November 2011

STUDY: 4G + Cloud = Innovation & Profits?

Mobile Network Operator Report

BY:

Bill Lesieur

410 rue des Recollets, Suite 301, Montreal, QC H2Y 1W2 CANADA

Table of Contents

Table of Figures

Study Overview

The focus of this study is how 4G wireless combined with cloud computing will drive a new wave of innovation and ROI for operator content, services and applications. The study is a result of interviews and online surveys with mobile operators worldwide, and interviews with IT, software and telecom vendors on solutions and capabilities for mobile cloud.

Questions Addressed in the Study

- How are mobile operators aligning their 4G network and mobile cloud plans?
- What branded mobile cloud services are operators prioritizing?
- What additional services are operators prioritizing for business users?
- What is the importance of the enterprise market and business users to 4G ROI and competitive advantage?
- What are the key vertical markets for mobile cloud technology?
- What are the primary business drivers and challenges for operators in offering branded mobile cloud services?
- How do the challenges evolve from the planning through launch phases?
- What are the opportunities and threats of the Over-The-Top (OTT) players to mobile operators?
- What are the opportunities that mobile operators have in creating differentiated mobile cloud services?
- What is the impact of multi-device support and portability of applications, content and services in the 4G environment?
- What app stores do operators plan to use in their 4G network?
- Do operators plan to create their own branded app stores?
- What is the status of the transformation of data centers, IT infrastructure, and OSS/BSS environments to support mobile cloud services?
- What are the plans for operators to partner with IT systems management vendors to build out cloud infrastructures?
- Do operators plan to support open APIs and create developer ecosystems?
- What is the outlook for wholesale mobile cloud services?
- What role will cloud phones plan in 4G networks?

Key Findings and Summary Points

Business Drivers in Offering Mobile Cloud Services

- The predominant business driver in offering branded mobile services is to improve ARPU, followed by other main drivers of improving margins and reducing churn.
- While much of the industry and media attention is on the Over-The-Top (OTT) players, the survey results did not identify OTT as the main driver or challenge for operators offering mobile cloud services in their 4G network.
- Many operators are embracing the adoption of Apple iPhone and Google Android devices, so many operators are viewing the OTT players as an opportunistic move to attract and retain subscribers based on the devices, so operators are trying to balance the co-opetition (cooperative competition) with Apple and Google.

Business Challenges in Offering Mobile Cloud Services

- The top challenges identified in offering cloud services were strategy, investment, and business model, followed closely by network performance.
- Reflecting the strategy challenge, most operators are also faced with organizational challenges of bringing together their IT and network groups to work on cloud strategies and implementations.

Cloud Services, Multiple Devices and Portability

- As for planned offerings, social networking/messaging was the top ranked mobile cloud services. The top ranking is not surprising as social networking is often viewed as the 'glue' to bring together a variety of communication, collaboration, content, presence, location, navigation, entertainment, shopping, and gaming services.
- One of the biggest factors impacting the user experience in upcoming years will be the support of multiple devices and the portability of applications, services and content among these devices. Support of multiple devices will

also fuel the debate that walled app stores are constraining portability among devices from different manufacturers.

- Mobile cloud computing brings together opportunities to provide contextual-aware and dynamic user experiences on mobile devices in conjunction with machine-to-machine (M2M), and sensor-aware environments.

Enterprise Mobile Cloud Services

- Many operators and their vendors are focusing their mobile cloud efforts on the enterprise business market, which is expected to represent the largest and more profitable revenue opportunity for mobile operators. Although ranked in the middle of the response on offerings, mobile PBX services is expected to be one of the biggest opportunities for operators to provide differentiated services.
- While there are numerous vertical opportunities for mobile operators to target, the key areas include industries that are communication-intensive and/or positioned for transformation through innovative telecom and mobility solutions. Key verticals for mobile cloud include health, utilities, government, and transport.

Data Center and IT Plans

- The majority of the respondents are in the early phases of strategy/planning and architecture/design in regard to transforming data centers and IT infrastructure to support mobile cloud services.
- The majority of respondents indicated they are not sure yet in regard to selecting a systems management vendor to build out their cloud infrastructure.