Intel Adaptive Personal Workspace solutions is an effective way to boost productivity and enhance employees' working experience. From IT's perspective, it is also an opportunity to play an enabling role for the business, supporting workplace transformation while removing a major manageability challenge.

The Intel wireless Adaptive Personal Workspace is a future-proofed, cross-vendor employee productivity solution that quickly and easily transforms the workplace. It offers wire-like performance, equal to USB3.01, and communications are encrypted for added security. This level of performance is easily capable of supporting up to two full-HD monitors and numerous USB peripherals for today's thin and lightweight mobile devices. The only wire that's needed is power to charge the device, but all day battery life is achievable with the device lid closed.

In addition, because Thunderbolt 3 technology is fully supported by Intel as part of the Adaptive Personal Workspace vision, users who require higher performance such as multiple 4K displays and up to 40GB/sec data transfer, can also feel the benefits of an adaptive personal workspace.

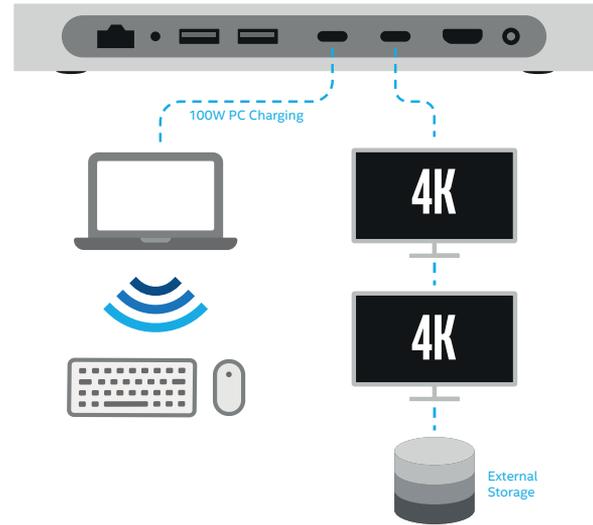## Solution Architecture: Next-generation docking solutions from Intel

The Intel wireless Adaptive Personal Workspace has been designed from the ground up to be easily deployable and manageable in an enterprise environment. It uses industry-standard, Wi-Fi Alliance*-supported 802.11ad 60GHz wireless transport, and is capable of more secure data transfer at speeds of up to 5Gbps over short distances to up to two high-definition displays[1]. This meets or exceeds the requirements of most knowledge workers.

Known as Intel® WiGig (WiGig), 802.11ad is a completely separate wireless technology to Wi-Fi, so it doesn't affect existing wireless infrastructure and has limited contention issues with neighboring WiGig devices due to its short range.

Docks are managed through the PCs that connect to them (Figure 1) and when no PC is connected, the WiGig dock does not present as a device on the Wired LAN. This eliminates extra workload from the IT administrator, because docks do not need to be tracked, managed or updated other than via software updates to WiGig-capable PCs with the Intel® Tri-Band Wireless-AC card. PCs purchased today with these wireless cards will also be in a position to take advantage of developments in 802.11ad-based technologies, such as device-to-device transfer or hi-speed WiGig-based WLAN backhaul, as they become available.

Figure 2. Thunderbolt 3 allows a single cable to provide more data and video bandwidth than any other cable, while also supplying power.

Thunderbolt 3 – the fastest connection to your PC[2]
Thunderbolt 3 technology is a high-speed, dual protocol I/O that provides amazing performance over current I/O technologies with 10Gbps bi-directional transfer speeds. It provides flexibility and simplicity by supporting both data (PCIe) and video (DisplayPort) on a single cable connection that can daisy-chain up to six devices.

Intel's silicon solutions for Thunderbolt 3 over USB-C also provide:

- Data transfer speeds up to 40Gbps
- 4K video for one or two monitors
- PC charging up to 100W
- Peripheral charging up to 15W
- Built-in 10 Gigabit Ethernet (GbE) networking

With this configuration a single cable now provides more data and video bandwidth than any other cable, while also supplying power. (Figure 2).

Figure 1. Intel Wireless Docking: Every component, from drivers and firmware to the silicon Tri-Band Wireless-AC module, antennas and dock "sink" chip, are developed and tested together to provide the best solution for the end-user.

Conclusion

The Intel Adaptive Personal Workspace solutions enable businesses to support the full spectrum of workstyles that their employees demand. And they have emerged at the perfect time to take advantage of workplace transformation: the precise moment when the workforces' expectations of where and how they work have become among the biggest influences over who they decide to work for.

The right solution for the right workstyle is another cornerstone of adaptive workspaces. As such, demanding users that are less mobile and spend a higher proportion of their time at a desk can still benefit from the Intel Adaptive Personal Workspace, thanks to full support for docking solutions based on WiGig, Thunderbolt 3 and USB-C technologies.

Intel's workplace transformation vision

As a cornerstone of Intel's workplace transformation vision, the benefits of Intel wireless Adaptive Personal Workspace solutions include:

- **Productive:** Fast, easy transitions from on-the-go mobility to office productivity

- **Seamless:** Automatically connect to displays and other peripherals

- **Robust:** Wire-like performance up to USB 3.0, even in dense office environments

- **Secure:** Encrypted with AES-128, requiring close proximity and direct device pairing to connect

Learn More

The following resources may be useful:

- Intel Wireless Docking

- Thunderbolt

Find the solution that's right for your organization. Contact your Intel representative, register at Intel IT Center.

(intel)