

A photograph of a man with dark hair, wearing a white t-shirt, smiling and talking on a mobile phone. He is standing in a modern home interior with a staircase and a kitchen visible in the background.

## Home Zone 2.0

### Mobile operators set their sites on your home

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**Kineto Wireless, Inc.**

1601 McCarthy Blvd.

Milpitas, CA 95035

Tel: +1 408 546 0660

## Home Zone 2.0 – Mobile operators set their sites on your home

The home is the most competitive location for providing telecommunications services today. Fixed, cable, mobile and VoIP providers all work aggressively to provide a full range of personal communication services (voice, instant messaging, email, social networking) to consumers, with a primary goal of winning additional mind (and wallet)-share from consumers when at home.

Many within the industry have termed this fierce competition as the “battle for the building.” For mobile operators, one of the most successful weapons in the battle for the building is the deployment of Home Zone services.

A Home Zone service is based on a mobile operator defining a service area around a subscriber’s home where the operator can aggressively price service. For example, when a subscriber is within his or her Home Zone (i.e., the subscriber is being served by the cell tower nearest to home), mobile calls are charged at land-line rates. Introduced in a number of Western European countries, these first-generation Home Zone services have proved popular with consumers. Unfortunately, as these services are based on using the macro radio access network (RAN), they also present a number of significant challenges for mobile operators.

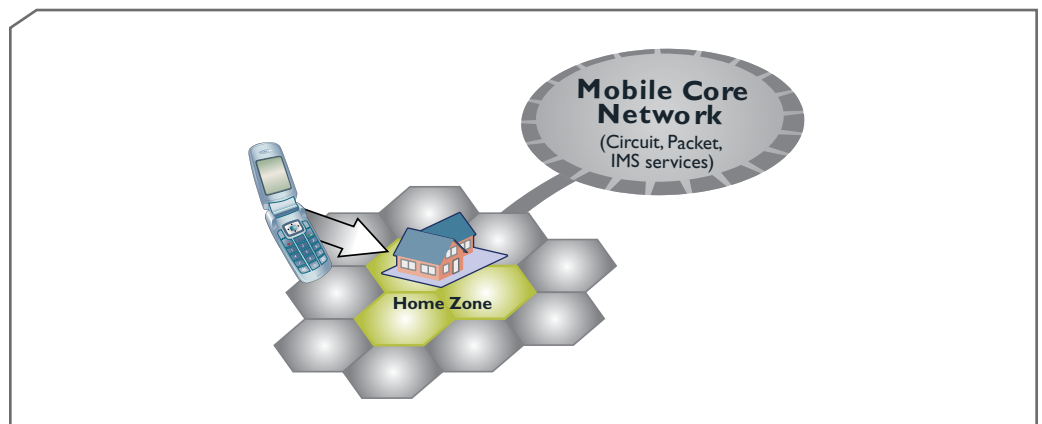
**Revenue Leakage:** As a subscriber’s “Home Zone” is based on the cell tower(s) that services their home, in many situations a subscriber could be served by the same tower throughout their day, whether at home, work or in transit.

**Shrinking Margins:** As the Home Zone service uses the macro RAN, an operator’s cost of service delivery remains the same. As a result, operators are directly sacrificing service margins.

**Poor Performance:** Unfortunately, the home is often ill-served from the macro RAN, as it is plagued by poor indoor coverage, particularly with high-speed 3G technologies.

To address these cost and performance challenges, mobile operators are beginning to launch the next generation of Home Zone services, known as Home Zone 2.0 (HZ2.0). HZ2.0 services are defined by two primary characteristics.

First, they use a low-power femtocell or Wi-Fi access point deployed within a subscriber’s home to address revenue leakage and poor performance. The low-power access points overcome wireless service coverage issues. Moreover, these access points improve the performance of the handset in the home because the radio resource is closer to the device. The signal is stronger and as a result, data rates are typically higher. A stronger signal also leads to lower power consumption on the handset, as the handset needs to transmit only a short distance. Finally, offloading voice and data traffic to the micro radio access point frees up valuable macro network spectrum for outdoor mobile service delivery.



*First generation home zone based on cellular network*

With a relatively small coverage radius (typically within the home), low-power access points constrain the home 'zone' and address the revenue leakage issue of alternative approaches. This improved Home Zone resolution helps operators keep the benefits of the HZ2.0 service actually within the home.

Second, HZ2.0 services use a subscriber's existing home fixed-broadband access connection for backhauling mobile services. Broadband penetration in developed markets ranges from 35-60% of households. For mobile operators, broadband represents an ultra-low cost transport network that improves the margins for voice and data service delivery.

Also, a wired broadband network provides fast, reliable IP transport for new revenue-generating mobile data services. When delivered through high-speed 3G femtocells or Wi-Fi connections, subscribers get a true broadband mobile data experience.

### → Home Zone 2.0 – Deployed Today

HZ2.0 is not just a concept; operators have begun to deploy services today. ABI Research published a report projecting the number of HZ2.0 (femtocell and dual-mode handset (DMH)-based) subscribers to reach more than 250 million worldwide by 2012.

Orange's multi-national Unik/Unique HZ2.0 service offer, based on DMHs and Wi-Fi, is among the most successful worldwide. Deployed for more than a year in France, Orange's Unik service has delivered a 10% increase in average revenue per user (ARPU), and 15% of subscribers who take the service are new to Orange mobile. Most notably, Orange reports that subscribers with Unik service churn 3 times less than subscribers with traditional mobile service plans.

In summer 2008, the US has seen the industry's first commercial HZ2.0 femtocell-based offer.

Sprint's Airave femtocell is available for a one-time fee of \$99.95. For an additional \$15/month, subscribers receive unlimited calling when in their Home Zone. This offer compares very favorably with competitive unlimited calling packages. Vonage, for example, offers unlimited in-home calling for \$25/month.

It is interesting to compare Airave with the US's other HZ2.0 service offer. T-Mobile's Unlimited HotSpot Calling offer is a Wi-Fi-based plan that was rolled out nationwide in June 2007.

The Unlimited HotSpot Calling plan offers unlimited calling from within the zone for \$10/month. A T-Mobile branded Wi-Fi access point is available for \$29.95, but subscribers are able to use their own access points as well.

One advantage of the Unlimited HotSpot Calling service is subscribers can attach to any access point anywhere in the world and receive discounted calling. This has made Unlimited HotSpot Calling particularly attractive for international travelers.

### → Kineto – Delivering Home Zone 2.0

Kineto is the leading provider of technology for HZ2.0 services. Kineto supports the two 3GPP standards behind the vast majority of DMH and femtocell-based HZ2.0 services; UMA/GAN and Home Node B (HNB).

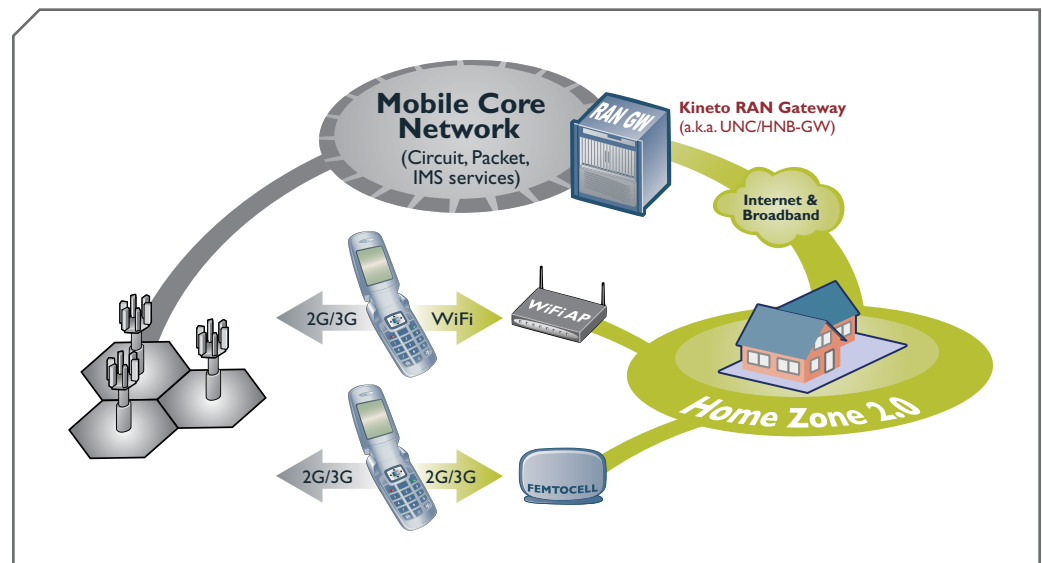
UMA/GAN, original specified in the 3GPP Release 6, is behind the world's most successful DMH service offers, as well as several femtocell trial deployments. HNB, an emerging standard for femtocell to core network connectivity slated for 3GPP Release 8, will be the industry standard for 3G femtocell deployments worldwide.

As the leading supplier of core infrastructure RAN Gateway equipment, Kineto provides unmatched support for both UMA/GAN (a 'UMA Network Controller') and HNB (a 'HNB-Gateway') within its RAN Gateway system.

Stéphane Téral, principal analyst with Infonetics Research, recently completed an exhaustive report on the fixed-mobile convergence (FMC) market. In the report, Infonetics forecasts the FMC market, including UMA network controllers, multi-access convergence gateways, and dual-mode cellular/WiFi phones will grow to \$46.3 billion by 2010. At the conclusion of his analysis, Téral commented: "For those who still believe UMA will be short lived, it can now support 3G, is backed by the 3GPP, has a clear migration roadmap to IMS and is becoming the default case for femtocells."

### → Conclusion

Mobile operators have begun to realize the strategic imperative of HZ2.0. The home is an extremely competitive telecom location and represents an enormous growth opportunity. However, the existing macro radio network does not meet the cost or performance requirements to win the 'battle for the building.' Low-power access points (femtocells and Wi-Fi) offer advantages for mobile operators to address indoor mobile radio performance. By leveraging broadband and IP as a backhaul network technology, operators can dramatically lower the cost of delivering services. HZ2.0 services relying on broadband access and low-power access points (femtocells and Wi-Fi) are being deployed by operators today. Kineto is the company that powers HZ2.0.



*Home Zone 2.0 solution using low-power access points and broadband backhaul*