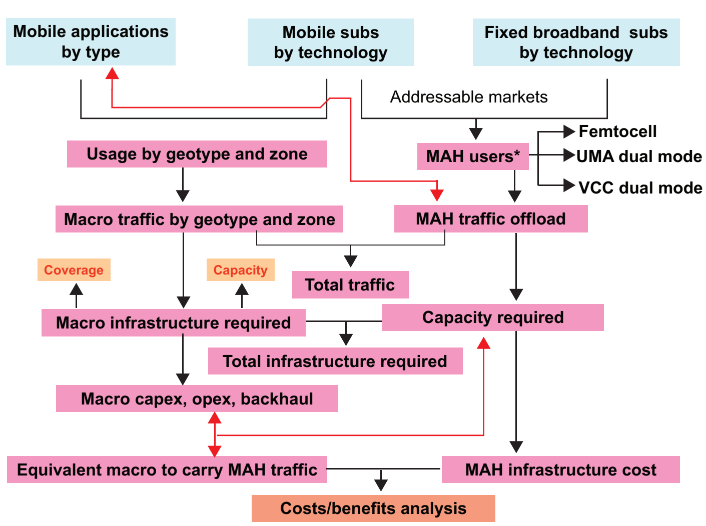
This report discusses all of these issues, particularly the business opportunities for different MAH solutions in different market segments and regions of the world. Specific attention has been paid to traffic distribution over different environments, including home, office and public areas as well as on the move. The role of femtocells in offloading traffic to the subscriber home line was of particular interest. The report also evaluates the potential cost savings in terms of capital investments and operational costs if these technologies are deployed.

The report's forecasts focus primarily on mobile users of different MAH services, mobile traffic and associated infrastructure forecasts by region/country and by wireless access technology over the forecast period (end-2007 to end-2013). The forecasts for mobile traffic are generated from demand perspective and take into account all voice and data applications running on mobile networks worldwide. However, fixed mobile convergence (FMC) is blurring the boundaries between the mobile and fixed markets, leading traffic generated by mobile devices to be offloaded to fixed networks. For example, the traffic generated by femtocell users at home is counted as traffic offload while the traffic generated while away from home is counted as macro-traffic. In the traffic and infrastructure cost forecasts, a special focus has been dedicated to femtocells.

The overall forecast methodology used is a bottom-up approach that builds up from mobile subscribers to applications and usage and from there to mobile network traffic. Mobile data traffic is one of the key inputs driving requirements for both mobile networks capacity and coverage; these figures are used to calculate the necessary investments in both capital and operations to carry this traffic. The figure below shows a simplified chart of the basic methodology used for the forecasts.

Figure 1.1: Summary of traffic and infrastructure forecast methodology



Note: MAH stands for different Mobile Access at Home services, which includes femtocells, UMA, and IMS/VCC dual-mode services

Source: Informa Telecoms & Media

Pure mobile operators

Mobile operators are seeking both to reinforce their fixed mobile substitution (FMS) strategy and to gain market share in the home access market. Femtocells and alternative technologies are ideal to help them to achieve this goal. Mobile operators are also aiming to improve coverage and capacity indoors, particularly for mobile broadband technologies such as HSPA and EV-DO, which will continue suffer from poor coverage inside buildings unless mobile operators invest significantly in the radio access network and backhaul.

By deploying a mobile access at home solution, mobile operators will have the potential to make significant savings in capital and operational investments while also reducing churn; however, this will depend on how the MAH services are designed and marketed. Pushing these services to subscribers needs a good understanding of market segmentation in both the mobile and fixed markets; mobile operators will need to work closely with fixed alliances to provide creative marketing and innovative services that will enable both parties to cross-sell their own services. This is likely to involve a significant effort and could easily require long lead times for marketing and management resources.

Mobile operators are increasingly moving into the fixed broadband market mainly in Europe where local loop unbundling (LLU) is advanced. By also becoming fixed broadband service providers, mobile operators will be able to launch their mobile access at home services in conjunction with fixed services and bridge their mobile and fixed services. Compared with those operators that remain pure mobile, these mobile operators will have significant advantages and can create differentiating value for their subscribers.

Hybrid operators

Hybrid operators have both fixed and mobile assets with a significant reach in both fixed and mobile markets. They are the best examples of how a mobile access at home solution can create new opportunities for FMC and other new services. However, some business aspects may need to be resolved before converged services are introduced as the hybrid operators' fixed and mobile arms could regard each other as competitors when offering similar services (including voice).

There are several examples of hybrid operators that have successfully married their fixed and mobile domains with a service; Orange France, for example, positions its UMA-based Unik service between its fixed and mobile products and allows existing customers to enjoy near-free voice calls with a fixed monthly fee. These operators can add mobile access at home services to help retain customers and launch family-oriented services which will in turn attract new mobile subscribers, reduce churn and increase overall user satisfaction.

Femtocell device subsidies

In general, device subsidies gives customers the opportunity to obtain a device – either a mobile phone or CPE – from their service provider at a cheaper price than they would normally be able to buy it for.

CPE subsidies are seen by many service providers as a necessary evil. When service providers make their customers pay for the CPE that connects them to the service, they tend to get punished by the market and suffer significant losses in their share of new customers. Subsidies are essential for an operator when a new service is introduced to the market requiring new CPE – FAPs in the case of femtocell services. The operator may use a subsidy strategy to encourage more customers to subscribe to the new service and/or differentiate itself from competition.

However, when the cost of the CPE is high, which is the case with FAPs, it becomes more difficult for the service provider to justify its subsidy. On the other hand, the customer is not prepared to pay the full price for the FAP if the service is not backed by an attractive value proposition, only one that offers to improve the service quality or enable cheaper calls.

The compromise here is for the operator to partly subsidise the FAP with the customer paying part of the cost. This is the strategy that has been adopted by the US operator Sprint for its AIRAVE femtocell service, launched in August 2008, which only has the only value proposition that the customer gets better voice quality at home. While the cost of AIRAVE FAP is estimated at around US$190, Sprint customers will be able to purchase subsidised AIRAVE device at Sprint stores for US$100 excluding taxes. Customers are required to subscribe to the AIRAVE services with monthly fees of US$5 per month in addition to their regular wireless voice plan. However, customers who choose to subscribe to AIRAVE unlimited in-home calling will have to pay additional charges of US$10 per month for individual subscribers and US$20 per month for families. With US$5 per month as a basic subscription fee for AIRAVE, Sprint will be able to amortise the cost of the FAP in 18 months.

The question here is: will customers be prepared to pay US$100 for the FAP with an additional US$5 per month just to get better voice quality at home? Aren't they entitled to get this quality anyway regardless of whether they are using femtocell technology or not? Good coverage might be fundamental in the US but it is certainly less of an issue in Europe. In addition, as competition is intensifying, customers might simply choose the operators that provide better macrocell coverage in their area which enable them to save money that they would have invested in a FAP. That said, the success of AIRAVE will give a clear indication whether customers are happy to pay for the FAP or not.

The table below illustrates cost savings the industry could make from deploying 3.G/3.5G femtocell solutions if FAPs are partly subsidised. While operators will not start to make any significant savings until 2013 if they fully subsidise FAP, savings will become apparent from 2010 if FAPs are 25% subsided.