The HP Mobile Device Management solution helps mobile operators to increase revenue by enabling the delivery of value-added content and services while decreasing operational expenses associated with providing new services. By providing fully personalized mobile services on a personalized device, end-user satisfaction is greatly enhanced and usage is also increased, thereby increasing the average revenue per user (ARPU). Device self-activation and user self-provisioning combined with flexible device controls, using network services and optimized client capabilities, decreases operational costs by allowing operators to automate business processes.
The HP Mobile Device Management (MDM) solution is part of the HP mobile Service Delivery Platform (mSDP). HP’s broad range of expertise, products, and technologies are available to help operators successfully implement the Mobile Device Management solution. HP MDM can cover both the specific needs of their consumer and business subscribers and can be offered as an outsourced service via HP Managed Services capabilities or a direct project via HP Consulting and Integration.

**Benefits**

Over the Air (U)SIM management, OTA Terminal Configuration Management, and Device Software Component Management are the primary solution components that comprise the HP Mobile Device Management solution.

**OTA (U)SIM management**

For GSM and UMTS operators, the (U)SIM card is a key component in the delivery of new subscriber services and management. Operators must be able to query, update, and download data to the (U)SIM. This data can be either end-user–related or network-related (i.e., list of preferred roaming networks). For a massive OTA SIM campaign, HP expertise in the SS7 stack enables operators to achieve very high throughput.

**OTA terminal configuration management**

Subscribers often have difficulty setting their mobile devices to use the advanced features related to mobile data services. For example, there are as many as 30 steps for setting up a new smart phone for wireless application protocol (WAP), URL, short message service (SMS) settings. The HP Mobile Device Management solution solves this problem by enabling automated device configurations linked with subscribed network services. HP’s terminal configuration management solutions allow operators to:

- Download device settings to activate mobile voice and data services
- Automatically check the device types by vendor and model numbers in order to adopt the appropriate setting files
- Automatically update configuration parameters for enabling applications on devices for network services, such as WAP, MMS, and GPRS, as necessary (i.e., change of (U)SIM card from one phone to another) by supporting the automatic device detection feature either via a network trigger or (U)SIM-based agent.

**Device software component management**

Sometimes bugs in the handset software cause handsets to be defective, creating problems for handset manufacturers and mobile operators when mobile devices have to be recalled. To avoid additional expenses for manufacturers and operators—and inconvenience to end users—their strong demand for management software that allows remote software updates. HP offers a key component of device software component management to operators and handset manufacturers with the following features:

*By minimizing contact with the call center, operators maintain a higher profit margin on new devices and services.*

The HP solution

The mobile industry continues to evolve presenting a number of opportunities and challenges to mobile operators. A wide range of new devices with new functionalities, such as mobile messaging service (MMS), video streaming, Push-to-Talk (PTT), and Java, are being launched. These new devices hold the potential for substantial revenue increases, but only if mobile operators can implement effective strategies for managing them at minimal cost, and at the same time, making them easy for consumers to use.

New content, personalized services require best-in-class tools to manage mobile devices

As operators introduce new devices and launch new services, their primary challenge is to identify provisioning tools that allow the remote management of end-user devices and services or make it possible for customers to manage those devices and services with minimal or no call center contact. By minimizing contact with the call center, operators maintain a higher profit margin on new devices and services.

Another challenge operators must consider is the need to provide high end-user personalization with new services, such as User Interface. Personalization serves the important functions of customer retention and increased user acceptance of newer, revenue-generating services. For very large operators, it also means that with HP MDM solution, they can now proceed with local customization/personalization only when the phone has hit the local market via Over-the-Air (OTA) means, therefore maximizing purchasing power and reducing inventory costs.
• Provide the capability to perform system revisions/updates and fix bugs over the air without recalling the devices from the end user

• Include each bitmap on flash read-only memory (ROM) of mobile devices except bootstrap modules for updates

• Have device vendor prepare updated software components for distribution by operators

• Enable operator to send update notices of software availability to subscribers when needed

• Allow user to select the push/pull for updating their software and reducing operating costs and customer frustration by providing remote management, which allows problem resolution without having to return handsets to manufacturers or operators.

Service quality manager
By using an agent on the (U)SIM or on the terminal itself, operators are now able to retrieve a whole set of real-time data related to either end-user interactions or radio network quality. This information can then be processed through back-end tools, such as HP Internet Usage Manager, and fed through HP Service Quality Manager to enable operators to spot any quality issues. This new source of information nicely complements the traditional network-based information. HP’s strong portfolio of software in the Service Management area enables operators to fully maximize this new capability.

Device diagnostic
It is critical that operators enable their call sales representatives (CSRs) through best-in-class tools for limiting the average handling time of calls from subscribers who have difficulties with their mobile devices. This is particularly true for high-end phone users, who are more likely to face issues.

The CSR must be equipped with tools to query—in real time—the end-user’s phone, spot any potential issues and suggest the appropriate actions to correct these issues or show the end user how to use the phone by taking control of that phone with the end-user’s consent.
The HP MDM solution provides tools that link back to the Call Center function. Benefits include

- Increase revenues by enabling new revenue generating features, bringing new types of content to the end user, and increasing acceptance of new services
- Substantially lower operational expenses by reducing the number of calls per subscriber to the call center and the duration of the calls
- Provide faster time to market with new devices and services by configuring and activating new devices and new services on an “as needed” basis
- Offer a better end-user experience by replacing a manual process with an automated one that can be triggered as soon as the end user needs it to access a service, such as when there is a subscription to a new service or a change to a new phone model
- Increase average revenue per user by enabling end users to access a wide range of new content and new services without the inconvenience of a time-consuming manual set up

Partners
HP works with best-in-class partners to deliver the Mobile Device Management solution to mobile operators. In particular, these include Gemplus (for OTA (U)SIM and terminal configuration applications) and InnoPath Software (for software component management applications). In addition, HP is enabling many other partners in the Mobile Device Management space to provide solutions, using HP technologies through its HP developer and solution partner program (DSPP).

Gemplus is the leading provider of smart card–enabled technology, products, and services for secure wireless communications and transactions, specializing in the telecommunications and financial services industries.

InnoPath Software is the world’s market leader providing end-to-end wireless infrastructure software management and Over-the-Air (OTA) application provisioning solutions to wireless carriers and mobile device manufacturers.

The HP advantage
Communications solutions are highly complex, and service providers must deliver even more innovative services to the market while keeping customers loyal and insulated from the complexities behind the services. In order to achieve this, service providers need strategic partners who can do more. HP offers a range of targeted, seamless solutions, integrated with partners, delivered quickly and efficiently. HP systems and solutions are open and flexible, empowering customers to customize or create value-added services. Our service capabilities provide the expertise to develop, integrate, test, install, and support the most complex service launches. This one-stop shopping approach lets service providers focus on their customers—not their suppliers.

HP focuses more than 25 years of telecommunications expertise into a powerful integrated team, the Network & Service Provider Business organization. This organization, along with 500 valued solutions partners, assists the world’s top 200 service and equipment providers, and meets the voice and data needs of hundreds of millions of wireless and wireline subscribers.

With solutions, technologies, and services, including HP OpenCall and HP OpenView telecommunication capabilities, arrayed across network infrastructure, network services, operations and business support, mobile and rich-media solutions, and end-user access, the HP Network & Service Provider Business organization is a major player that is leading change in the network and service provider industry.