intel®

Planning for the future with wireless desktop PCs

Reduce costs, boost productivity, and future-proof your business by making wireless-enabled desktop PCs part of your wireless network

Intel® Wireless-AC 2x2 160 MHz (1733 Mbps) at a glance

Delivers Gigabit-WiFi speed

Improves video conferencing

Ensures more reliable connections

Fab 28, an Intel manufacturing plant in Israel, used Intel® wireless technology to overcome limitations created by wired infrastructure, increase cost-efficiency and worker productivity, and position the facility to achieve even greater benefits in the future.

Challenge

To facilitate manufacturing work at Fab 28, Intel started bringing suppliers and other third-party workers into the plant, allowing them to set up their own network on Intel's existing wired infrastructure for security-enabled and easy access to their company network from a desktop PC in their assigned workspace. Intel also provided each third-party employee with another desktop PC to access the Intel network, which they needed to perform their jobs. That's where the challenges began.

Although each third-party worker had two desktop PCs in their workspace—one to access the Intel network and the other to access their company network—every cubicle and office had only one Ethernet connection. After the supplier used the existing wired infrastructure for their company PC, they had no way to easily connect the Intel-supplied desktop PC.

The IT team at Fab 28 considered several ways to solve the problem, but every potential solution created additional issues:

- **Expanding** the existing wired infrastructure by adding a second Ethernet connection to each workspace was too expensive and disruptive.
- **Setting up** a computer lab in a central location, and equipping it with several PCs connected to the Intel network, would undermine productivity as workers repeatedly walked to the lab, waited for a turn on one of the Intel-connected PCs, and then returned to their workspace to continue working on their company PC.
- **Providing** non-Intel employees with notebooks instead of the available desktops was too expensive and a security risk.

The IT team decided to run a small pilot program, taking advantage of the existing wireless infrastructure in the building by upgrading 20 desktop PCs with Wi-Fi/Bluetooth® riser cards they purchased locally.

Solution

The results of the pilot program convinced the IT team at Fab 28 that making their Intel-dedicated desktop PCs wireless was the best approach, but they needed a better and more consistent strategy. For help, they turned to the Intel® Wireless Solutions Group, which sent enough Intel Wireless-AC 2x2 PCIe* riser cards for the IT team to upgrade another 30 computers.

As the IT team at Fab 28 used the new wireless cards to upgrade more of their existing PCs, they also embarked on a parallel strategy with greater long-term

$241 savings per worker

with a wireless desktop solution instead of expanding the wired infrastructure[1]

potential. Fab 28 started refreshing older PCs by replacing them with new desktop models that have Intel wireless preinstalled by the original equipment manufacturer (OEM).

Result

By making desktop PCs part of their wireless network, Fab 28 was able to improve workforce productivity, reduce and avoid a variety of costs, and future-proof the business by ensuring they would be able to take advantage of new innovations. The wireless-enabled desktop systems performed exceptionally well on the Intel wireless network, with zero complaints of network disconnection or poor quality.
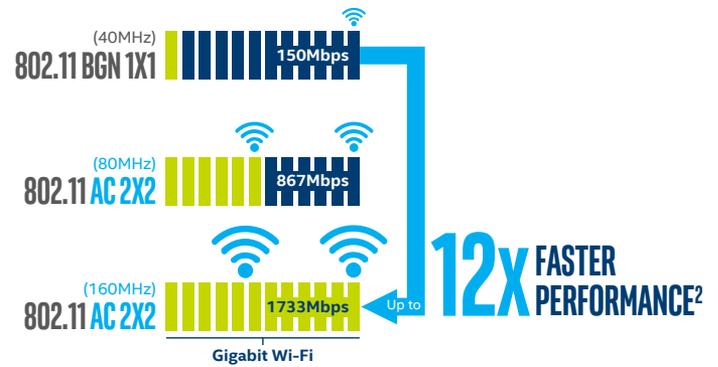
The Fab 28 IT team calculated that they saved $241 per worker by going with a wireless desktop solution instead of expanding their wired infrastructure.[1] "By taking advantage of our existing wireless network, we saved the cost of adding more wired LAN infrastructure at Fab 28," says an Intel IT Network Specialist.

Employee productivity also improved dramatically with Wi-Fi on the desktop, because employees can now stay in their primary workspace and access both networks instead of going elsewhere to access the Intel network and switching back and forth between PCs. "With Wi-Fi on the desktop, employees with dual PCs in the same workspace—one Intel, one vendor—can work flawlessly and always stay connected, which improves productivity," the Intel IT Network Specialist says. Those productivity gains help to reduce costs even further, because employees aren't wasting time moving from place to place and waiting in line to access the Intel network.

The Fab 28 IT team has upgraded 200 of their 450 desktops, and they plan to upgrade the rest over time. Fab 28 is also starting construction on a new floor in the plant, and the IT team wants all of the desktop PCs for that facility to be wireless. "Wi-Fi on the desktop is the way of the future," says the Intel IT Network Specialist. "All future desktop refreshes at Fab 28 will be required to have Wi-Fi preinstalled."

Intel now offers Gigabit Wireless Solutions

802.11 BGN 1X1 (40MHz) — 150Mbps
802.11 AC 2X2 (80MHz) — 867Mbps
802.11 AC 2X2 (160MHz) — 1733Mbps — Gigabit Wi-Fi

Up to **12X FASTER PERFORMANCE**[2]

Solution Summary

By installing wireless on their existing desktop PCs, and replacing old PCs with new models that come with Intel wireless preinstalled, Fab 28 was able to reduce or improve productivity and avoid many costs associated with hard-wired infrastructure. The facility also positioned itself to realize many future benefits.

Wireless technology continues to evolve, becoming faster, cheaper, and more widespread. As wireless costs go down, Fab 28 will be able to refresh their network system more frequently and for less money while keeping pace with new advances in technology. In one strategic step, Fab 28 gained the immediate cost and productivity benefits of installing and supporting a wireless network today while future-proofing their business to take advantage of ongoing innovations in wireless technology.

Intel Technology Foundation

Intel® Wireless Technology, Intel® Wireless-AC 2x2.

Find the solution that's right for your organization

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[1] Savings per user were based on costs associated with Ethernet cable cost to supply a cable to each worker location and shared cost for additional network port switches. Actual costs will vary based on specific office setup and existing wired infrastructure.

[2] 802.11ac 2x2 160MHz enables 1733 Mbps maximum theoretical data rates, 2X faster than standard 802.11ac 2x2 80MHz (867Mbps) and nearly 12x faster than baseline 1x1 BGN (150Mbps) Wi-Fi as documented in IEEE 802.11 wireless standard specifications, and require the use of similarly configured 802.11ac wireless network routers or better. To achieve Gigabit wireless speeds the network requires a wireless router/access point that supports 160MHz channels.

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Estimated results were obtained prior to implementation of recent software patches and firmware updates intended to address exploits referred to as "Spectre" and "Meltdown". Implementation of these updates may make these results inapplicable to your device or system.

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