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Tablets in the Enterprise

Enterprise Grade Tablet Computers

Enterprise-grade tablet computers offer a compelling complement or alternative to traditional client computers. As a complement, tablets offer unique portability even in comparison to laptops as they can

be lighter and more specialized. As an alternative, organizations are relying more on remote and cloud services which with a responsive connection allow for flexibility in the field. For many operations it's ideal not to be tied down to a desk and, further, the push for greener solutions supports light, high-efficiency machines over their bulky ancestors.

This also often translates into cost savings as tablet computers tend to have a lower Total Cost of Ownership (TCO) over their typical three- to five-year lifespan. Increased productivity also means a better Return on Investment (ROI). Specific fields in particular benefit from the increased flexibility of tablet PCs, including: telecommunications, warehouses, utilities, transportation, construction, and general fieldwork. Tablets can also be easier to track and decommission, plus the embedded nature of the hardware ensures fewer compatibility issues.

Primary Hardware, Software, and Form Factors

Tablet computers tend to utilize less-powerful but more efficient hardware, for example with ARM microcontrollers or Intel Celeron CPUs. This extends also to low-power DRAM, flash rather than mechanical storage, improved operational power states, and more. Typically tablet computers come in the 10.1" form factor but are also available in other sizes, such as 8", depending on the need. Certain operations require a keyboard and, where a virtual keyboard is not sufficient, it is possible to get a 2-in-1 with a detachable or wireless keyboard. In general tablet PCs are lighter and more portable than traditional options.

As portability is the name of the game, tablet computers have a primary focus on connectivity. This includes traditional Wi-Fi – whether LAN or WAN – but also 4G/5G LTE as well as GPS/A-GPS. This is similar to many smartphones but such options are less common and more expensive on laptops. Tablet PCs can also have refined cameras for complete, on-demand data capture, which is particularly important in the field. Displays are designed to be daylight-visible and can be extremely bright, for example up to 700 candelas per square meter. Touch and Multi-Touch screens are also common which can be useful for quick, on-the-fly communication.

One traditional issue with tablets, in contrast to enterprise-grade tablets, is a lack of upgradeability and expandability. Enterprise-grade tablets PCs can have multiples ports and connectors with specialized, effective add-ons. Even internal hardware might be upgradeable such as with flash storage, main memory, and more. The ability to plug and play in the field is indispensable, particularly when coupled with high portability and a long battery life. Tablet PCs also work with Microsoft Windows and, for enhanced specialization, various Linux distributions, with more power and software options than purely embedded solutions.

Additional Features

Enterprise-grade tablet PCs often have stricter requirements than normal tablets, meaning an off-the-shelf retail solution will not cut it. Field tablets need to be rugged, secure, and particularly flexible. For example, they are often ruggedized to survive six-foot drops with special handles and keyboards. They often have to meet a certain Ingress Protection (IP) Code, for example IP65, to ensure the tablet is protected against dust, water, and more. For military use, the product may have to meet the MIL-STD 810G military standard for service life conditions. While it is possible to get ruggedized laptops, they tend to be bulky and expensive.

Security is also an important consideration not least because of physical theft but also the possibility of intellectual theft. For that reason, enterprise-grade tablets often have a Common Access Card (CAC) smart card reader. They may also have Near-Field Communication (NFC) and Radio Frequency Identification (RFID) support for additional security. It's not atypical for phones and laptops to have biometric devices, for example fingerprint scanners or face scanners, which tablets can also employ. Measures may also be taken for the internal storage to prevent data theft.

Enterprise-grade tablets also tend to have far more expandability – this includes a plethora of options and accessories. For example, rugged mounting hardware for vehicles and other forms of transport. They also will have elaborate docks for charging and improved interaction. Often, they can employ a second display,

have superior built-in or add-on speakers, and more. These are not simple tablets for watching YouTube but rather powerful machines in their own right, designed to be a substitute for larger computers while being able to withstand industrial environments.

Summary

Enterprise-grade tablet computers are not only superior to their consumer brethren but offer the opportunity to improve productivity whether as a substitute or as a companion device. They are portable, flexible, and efficient, with the ability also to meet specialized needs. Options to improve ruggedness and security are necessary in many critical industries. The ability to operate anywhere is also crucial, so having built-in Wi-Fi, cellular service, and augmented GPS is a requirement.

Industrial use also means the need for robust mounting hardware, application-specific add-ons and ports, and powerful data capture capability. The ability to work in the field for long periods of time – thanks to higher efficiency, large batteries, and backup batteries – means that traditional computers and laptops can be suitably replaced. Additional input, such as from a keyboard, is also supported, along with advanced security features to ensure mission-critical data is protected.

Ultimately the ability to improve productivity at a reasonable cost means that enterprise-grade tablet PCs are a good option for industries not limited to office cubicles. These will always be backed by flash storage – for efficiency and survivability – including the option of SSDs. Embedded designs with tailored options and even modular support remove the traditional limitations of tablets. The ability for organizations to adapt in rough environments is critical for future development, for example with the Edge or infrastructure, and simply dealing with customers is faster with a tablet in hand.

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- Low latency
- 256GB - 1TB

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*Specifications and features are subject to change without prior notice. Images are samples only, not actual products.

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