

Chapter 3

Operator strategies and positioning for mobile network APIs

Market overview

So far, the telecoms industry seems to be more resilient to the economic downturn than any other business. However, because operators are often evaluated on their ability to generate free cash flow, they are currently being quite vigilant and putting contingency plans in place to protect their cash flow in case the economic problems start to threaten their margins.

Mobile operators are now experiencing declining ARPU figures, penetration saturation in several developing markets and declining voice revenues. On the other hand, mobile broadband revenues are continuing to rise and are starting to balance the decline in voice revenues, especially in developed markets. However, in the developing markets, mobile operators are experiencing an explosion in mobile broadband usage via USB and embedded modems in portable computers, which is putting strain to their radio access networks – and they are starting to need additional capex to maintain their organic growth in subscriber additions.

Although the financial crisis is not to blame for all of these problems, it has increased the operators' concerns and as a result they are now attempting to extract additional revenues from their existing customers while also trying to attract their competitors' customers. Moreover, mobile operators are looking for better ways of offering their services while optimizing both operational and capital investments.

However, the biggest threat to the operator business is from the Internet, where OTT service providers and handset vendors, including Google, Skype, Facebook, Apple and Nokia, are attempting to become service providers and cannibalize the operators' revenues while relegating them to data pipes. Over the top (OTT) service providers are third-party service providers using the Internet as a channel for their services.

The success of Apple's App Store has proved that exposing device APIs and offering a robust worldwide distribution and payment mechanism can lead to revenues previously unthought of in the mobile market, especially for smaller developers. Transactions are taking place over the mobile network while the revenue flow is bypassing the operators, which can only charge for traffic volumes. Apple's App Store has reached 1 billion downloads and is estimated to have generated US\$50 million for Apple, although this is still a very small market share.

The need for open network APIs

Operators have realized that killer applications are not possible beyond the basic voice/SMS/data services. In order to build up scale – and revenues – operators must address the “long tail” of consumer requirements and build hundreds of applications that address smaller consumer groups. However, operators cannot undertake such a large software development task and are now taking advantage of developer communities to create new applications and services without becoming involved in the development process. Operators can thus create new revenue opportunities; they will also reduce investments in application and services by delegating this task to specialist software developers.

In order to attract developers, mobile operators are exposing parts of their internal functionality through network APIs in order that their applications have added value for end users. If this strategy is coupled with a billing mechanism through the operator, developers have an efficient path to monetizing their application while operators increase the collective interest around their brand.

Several developers are arguing that device vendors have a better chance of reaching a large market audience that is not limited to an operator footprint. Apple’s iPhone and App Store are prime examples that illustrate the potential benefits of a robust application value chain. However, even though device APIs can lead to integrated and attractive applications on high-end smartphones, operators still have several advantages with open network APIs. There are several network APIs that can offer significant advantages over device APIs, including location, billing and call control. Open network APIs have the potential to enable application development for the long tail of consumer requirements, targeting the mass market rather than being addressed to the more restricted smartphone market – the only type of devices that offer open access to device APIs so far.

For example, the network location API uses triangulation methods to acquire a relatively accurate position estimate from the network. It is device-agnostic and works as long as the device is switched on. Given the fact that GPS-enabled handsets are a very small percentage of the market, a location API can enable location-based services on any handset. The billing API may also be used for enabling micro payments that appear automatically on a subscriber bill – giving significant flexibility and ease of use for downloading content and applications. This gives users significant ease of use compared with independent app stores that use credit card payments. Finally, call control can be used to initiate or terminate calls remotely and enable voice mashups with social networking Web 2.0 services. The functionality of that these three APIs expose is not possible without opening parts of the network. Mobile operators have identified the opportunities for exposing these to developers and are now starting to assess the business potential of open APIs.

However, even though open network APIs present several new opportunities for operators, it is still unclear how these APIs could be used and integrated into the operator business strategy. The introduction of open APIs requires some form of middleware that interfaces with the operator's internal mechanism (typically using Parlay) with external APIs (in the form of a developer-friendly programming language) while maintaining network integrity in the form of security and identity management. Informa estimates that the cost of implementing a middleware layer starts from EUR500,000 (US\$706,000) while an integrated product with scalability, robustness and security may cost up to EUR2-3 million. Although this figure may be insignificant compared with radio access network capex, mobile operators are currently extremely sensitive to additional capex due to the economic crisis. Although mobile operators do not generally discuss strategy issues openly, Informa expects that several tier 1 mobile operators are carefully monitoring the market and waiting for the infrastructure that enables open APIs to mature.

Another factor hindering the adoption of open APIs is the change in business mentality that they require. The closed nature of the mobile operator does not usually agree with the open nature of APIs, meaning that open APIs – or other similar operator initiatives dealing with developer communities – may have a difficult transition from research to commercial status. An example of this is Vodafone's Betavine research program, where the mobile operator is expecting to have a clear view of tangible benefits before releasing Betavine in the commercial environment.

Nevertheless, there are examples that APIs generate added value for operators and developers and in some cases (particularly Orange Partner) additional revenues and access to markets previously unreachable. This is also the goal of the recently launched JIL and Vodafone's web-applications development initiatives.

Operator positioning

Several operators have either exposed network APIs to third parties or rely on handsets to differentiate from competition; fig. 3.1 illustrates a selection of tier 1 operators and their position in the API environment.

Rabbit and Telenor rely solely on network APIs for third-party involvement while Orange, O2 and Vodafone rely on both network and device APIs with a preference towards the networks. Although Vodafone, China Mobile and Verizon Wireless have partnered with JIL, only Vodafone has announced that it will expose APIs, making it a hybrid involvement in both device and network APIs. DoCoMo exemplifies a closed operator that relies on heavy customization of handsets while other operators, including 3 and AT&T, rely on handset manufacturers to provide innovation, including the INQ phone offered by 3 UK that includes several embedded social networking utilities.