





NGN Ecosystem Smart Pipe Paradigm

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Innovation for Life™

Digital Natives - Webciety



"We **create** the Internet"

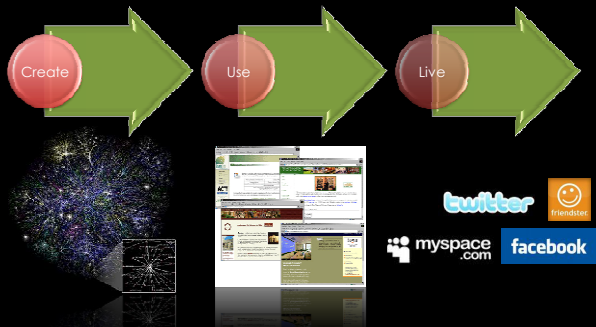

Create

"We **use** the Internet"


Use

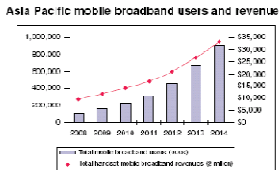
"We **live and breathe** in the Internet"

Live

Mobile BB is a BIG potential ... but comes with a WARNING






Asia Pacific mobile broadband users and revenues


- Asia Pacific is the largest regional market for mobile broadband and is growing very fast, with total users climbing to 907 million by the end of 2014 and revenues of \$54.5 billion
- But as costs, competition and usage increase, revenues become commoditized and mobile broadband ARPU will decline steeply as the service hits the mass market

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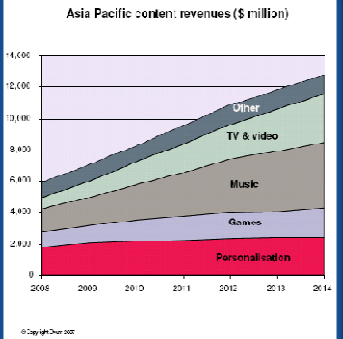
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Mobile BB is growing ... but SLOWLY for operators



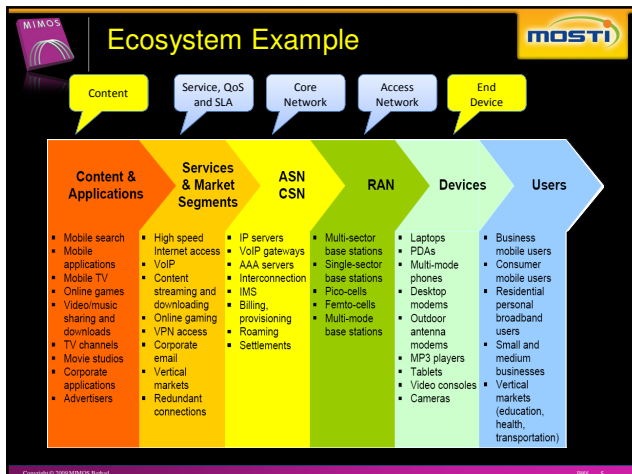
- The total premium mobile content market is growing but the operators' share of it is increasing very slowly, or not at all in some cases
- Operators are being hit by the shift of content and users off portal to the web and device/platform vendor and other application stores



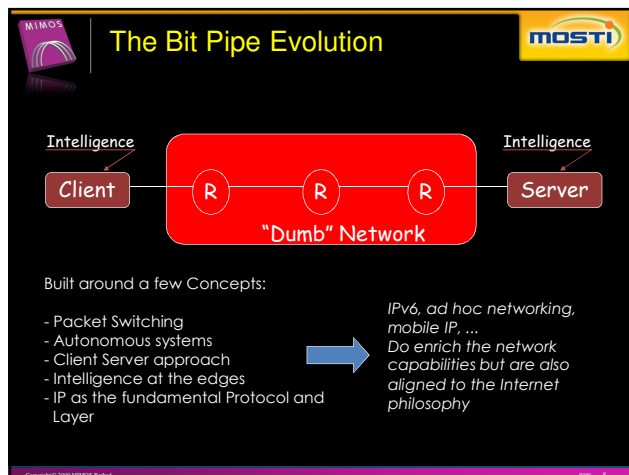
Asia Pacific content revenues (\$ million)

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- ### Change Drivers
- The mobile market is at an inflexion point
 - Changing operator revenue dynamics
 - The impact of smartphones
 - Changing consumer behavior, expectations
 - The new, mutating competitive landscape
 - Where next for operators: positioning scenarios
 - The smart enabler framework unwrapped
 - Smart enablers in context: 1st & 2nd generation enablers
 - Close up on network APIs
 - The challenge of developer programs
 - The role of the operator in application store ecosystem



The Telco Executive Perspective

Routers and End Point Applications became Policy Enforcement Points of Policies decided by Policy Decision Points (i.e. Network Servers)

Client: Service "Stub", Stream

Server: Service "Ctrl", Stream

IP Network

Networking Elements: router, switch, host, media-gateways, firewall, etc...

The Web Guys keep it simple

- They are global
 - Everybody can reach
- The Web as a Service
 - PlatformLight Technologies
 - Best-effort approach
 - Web asynchronous interactions
 - Plug & Play
- Mash-up = Data + APIs
 - "A mash-up is a website or application that combines content and functions from more than one source into an integrated experience" - Wikipedia
 - Community
- End of Software Life Cycle ("Perpetual Beta")
 - Services are progressively improved towards real user requirement
 - Users are active in the process

The Web 2.0 Architecture of Participation: "Persons in the Machine Name the Color"

A lot of Disruptions here

change is not death.
fear of change is death.

(c)gapingvoid.com

Available Application Stores

	Platform	Reach	Applications	Billing	Business Model
Apple Store, July 2006	OSX	iPhone, iPod ~ 25 million shipped	Around 50k apps with 2 Billion download	Credit Card	Revenue Share; 70% developer
Nokia Store, May 2009	Symbian/Series 60	Series 60 ~ 80 million shipped	Around 20k items (apps and content)	Operator Billing or Credit Card	Revenue Share; 70% developer
Litmus Telefonica O2 UK, March 2009	Multiple (Windows mobile, Symbian, Java ME, Flash Mobile, Blackberry)	Multiple Platform	400 live apps with around 600 developers in the program	O2 Billing	Revenue Share; 70% developer
GetJar, 2004	Java, Symbian, Windows Mobile, RIM, Android, Palm, iPhone, Palm Lite	Multiple platform	Around 50k apps with 500 Million download	Free	Free Apps (Advertising supported)

Summary
... What would you want to be

Lean Operator

- Driving Traffic Focus. Networks open to all parties (devices and applications)
- No investment in content, application or platform
- Capacity and connectivity provider for MVNO and SMART player
- Maximize efficiency and low cost

Smart Enabler

- Leveraging network and asset to flexible platform for third party services
- Invest in network infra, platform and developer ecosystem
- Retain some control over some aspects of user experience. Also focus on 1 or 2 in house apps brand
- Network open to all parties (devices and applications) but more controlled and differentiated way

Smart Player

- Control e2e user experience
- Branded devices, free and premium content
- Mixed revenue and biz model, including advertising
- Manage both device and content experience (including retail distribution)
- A role for a few. Requires really a strong brand

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The Future of Mobile Services

- Strongly User Centered**
 - Identity as a central focus for services
 - Ownership of Users
 - Trustless and Security
- Multimedia and Information Based**
 - Meta-content, Semantic search, ...
 - Virtual reality, Digital Content, User Generated HD Content
- Mobile Phone will be all-IP**
 - People will have small PC-like terminals with strong computing capabilities
 - It will be multi-mode (different connectivity supported)
 - It will be plug & play with applications chosen from the user
 - It will be sensor capable
 - It will be a computing node within different networks
- New User Interfaces**
 - In order to make it simple to use services
 - New paradigms beyond the phone and the desktop paradigm
 - Some could be highly specialized for specific jobs
 - Virtual Reality experiences
 - Strongly related to Context Usage and Surrounding Ambient
- Communications will be more integrated in objects**
 - Objects like Kindle or the T.I. bundle of connectivity and experience
- Lots of Customized Services and Social Networking hooks**
 - Be always in touch with your community
 - A means to produce and consume multimedia information

- Network experience will be build around the User**
 - Different network technologies supported
 - Seamless access to networked resources
 - Part of a community
- Network of Networks**
 - Terminals (findings) (subnode from network nodes);
 - Mesh Networks, Cognitive Radio
 - IP2P
- Autonomic**
 - Seamless (always best connected)
 - Self-Managed, Self-Healing, Self-Protecting
- Strongly enabled by new Intelligent System**
 - Ambient Intelligence
 - Context Awareness
 - Wireless Sensor Network
- Resource Aware Communication**
 - Opportunistic networking vs. Cooperation between nodes
 - Cognitive Radio + Artificial Intelligence + Game Theory = a new Resource aware network
- Programmability and Openness**
 - Open and Programmable platforms
 - New distributed computing systems: from Cloud Computing to Full IP2P
 - Reflective Middleware, Abstraction Inversion

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Thank You



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