

# APM™ | UMA

## Network Assurance for Mobile Networks



### Reduce Deployment Risks and Ensure Subscriber Satisfaction

With the convergence of mobile, fixed and Internet telephony on the horizon, many mobile operators will deploy Unlicensed Mobile Access (UMA) technologies in order to stay competitive. A global standard for subscriber access to mobile circuit, packet and IMS-based services over an IP network, UMA offers numerous advantages.

- Enables seamless roaming and handovers between local area networks and wide area networks for dual-mode mobile phone subscribers.
- Takes advantage of IP access technologies including DSL, Cable and WiFi to deliver high-quality, low-cost mobile voice and data services in the locations where subscribers spend most of their time-in the home and at the office.

### Operations Application

Enables real-time and historical troubleshooting to the root cause with alarming and alerting capabilities.

- Supports drill-down to GeoProbe® applications for problem resolution.

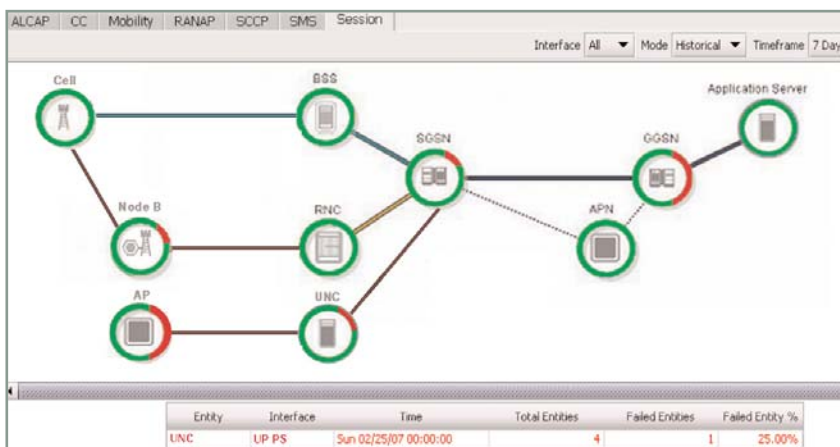
### Planning Application

Long-term OLAP Analysis and Reporting Tools

### Management Reporting Application

Predefined report categories summarize the health of network services and entities in the UMA network.

- Apply pre-defined filters to simplify reporting results and hone in on areas of interest.
- Schedule reports for automated, ongoing updates of UMA performance status.
- View and print reports or save as CSV for issue documentation and post-analysis.



An Operations Dashboard provides clear indication of UMA performance by node type with easy access to underlying details and resolution paths.

Handset	Activation	Deactivation	Suspend	Resume
Blackberry Blackberry diverse	44.68	53.85	100.00	22.64
Ericsson Ericsson GM 47 (GSM/DCS)	81.15	97.47	0.00	0.49
Ericsson Ericsson T39m GPRS (GSM)	6.07	100.00	100.00	2.39
Ericsson Ericsson T68i GPRS (GSM)	55.00	100.00	100.00	35.14
HTC HTC Qtek 2820 GPRS (GSM)	64.48	95.06	100.00	54.69
High High Tech. Computer PW10	83.33	100.00	100.00	59.72
Maxon Maxon Q2X1 GPRS (GSM/DCS)	75.00	60.00	100.00	45.45
Motorola Motorola E1000 3G (GSM/D)	82.35	100.00	100.00	52.38
Motorola Motorola E365 GPRS (GSM)	76.92	100.00	100.00	100.00
Motorola Motorola MPx200 GPRS GS	31.82	100.00	100.00	40.00

Analyze UMA Service Performance by element type with automated reports on demand.

While these forward-looking carriers will be well positioned to deliver voice, data and IMS/SIP type applications, their investment must be protected. With the addition of UMA to Tektronix' APM product, operators can reduce risks during deployment, improve operations, manage network resources and ensure ongoing subscriber satisfaction.

- Track actual network utilization for more informed capacity planning exercises.
- Access valuable information for routine analysis and on-the-fly troubleshooting.
- Proactively monitor accessibility, retainability, call and handover performance for improved subscriber satisfaction.

APM's UMA capabilities allow operators to track voice and data service performance by access point (AP), media access control (MAC) and UMA Network Controller (UNC).

### Key Performance Indicators

- Discovery & Registration:** Discovery, Register, Register Update, Deregistration
- Procedural:** Ciphering Mode, Traffic Channel Assignment, Transport Channel Activation/Deactivation, Suspend/Resume
- Retainability:** Call Drop
- Accessibility:** MO Call Setup, MO Call Setup Time, MT Call Setup, MT Call Setup Time
- Handover:** Incoming Handover to UMAN, Outgoing Handover from UMAN

### About Tektronix:

Tektronix has more than 60 years of experience in providing network operators and equipment manufacturers a comprehensive and unparalleled suite of network diagnostics and management solutions for fixed, mobile, IP and converged multi-service networks.

These solutions support such architectures and applications as fixed mobile convergence, IMS, broadband wireless access, WiMAX, VoIP and triple play, including IPTV.

### For Further Information:

Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology.

Please visit [www.tektronix.com/communications](http://www.tektronix.com/communications)

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