Opening Up the Soft Service Provider: The Telco API

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0. Abstract

Survival is the mother of innovation. As customer behavior, rather than technology and competition, significantly impacts a service provider's business, threatening the core revenues; the Telco API (Application Program Interface) is one method for operators to foster innovation on their networks. The Telco API enables operators to expose capabilities from their networks such as location, presence, charging, authentication, etc. Based upon twelve studies [Reference 1] performed with operators around the world, the Telco API has the potential to raise ARPU (Average Revenue Per User) by 36% across operator branded, co-branded and third party services.

Just exposing the Telco API is not good enough; operators must implement an application developer community (innovation community). Making it easy for applications to get on the operator's network, easy to be discovered by early adopter customers, and all within an easy to use community tool that enables continuous application development to get the 'recipe right' for the local market. Based upon extensive market surveys on forty developer communities six corner-stones of community success are identified [Reference 2]. After building the brand and the network, the application developer community (innovation community) is the next most important leg of an operator's business.

1. Introduction: Why Open the Network?

"Innovate or Die" is the current business mantra. Irving Wladawsky-Berger, Chairman Emeritus IBM Academy of Technology, and Visiting Professor of Engineering Systems at MIT provides an elegant quote from his weblog [Reference 3]:

> *"I paraphrase an ancient dictum to "survival is the mother of innovation." For a business, our rapidly changing times are full of opportunities, but they are equally full of competitive challenges and dangers. In fact, these are two sides of a coin - the same technological, market and societal forces that are democratizing competition and opening up all kinds of opportunities for new businesses around the world often represent big threats to existing businesses, large and small, that have been leaders in their industries."*

The network operator / service provider market, more than any other industry, has been in a constant state of adapting to rapidly changing technological, market and societal forces. I use the term service provider in its broadest sense, covering incumbent telecom operators, broadband ISPs (Internet Service Providers), mobile operators, multi-service operators (MSOs, also known as Cable Companies), Virtual Network Operators (xVNO, where x can be mobile, broadband or cable) and over-the-top service providers such as VoIP (Voice over IP) providers.

Of the three factors Technological and Market (competition and regulation) historically have had the most impact. Figure 1 shows the price decline for a 3 minute call between London and New York since 1930, source World Bank [Reference 4].

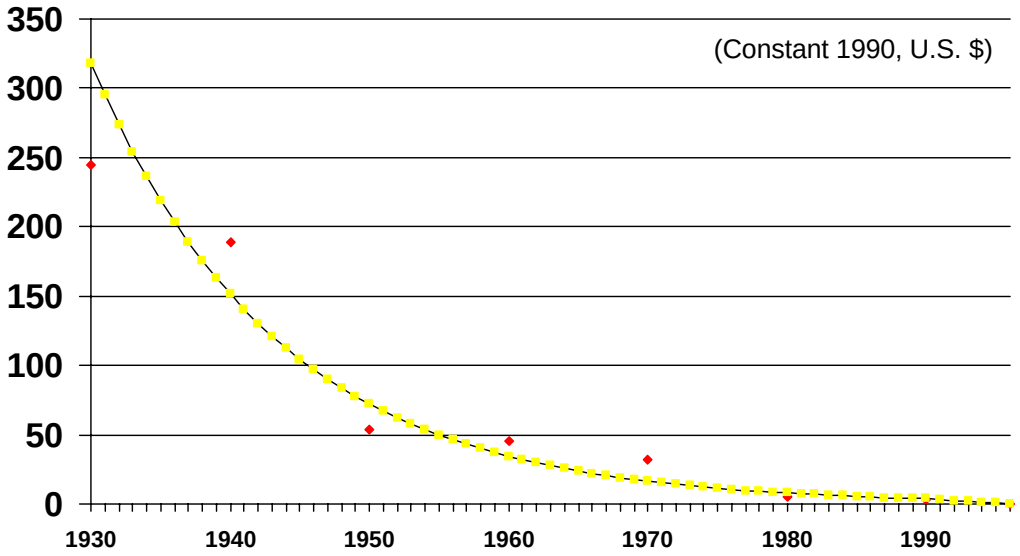

Figure 1. Cost of a 3-Minute Telephone Call, New York to London, Source World Bank [Reference 4]

However, as the service provider market has matured and commoditized, Societal forces are increasingly impacting the industry. A few examples:

- A mobile broadband Tipping Point has been reached: HSPA (High Speed Packet Access) is 'good enough' for customers and prices have fallen by a factor of 16 in less than two years [Reference 5]. Mobile broadband is growing faster than any previous service, including voice. By mobile broadband I mean laptop access via a USB modem.
- Examining the Web 2.0 world. Facebook founded in ’04, had grown to over 12 million users by 2006, by June 2008 it was 70 million users. Bebo, founded in 2005, reached a community size of 40 million and was sold to AOL in 2008. Companies are founded, built into communities larger than most service provider customer bases and sold, in the time it takes an operator to run an IP Multimedia Subsystem (IMS) Request For Proposals (RFP), trial the IMS systems, run a Request For Quote (RFQ) and then decide not to buy.
- In the UK the popularity of the BBC iPlayer has broadband ISPs complaining, for example PlusNet saw within one month the number of customers streaming more than 1GB per month double [Reference 6].

In the above cases, its people's decisions and behaviors that are impacting how service providers build their networks and offer their services. This brings us back to Irving Wladawsky-Berger quote, in this emerging environment where it is the customers' choices (Societal factors) that now significantly impact operators; they must seek new opportunities created by this change while mitigating the threats to their existing businesses.

Some operators are considering if being a 'pipe' is really that bad, it's a utility business, but as long as the organization is structured to support such a utility business model what is the problem? This question sets up a crossroad [Reference 7], do operators take a left and follow the ISP route, or continue along the current strategy, or perhaps take a right along a path that enables and enhances services over their network, i.e. opening the network through the Telco API (Application Program Interface), which is the focus of this paper.

The Telco API (also known as the ANI (Application Network Interface) or 3rd Party API) is a method for operators to expose capabilities from their networks such as location, presence, charging, authentication, etc. The rest of this paper will examine the Telco API. It will not evaluate the technical and architectural options; rather it will examine the impact such an API has on an operator's business and what an operator needs to do to foster innovation on that API.

2. Potential Impact of Opening the Network

Using the classic Long Tail of the application demand curve [Reference 1], see Figure 2, it is possible to examine how the Telco API creates opportunities across the three main segments of an operator's business:

- Operator Branded Services (core services such as telephony and IPTV). The opportunity is in enabling 3rd party features to be "mashed up" with an existing operator branded services, or as a standard within the operator to enable capabilities to be efficiently reused across operator branded services.
- Co-branded Services (services that enable a brand's customers to be accessible to an operator). Any emerging category of services, exemplified by the mobile operator Three with their X-Series, that co-brands services, e.g. Skype powered by Three.
- Long-Tail Services (services they are generally too niche for operators to consider offering to customers). There are three categories within the long tail:
    - Enabled Applications that do not necessarily have an operator brand association (e.g. free phone services).
    - Endorsed application with a preferred search position and endorsement of the operator. This is the classic third party enabled application.
    - And the wild west of Internet Applications, where an operator could choose to expose capabilities that will be used in ways over which it has not control, e.g. Google Maps API.

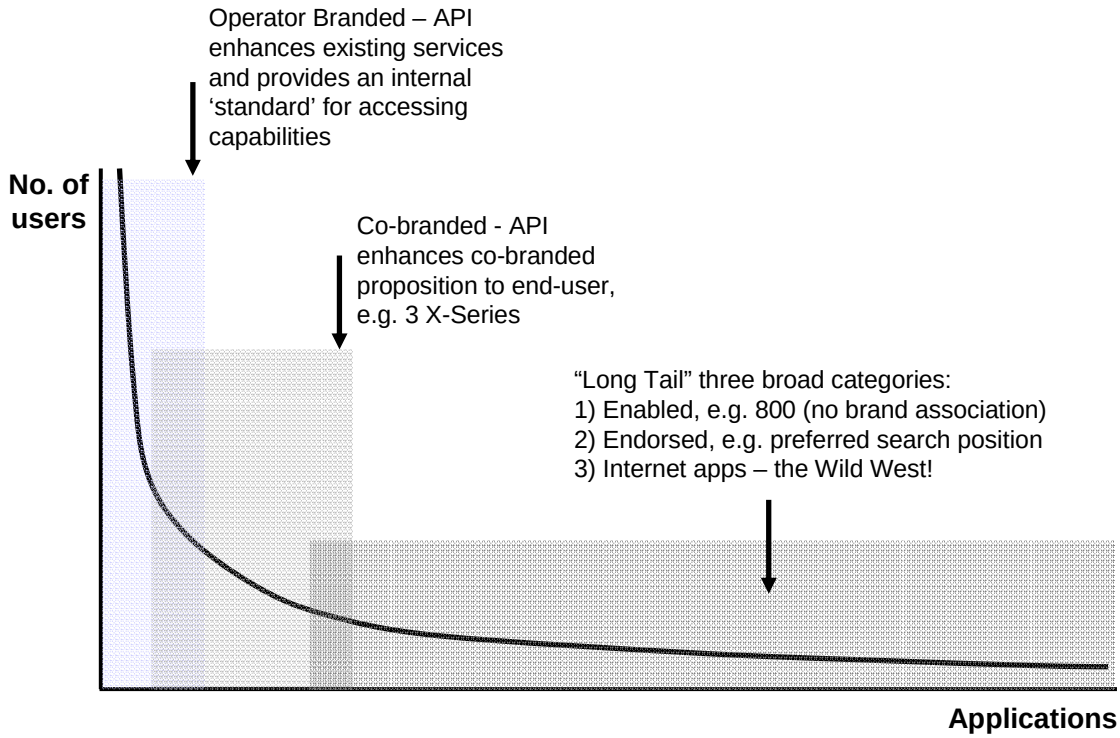

Figure 2. Application Demand Curve and the Telco API

Examining these categories in a little more detail with some service examples:

- Operator Branded Service. An operator's existing voicemail service could be enhanced using a third party's speech to text capabilities. The charging model could be per transaction, a fixed fee or ad-sponsored, the customer will likely decide their charging preference. The Telco API also enables a common API to access customer context across voicemail, address book, game portal, etc. The business model here is internal to the operator and based upon lowering integration costs and speeding time to market for branded services.
- Co-branded Services. An operator could create a Facebook widget, so friends can gift ring-tones or minutes or share location. The business model could be a simple revenue share with FaceBook. Another example is Slingbox (place-shifting video service) could request QoS (Quality of Service) across the operator's network. Charging model will be dependent upon customer choice, and could be per transaction based, fixed fee, or ad-sponsored
- Long-Tail Services.
    1. For Enabled Applications it could be a field-force automation tool that a local system integrator re-brands for its small and medium business customers. Charging model could be based upon a published schedule.
    2. For Endorsed Applications it could be a vetted and tested application that provides home security, the business model could be a simple revenue share.
    3. And finally Internet Applications, for example information services where the charging model could be free through ad-sponsorship.

Examining the revenue potential of the Telco API and the benefits for operators based on studies with twelve operators across the World [Reference 1], see Figure 3:

- Operator Branded Services: Innovative features to extract great value from segments within the customer base, as well as lower cost of provision for such features to make targeting smaller segments economic. Potential of a 4-10% ARPU uplift, all figures refer to revenue accruing to the operator only.
- Co-Branded Services: Enabling the operator's customers to access cool communities or brands with a compelling user experience. Potential for a 3-8% ARPU uplift.
- Long-Tail Services: Enabling operators to economically reach SMB (Small Medium Business); extending an operator's ability to test out the 80% of its service roadmap it never has the resources to implement; and finally co-opting Google's success to the Telco API. Modeling shows a potential of 5-18% ARPU uplift.

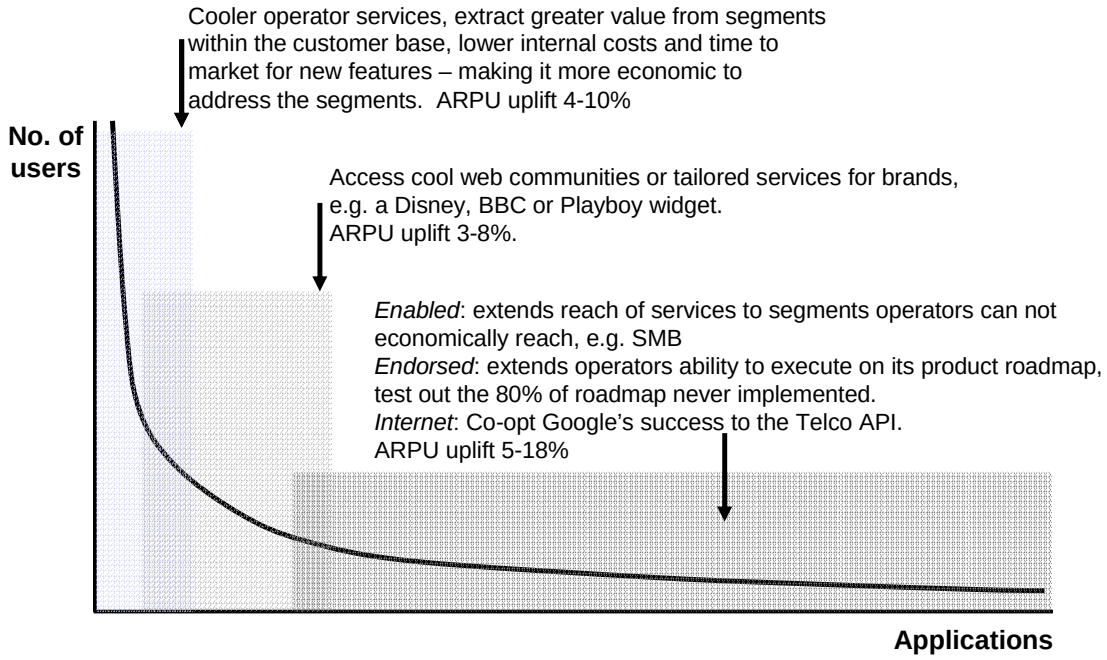

Figure 3: Potential ARPU Uplift of the Telco API

So the Telco API has the potential to raise ARPU by between 12-36% depending upon the operators' situation. Which given global voice ARPU continues its 5% annual decline; this uplift can not come quick enough. However, just exposing the API is not enough, as critical as the simplicity of the Telco API is the innovation ecosystem (application developer community) so use the Telco API.

3. Building the Innovation Ecosystem

Increasingly local societal factors are impacting the success of long-tail services. For example, considering Caller Ring Back Tone, the tune that plays when calling someone rather than the usual ringing tone. South Korea is generally considered the birthplace of the service. We've also seen success in countries such as India, yet a relatively low take-up in countries such as Singapore. With this service cultural factors have a big impact. South Korea has a strong local popular music scene, India too. Singapore with its diverse population does not have a unified music scene. So the tunes people hear in Singapore do not motivate them to adopt the service.

The innovation ecosystem (application development community) is important to enable applications to easily get on the operator's network, be easily discovered by early adopter customers, and within an easy to use community tool undergo continuous development to get the recipe right for the local market.

There is also a new category of 'Application Aggregators' that bring a menu of applications, e.g. uLocate and Useful Networks aggregate location based applications; and are dependent upon mutual service success with the operator, they are not selling boxes or software licenses. Operators will need to combine the application eco-systems of infrastructure and handset suppliers, application aggregators and their developer communities. Only those operators in a monopoly or have resigned themselves to be a utility bit-pipe provider need not worry about such issues.

In researching forty application developer communities across a number of industries, reviewing with the creators and community members the successes and failures, here are some topics to consider if an operator decides to build a developer community:

Know the Audience: Idenitfy and build a strong relationship with the Innovators

- Know your geeks (application developers). For many operators there are local SIs (System Integrator) and VARs (Value Add Reseller) already solving the customers' problems, this is a critical group to bring on board. This generally addresses the SMB (Small Medium Business) segment, but there are also local developers applicable to other customer segments, they're not all based in Silicon Valley. And localization will become critical for an operator's long-term success against GMAY (Google, Microsoft, AOL and Yahoo!).
- Know your early adopters. These are generally high spending customers that will trade some of their time for exclusive access to the latest applications and have their opinions matter. This is of great value to geeks as they lack local customer access that operators can provide.

Tools and Education: There's never enough sample code

- The program needs to use the latest protocols, environments and community tools. Check out Saleforce.com's Appexchange [8]; and Orange's Widget [9], picture sharing [10] and OpenID APIs [11]. To win, an operator must educate

(marketing); to educate an operator must speak (blog); to speak an operator must do/show (code examples and success case studies). The more code examples the greater the addressable pool of geeks, because less able but perhaps more innovative geeks can then "cut and paste" capabilities together.
- Do not require registration or login to educate, only have registration if the geek wants to make money. Beta programs (without a clear path to cash), NDAs and legal documents will kill any community no matter how large the operator.

Communications and Marketing: Sell your best Geeks others will follow

- Community communication by the operator needs to be made by Geeks, e.g. bloggers, writers; IRC (Internet Relay Chat) / wiki / forum addicts; regular conference presenters that draw a crowd; and have a track-record in writing code samples and helping others geeks.
- Have a "Geek Advisory Board" with expertise in the platforms, customer verticals and known to the geek community.
- Sell your best geeks, others will follow. Communicate success stories from the community's launch. Contextual application search to help customers find preferred/certified applications that are relevant to a customer's particular circumstance is vital.

Metrics: Linked to business performance

- Program must be aligned with the operator's overall business goals. Metrics include things such as number of new geeks, number of downloads, number of active developers, number of transactions, revenue generated from APIs.

Business Model: Baked into the API

- The business model must be baked into the API. Ultimately, the Telco API is just a big business development deal. If the Telco API helps geeks make money, then so does the operator.

Integration: into the core processes

- The application developer community should not be owned by the CTO. After building the brand and the network, the application developer community is the next most important leg of an operator's business. It must be owned by the CEO, and integrated into Marketing's processes, so the innovations get out to the customer and are effectively monetized by the operator.

The above topics may appear obvious in building an application developer community, but the challenge is getting them simultaneously implemented. Have a look at the many developer communities being launched against these 6 topics. An operator's application developer community is not a lab's project, nor something that can be released as a Beta;

it's a core business asset, on a par with brand and the network, and must be led from the top.

4. Conclusions

Survival is the mother of innovation, as Societal factors, rather than Technology and Market factors, start to significantly impact a service provider's business, threatening the core revenues, the Telco API is one method for operators to foster innovation on their networks. This paper does not focus on the implementation aspects, rather the business and community aspects. The Telco API enables operators to expose capabilities from their networks such as location, presence, charging, authentication, etc. With the potential to raise ARPU by between 12-36% across operator branded, co-branded and third party services depending upon the operators' situation.

Just exposing the API is not good enough; operators must make it easy for applications to get on the operator's network, be easily discovered by early adopter customers, and within an easy to use community tool undergo continuous development to get the 'recipe right' for the local market. In the application long tail societal factors become much more important.

Based upon extensive market surveys on forty developer communities six corner-stones of community success are identified [Reference 2]:

- Known the Audience: identify and build a strong relationship with the innovators;
- Tools and Education: there's never enough sample code;
- Communications and Marketing: Sell your best geeks, others will follow;
- Metrics linked to business performance;
- Business Model baked into the API; and
- Integration into the operators' core processes – the innovation community is owned by the CEO.

After building the brand and the network, the application developer community (innovation community) is the next most important leg of an operator's business.

5. References

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