



## **Paging Reliability**

Mobile workforce teams require a wireless communications tool that meets their specific needs:

- In-Building penetration that covers difficult to reach places like windowless server rooms and basements
- Highly reliable service for exchanging time-critical messages
- Connectivity to company systems for receiving trouble tickets and automated systems alerts wirelessly

The unique architecture of USA Mobility's two-way ReFLEX network delivers compelling advantages over competing technologies in each of these areas.

USA Mobility can help you build a solution that is geared exactly to the needs and budgets of today's mobile staff. We invite you to learn more about what makes our delivery of wireless communications different from other providers.

## **Reliable Performance**

The USA Mobility data network is engineered to carry data exclusively. The two-way ReFLEX protocol is optimized for low-bandwidth, highly reliable data transfer. This proven, reliable technology connects easily to most trouble ticket applications and sends automated alerts straight from your business applications. This results in measurable superior performance characteristics and benefits over alternative technologies.

More information concerning these important attributes:

- Super In-Building Penetration
  - Coverage to reach into server rooms, basements and other difficult to reach places
- Store and Forward Technology
  - Providing assured message delivery so you never miss a message
- Extended Battery Life
  - Efficient power use for long-lasting device performance
- Always-on Usage
  - And always with you – a key component of the dependability of any wireless communication solution.



## **The Coverage Advantage**

Reliability depends to a great extent on the sheer size of the network coverage. And the USA Mobility network is the largest wireless data network in the U.S.

- 99.9% wireless network availability
- Consistent Coverage
  - Across paging and 2-way networks.

In the fast paced business environment of today's industry there is little time for missed messages, missed appointments and failed delivery of time sensitive alarms. Find out more about how USA Mobility can help you be a success in your day-to-day business.

## **In-Building Penetration**

An often-overlooked measure of the reliability of wireless service is its ability to send and receive messages from inside structures such as office buildings, warehouses, manufacturing facilities and hospitals. The USA Mobility network is designed to reach people where they work, whether deep inside a building or in other challenging coverage areas.

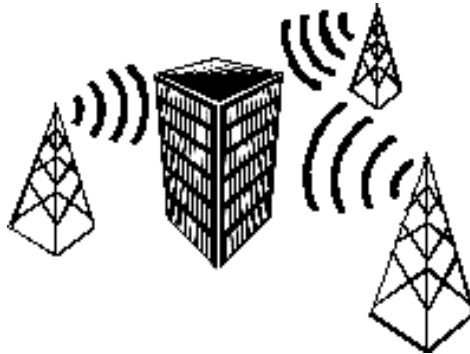
The USA Mobility network is based on a MESH-NETWORKING design, where a device communicates with multiple towers in the area (usually between three and five towers). Messages to the device are SIMULCAST from multiple towers on the same frequency at the same time – bathing the building in coverage and resulting in more reliable wireless coverage. Another unique advantage is the high transmission power of USA Mobility's wireless network. Each message is transmitted at a power level that is 10 times greater than that of a cellular transmitter. Similar technology on the receiving channel offers comparable reliability for initiating or responding to messages from inside of buildings.

USA Mobility's network combines these two powerful features – simulating and high-powered transmission – to deliver unbeatable coverage inside buildings for both receiving and transmitting messages.

Cellular networks provide good coverage to a handset while mobile. But their reliability inside buildings is often limited. That is due to the design of a cellular network, which connects a cell phone to a single cell tower. If there is an obstruction blocking the transmission or other interference, a connection cannot be made or a phone call is dropped. This greatly reduced the reliability of the solution while indoors.

The Superior in-building penetration of USA Mobility's wireless solution is a critical benefit for workers who often find themselves in challenging coverage area. This includes IT works, maintenance crews, healthcare workers, building security, etc. Whether in an office building, on the factory floor or even in a parking garage, critical responders need to have confidence that their wireless solution is working for them. USA Mobility's unique network architecture makes these solutions possible.

### **In-Building Tower Line Drawing**



#### **Paging Networks:**

- Simulcast from multiple towers
- Transmitters high off ground (up to 300ft)
- High powered transmission (1000 watts ERP\*)

\*ERP – Effective Radiating Power

### **Store and Forward Technology**

For groups that require dependable wireless communications, every message is important. They need a tool that is not only reliable, but one that retains those important messages in the event that a user's connection to the network is lost. USA Mobility's network offers Assured Message Delivery to give them confidence that every message will be delivered.

USA Mobility's 2-way wireless messaging network combines two critical features to ensure that you never miss a message. First, Store and Forward technology ensures that if a subscriber is outside of network coverage or if the device is turned off, the network



stored any incoming messages. When the device re-registers with the network, all stored messages are immediately delivered.

While other wireless networks offer a Store and Forward feature, USA Mobility's 2-way wireless messaging network also uses a "handshake" protocol to confirm that messages are delivered. When a message is sent to a device, the device sends an acknowledgement back to the network that the message was delivered successfully. If this acknowledgement is not received, the network retries delivering the message until successful.

Without this final confirmation step, the reliability of the messaging solution is dramatically reduced. An example of this "fire and forget" practice is SMS (Short Messaging Service), which is the protocol used for text messaging on cell phones. A study conducted by Keynote Systems, Inc. of 26,000 SMS messages show that "7.5% of all SMS messages were not transmitted successfully". For any type of critical response team, every message is important, and the unique advantages of paging technology ensures that every message is delivered.

### **Extended Battery Life**

A key benefit of USA Mobility devices and services is that the tool is intended to be always on and ready to send and receive messages. This is due to several factors:

- Long battery life
- Small, unobtrusive device size
- Continuous connection to the network
- Devices that are conveniently clipped on a belt or accessory

USA Mobility's 2-way devices communicate with the network in an asynchronous mode. As the network received messages, they are "pushed" to the device, which remains ready to receive new messages at all time. By contrast, many messaging applications on cellular networks require the user to log on and "pull" down any new messages. For messaging applications, this "push" delivery of USA Mobility's paging network translates to increased speed of delivery and dependability for your communications.

Paging devices are designed to remain on, usually 24 hours per day, and for long periods of time. Long battery life is one of the key factors that must be considered when deploying a wireless communications solution. USA Mobility's network is designed to provide the longest battery life because of its low power requirements. And a long battery life means more dependability at critical times, more productivity and less time spent off-line to recharge.