

Femtocell Equipment Vendor Matrix

(Excerpt of Vendor Matrix)

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Ubiquisys Company Profile

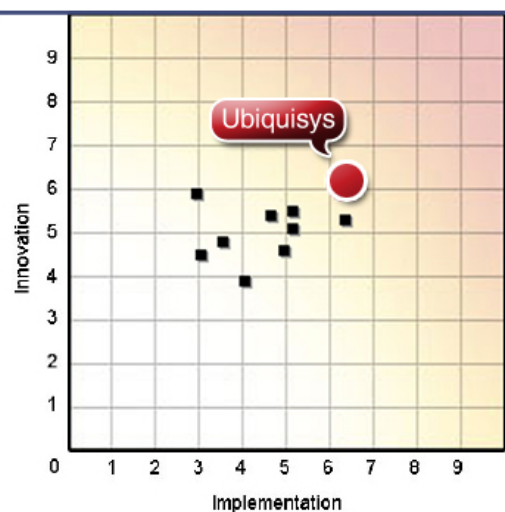
Ubiquisys is a privately held company that was formed in 2004. Investors in the company include Google and T-Mobile Venture Fund. The company produces the Zonegate Femtocell. The company has some significant strategic alliances with companies such as Motorola, NEC, Nokia Siemens Networks, Netgear, Motive, Kineto, Tatara, Picochip and Sony. Ubiquisys has been very active in WCDMA femtocell trial activity and is thought to have 12 carriers actively participating in or committed to trialing its Zonegate product.

The Zonegate product can be offered as a stand alone Femtocell which is manufactured by Sony or can be integrated into gateway products such as those produced by Netgear DVG834GH and Motorola's 8100 Series.

Innovation: 62

Implementation: 64

Ubiquisys places in the 100th percentile of those 10 companies examined.



(Source: ABI Research)

1.1

The Zonegate also has the following features:

- The product uses either RAN Gateway (Iu) based or IMS (SIP) based protocols for connection to mobile operators' networks. Ubiquisys claims that it can migrate cleanly to the 3GPP Iu-h Standard for Femtocells when it is finally ratified due to its similarity to the GAN interface that is currently supported in today's Zonegate products.
- Ubiquisys has invested heavily in R&D related to cognitive radio technologies specifically for the Femtocell environment. Continuous monitoring of both GSM and UMTS neighbouring macro cells is embedded to enable Femtocell to adapt to its environment. The algorithms also optimize power output, frequency and scrambling codes to ensure desired coverage whilst controlling interference. Finally, "Sticky Cell" technology ensures that users get a smooth handover from femto to macro network.
- The Zonegate management architecture has been certified and deployed with leading DSL TR-069 systems. Ubiquisys also offers the ZoneGate Deployment Server which aids in a smooth roll out of a femtocell network.
- The ZoneGate supports HSPA with downlink rates of up to 7.2mbps and up to 4 simultaneous voice or data users.
- All signalling and voice traffic is IPSEC encrypted, multiplexed and prioritized. Call efficiency on the consumer's broadband is on a par with protocols such as SRTP.
- Ubiquisys has also paid particular attention to developing its web-based Services Architecture and has encouraged a growing eco-system of internet application/web 2.0 partners.

Section 2. RANKINGS

Rank	Company	Innovation	Implementation
1	Ubiquisys	62	64
2	Alcatel-Lucent	52	65
3	ip.access Ltd	54	53
4	Samsung	50	53
5	Airvana	53	48
6	Huawei Technologies Co Ltd	45	51
7	RadioFrame Networks, Inc	58	31
8	AirWalk Communications Inc	47	37
9	Ericsson Incorporated	38	42
10	2Wire	44	32

Section 3. METHODOLOGY

ABI Research evaluates vendors on the basis of innovation and implementation by selecting multiple criteria related to product/company characteristics that serve as proxies for the vendors' performance in these two areas. Upon evaluation, vendors are assigned numerical scores that are aggregated and analyzed to provide overall rankings of each vendor on the Innovation and Implementation axes. Specific to the evaluation of femtocells, the criteria used include:

3.1 Implementation

- Ecosystem Partnerships for End-to-End Solutions
- Market and RFP Activity
- Ability to Scale and Commoditize Quickly
- Carrier Relationships
- Overall Financial and Organizational Health

3.2 Innovation

- Cost
- Macro Network Interference Techniques
- Standards-Compliant Network Interface
- Scalability
- Plug and Play
- Solution Maturity
- Service Security
- Hand In/Out
- Intelligent Architectures
- Integrated Wi-Fi
- Multimode Cellular Support
- IMS Upgrade Path
- Integrated IPTV Set-Top Box
- Future-Proof Upgrade Path
- Integrated DSI Gateway/Router

3.3 Rankings

After individual scores are established for Innovation and Implementation using the above criteria, an overall company score is established using the Root Mean Square (RMS) method:

$$Score = \sqrt{\frac{innovation^2 + implementation^2}{2}}$$

The resulting overall scores are then ranked and used for percentile comparisons.

The RMS method, in comparison with a straight summation or average of individual innovation and implementation values, rewards companies for standout performance.

For example, using this method a company with an innovation score of 9 and an implementation score of 1 would score considerably higher than a company with a score of 5 in both areas, despite the mean score being the same. ABI Research believes this is appropriate as the goal of these matrices is to highlight those companies that stand out from the others.

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