

Femtocells

Personal Wireless Base Stations

Fixed Mobile Convergence (FMC)

(Abstract)

**[For full version of this white paper, please contact CellStrat at
contact@cellstrat.com]**

**CellStrat Consulting Services
Atlanta, GA, USA**

v1.0

Created: 05/05/2008

Femtocells

Femtocell is a small cellular base station meant to boost service quality and provide value added services within a home or a small business. It connects to the service provider's network via broadband (such as DSL or cable); current designs typically support 2 to 5 mobile phones in a residential setting. A Femtocell essentially routes mobile calls over the internet.

A Femtocell allows service providers to extend service coverage indoors, especially where access would otherwise be limited or unavailable. This is true in many homes where wireless signal cannot reach inside or there is poor signal strength due to security or physical obstructions. Femtocells are considered an important element of Fixed Mobile Convergence (FMC). Traditional Fixed Mobile convergence requires use of dual mode (WiFi) handsets but with Femtocell, ordinary cellphones can be used for FMC.

One of the most significant advantages of Femtocell for the wireless operator is that by directing home mobile calls on the internet, operators can free up the wireless network. In emerging markets, wireless network congestion rates point to the idea that Femtocells would be a boon in such locations.

On the promise of Femtocells, one can think of them as essentially "mobile taking on WiFi". Femtocells essentially route mobile calls on the IP network.

From a wireless perspective, typically Femtocells pack high-speed 3G technology or High Speed Download Packet Access (HSPDA) inside, which can have download speeds of upto 7 Mbps, similar to many home broadband offerings.

Femtocell Adoption

According to ABI research, by 2011, there will be 102 million Femtocell users.

The femtocell market represents a semiconductor opportunity that could show a compound growth rate of 138 percent over the next four years and reach \$1.5 billion by 2012, according to market research group Forward Concepts.

The market researchers also suggest global femtocell equipment revenues will grow at a CAGR of 126 percent from 2008 to \$4.9 billion in 2012. Western Europe will be the largest market, driving 32 percent of the revenue, followed by North America with a 22 percent share. They add that femtocell integrated home gateway shipments are projected to exceed 23 million units in 2012, passing stand-alone femtocells for over half of the market.

Forward Concepts estimates femtocells will capture the dominant Fixed Mobile Convergence (FMC) market share by 2010, as UMA (Universal Mobile Access) is deemed to be a transitional technology and cellular carriers will ultimately transition to IMS-enabled femtocells. However, they caution the most significant technical challenge for femtocell operators will be RF interference which will require proper frequency planning by the operators.

For full version of this white paper, please contact CellStrat at contact@cellstrat.com.

CellStrat is a full service management consulting and system integration firm helping clients in areas of mobile strategy, mobile applications and mobile marketing. CellStrat assists firms in understanding the new wireless standards, mobile enablement of their workforce, development of a powerful mobile marketing strategy, implementing mobile banking and payment solutions.

For a custom analysis of your mobile business environment, your mobile strategy and development of mobile applications within your business setting, please feel free to contact us at contact@cellstrat.com or call us at (678) 643-6750.