



Survival Guide: Implementing a Mobile Field Service Solution with Mobile Payment

Increase field productivity and enterprise profitability with mobility

Summary

This Survival Guide is your key to selecting and planning for a mobile field service solution with mobile payment for your field organization. It includes strategies on how to choose the right mobile device, overcome security risks, and get the greatest return on your investment. It also provides third-party information and lists key solution components. By following the advice in this Survival Guide, you will be able to better meet growing customer expectations, speed up billing processes, and increase the productivity of your workforce.

With a comprehensive mobile field service solution that combines workforce automation and mobile payment, you can achieve faster cash turns, generate more sales and deliver better customer service — all without adding to your staff.

Key Benefits

- **More revenue opportunities with technician remote access to customer and product intelligence that facilitates cross- and up-selling and the ability to close sales in the field.**
- **Better customer service with access to service records and agreements, schematics, availability of pricing on parts, and on-the-spot invoices and receipts.**
- **Higher field and office staff productivity with less administrative effort required to support paper processing and call-ins to the office. More billings can be completed with the same or less office staff to process customer payments.**
- **Dramatically shorter billing cycle through on-the-spot invoicing and payment processing.**

Companies with best-in-class field service operations complete about eight percent more work orders per day than average performers, have 12.5 percent higher service level agreement (SLA) compliance rates, and are 2.5 percent more profitable¹. In addition, only 22 percent of best-in-class organizations still use paper-based processes in field service operations².

SURVIVAL Strategies

Moving from a traditional paper-based system to a mobile, automated one requires forethought and planning. The following SURVIVAL strategies will help ease the transition to and execution of a field service solution with mobile payment and billing to achieve the highest return on investment.

S	elect the right mobile devices
U	nderstand and streamline your processes
R	emove security risks
V	alidate real-time connectivity
I	nclude technicians in selection and training processes
V	iew customer feedback with instant evaluations and surveys
A	ssess the differences between enterprise- and consumer-grade solutions
L	everage your field agents as an extension of your sales teams



Select the right mobile devices

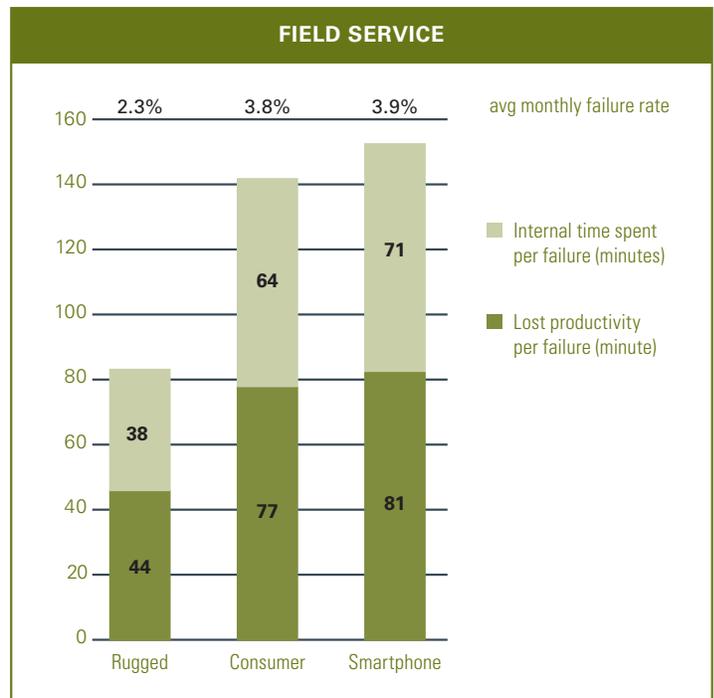
There are many factors to consider in choosing the right mobile device to serve as a platform for a mobile payment solution, as well as an overall field service mobility solution. Some of the most critical for you to consider include:

- Select the appropriate device class.** There are two main classes of mobile device: consumer-grade and enterprise-class. Consumer-grade devices have significant limitations in a field service setting because they are not particularly durable and many do not accommodate a full range of accessories such as credit card swipes and mobile printers nor the software applications and backend integration needed for a truly robust mobile solution. Enterprise-class devices also feature a significantly longer battery life and may offer built-in battery indicators to prevent downtime.

Still, it may be tempting to opt for what may, at first, appear to be the lower priced alternative. Although consumer-grade devices are normally one-half to one-third the initial price of enterprise-class devices, enterprise-level devices actually deliver a significantly lower total cost of ownership (TCO) in a field service setting. According to a VDC research report³, the average TCO is less than \$2,900 per year for enterprise-class devices, compared to more than \$4,000 for consumer-grade PDAs. And more than 90% of the TCO for consumer devices comes after the initial hardware purchase.⁴ Other factors that, in most cases, make enterprise-level devices the best choice for this application include simplified device management, simultaneous operation of applications, and tighter transaction security.

- Factor in the work environment.**

Consider where and how your service staff will utilize the mobile device and choose one built to withstand that environment. In a business setting, the primary causes of device failure are related to environmental issues: these include exposure to extreme fluctuations in temperature, water/moisture/humidity, excessive vibration, and EMI exposure.⁵ This is especially true with field service operations, where the failure rate of non-rugged devices is up to four times higher than with rugged devices (see Figure 1).⁶ Consider the likelihood of drops, the typical drop height and the drop surface, and then evaluate against the



Source: VDC Research Report, Total Cost Of Ownership Models For Mobile Computing And Communications Platforms, Second Edition, David Krebs. June 2007

drop specifications. Look for the appropriate IP (ingress protection) or environmental sealing rating for the expected level of exposure to moisture and dust. If flammable or explosive materials are an issue, the device must be intrinsically safe; for example, its electrical power draw must not be high enough to cause an explosion.

- Evaluate data capture and voice needs.** A single, enterprise-class device can accommodate all data capture, mobile computing and communication requirements, while also serving as a mobile payment device via a snap-on module and accessories such as printers. Data capture functionality can include any combination of 1D or 2D bar codes, direct part marks (DPM), RFID tags and image capture. With full voice functionality, there's no need for service technicians to carry separate phones. Even if it means abandoning the mobile devices the business currently utilizes, transitioning to a multifunction device should reduce capital as well as operational costs while being more scalable for future growth.
- Consider the on-site printing option.** Mobile payment systems can enable field technicians to offer on-the-spot invoices and receipts to customers. To incorporate printing into a mobile payment field service application, select a mobile device that supports printing and factor in the type of internal or external connection needed such as Bluetooth for a wireless connection or a USB port for a wired connection.
- Review the accessories and options and think long term.** Accessories and options may not be the first thing to consider but they can make an important contribution to future proofing your investment. Business requirements usually evolve over time and the option to enhance your tools with new functionality instead of replacing them can prove very valuable in the long term. Some devices have a long list of accessories such as cradles and snap-ons, while others are very limited. Optional keypads (such as QWERTY, AZERTY or numeric) may be available to ease the interaction between user and device. Don't forget to compare service options. Some manufacturers offer full and speedy replacement coverage for their mobile devices, while others do not. For example, Motorola's Service from the Start with Comprehensive Coverage includes normal wear and tear and accidental breakage at no additional charge, which nearly eliminates unforeseen repair expenses.

Motorola Mobile Devices for Mobile Payment Solutions				
MC75 3.5G Worldwide Enterprise Digital Assistant	MC70 Handheld Mobile Computer	MC55 Enterprise Digital Assistant	Mobile Payment Module	Magnetic Stripe Reader MSR7000-100R
				

Printers compatible with Motorola mobile computers are available through the Zebra and Datamax-O'Neil.

Understand and streamline your processes

To ease the transition from a paper-based system and optimize the new mobile solution, evaluate the backend systems and processes that will interact with the new solution. Inventory, pricing and billing procedures may have to be altered to ensure proper integration. For starters, it is important that inventory counts accurately reflect parts on hand. In most cases, a barcode- or RFID-enabled warehouse management system will already be in place to ensure accuracy. But if it is not and yet it's part of the plan, focus on that first. Next, examine processes related to work order management and technician dispatch to identify redundant processes that could be eliminated.

Finally, mobile payment systems work best with fixed pricing for services, labor and parts. Standardizing pricing on as many items as possible prior to implementation will maximize the field technician's ability to invoice and take payment while on a service call. Start with the most routine services first. Make sure there is a solid system in place for maintaining up-to-date costs and pricing of consumables that tend to fluctuate in price. Consider setting a flat labor rate. And don't forget to check that there is a procedure in place for getting service level agreements into the system quickly so technicians have full access to them in the field.

Remove security risks

The threat of interception of and damage to sensitive information from hackers and viruses is not to be taken lightly. With wireless transmission of data, there is an increased risk from rogue APs, wireless phishing, Evil Twin and man-in-the-middle, just to name a few. With mobile payment, not only is customer credit and debit card information being transmitted but data is also flowing to and from backend office systems. The cost of a breach might include tangibles such as lawsuits and regulatory fines as well as damage to a company's reputation and loss of business.

The key to minimizing this risk is utilizing a secure virtual private network (VPN) designed for mobile environments. Although VPNs based on Internet Protocol security (IPsec) and Secure Socket Layer (SSL) have long been used for secure remote access, they do not perform well in a wireless environment, with its limited bandwidth and unstable connections. To address this issue many enterprise-class devices now integrate mobile VPN technology, based on Transport Layer Security (TLS), which is optimized specifically for low-bandwidth networks. Mobile VPNs provide authentication, encryption and data integrity while enabling remote access to data that resides on backend systems. Select mobile devices and solutions with TLS compatibility to garner the highest level of security possible.



V

alidate real-time connectivity

Without a real-time connection between technicians and the main operation it is impossible to fully utilize what are typically a field service operation's most valuable assets: the workforce and the vehicle fleet. To achieve reliable connectivity requires a robust, multi-layered wireless platform that can be tailored to an operation's specific needs.

Public and private wireless wide area networks (WWANs) enable real-time communications for workers outside the building. In addition to full voice capability, the WWAN enables field technicians on the road to access service level agreements, repair histories, maintenance procedures, and cross-sell and up-sell suggestions. It also gives technicians the ability to capture parts used and time spent on the job — all via a single mobile device. When inventory and accounting systems are integrated, true visibility into inventory is achieved. With the addition of a mobile payment solution, technicians can capture customer signatures and process charge authorizations in real time, streamlining the invoicing process and exponentially improving the order-to-cash cycle. Real-time connectivity to key business systems also translates into more accurate inventory, fewer billing errors, and far fewer productivity-draining phone calls from the field.

Mobile computers such as those found in the Motorola mobile computing portfolio offer 3G WWAN technology for the fastest and clearest connectivity to the home office. If public WWANs are likely to be part of the equation, determine which networks offer the best value prior to narrowing down your device selection. Mobile devices can be configured to automatically switch to an 802.11a/b/g enterprise wireless local area network (WLAN) for more cost-effective voice and data service when technicians come back to the office and to empower office-based employees. To print on-the-spot invoices or receipts in the field, invest in Bluetooth for a wireless connection or a USB port for a wired connection. The inclusion of GPS capability for real-time visibility of all personnel and/or vehicles allows for optimal routing. The end result is better customer service and a reduction in fuel and fleet maintenance costs.

I

nclude technicians in selection and training processes

Smart companies bring their field technicians into the device evaluation process with hands-on field trials and documented feedback. Getting technicians involved during these early stages is the best means of identifying field-based functions for improving productivity and service; it also helps ensure the technology will actually be used in the field. Service technicians can be reluctant to embrace new technologies. If they don't think a tool makes their jobs any easier, they may not fully utilize it. This is why it can be critical not only to get early buy-in from service technicians but also to take the time to train them on the new solution.

Start with including at least two field technicians on the selection committee. One should be someone who is comfortable with technology and uses it often. The other should be from the opposite end of the spectrum: someone who may not embrace change easily and may even be averse to technology. Of course, the field must also participate in any device beta testing prior to full deployment. The most influential advocate for a new technology tool, especially in a relatively traditional environment such as field service, is someone who was initially resistant.

Inadequate training of staff prior to full deployment can result in a challenging transition period; although, various levels of training are available for most mobility solutions and devices. Normally, a solution integrator or device manufacturer, such as Motorola or one of their partners, can either train the trainers or train the technicians directly. Depending on the complexity of the applications involved, there may be a need for separate software training. Discuss your training options up front with all your solutions partners and plan accordingly.

V

iew customer feedback with instant evaluations and surveys

Ideally, field service organizations could solicit input from customers during beta testing and then after the mobile solution has been deployed. Getting feedback from customers, as well as technicians, is an invaluable tool for fine-tuning the solution so that it is easy for the technicians to use and truly enhances customer service.

Additionally, you can use the mobile devices to administer surveys about the work completed, satisfaction with the sales reps or any other aspect of a customer's interaction with the company. The technician can merely hand the device over to the customer at the end of the service call to complete the survey. This allows customers to give on-the-spot feedback so you can measure customer satisfaction and identify areas for improvement.

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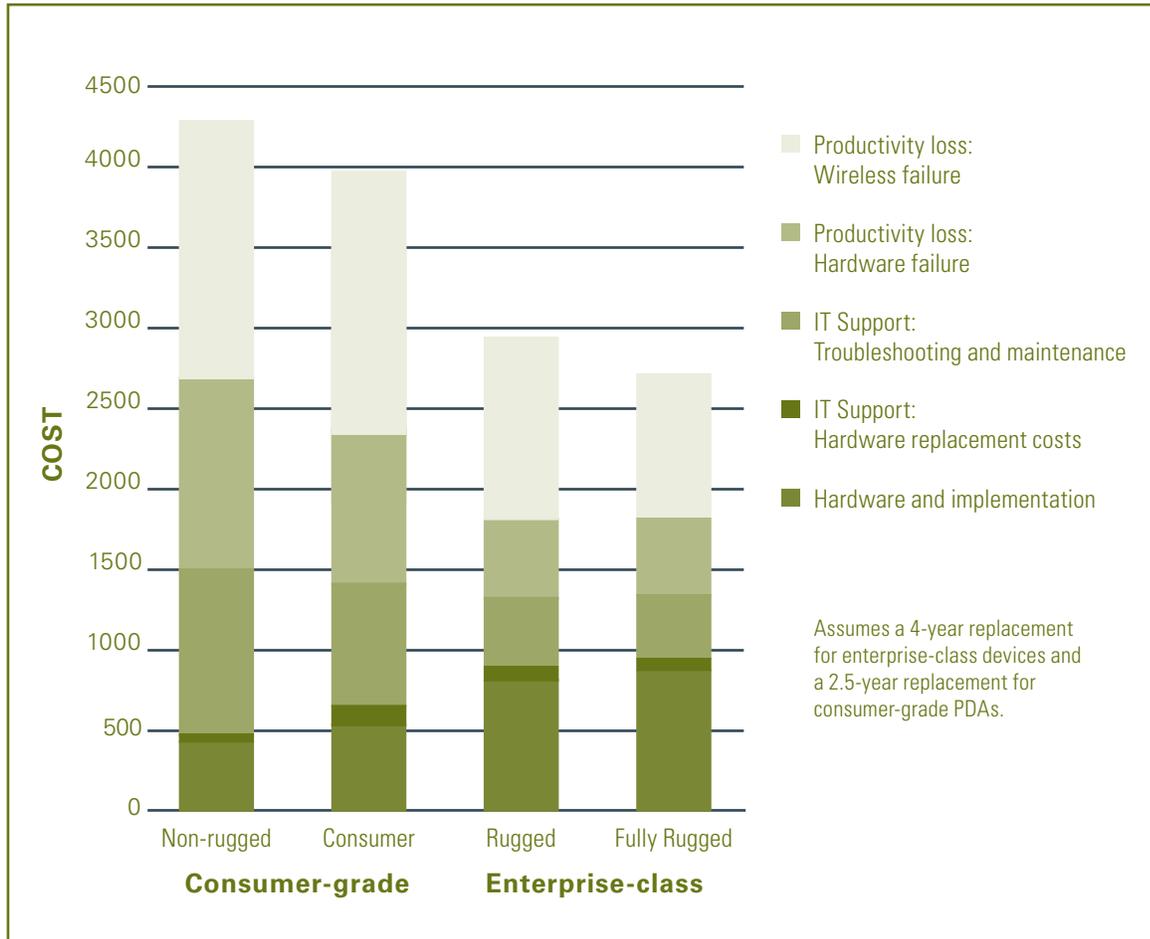
ssess the differences between enterprise- and consumer-grade solutions

A traditional consumer-grade approach to a mobile solution requires a cell phone for voice, a mobile computer for data applications, and a GPS system. Buying and supporting all these devices increases the overall TCO substantially so unless you're looking for very limited functionality, an enterprise-class solution is your best option. An enterprise-class solution typically integrates robust voice and data functionality, advanced data capture (such as bar code scanning, signature capture and camera) and GPS into one convenient and rugged package. Peripherals such as card swipes and mobile printers offer additional business value.

Enterprise devices and technologies are designed to run multiple applications simultaneously, while consumer-grade devices typically lack the processing power and memory to handle multiple or compound business applications very well, if at all. And when devices become slow and unresponsive due to memory leaks and other conflicts, productivity and revenue suffers. And, only enterprise solutions can integrate mobile VPN technology for superior transaction security. Enterprise management systems for remote device staging, provisioning and management speed deployment and reduce TCO. They do this by ensuring that devices are running the most current applications and operating systems and by enabling rapid troubleshooting for maximum uptime.

And you should also factor in how your business requirements may change. Investigate how prospective applications and devices would scale to accommodate more users and expand to incorporate new functions and technologies.

Enterprise-grade solutions have a distinct advantage because they are designed for scalability – accessories, user interfaces, and OS platforms do not have to be continually updated, which lowers your overall cost of ownership.



Based on a VDC research study covering retail, transportation/distribution, manufacturing, government, field service, professional service and health care service industries.



Leverage your field agents as an extension of your sales teams

Equipped with a real-time voice and data connection that offers on-the-job access to comprehensive customer and product intelligence, field technicians can cross-sell and up-sell much more effectively. As the only employees likely to have face-time with customers, field technicians are in the best position to recommend complementary products and services — and the most likely to succeed in doing so. While it is easy to build a quick rapport that helps a customer see a tech as a trusted advisor, not having access to the information and resources they need while in the field significantly impedes their ability to sell. Access to maintenance records, service contracts and buying preferences can make all the difference. With a comprehensive mobile solution, including mobile payment capabilities, the technician can close the additional sale by performing the service or installing the part, taking immediate payment, and leaving a receipt with one very satisfied customer.

Case Studies

MC75 UHaul Video Case Study

UHaul saw a 90% reduction in payment processing costs with the MC75 and anticipated a \$2M savings in the first year alone.

[View video case study](#)

Bud Anderson Automates Field Service Operations

After eliminating paper job tickets via the MC75, each Bud Anderson Heating & Cooling technician now makes one or two extra service calls per day and employees who used to input these tickets have been reassigned to revenue generating functions.

[Download case study](#)

Shumate Mechanical

This HVAC company expedited cash flow, improved accounting staff productivity and saved \$208,000/year using an MC70 to automate their processes, including payments in the field.

[View video case study](#)

Danka Business Systems

Within a week in the field, using the MC70 was second nature to Danka technicians. Calls into their call center went down 60% and technicians were able to make one more service call a day.

[View video case study](#)

References

1, 2: The Aberdeen Group, "Mobile Field Service Update 2007 and Beyond," 2007.

3-6: Source: VDC Research Report, Total Cost Of Ownership Models For Mobile Computing And Communications Platforms, Second Edition, David Krebs. June 2007.



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