Mobile Device Management: Are You In Control?

With remote access enabled by its MDM (mobile device management) solution, DirectTV installer MasTec has reduced device downtime to save more than $91,000 per year. The decision to deploy mobile devices to your field workforce takes a lot of deliberation. Which type of mobile device is best? What software solution will accomplish your goals? How will the solution be rolled out? What training will your workers need? And the list goes on. However, one consideration many companies overlook during this deliberation process is how the devices will be managed once they’re deployed. While MDM may seem like a small piece of the overall mobile solution puzzle, it is an important one — and the repercussions of not considering MDM during your deployment can be costly. From securing mobile data and pushing out software updates over the air to remotely diagnosing issues and reducing device downtime, the benefits of MDM are clear. MasTec is one company that is experiencing those benefits firsthand. MasTec is a specialty contractor serving a range of industries, including communications companies, utilities, and government. MasTec’s AT (advanced technologies) division is an authorized subcontractor for DirectTV. The division employs more than 3,000 field technicians in 54 locations throughout the United States, all of which install and service DirectTV television and entertainment equipment. In MasTec’s case, the decision to deploy mobile devices was made for them. In 2009, DirectTV decided it would arm MasTec’s field technicians with Intermec CN3 handheld computers. The Intermec CN3s replaced the manual processes that MasTec technicians were using at that time, including calls back and forth to the call center to dispatch jobs, access customer history information, and provide a verbal summary of manual notes taken on the job for data entry into back office systems. The CN3s were rolled out to MasTec’s technicians over a three-month period.
Amanda Kahler, senior manager, mobile support, MasTec
Mobile Device Troubleshooting Creates Downtime Without MDM

During the rollout, MasTec formed a mobile support group to take calls from technicians who were having any type of technical difficulties with their handhelds. For example, if a tech was unable to access the network or couldn’t log in to view their work orders, they would call the mobile support team to do some troubleshooting over the phone. “More often than not, the technician would have to ship the device to the mobile support team for repair, because we had limited ability to resolve issues over the phone,” says Amanda Kahler, senior manager of mobile support at MasTec. “While the majority of the devices that were sent in could be fixed in less than five minutes, it takes days to ship the device there and days to ship it back, causing downtime in the field. Moreover, the shipping costs of sending the devices back and forth were significant.” The number-one complaint when techs would call mobile support was that they couldn’t connect to the network. The CN3s run on a Windows Mobile operating system, and MasTec actually found that the number-one issue when devices were shipped in was that the tech had inadvertently changed settings to inhibit network access; this issue accounted for more than 80% of troubleshooting calls. “So, all this money was being spent to ship devices back and forth all because the technician had turned something off by accident,” says Kahler.

Almost immediately after the CN3s were deployed, MasTec began to realize it needed an MDM solution. In addition to troubleshooting challenges — and the field tech downtime and high shipping costs that came along with those challenges — MasTec’s mobile support group began to obviate other issues of having no MDM solution in place. For example, when a software update became necessary, how would that be accomplished? Without MDM, MasTec would have to have each of its 3,000 technicians ship their devices in to have the software refresh manually loaded. MasTec quickly realized how costly not being able to remotely troubleshoot devices or push out software over the air would be and came to the decision that it needed to deploy MDM.

The mobile support team worked alongside a third-party consultant to outline what it felt were the necessary features of MDM and then began researching solutions. Besides security, which was a crucial component, MasTec’s must-have characteristics for its MDM solution included remote control functionality that would enable mobile support workers to not only view the screen of the CN3 in the field, but also take remote control of the device and guide the user through troubleshooting. Mobile support also needed to be able to remotely view the device’s technical elements, including device serial number, battery power, battery time remaining, phone signal strength, RAM memory, file memory, and usage information. The ability to push out software updates over the air was essential. MasTec also wanted the solution to include GPS tracking capability to identify and track lost or stolen devices. The company wanted the ability to send out messages to all devices to alert techs of things such as inclement weather and emergency information.

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Finally, the MDM solution needed to be scalable so MasTec could easily add devices.

Security Essential Component Of MDM
With the MDM wish list complete, the evaluation of vendors began. Over the span of about three months, four vendors were strongly considered, and MasTec short-listed two. In the end, MasTec chose to deploy MobiControl from SOTI. The level of security MobiControl provides was one strong draw for MasTec. “We discovered as we were doing our evaluations that not all MDM solutions are as secure as they should be — some we were able to hack, which is a huge red flag,” explains Kahler. “MobiControl’s solid authentication feature was important.” In addition to security, MasTec was impressed by the fact that MobiControl could accomplish every goal on the company’s wish list without any customization or further development. “Our requirements for MDM were already incorporated into MobiControl,” says Kahler. “Some of the other vendors seemed willing to try to work in certain characteristics, but it was going to take some time and effort to do so. We felt that the MobiControl solution was just more mature technologically.” Finally, SOTI has a recommended procedure for device configuration using bar code scanning that MasTec felt would streamline the process of rolling out the solution to its 3,000 field technicians.

Once MasTec decided to move forward with MobiControl, the company completed a 30-day trial. SOTI consulted with MasTec’s IT team to explain what servers would need to be installed at the central support center in Dallas and how the network would need to be configured to access MobiControl. Installation of the servers and network configuration took about a week. Once the correct network configurations were set, the MobiControl software was downloaded and installed on the servers. Virtual machines were set up in MasTec’s Miami data center to replicate the idea of what it would be like for the support team to access the CN3s remotely. SOTI visited MasTec’s Dallas location multiple times during the 30-day trial to train MasTec’s IT and mobile support teams on the complete functionality of the solution and use of each component.

Bar Coding Streamlines MDM Deployment
At the end of the 30-day trial, MasTec was satisfied with the performance of MobiControl and ready to move forward with deployment. While software updates can be pushed out over the air using MobiControl, the software client first has to be installed on each handheld. While this is obviously a challenge for a deployment as large and dispersed as MasTec’s, SOTI’s bar-coding method of device configuration significantly simplified this process. SOTI’s bar-coding method of configuration, called MobiScan, enables a deployment package to be built in MobiControl (which can be customized to be built in MobiControl (which can be customized

Don’t Overlook The Value Of MDM
MasTec is a specialty contractor that installs and services television and entertainment equipment for DirectTV. MasTec recently found itself in the midst of a mobile device deployment when DirectTV decided to arm MasTec’s 3,000 field technicians with Intermec CN3 handheld computers. Shortly after the CN3s were rolled out, MasTec realized the need for an MDM (mobile device management) solution. After three months of researching MDM vendors, MasTec chose MobiControl MDM from SOTI.

According to Amanda Kahler, senior manager of mobile support at MasTec, security was one of the primary reasons MobiControl won out over the other vendors considered. “We realized many of the MDM solutions on the market aren’t as secure as they claim to be — we were able to hack in to some of them,” she says. “MobiControl was impenetrable, which made us comfortable choosing the solution.” Some of the characteristics that make

With MobiControl from SOTI, MasTec mobile support can remotely access the Intermec CN3 handhelds its technicians use to troubleshoot and send updates.

MobiControl secure include its authentication policy, which enables companies to replicate the user authentication process; user names; and passwords used for existing workstations. MobiControl also features device lockdown functionality, the ability to remotely control application access on the device, and file encryption, among others.

MasTec was also impressed by MobiScan — a bar-coding configuration tool that SOTI provides. MobiScan enables the MobiControl client to be downloaded by each handheld device with the simple scanning of two bar codes. MasTec took advantage of this feature during its quarterly inventory process, which enabled the company to rapidly deploy MobiControl to 3,000 devices. In Kahler’s estimate, the MobiScan method of configuration saved MasTec hundreds of hours and thousands of dollars on deployment.

With more than 80,000 MobiControl customers in 120 countries, SOTI’s experience in MDM is clear — and MasTec noticed this when comparing the solution to others. MasTec’s team created a list of must-have MDM features before beginning to research vendors. While other vendors claimed to be able to add certain functionality the company wanted to their MDM solutions, Kahler notes that MobiControl came out of the box with all of the must-have characteristics MasTec had identified. “The experience SOTI has in the MDM industry becomes apparent when you compare MobiControl to some of the other MDM solutions,” says Kahler. “The solution is mature and includes each characteristic we were looking for.” For more information on MobiControl and other MDM tools, visit www.soti.net.
based on size/type/location of deployment). The deployment package includes two bar codes — the first launches the Internet browser on the handheld, and the second is the URL of the deployment package that, when scanned, downloads and installs the MobiControl client on the handheld device.

Rather than put this task in the hands of 3,000 different technicians, MasTec came up with an idea to further streamline its deployment. The company holds a mandatory quarterly inventory whereby technicians have to take all of their equipment to the nearest warehouse location to be scanned and inventoried. MasTec decided to take advantage of this event to install MobiControl on the CN3 devices. Rather than relying on each technician individually to download the software, the bar codes and instructions for deployment were distributed to each warehouse manager prior to quarterly inventory. As each CN3 was inventoried, the warehouse manager completed the MobiScan bar coding to install MobiControl on each device. “This process added virtually no time to our quarterly inventory, and it enabled us to get the deployment out to 3,000 technicians very quickly,” explains Kahler. “I’d imagine the ability of MobiScan saved us hundreds of hours and thousands of dollars on deployment.” When the warehouse manager scanned each device, the technicians were handed a one-page handout explaining the features of the MobiControl solution and its benefit to them (i.e. not having to ship devices when issues occur).

As each CN3 scanned the deployment bar code, the device became visible on the back end of MobiControl by serial number. MasTec was then able to group the devices into folders separated by region. This enables the company to manage the devices by smaller groups, rather than only by a large, universal group. Reporting, such as device usage, battery life, and RAM usage, can be done by the entire field force or by regional group. Also, messages can be pushed out to all techs or targeted to a specific region.

From the technician’s standpoint, not much changed with the client installed. The techs didn’t require training because their interaction with the device wasn’t directly impacted. The biggest difference was the customized MasTec application menu interface developed using MobiControl to show only the applications the techs needed to do their jobs — eight icons on the home screen that connect techs to essential applications such as work order management, maps, inventory management, and approved Internet locations. This eliminated the ability to inadvertently shut off network access and, in turn, reduced by 80% the number of troubleshooting calls coming in to the mobile support group. “Not only did the customized home screen reduce troubleshooting calls, but it also increased the acceptance of the handheld among techs because it made it easier for them to use,” notes Kahler. “Many technicians were intimidated by the Windows Mobile interface. One of the ways we promoted the deployment of MobiControl was to let the technicians know how much easier the customized menu of applications would make it for them to use the CN3.”

According to Kahler, techs have also appreciated the messaging functionality of the MobiControl solution. For instance, if a technical bulletin or weather alert needs to be sent to the techs, it can be sent via MobiControl directly to the CN3 rather than by email to each site manager in order to be relayed to the individual technicians. Further, the message can be sent to all techs or to a specific group, and MobiControl’s messaging feature doesn’t use SMS (short message service) services, so messages are sent at no cost.

**MDM Provides Clear Cost Savings**

MasTec has benefited in multiple ways from installing MobiControl, including cost savings. The company has saved $91,000 annually since deploying MobiControl — $43,000 in savings from reducing shipping costs associated with sending devices back and forth from the field to mobile support and another $48,000 in savings from reducing the operational downtime in the field while these devices were being repaired. In addition, with the elimination of the 80% of support calls that were a result of self-inflicted network setting errors, the mobile support team is now able to answer 90% of support calls within a few minutes and has reduced the average handle time for handheld support calls by 50% (from 20 minutes to 10 minutes). All in all, these results led MasTec to receive payback on the MobiControl solution in less than six months. In the near future, MasTec plans to further leverage the deployed CN3 handhelds with applications including inventory management and an advanced LBS (location-based services) solution.

There’s no doubt that deploying mobile devices will result in productivity gains that equate to cost savings. But — as MasTec’s experience illustrates — without MDM, you’re likely not saving as much as you could. If you’re going to invest in a mobile solution, make sure you maximize your investment by factoring in the benefits of MDM from the very beginning.

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