Lucent Technologies
Bell Labs Innovations



Summary	
Platform	Enhanced Control Server (eCS), Enhanced Services Manager (eSM) In future, Enhanced Media Resource Server (eMRS)
Protocols	ANSI-41, SS7, TCP/IP, and SMPP

Mobile Tracker

Bringing Mobility to Presence-Based Applications

The instant messaging phenomenon, using short text and "chat" features over the Internet, introduced a new way of interactive communication. It also generated a new wave of technological advances known as presence-based applications (PBAs). Since PBAs reached the wireless world, sales of portable devices with converged voice, data, Internet, *and* instant messaging capabilities have increased rapidly[1] — and so has demand for PBA-based applications.

Would you like to offer your wireless subscribers automatic presence- and location-based services? Do you need mobile station status information to implement wireless instant messaging, track usage profiles, and prevent fraud? Look no further. Lucent Technologies Mobile Tracker (MT) application can do all that and more.

No More "Phone Tag"

Mobile Tracker is an enabling application for PBAs that tracks the presence and activity of mobile devices. It lets you capture and log mobile station power-on/off and roaming status changes within your network — automatically. It then sends the information via TCP/IP to provide support for downstream PBAs such as wireless instant messaging, fraud prevention, zone/traveling location-based information, and usage profiling applications. Instant-messaging subscribers no longer have to play "phone tag" because they can immediately determine the status of a colleague's handset.

In addition to mobile station ID and status, Mobile Tracker also captures information such as serving area ID, and serving cell. It's a flexible, intelligent application that can be configured to track specific subscriber information from predetermined parameters and send it to external client applications. Client applications are notified only when specified key information has changed. Called numbers and subscriber conversations are not tracked. Our tracker supports ANSI-41 capable networks and Lucent Enhanced Feature Transparency Networks (EFTN).

Enhanced Capabilities for You and Your Subscribers

When you offer tracking services using Mobile Tracker your wireless subscribers gain several value-added capabilities They include protection against fraud (through a mechanism that allows quick detection and tracking of delinquent handsets) and fast location of a subscriber in case of an emergency. And you can benefit when you track usage profiles (such as mobile station identification, status, time, and serving area). These keys to your subscribers' usage habits can be invaluable when marketing new services and promotions. Imagine offering a service that alerts a subscriber about a play showing in a city he/she is visiting simply by accessing status updates and the exact location coordinates of the mobile handset!

[1] According to Mobile Insights Research Firm, today's wireless market supports over 130 million instant messaging users.



Mobile Tracker

Selected Features

Mobile Tracker offers a wide range of features that are included with the application, as well as additional customized and/or optional features. They include:

- **Presence Tracking via Triggers** — To monitor wireless handset activity Mobile Tracker triggers the Home Location Register (HLR). Standard messages containing presence and key parameter information are forwarded to the Mobile Tracker when a trigger (power on/off or roaming status) is detected. Triggers are also activated whenever a new mobile device is registered, de-registered, or re-registered due to roaming into another system.
- **Presence Tracking via Polling** — For HLRs that don't support triggers, Mobile Tracker periodically (through configurable timers) polls standard messages on the HLR for presence information. If the mobile handset is not available, the HLR will notify the Mobile Tracker when it becomes available.
- **Short Message Peer-to-Peer (SMPP) Presence Notifier** — When mobile presence, status, key parameters, or time stamp changes occur, Mobile Tracker formats the data into a SMPP message and forwards it to a configurable list of external clients.
- **Dynamic Mobile Presence, Activity, and Status Tracking** — The Mobile Tracker's activity status and key presence data are maintained in a dynamic "last presence" database. The time-stamped data is used to track the information for transmittal to downstream clients.
- **Measurement Report Logs** — Mobile Tracker offers a range of performance monitoring functions. This specific feature generates measurements data (including SS7 and TCP/IP measurement) and enters it to the Measurements Log. This data may be optionally transmitted to the Enhanced Services Manager (eSM), which generates formatted performance data and summary data.
- **Integration with MPBAs** — Lucent's tracking system offers tight integration with external mobile presence-based applications (MPBAs) that use handset information, such as Wireless Instant Messaging (wIM). And it's interoperable with other PBAs offered by Lucent, its partners, carriers, or ISPs by virtue of its open IP-based interfaces. As an option Mobile Tracker can be provisioned using a Web-based GUI interface on a Lucent eSM server.

Key Benefits

- **Access to Important Subscriber Information** — You can use usage profile information, such as mobile station registration activity, to target marketing promotions and location-based services.
- **New Revenue Streams** — Enabling your own or third-party promotional plans and services based on usage profiles can attract new users and help you generate additional revenue streams
- **Increased Fraud Protection** — Implement fraud protection applications using subscriber activity information that Mobile Tracker collects, helping you to reduce revenue losses due to fraud.
- **Integration with PBAs and Location-Based Services** — The application can be integrated with location-based services to create applications such as Fleet Tracking, which provides automatic presence status while the Location Manager determines exact location coordinates.
- **Evolution Path** — Mobile Tracker will provide a full evolution path to track mobile presence for GSM, CDPD, UMTS, GPRS, and next-generation handsets. It also will provide additional IP based APIs for quick and easy deployment of value-added PBAs hosted on the Internet.

For additional information, please contact your Lucent Technologies Sales Representative. You can also visit our Website at http://www.lucent.com or call +1-888-4-LUCENT (+1-888-458-2368).

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