XPLORE TECHNOLOGIES

CHOOSING A RUGGED TABLET – FOUR POINTS TO CONSIDER

"Q&A" FROM JULY WEBINAR PRODUCED BY FIELD TECHNOLOGIES ONLINE

Q: Rugged devices are too expensive. Isn't it smarter to use consumer tablets and swap out damaged ones?

A: There are a lot of costs to consider when comparing consumer devices against a fully rugged tablet. While the upfront hardware costs are higher for fully rugged devices, you must also consider the total cost of ownership. Each time a damaged consumer device has to be replaced, you'll have to evaluate and subsidize items not covered under the extended complete-care warranty, if there's even active warranty. There will be additional costs resulting from both worker and IT downtime, the data loss, putting your company's logo on the new device, and other unexpected consequences. That's why the TCO often doubles for a consumer tablet versus a rugged tablet. Think rugged when you have a workflow that demands it.

Q: How much weight should be given to the temperature of a device's operating environment when deciding whether a rugged device should be selected? Do extremely hot or cold conditions matter?

A: There are a lot of considerations to be made around temperature and you must ask specifics. For many consumer devices, the safe operating temperature range is very narrow, if specified at all. So for customers who use tablets inside coolers, those devices may not be appropriate. But it's critical to also consider the range of weather the device will encounter – transitioning from a sunny, 100 degree loading dock outside into that 40 degree cooler – and you must evaluate the processing capabilities of the device in these extremes. Our competition may say their devices work at 140 F ambient, but what does that really mean? Their units may "work" in that environment, but they may throttle the CPU significantly so that the CPU doesn't generate as much heat. At Xplore, when we specify that a tablet works at 140 degrees, we mean that it works at full processor performance at that temperature.

Q: I sell to state and local government, specifically Public Safety. Are rugged tablets inherently more secure when it comes to handling criminal information or other sensitive information? Is security more built-in to rugged devices?

A: There are many different criminal information systems, with the most common being the Criminal Justice Information System (CJIS) administered by the FBI. Since it contains information about individuals' warrants, criminal history, etc., any user cleared for CJIS must ensure access devices are secure at all times. That mandates that any mobile device capable of being removed from an officer's car, for example, include two-factor authentication. CJIS also views

some operating systems, such as Windows, as more sufficiently secure than others both in mobile environments and precinct-type locations because they can lock down a mobile device effectively, thus requiring two-factor authentication to resume access. Most rugged tablets offer both Windows and two-factor authentication standard via built-in smartcard readers and finger print sensors, making them the most secure option for public safety use.

Q: How long does it typically take to get a mobile solution up and running, assuming the customer already knows which software and devices they plan to use?

A: It depends on how familiar the IT department and end users are with the software being deployed. Are you simply extending your existing software to tablets? Or will you be leveraging a brand new software infrastructure that requires integration? Right now rollouts are averaging three to nine months based on how much new software is added. However, there was a big movement a few years ago to launch consumer devices in retail stores. Some analysts firms reported a major slowdown, which we also saw, in the rollout of those mobile devices simply because retailers were forced to integrate new software into their systems first. The consumer tablets they chose couldn't run the existing OS or back-office software systems. This could also happen in the rugged space, though it is more common for service organizations to choose devices compatible with their existing software. Just don't forget to consider the time it may take to apply an MDM system.

Q: For effective MDM solutions and policies, should all devices run the same operating systems?

A: No, they don't all have to be on the same operating system. There are many packages out there like AirWatch that support many different operating systems while providing access via the same IT console. If you use one operating system like Windows across the board, then there are Windows and Intel tools for MDM. But if you have a heterogeneous environment, we recommend going with a third party MDM system that specializes in this space.

Q: Are we seeing a trend towards the Android OS and away from Windows 8.1? If not, why will Windows still remain important? Also, do you see application providers moving quickly to have an Android version of their software?

A: At Xplore we introduced an Android tablet over a year ago and the uptake has been pretty good, although we had to do a lot of custom work on our Android tablet to enable specific features required by one of our key telco customers, like the addition of an HDMI input port and standard RJ-45 Ethernet port. Those are not typical options on other Android tablets, which is one reason Windows devices remain appealing.

Most often, a customer who wants to abandon Windows thinks Android is better for touch applications and is more secure, although there is some debate about that. Controlling each device's download permissions from the Play Store is imperative to prevent downtime that could result from download of risky non-productivity applications.

Either way, you must consider which applications you want to run in the field and then consider only tablets capable of supporting those applications. At the same time, you can't overlook critical advantages of many Windows devices, such as a lower cost, longer battery life or more security. With Windows 10 coming out, we don't expect our long-time customers to abandon that OS anytime soon. Rugged

applications tend to be slower moving to new operating systems, but the mix is shifting and Android is gaining traction in non-rugged, commercial use cases.

Q: How upgradable are rugged tablets? One of the largest issues we have with rugged devices is the ever-changing technology requirements: memory, bandwidth, frequencies, etc.

A: Traditional speeds-and-feeds are becoming less important. Rugged tablet PC technology has reached the point that it can support the needs of everybody and every workflow. Though Intel will offer a faster CPU next year, which we'll then offer to our customers, neither CPU nor memory is upgradable within a tablet socket anymore. That doesn't necessarily matter since the processing power of currently deployed tablets remains more than enough for most customers.

So more likely the main concern will become whether or not you need and have additional features like an HDMI input, sub-meter GPS, barcode scanners, smartcard reader, NFC, etc. Rugged tablets have a very long lifecycle, and many customers want to buy the same configuration for years. So look for tablets that have upgradeable capabilities for these additional requirements.

Q: How does software like Computrace keep track of the device, is it in the BIOS? Does software like Computrace impact system performance?

A: Computrace is built into the system similar to the BIOS, and to remove it would be to render the device unusable. It is not part of the operating system, and it has a tiny effect on system performance because it only connects with the IT department occasionally to report on where it is.

Q: How does the Xplore rugged platform differentiate from other rugged offerings?

A: There are three categories of ruggedness – rugged, fully rugged and ultra-rugged – and each has its own set of survivability criteria dictated by workflow scenarios and environmental conditions. There is a lot of variability between the ruggedness specifications, and device manufacturers are given a lot of freedom on how they interpret each category's criteria. You must read spec sheets closely. Many manufacturers don't disclose the full specs on drop rating, temperature ranges, water and dust exposure levels, etc. because their devices don't always meet the criteria of certain ruggedness levels. There's a lot of variability in how devices satisfy the MilSpec 810 specification in particular.

Xplore is very open about our devices' ruggedness and we're proud to show our full specifications. Our ultra-rugged tablets, for example, have been specifically shielded to survive a 7 foot drop and wider temperature ranges. Those tablets also feature additional certifications for use in hazardous locations such as explosive environments where the tablet must never produce a spark.

Q: What types of considerations are you seeing for connectivity? Are you seeing any adoption of the Band Class 14?

A: Cellular data networks are still most commonly used because they're easily accessible via direct connection from an in-vehicle PC or a mobile gateway that can distribute the network's bandwidth to multiple devices in the vehicle via a Wi-Fi subnet, including tablets, cameras, cell phones, etc.

While 3G remains the most widespread technology, most Public Safety customers are planning their transition to 4G LTE tablets because this truly digital

network uses reflections and delays to double bandwidth and improve connectivity in weak signal areas.

However, Band Class 14 – which is part of the FirstNet Initiative for Public Safety – is the big discussion point in the industry. The intention is to create a private network for the exclusive use of Public Safety personnel. It could prove essential for first responder communications during natural disasters when consumers tend to lock up and bring down public networks with calls to friends and family. However, Band Class 14 does require updated radios that can talk to these unique frequencies and there's an open discussion on whether consumer devices should be sold with the ability to access FirstNet.

Given these current unknowns, we recommend that organizations contemplating FirstNet utilize mobile gateways in the vehicle to access cellular networks for now. That way they can simply update the gateway when FirstNet is offered in their area, and all of the devices in the vehicle will then benefit from that always-available bandwidth.

Q: Would choosing an IP65 rugged device be overkill? Too heavy or expensive, for example? Or is it always better to have more protection?

A: That is a great question, and it comes down to workflows. You must consider the day-to-day workflow as well as the corner cases. For example, utility technicians may not work outside in heavy rain all that often. But since they do occasionally, often when power restoration is critical, then an IP65 tablet is necessary. In reality, the weight difference between IP54 and IP65 tablets remains minimal since the gaskets used to seal out water and dust don't weigh that much. So it's better to spend a little more now to future proof than to have to replace insufficient equipment in a couple of years.

About Xplore Technologies

Established in 1996, Xplore Technologies Corp. is the number two provider of rugged tablet PCs worldwide. With its recent acquisition of the Motion product line, the company now delivers the broadest range of rugged Windows and Android tablets available in the market. The company's award-winning tablet PCs are among the most powerful and longest lasting in their class – able to withstand nearly any hazardous condition or environmental extreme – and are purpose-built for the unique workflow demands of critical industries including oil & gas, utilities, telecommunications, government, military, public safety, manufacturing, distribution and healthcare. Xplore's products are sold and serviced on a global basis across the Americas, Europe, Middle East, Africa, and Asia Pacific regions. For more information, visit the Xplore Technologies website at www.xploretech.com.

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