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How To Manage Today's Mobile Device Lifecycle

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Mobile device lifecycles have accelerated dramatically. How can a field service company keep up?

With the shift from exclusively using rugged, purpose-built devices to semi-rugged or consumer-grade devices (like tablets and smartphones), field service companies often face a much shorter mobile device lifecycle than in the past. Rugged devices were typically designed to be in use for three to five years (and in many cases stayed in service for much longer than that). Modern smartphone models can be obsolete in 18 to 24 months and often have multiple operating system upgrades during that timeframe.

"The software and hardware leapfrog cycle of development has accelerated dramatically in recent years as processing capabilities continue to advance and grow, and software development progresses to take advantage of these improvements," says Brian Adamson, senior solutions consultant at Peak-Ryzex.

Rugged devices have adopted more consumer- like features, and more companies have deployed consumer devices or multiple types of devices. "The rapid innovation in technology is creating competitive pressure on all mobile device manufacturers (consumer and rugged) to deliver more features and more functionality at a lower price," says Gina Gallo, president and CEO of Stratix. "In addition, the enterprise market has access to very attractive carrier subsidy programs or manufacturer buy-back programs, which continue to feed the demand for the next new device."

This new mix of devices is more complex to provision and kit as well. Managing and servicing the devices is also more complex because they may require more frequent repairs or replacement. "These devices tend to be part of pools and have to be kept in service nearly constantly," says Jim Haviland, chief strategy officer at Vox Mobile. "This has created the need to manage device pools in creative ways so that broken devices are replaced quickly and warranties and other services are managed more closely."

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Mobile Device Lifecycle In Constant Flux

The introduction of consumer devices into enterprise applications not only has lowered initial purchase costs and provided access to the technology for more small- and mediumsize businesses, but it also introduced new complexities for enterprise IT management. "Companies started to realize that the consumer device they just bought 6 to 12 months ago was no longer available and, therefore, were forced into a new device, new accessories, a new OS, and possibly application software modifications," Gallo says. "In addition, where consumer devices replaced rugged devices, some companies experienced up to five times the failure rates. This operational and support disruption, coupled with the lack of control of product obsolescence, creates enormous lifecycle management challenges for the enterprise, not to mention lost productivity and lost revenue."

In some cases, companies use third-party sleds, cases, or other accessories to harden or expand the functionality of these consumer devices, which makes lifecycle management even more complicated and, often, expensive. "Neither businesses nor general consumers are getting a prefabricated hardened device, [but they] want to use applications and use consumer-grade devices to perform tasks like taking a mobile payment or being able to scan a barcode," says Sam Ganga, global mobility services, DMI. "This requires certain apps and sometimes accessories such as a sled for the device. The lifecycle of the device is now more complex, and items are being added into the process before a device is ready for use."

However, consumer devices can be replaced more quickly if a device is damaged in the field. "While it isn't optimal from a cost control perspective, you can have an employee walk into an Apple store on any continent and replace a device and be back up and running in a fraction of the time it would have taken using a ruggedized supply chain or lifecycle process," Haviland says.

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Gina Gallo, Stratix

Open Frameworks Mitigate Upgrade Challenges

The accelerated mobile device lifecycle can have a number of effects on a field service organization. For end users, consumer (or consumer-like) devices can provide more uniformity in the user interface. Refresh cycles are also shortened, which can increase the total cost of ownership and the overall mobility budget.

"The biggest downside we have seen for clients is the brisk changes in form factors," Haviland says. "For embedded solutions that require investments in installation hardware and cabling, this can be particularly devastating. You don't know how long any device will be on the market and readily available. This has caused many of our clients to adopt the notion of the 'open framework.' If you design solutions with the notion that many of the components are likely to change, or have to change, faster than traditional ROI calculations, you are better protected against serious operational issues in the future."

With more frequent device and application changes, companies must provide more frequent training, and the IT department faces challenges in scaling and executing those changes. Application and device security have to keep pace with the more frequent changes as well.

Once the mobile solution is deployed and secured, with technical support plans in place, an extensive reverse logistics program needs to be available for replace-and-repair programs, re-provisioning services, and asset tracking. "With the growing number of mobile users and mobile apps, many companies underestimate the complexity and the cost of the ongoing management of an enterprise mobile program," Gallo says. "Reverse logistics becomes the lifeline to a mobile environment and, when done right, often extends the life of devices with carefully managed repair programs and monitoring of asset activity and location."

Managing Mobility Requires Dedicated Resources

To implement a successful mobile lifecycle management process, it's important for companies to not underestimate the amount of complexity and planning required. "Managing mobile is a full-time job, and it is not a core competency for most companies," Gallo says. "Trying to scale the technical support and reverse logistics as a part-time job overtakes many IT organizations. As a result, mobile end users have inconsistent support, and companies end up losing track of their mobile assets, spending more money on spare pools and overpaying for service contracts."

That's why it's important to find partners that can help support the program. In some cases, that might mean outsourcing the mobile lifecycle management function; in others, that may mean using a consultant. "Solicit help early in the process from companies that do this," Ganga says. "Find experts who have done this before, as they can assist with you with strategy and all the items you need to think through."

Make sure the mobile hardware and software you deploy fits your business case. Don't buy a new system just for the sake of upgrading or buying flashy new technology. "Be sure to consult with experienced, knowledgeable resources that understand your business and can provide guidance as to the technologies that will both fit your application and provide the best ROI as technology lifecycles evolve," Adamson says. "Then be sure you take the time to test new technology and processes thoroughly before adopting them fully."

Consider Outsourcing Lifecycle Management

According to the vendors interviewed for this feature, companies should consider an investment in device lifecycle and expense management software tools to automate and simplify many of the management tasks that can otherwise overwhelm the IT department. Continuous employee education is also important to avoid frustration with new devices or application changes.

"Encourage them to become part of the process," Adamson says. "Workers can, and should, provide feedback and use their experience to improve the systems they are adopting and adapting to. And test, test, test! Insist on it. The best implemented system is the one that has been tested thoroughly."

Outsourcing to a mobile managed service (MMS) provider is another option. "Bringing in an MMS provider reduces many of the risks around scale, expertise, loss of critical employees, asset management, reverse logistics, inconsistent end-user support, and lack of predictable support costs," Gallo says. "MMS providers are built to scale, support cross-platform technologies, provide consistent service levels, host multiple MDM (mobile device management)/EMM (enterprise mobility management) environments and provide reverse logistics, SLA monitoring, and a realtime view into the entire mobile environment."

Planning for mobility in this shifting environment requires much better alignment with the business value being created by the solution. "Our clients who focus on application success and user experience are much more able to adjust to that changing context, more likely to recognize benefit from their efforts, and far less likely to have underperforming or failing mobile projects," Haviland says. "The key is the focus on innovation instead of infrastructure."

While the underlying technology will evolve and change with increasing frequency, building flexibility into your mobile deployment and lifecycle management process will minimize disruption. "Be open-minded when you approach your processes and the application of technology and think about them in a holistic way," Adamson says. "This kind of thought process will assist you in matching your various technologies to processes so that they are flexible and capable of evolving together in an integrated way over time. Careful planning in this regard is essential, but be willing to be agile."

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