

WITBE QOE SOLUTIONS CHOSEN FOR SINGTEL'S TRIPLE PLAY SERVICE PERFORMANCE MONITORING PROJECT.

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In its continuing commitment to ensure quality to its subscribers, Witbe has been selected by SingTel, Asia's leading communications group, to deliver a Quality of Experience (QoE) monitoring solution for its triple play mio services: IPTV (mio TV), voice over IP (mio Voice), and fixed-line broadband. The solution will be installed in key data centers around the island, as well as in selected subscriber homes. The solution will enable SingTel to monitor, assess and control the quality of its services from end-to-end.

The unique QoE solution provided by Witbe consists of robots, which replicate subscriber actions accessing the services available from the mio Box home gateway: watching TV, changing channels, accessing Video On Demand (VoD), making phone calls, downloading Internet content. It analyzes the results in terms of availability, performance and quality, including video and audio MOS (Mean Opinion Score) quality. It is unique in today's market in using a perceptual MOS based on actual user perception.

Witbe publishes Key Performance and Quality Indicators (KPI and KQI) for various uses: real time supervision, quality assurance, executive reporting, and reporting to local regulators. These indicators include:

- Fixed-line broadband: xDSL connection, DNS performance, actual throughput, web navigation, and SMTP/POP.
- Voice: call availability, Post Dialling Delay, bi-directional voice quality (MOS-LQON, ITU-T P.862-1), bidirectional voice quality stability (ST-MOS, ETSI TR 202 765-2).
- Live TV (Standard and High Definition): channel availability, channel changing time, perceptual video and audio MOS, MPEG analysis based on ETSI TR 101 290. Tests are conducted before and after the mio TV Set Top Box allowing a correlation between perceptual MOS quality and network events.
- VoD: portal availability and performance, browsing catalogue, purchasing film, and playback.

Witbe provides full support for the Microsoft Mediaroom™ platform, the technological core of SingTel's mio TV service. Currently, mio TV offers a total of 65 channels, of which 21 are on-demand channels. Content on mio TV covers a wide range of genres as well as Singapore's largest range of video-on-demand titles and High Definition content.

Witbe supports mio TV-specific features including Instant Channel Change (ICC) and VoD.

About SingTel

SingTel is Asia's leading communications group with operations and investments worldwide. Committed to bringing the best of global communications to customers in Asia Pacific and beyond, SingTel provides a comprehensive portfolio of services that includes voice and data solutions over fixed, wireless and Internet platforms, as well as infocomm technology and pay TV.

SingTel's network of 37 offices in 20 countries and territories throughout Asia Pacific, Europe and the United States, enables it to deliver reliable and quality network solutions to its customers. Together with its regional partners, SingTel is Asia's largest multi-market mobile operator, serving 273 million customers in eight markets. <http://www.singtel.com/>

About Witbe

Multi-play usages such as watching TV, using VoD services, making phone calls or accessing the internet via landline or mobile networks have revolutionized the way operators work and their areas of responsibility.

To respond to the new challenge of tests and end-to-end service monitoring, since 2000, Witbe has been developing an innovative approach to measuring the actual quality delivered: Quality of Experience monitoring (QoE).

Witbe's unique technology provides indicators of perceived quality measured by its robots, which continuously reproduce user behaviour. Witbe, thanks to its MOS algorithms qualifying real-time image and sound quality from the STB, has been regarded since 2004 as the reference for IPTV services monitoring.

Witbe works with the main operators throughout the whole world: Austria, Dubai, France, Germany, Greece, Italy, Korea, Luxembourg, Morocco, Netherlands, Poland, Portugal, Singapore, Slovakia, Spain, Switzerland, Taiwan, UK, Ukraine, USA, amongst others.

For more information, go to <http://www.witbe.net>

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