

Goodbye Keyboard?

Rugged tablets are gaining ground on notebooks, but experts caution that application — not popularity — should guide device choice.

Tablet computers are hot in the enterprise right now, with many end users in white or gray collar positions bringing their personal devices to work with them, and companies finding ways to creatively use the devices as laptop replacements. In its February 2011 report, “Tablet Demand and Disruption,” Morgan Stanley predicted tablet shipments could reach 100 million by 2012.

But tablets have had a presence in the rugged computing market for years; many utilities and cable television companies have had tablet-based applications in place in their field service operations for more than a decade already. What’s changing is that tablet technology now has a much higher profile in the executive offices, and that has led many companies to reevaluate their rugged computing platforms. Companies that traditionally have deployed rugged notebooks are giving tablets a second look.

“While the tablet form factor has been available for years, it is receiving renewed attention for its combination of an easy-to-read display and keypad-free data entry and retrieval,” says Robert Fowler, worldwide sales manager, ARMOR products, DRS Technologies. “The current crop of smartphones has made individuals more comfortable with touch screen input. As such, there is now much less resistance to tablets from the end user.”

Popular tablet computers like the iPad have increased interest in the form factor, and some users have even deployed these types of devices in field service, sales, and other applications. “Unfortunately, consumer-oriented tablets do not offer appropriate levels of security, durability, and functionality needed for enterprise use,” says Thomas O’Connor, senior

national business development manager at Panasonic Solutions.

Having found that consumer-grade tablets are insufficient, many of these end users then turn to rugged tablets. Familiarity with the tablet interface has removed what used to be the primary obstacle to adoption.

“In the past, companies were unwilling to move to tablets out of fear that the users would not adopt to an on-screen keyboard,” says Tim Hill, senior product manager at General Dynamics Itronix. “Consumer tablets have demonstrated that users who have moderate data entry requirements, an on-screen keyboard is sufficient. This opens the door for tablet solutions, both Android- and Windows-based. Equipment cost savings can be as much as 30%.”

Manufacturers are adding new features and more consumer-like interfaces to rugged tablets in response. End users, meanwhile, are replacing some notebooks with these devices or adding tablets to existing notebook deployments.

Tablets Can Replace Or Complement Notebooks

Rugged tablets are being adopted across the entire spectrum of business applications in field service, construction, home healthcare, and other markets. Large, bright screens are appealing in these environments, and the touch screen interface has caught on in sales, customer service, and mobile point of sale applications.

“Users that previously may have selected notebooks in the past increasingly are using tablets for the same — and potentially new — applications,” Fowler says. “They offer several advantages over other mobile form factors like notebooks and handheld



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devices, including portability and mobility, larger displays, and docking functionality. A standing worker can easily operate a tablet while holding it in one hand. Many utility and other field service personnel were among the first to recognize the advantages of a tablet versus a notebook, which requires that it be placed on a surface to use the keyboard.”

There are areas where notebooks still have an edge, however. Field service applications in the telecommunications, utilities, and energy industries, as well as first responders and military personnel, rely on fully rugged notebooks as standard operating devices. Rugged notebooks provide maximum durability and are designed to be mounted in vehicles. The full keyboard is more useful in data-entry intensive applications.

“The demand for notebooks remains strong,” Hill says. “Overall the market is splintering into those who require a keyboard for data entry and those who can get by with an on-screen keyboard.”

The Ultrabook platform that Intel is promoting (which combines tablet and notebook functionality) may wind up leading the market in a few years, though. “Rugged notebooks will still be the leader for customers who want to create content,” says Paul Kim, vice president of GammaTech Computer. “Tablets are ideal for content consumption, but an Ultrabook-style rugged hybrid device will accommodate the tablet-hungry market. The ideal product

will be a convertible-style tablet PC with a light form factor that offers some ruggedized business solutions. This way, users can leverage one product to meet two different working environments.”

According to O’Connor, Panasonic customers are now deploying tablets and notebooks together. “For existing customers, tablets are augmenting current notebook deployments,” he says. “IT managers are looking at new areas where they could extend mobile technology. However, we are also seeing quite a bit of interest in our [tablet products] from new customers in retail, hospitality, supply chain, logistics, and field sales markets. Many



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Tim Hill, General Dynamics Itronix

of these companies understand that consumer-grade devices are not sufficient for their operating environments and are seeking more durable and feature-rich tablets.”

New Operating Systems Compete With Windows

Panasonic has introduced an Android-based tablet that is catching on with customers, and end users seem more willing now than in the past to experiment with new operating systems. However, Windows 8 is expected to push the touch screen experience to desktop and notebook systems via the Metro user interface, marrying the convenience of a tablet with an enterprise-class operating system. Windows is also still the OS of choice for most IT departments because it is relatively easy to support.

“Tablets that operate in the standard Microsoft environment enable corporate IT departments to know how to work with it, what it takes to reload it when something goes wrong, how to protect against viruses, and other tasks,” Fowler says. “Because mobile employees are not in the office very much, remote management capability is critical. With the standard Microsoft environment and appropriate remote diagnostics, IT support is able to walk mobile employees through what needs to be done should a problem arise in the field.”

Over the next year, the vendors interviewed for this story expect to see additional weight reduction in the rugged tablet space, along with improved battery life, more processing power, and improved energy conservation. Further into the future, expect improved 3D graphics, viewability, and support for multitouch and gesturing interfaces. The availability of 4G wireless networks will provide the necessary bandwidth for streaming video and other resource-heavy functions that could help introduce new functionality (like live video chat) into the field service applications.

Customers are also still concerned about the basics, too. “Even for rugged notebooks, customers want hard handles for carrying them around, along with hot-swappable batteries, interchangeable I/O modules, 3G, GPS, RS232, Smart Card readers, and second Web cameras to fit different working environments,” Kim says. “Dedicated docking ports for vehicle-docking are required, but offering convertible-style devices in the future is going to provide a long-term solution to accommodate tablet users.”

The market will gradually shake out, with tablets and notebooks settling into clearer roles within enterprise deployments. “I do think rugged tablets will continue to gain traction in the enterprise space over the next year or two,” O’Connor says. “I also believe many companies will experience some level of trial and error with certain tablet deployments as they discover what level of durability and features they require. However, I don’t believe tablets will ever replace rugged notebooks in environments like utilities and telecommunications.”

As the tablet sector continues to evolve, end users will have to continue to evaluate whether newer rugged tablets (or even consumer devices) will fit their application needs in terms of ruggedization, data entry requirements, OS support, and portability. Avoid pressure to deploy a new platform just for the sake of having the latest technology, and focus on the best way to keep your mobile workers productive.

“Both rugged notebook and rugged tablet use will grow to support continuing growth in the numbers of mobile workers, and different devices will continue to be deployed, divided into heavy and light productivity requirements,” Hill says. “Both serve different user needs: The rugged notebook will continue to be in demand for intensive computing requirements in the field, while tablets will deliver emerging form factors, portability, and data capture capabilities.” ●