

FemtoLite™

Connect with your customer

One of the biggest unknowns for any operator is how a customer's broadband network is performing - and how well it would support a femtocell.

DSL broadband performance varies from premise to premise while cable broadband performance is subject to contention from users sharing the connection. ISP traffic management policies, network load by time-of-day and efficiency of routing from the customer premises to the core network can all conspire to affect the quality of femtocell service.

Additionally, when using a broadband connection the femtocell will share the bandwidth of the connection with other active services on that connection. Activities such as internet browsing, on-line gaming sessions, video-on-demand and IPTV sessions and peer-to-peer file sharing sessions will make demands on available bandwidth possibly upsetting femtocell communications.

Pre-deployment testing - Setting the user's expectations

Epitiro's FemtoLite™ software agent solution provides an extremely affordable and effective way to pre-test service capability and offers an in-depth view of a specific customer's suitability for femtocell. FemtoLite™ is a software agent that requires no hardware distribution to potential femtocell customers - all that they require to run the tests is an internet connection and a Microsoft Windows™ PC.

How it works

BB by simply visiting a link on your website and registering interest your subscribers are directed to download a FemtoLite™ software agent via a standard web-browser. Once installed on the consumer's PC the software agent transmits assured-rate two-way SRTP or IPSec sessions over the consumer's broadband connection, terminating on FemtoLite™ End-point servers hosted in the cellular network core.

During these transmissions keyperformance data including jitter, packet loss and delay is collected by the software agent. This information is then periodically sent to central reporting servers.

By repeating this process on a regular basis (every 15 minutes as an example) for a prolonged duration of time (2 to 3 weeks) FemtoLite™ establishes a dataset representative of the typical available capacity of that customer's broadband service and computerized processes analyze these test results can determine suitability for the deployment of a femtocell.

Additionally FemtoLite™ will set the consumer's expectations regarding the quality of those services by time of day.

Backhaul requirements are pre-configured with your chosen transport - whether IPSec or SRTP with multiplexing or any other protocol definition can be implemented on request. Typical pre-configuration is based on the following table:

| Cable/DSL backhaul capacity for concurrent femtocell calls (kbps) | 1 call | 2 calls | 3 calls | 4 calls |
|---|--------|---------|---------|---------|
| IPSec | | | | |
| PPPoA (Europe) | 64 | 127 | 191 | 254 |
| PPPoE (USA) | 85 | 170 | 254 | 339 |
| SRTP (Muxed) | | | | |
| PPPoA | 64 | 64 | 85 | 106 |
| PPPoA | 64 | 85 | 106 | 127 |

Reports

Epitiro's renowned report generating capability allows any user to quickly and easily see test performance data in the format of their choice. The powerful and flexible report generation, including Web browser access to all reports, enables the following views;

- Trend Testing - Profile the behaviour of your hardware with continuous long term testing at different times of the day, week, or month.
- 'At a glance' insight of your competitors strengths and weaknesses
- Multiple levels of drill-down detail right down to a single femtocell test call
- Remote-control and real-time availability reporting of all agents

- Real consumer metrics, based on real tests
- Massively scalable
- ISP Information – (Name, subscriber plan)
- Line Capacity
- Throughput Speed – Average, Peak, Minimum (download/upload) by time –of-day
- Packet Loss
- Jitter
- Delay
- DNS Performance
- PING Times by time-of-day

Look Who's Talking

Epitiro's clients include top ISPs, regulators and telcos. Companies such as BT, Tiscali, Ofcom, Virgin, Telecom New Zealand, Telefonica O2, Orange and others use Epitiro's technology and Software as a Service (SaaS) capability to measure and manage customer experience.



Epitiro (UK)

Epitiro House, 10 Raleigh Walk
Waterfront 2000, Brigantine Place
Cardiff CF10 4LN

Tel: +44 (0) 870 850 6563

Epitiro (Ireland)

Unit 17, Tom Crean Business Centre
Kerry Technology Park, Tralee
County Kerry, Ireland

Tel: +353 (0)66 7129794

Epitiro (France)

19 Bis - 21, Blvd Haussmann
75009 Paris
France

Tel: (+33) (0) 1 56 03 66 80

Epitiro (New Zealand)

Level 27 PWC Tower
188 Quay St, Auckland
New Zealand

Tel: (+64) (0) 9 363 2995