

## Enterprise Requirements Planning — Scaling Enterprise Mobility Deployments

### Reducing Network Complexity with Mobility Management Systems

Mobility management systems enable operations and IT groups to reduce the complexity and total cost of ownership (TCO) of deploying mobility solutions by advancing from complex and difficult-to-manage installations to high performing, reliable and scalable solutions that are easy to develop, deploy and manage. Key benefits include rapid development, accelerated deployment, end-to-end wireless network and mobile device visibility, expedited problem resolution and system reliability, availability and scalability (RAS). Enterprise-class mobility management systems are powerful, integrated tools that enable rapid scaling and total control and visibility of enterprise mobility deployments.

### Introduction

To win in today's competitive business environment, companies must find new ways to innovate, optimize business processes, shorten cycle times and empower employees to better serve customers. To achieve these benefits, chief information officers are increasingly placing mobile technologies into the hands of front-line operations, customer service, and distribution center and logistics personnel. This enables greater customer satisfaction and enhanced product selection while maximizing supply chain efficiencies and accuracy -- ultimately increasing operating margins.

The promise of mobility is immense. However, realizing its full potential can introduce some significant IT challenges. Today's typical mobility solutions are single purpose in nature and reside on mobile devices that are connected to corporate back-end systems via ad-hoc systems. Management of these deployments is usually an afterthought. The result is a static, complex and non-scalable mobility infrastructure that is unable to expand in an efficient way to meet growing business needs. The net effect is increased deployment and support costs; brittle, under-performing systems; and dramatically increased organizational risk. Fortunately, technologies are rapidly being brought to market to address these challenges.

### Key Points

- › Without a centralized mobility management solution, routine tasks become a barrier to growth, leaving the promise of mobility unrealized
- › Existing network management tools are unable to deal with roaming devices, intermittent network connectivity or wireless security
- › Existing software distribution tools were not designed to deal with multi-user mobile devices, offline and online device usage and push-versus-pull distribution models

The main elements of scalable and cost-effective enterprise mobility solutions are now available with the advent of standardized pervasive application architectures (.NET and J2EE), advanced mobile computing devices designed upon robust operating systems (Pocket PC, Palm OS and Linux) and standardized wireless LAN infrastructure (IEEE 802.11a/b/g).

An important advancement is the introduction of centralized mobility management solutions that significantly reduce the risk and complexity associated with mobile deployments. These systems provide the basis for rapid development, deployment, management, support and control of mobile devices and infrastructure in a focused, secure manner. At the same time, mobility management enables operations and IT groups to contain support costs and maintain complete, real-time visibility into the health and performance of the enterprise mobility systems.

### Mobility Deployment Challenges

A standard enterprise mobility deployment may include several thousand mobile devices, wireless switches and access points. Large-scale deployments, common in manufacturing, transportation and logistics and retail industries, can be dramatically larger.

The complexity of these environments makes routine tasks such as device and network component roll-outs, updates and maintenance and support/problem resolution cumbersome and difficult. Without a centralized mobility management solution, these routine tasks become a barrier to growth and leave the promise of mobility unrealized.

While management of wired networks and computing devices is a mature standardized industry, it is challenging to extend these management tools into the world of wireless networks and mobile computing devices. Existing network management tools are unable to deal with roaming devices, intermittent network connectivity or wireless security. Similarly, existing software distribution tools are not designed to deal with multi-user mobile devices, offline and online device usage and push-versus-pull distribution models.

### Network Management System Basics

#### Cumbersome Manual Processes for Device Rollouts

Newly purchased devices or systems that are returned from the service center must go through a staging process before they are functional. This process is either outsourced or executed internally, but it is an additional cost and further delays deployment. The ability to rapidly provision and configure mobile devices and wireless networks is of paramount importance.

#### Mixed Applications Deployed

Ensuring uniformity of software versions on mobile devices across hundreds or thousands of locations is a monumental task. The wrong version of an application on a mobile unit prevents certain business functions from being performed or creates inaccurate results. Version control of business applications, operating systems and firmware is necessary.

#### Continuous Manual Updating of Applications and Networks

With new applications, device refreshes, security and network settings constantly being pushed to devices and networks, operations and IT teams often must work overtime to update mobile devices and wireless infrastructure across hundreds of locations just to remain current and consistent. Enterprise-class mobility management solutions provide centralized, remote configuration and provisioning capabilities to alleviate this manual IT dependency.

#### Problems are Hard to Isolate and Resolve

Fault isolation is complicated and hard to resolve. Common device problem reports, such as "slow response time" could, in fact, be the result of many different conditions -- an access point (AP) that is overloaded, bad radio frequency (RF) coverage or memory leakage on the device. Rapid fault isolation capabilities are required.

#### Increase in Support Calls

Hands-on technical staff required to support large-scale enterprise deployments is expensive, both in the number of and the cost per technician. The ability to support remote diagnostics and remote problem resolution is critical to reduce these expenses.

#### Reactive Monitoring

Lack of integrated management tools puts enterprises in a reactive rather than proactive mode when it comes to responding to problems encountered with the wireless infrastructure or mobile devices. Problem response includes dispatching a specialist to the site, which is an expensive proposition. A proactive monitoring solution is needed so potential problems with the wireless network or the devices are caught and addressed before an event occurs.

#### Managing Batch or Intermittent Connectivity

A mobile device inherently has limited processing power, battery life and memory. This makes collecting performance data difficult. Intermittent connectivity and bandwidth limitations compound this problem. An optimal mobility management solution operates with batch and intermittent connectivity and with configurable bandwidth usage.

## Ensuring End-to-End Security

Wireless solutions are inherently less secure than wired solutions. As a result, security risks are compounded when mobile solutions are scaled across the enterprise. An optimal mobility management solution provides secure transmission of data, detection of rogue networked devices and remote authentication and lock-down, among other important security functions.

## Application Development Issues

To-date, mobile application developers have depended on custom coding and point solutions to create one-off mobile applications relying mostly on older technologies (such as DOS, Telnet, Batch) and integrated with a single back-end system (mainframe, database, etc.). This point-to-point approach is now proving too hard to change and adapt to integrate with multiple deployments, proliferation of mobile devices, and multiple back end systems.

## Introducing Symbol Mobility Services Platform (MSP)

The Mobility Services Platform provides a single point of visibility into and control over enterprise mobility deployments. MSP enables Symbol's customers and partners to advance from complex and difficult-to-manage installations to high performing, reliable and scalable solutions that are easy to develop, deploy and manage. MSP delivers rapid development, accelerated deployment, end-to-end visibility, expedited problem resolution and system reliability, availability and scalability (RAS). Symbol devices and wireless networks are enhanced and provide monitoring information in addition to executing administrative tasks initiated by MSP users.

### Key benefits of MSP include:

- ▶ **Rapid development** -MSP enables application developers to develop new and extend existing back-end applications for a large variety of mobile computing devices with faster time to market and lower cost than custom coding and point solutions.
- ▶ **Accelerated deployment** -MSP enables rapid deployment of mobile devices, wireless networks and mobile applications. Features include out-of-the-box provisioning and configuration of mobile devices plus remote provisioning and configuration of groups of access points and wireless switches.
- ▶ **End-to-end visibility into health and performance** -MSP ensures that your enterprise mobility deployment is always available and stays within preset performance baseline levels. MSP enables full visibility into your deployment while providing proactive mobile device and network monitoring, comprehensive alerting and integration to enterprise management systems.
- ▶ **Expedited problem resolution** -MSP can dramatically reduce help desk costs by enabling your staff to rapidly diagnose and solve a full range of network, device and infrastructure problems. Features include integrated device and network fault isolation, remote diagnostics, remote device control, remote configuration and patch management.
- ▶ **Extensible platform architecture** -MSP offers interoperable software components to develop and deploy additional mobility management applications and adds support for new mobile devices and wireless infrastructure. Features include a customizable portal framework, standards-based architecture, centralized event repository, value-added mobility management application programming interfaces (APIs) and plug-in-based device agent architecture.

## Symbol Solutions: WiFi Infrastructure Management

Symbol's Enterprise Mobility Services provide comprehensive support and technical expertise for designing, deploying and maintaining successful mobility solutions. With a full suite of products --from wireless switches, access points and wireless handheld devices to the Mobility Services Platform (Symbol's network management system) -- Symbol's diverse service offerings enhance enterprise business operations, providing you with value and uptime throughout the entire lifecycle of your mobility solution.

Our Mobility Services give enterprise customers access to Symbol's expertise in designing and deploying global mobility solutions. The following products are included in Symbol's Enterprise Mobility Services product suite:

- ▶ **WS5100 and WS2000** -Symbol Wireless Switches provide integrated wired and wireless networking solutions, offering enterprise class security (802.11i, site-to-site IPsec VPN), public/private network segmentation and 802.11a/b/g support.
- ▶ **AP300** -Symbol's Access Ports represents the evolution of the access point from a difficult to scale network node to a simple RF media access device for the wireless switch with true "plug-and-play" (zero configuration) that is operational right out-of-the-box. The AP300 Access Port delivers robust and feature rich IEEE 802.11a/b/g connectivity.
- ▶ **MSP** -Symbol's Mobility Services Platform (MSP) is a scalable hardware and software enterprise management solution, providing a single point of visibility into and control over the mobile enterprise. With MSP, customers can rapidly deploy new mobile devices, upgrade existing devices, monitor health and performance, and quickly isolate and troubleshoot faults.
- ▶ **MC50/MC3000/MC9000** -Symbol's small lightweight wireless PDA-style appliances support numerous data and voice enterprise-level communication applications.
- ▶ **MK1000/MK2000** -Symbol's retail microkiosk merchandising tools provide automated customer self-service for bar code pricing lookups while improving customer satisfaction via quick and easy usability.

## Lower Total Cost of Ownership--Outstanding Investment Protection

Symbol's wireless portfolio removes the overhead and complexity of first-generation access point-based wireless LANs, delivering a wireless network that is less expensive to implement and manage. The extensive functionality, expandability, and centralized management eliminate the time and management costs associated with access point-based solutions, providing a lower total cost of ownership. And the flexibility to support the standards of today and tomorrow as well as the legacy wireless networks of yesterday provides outstanding investment protection.

## Services and Support

Symbol Enterprise Mobility Services provide access to the deepest, richest technical expertise for mobility solutions. Symbol is equipped to deliver the level of repair service that is required for your mission critical solutions. Through a flexible and relevant service portfolio, we provide the comprehensive support capabilities needed to keep this technology accessible and meaningful.

Customer Services ensure that your infrastructure is running efficiently and that their systems and solutions are running optimally. Symbol Enterprise Mobility Services delivers the knowledge and expertise to help you create new advantage through end-to-end mobility solutions.

## Call to Action

For more information, contact Symbol at +1.800.722.6234 or +1.631.738.2400, or visit us on the web at: [www.symbol.com](http://www.symbol.com) or contact your local Symbol Sales Representative.

## Summary

Symbol's wireless LAN solutions deliver an all encompassing SMART value proposition, enabling:

- ▶ Security and Scalability
- ▶ Manageability
- ▶ Availability
- ▶ Reliability
- ▶ TCO Savings

## About Symbol Technologies

Symbol Technologies, Inc., The Enterprise Mobility Company™, is a recognized worldwide leader in enterprise mobility, delivering products and solutions that capture, move and manage information in real time to and from the point of business activity. Symbol enterprise mobility solutions integrate advanced data capture products, radio frequency identification technology, mobile computing platforms, wireless infrastructure, mobility software and world-class services programs. Symbol enterprise mobility products and solutions are proven to increase workforce productivity, reduce operating costs, drive operational efficiencies and realize competitive advantages for the world's leading companies.

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