

Apstrata mobile cloud for network operators

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Apstrata provides mobile network operators with an opportunity to fully participate in the smartphone app value chain by leveraging more of their existing assets including infrastructure, trusted billing partner status, sales channels and brand equity.

The past decade has seen the emergence of many major threats to the mobile operator’s business model. Whether technologies such as VOIP and mobile instant messaging or regulatory changes such as number portability, the multitude of developments have converged with the explosive smartphone ecosystem to induce a collapse of ARPU, increase of churn and risk of transforming the operator into a mere data pipe and killing the established consumer brand value.

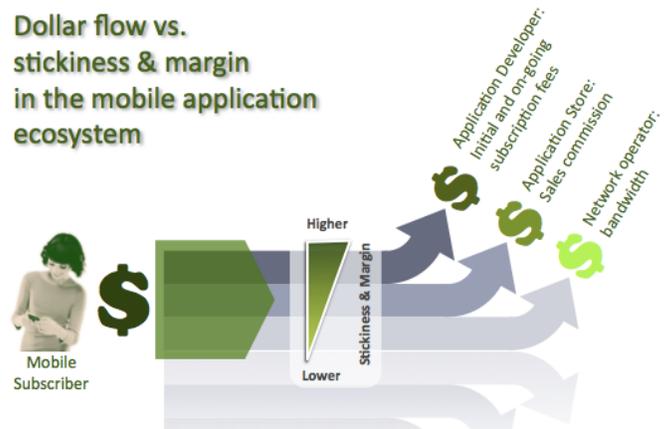
As mobile devices grew into more pervasive computing devices, voice & basic messaging have turned into just another service out of an entire array of entertainment, social, productivity, education, health and business apps available to the user.

In short, this is the time, network providers should innovate. They should move beyond the current business model that is still largely based on voice transport and related services to leverage the value locked into their brands and infrastructure to their full extent. While it appears that they’re a bit late in the game, mobile network operators are still extremely well positioned to achieve a significant role into the mobile app ecosystem as upstream providers to app developers. This whitepaper explains how the Apstrata mobile cloud can help achieve that today.

The existing ecosystem

While being an essential component of the mobile app ecosystem, network operators don’t benefit from the highest margins for any app or in-app purchase; furthermore their “pipeline” services are the least sticky in the value chain.

Dollar flow vs. stickiness & margin in the mobile application ecosystem



App stores and developers on the other hand are in a much better vantage point. They are naturally commanding higher margins while building strong loyalty and brand equity with end-users, commoditizing the mobile network operator even in their voice and messaging backyards.

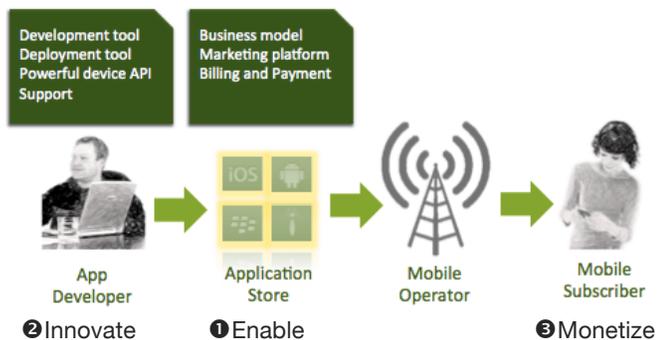
From a strategic point of view, it seems clear that network operators need to quickly come up with an offering on other tiers of the app value chain besides the bandwidth transport foundation. And, while app store initiatives seem like an obvious move inline with existing mobile content stores operated for years by many providers, we believe that greater and stronger opportunities remain unexplored.

Success factors of app stores

App developers use their creativity and intimate knowledge of different market niches to enrich the smartphone ecosystem constantly with thousands of useful apps. The apps and content introduced serve a huge variety of end-user market segments growing the demand on the mobile devices and creating a virtuous cycle that is reflected by the continuous expansion of the entire ecosystem.

The simplicity of app creation, distribution and monetization introduced by mobile platforms and their corresponding app stores create a strong virtual partnership between those brands and the developer community. It goes without saying that the wide endorsement of third party app and content developers is one of the main drivers behind the huge success of mobile app stores with consumers.

The new ecosystem has addressed long-standing pain points that most developers couldn't deal with cost-effectively on their own. The tools and advantages offered include: simple to use development and deployment tools, powerful device APIs, reliable support, business model, storefront & marketing platform, billing and payment services etc.



Supplying the developer community

The app store case is a shining example of the: *Enable-Innovate-Monetize* cycle, and it's not the only business model available in the smartphone ecosystem where this can be applied.

It is well proven in the industry that open platforms can attract third party developers if they can provide new revenue opportunities, enable richer end-user functionality or help developers build apps more cost-effectively and provide faster time-to-market. The faster it takes to develop and deploy an app, the more time a developer can spend on the app's business value and competitive advantage and the

earlier they can establish revenue.

Network operators run infrastructure that supplies millions of subscribers with data connections, own a premium consumer brand with direct billing relationships, operate a sizable customer support operation and often run physical sales channels.

All these assets provide the operator with a huge untapped into potential to become a first class supplier to the developer community. Once this relationship is established, developers will freely innovate around the operator's own services and content attracting and retaining new classes of end-users, strengthening the brand and generating revenue for themselves and the operator.

Despite the amazing growth of the existing smartphone app ecosystem, it still lacks many components and services needed by developers. Those services can be provided by operators today, the following qualify some of the opportunities available:

Back-end App infrastructure: A mobile developer has to deploy back-end servers to run the supporting services for his App. This involves setting up scalable software and hardware components and providing continuous administration and support. The network operator can use its established credibility as a "carrier grade" infrastructure provider to offer mobile cloud services to cater for this aspect.

Scalable messaging: Developers need simple to use APIs for accessing messaging infrastructure, which is already available within the operator's network.

Content management & delivery: Content is the heart and soul of most mobile Apps. Developers spend a lot of resources to roll scalable and secure infrastructure. A network operator is well poised to act as a premium supplier of content platforms.

Billing and payment: The operator can offer its established billing relationship with end users to developers. The flexibility of the postpaid/prepaid system and billing infrastructure will be a huge asset to many App types.

Access to extended user information: The operator has a huge database of users and location information that can be valuable to many App types.

Advertising: The breadth of information available within the operator's databases on usage patterns is very valuable for advertisers and can provide both the operator and App developers with a great revenue opportunity.

Analytics: Developers need simple tools to understand what end users are doing with their Apps. This can become an essential component in a developer product strategy.

Apstrata mobile cloud solution

As a cornerstone of the mobile operator's strategy, the apstrata solution enables a network provider to establish a strong relationship with third-party mobile developers.

Apstrata is dedicated to helping developers get their mobile Apps online quickly and reliably. It is based on an innovative and powerful open paradigm. It offers a multitude of webservices that simplify and accelerate mobile app development.

The solution can be rolled within the operators network to provide the services enumerated above and more. Apstrata is a complete solution that includes the software stack in cloud hosted or licensed form, the integration and the support services for the operator and the developers including complete outsourcing of marketing and customer support operations.

Upon signing-up to apstrata, the services are instantaneously enabled to a developer. The provisioning process and billing can be fully integrated into the operator's system.

Apstrata's virtually hassle free, zero-administration, scalable and highly-available back-end services are complemented by great documentation, training and support resources.

Apstrata provides:

- **API creation:** The developer can write the API to drive his mobile app in hours without having to setup and operate a backend.
- **Social integration:** We provide a number of standard and customizable integration points that enable SSO and interaction with all leading social networks.
- **Content and digital asset management:** Content and Media are at the heart of a mobile & web apps. Apstrata provides an API based full-fledged Content and Rich Media management system. The features include: typed fields, validation, field-level security, powerful SQL like query capability, full-text indexing and search, rich media handling and cache control. This can be further integrated into the operator's content delivery services
- **Messaging API:** The developer is provided with a simple API for push and pull messaging that will be integrated into the operators messaging infrastructure.

- **Operator Billing:** We provide powerful APIs for offering the operator core billing capabilities to app developers.
- **Development, packaging & deployment tools:** With SDKs available to all mobile platforms and HTML 5, developers will be able to write and deploy apstrata based apps for all mobile platforms and desktops.

Universal platform

Most mobile apps require also the presence of a web app counterpart. The apstrata APIs are usable directly from within HTML 5 and browser apps or from traditional server platforms such as PHP, Ruby, .Net or Java. We provide plenty of sample apps and code to get the developer started swiftly.



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