

Mobile OS Landscape

October 2008

Agenda



- **Competitive Landscape**
- **Operating Systems**
 - iPhone
 - BlackBerry
 - Windows Mobile
 - Android
 - Symbian

Smartphone OS Competitive Landscape



	iPhone OS (Apple)	BlackBerry OS (RIM)	Window Mobile (Microsoft)	Android (Google)	Symbian (Nokia)
Platform	• Closed	• Closed	• Open	• Open	• Open
Source Code	• Closed	• Closed	• Closed	• Open	• Open (in future)
Q2 WW Market Share (Gartner)	• 2.8% ⁽¹⁾	• 17.4%	• 12.0%	• n/a	• 57.1%
Smartphone traffic share	• WW: 4% • US: 16%	• WW: 11% • US: 31%	• WW: 13% • US: 29%	• n/a	• WW: 64% • US: 2%
Pros	• Early momentum • Data hungry early adopters • Powerful distribution	• Strong reach (particularly in US)	• Manufacturer / carrier agnostic	• Manufacturer / carrier agnostic • Open source innovation	• Massive global reach • Open source innovation
Issues	• Apple dependant	• BB dependent • Distribution	• Distribution	• Late to market • Uncertain consumer	• Limited reach in US • Distribution
Application ecosystem	• >3K apps (~20% free) • More than 1M installs in only a few months	• Fewer free apps • BB Application Center being developed for Storm	• >18K apps • Skymarket to launch in 2009	• Android Market announced • \$3.8MM awarded in Developer Challenge	• >10K apps • Claims >90MM installs over last 2 years

Notes: 1. Artificially low given the wait for the 3G iPhone (5.3% market share in Q1)

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Worldwide Smartphone Landscape

Source: AdMob traffic



Featured: Worldwide Smartphones

The percentage of mobile traffic coming from smartphones is rapidly increasing. The anticipated launch of devices including the RIM Bold, Nokia N96, and the first of Google's Android phones in the coming weeks is a strong indication that smartphone growth is likely to continue in 2008.

Highlights

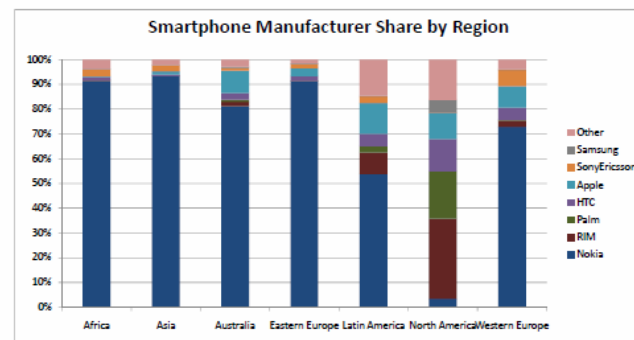
* Smartphones accounted for 25.8% of worldwide traffic in August, up 3.4% since May.

* Nokia has 62.4% share of worldwide smartphone traffic in August, with over 50% share in each region except North America. Nokia manufactures 13 of the top 20 handsets worldwide.

* RIM is second worldwide with 10.8% share of traffic with the large majority coming from North America. The Pearl and Curve are the 5th and 8th most popular worldwide devices, respectively.

* The iPhone saw the largest share increase of any smartphone in August and is now the 9th ranked handset by share of traffic.

* While Motorola and SonyEricsson have a large share of overall mobile traffic, neither has a smartphone ranked in the top 20 worldwide.



Notes

There is no standard industry definition of a smartphone. We automatically classify a device as a smartphone when it has an identifiable operating system and continually update our list as new phones with advanced functionality enter the market.

Top Worldwide Smartphones

Rank	Handset Models	Share of Smart Phone Traffic	Monthly Change
1	Nokia N70	11.7%	0.1%
2	Nokia N95	5.7%	0.1%
3	Nokia N73	5.1%	-0.2%
4	Nokia N80	5.1%	0.5%
5	RIM BlackBerry 8100	5.1%	-0.2%
6	Nokia 6600	5.0%	-0.3%
7	Palm Centro	4.8%	-0.1%
8	RIM BlackBerry 8300	4.0%	0.4%
9	Apple iPhone	3.8%	1.3%
10	Nokia 7610	3.5%	0.1%
11	Nokia 3230	3.2%	0.0%
12	Nokia 6120c	3.2%	0.3%
13	Nokia 6630	2.9%	-0.2%
14	Nokia 6680	2.2%	-0.1%
15	Nokia N81	2.1%	0.3%
16	Samsung Instinct (M800)	1.8%	0.7%
17	Danger Sidekick II	1.8%	-0.5%
18	Samsung BlackJack II (i617)	1.1%	0.0%
19	Nokia N72	1.0%	-0.1%
20	Nokia 3250	1.0%	0.0%
Total		74.0%	

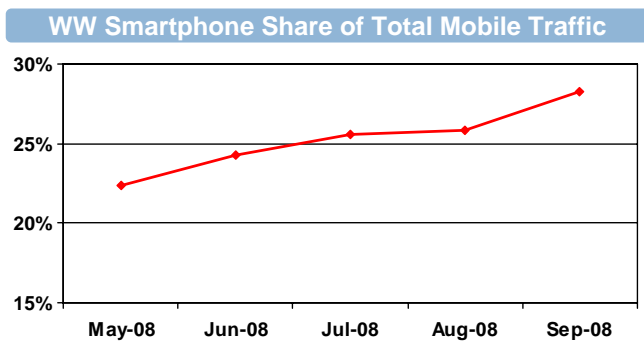
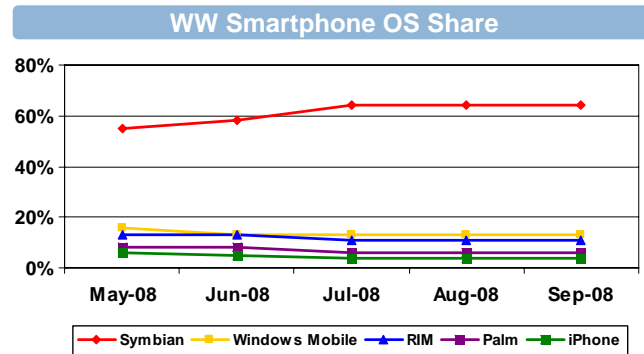
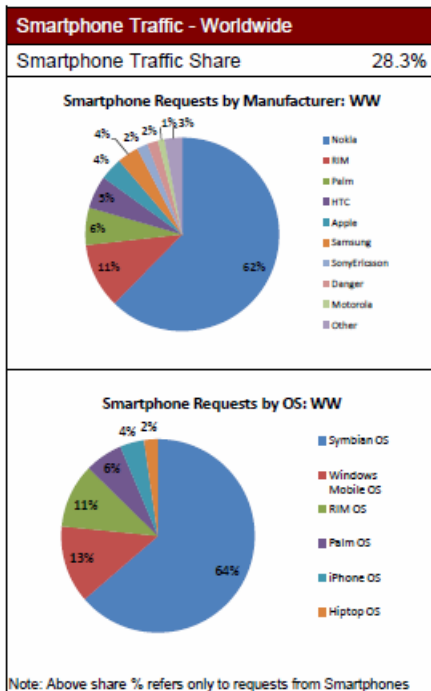
Top Smartphone Manufacturers

Rank	Manufacturer	Share of Smart Phone Traffic	Monthly Change
1	Nokia	62.4%	1.0%
2	RIM	10.8%	0.1%
3	Palm	6.2%	-0.2%
4	HTC	5.0%	-0.5%
5	Apple	3.8%	1.3%
Total		88.2%	

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Worldwide Smartphone Traffic Trends

Source: AdMob traffic, Sept. '08



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US Smartphone Landscape

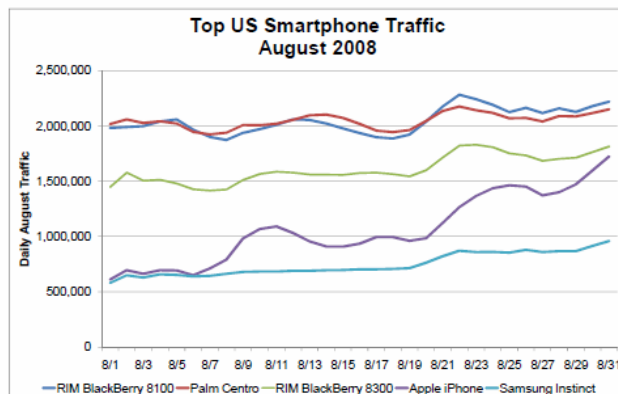
Source: AdMob traffic



Featured: United States Smartphones

Highlights

- * Smartphones accounted for 23.7% of US traffic in August, up 3.5% since May 2008.
- * The Top 5 devices - RIM BlackBerry Pearl, Palm Centro, RIM BlackBerry Curve, Apple iPhone, and the Samsung Instinct - generated 54.1% of US smartphone traffic in August. The graph below charts the daily traffic for August for these devices.
- * RIM leads with 31.2% of US Smartphone traffic and manufactures 3 of the top 10 devices.
- * The Palm Centro is the number two smartphone and is responsible for 78% of Palm's traffic.
- * Samsung and Apple saw the largest month over month share increases due to the strong performance of the iPhone and the Instinct, the two fastest growing handsets in the US.



Notes

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Top US Smartphones

Rank	Handset Models	Share of Smart Phone Traffic	Monthly Change
1	RIM BlackBerry 8100	14.7%	-0.8%
2	Palm Centro	14.6%	-0.1%
3	RIM BlackBerry 8300	11.5%	1.2%
4	Apple iPhone	7.8%	2.6%
5	Samsung Instinct (M800)	5.4%	2.1%
6	Danger Sidekick II	5.3%	-1.4%
7	Samsung BlackJack II (i617)	3.5%	0.1%
8	HTC PPC6800 Mogul	2.9%	0.1%
9	HTC Dash	2.7%	-0.3%
10	RIM BlackBerry 8800	2.6%	-0.1%
11	HTC PPC6900	2.1%	-0.7%
12	HTC Herald/Wing	2.0%	-0.3%
13	Palm Treo 755p	1.9%	-0.1%
14	HP iPAQ HX4700	1.7%	-0.3%
15	RIM BlackBerry 8700	1.6%	-0.1%
16	HTC Shadow	1.4%	-0.2%
17	Samsung i607 (BlackJack)	1.4%	-0.2%
18	Motorola Q	1.1%	-0.1%
19	HTC Pilgrim	0.9%	0.1%
20	Palm Treo 700P	0.8%	-0.1%
Total		85.7%	

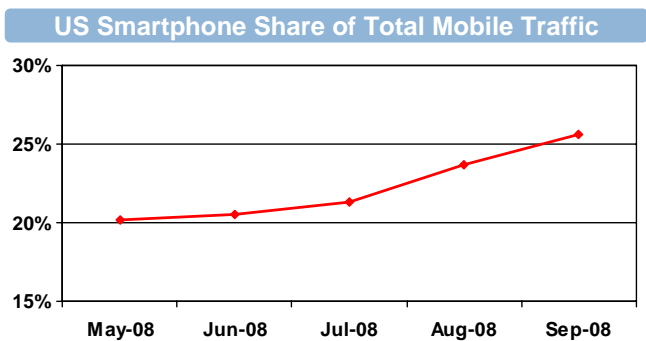
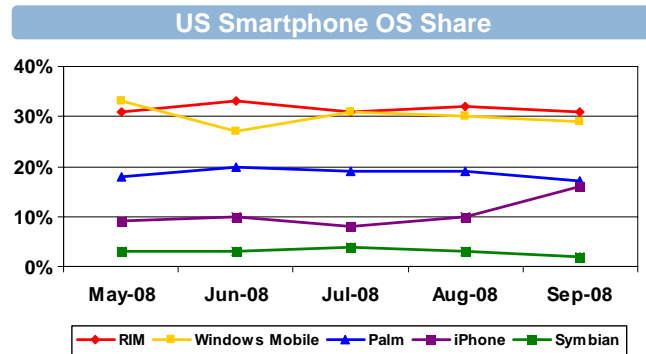
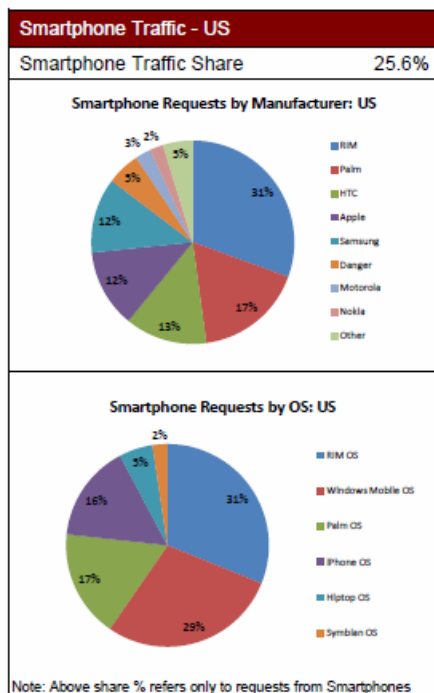
Top Smartphone Manufacturers

Rank	Manufacturer	Share of Smart Phone Traffic	Monthly Change
1	RIM	31.2%	0.2%
2	Palm	18.7%	-0.3%
3	HTC	14.2%	-1.7%
4	Samsung	10.5%	1.9%
5	Apple	7.8%	2.6%
Total		82.4%	

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US Smartphone Traffic Trends

Source: AdMob traffic, Sept. '08

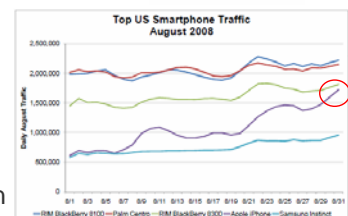


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iPhone OS (Apple)



- **Pros:**
 - Strong user growth and data-hungry user base
 - More than 10 million iPhones sold
 - 3.8% of worldwide smartphone web/data traffic and 7.8% in US ⁽¹⁾
 - Application store creating a vibrant app ecosystem with great momentum
 - More than 3K applications (~20% free)
 - More than 1 million downloads
 - Powerful technology enablers (e.g., multi-touch, GPS, accelerometer)
- **Issues:**
 - App approval process is largely a black-box to developers
 - Apps viewed as competitive to Apple are often shut down
 - Downloads highly dependent on “featured” or “top download” promotion in store
 - App store is the only authorized distribution channel
 - Apple / hardware dependent
- **Recent news / developments:**
 - NDA requirement: Apple finally removed the onerous NDA requirement
 - Flash: signs pointing towards development of iPhone flash player
- **Development resources:**
 - <http://developer.apple.com/iphone/index.action>
 - <http://iphoneincubator.com/blog/>



Notes:

1. Source: AdMob internal metrics

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BlackBerry OS (RIM)



- **Pros:**

- Large reach and data-hungry user base
 - Leads US market with 31% of smartphone traffic ⁽¹⁾
 - #2 in worldwide market with 11% of smartphone traffic ⁽¹⁾
- Developers not limited to single distribution channel

- **Issues:**

- Developer momentum appears to be shifting to iPhone
- Less reach outside of North America
- Application distribution more difficult today vs. iPhone's app store
- Users more email focused vs. web consuming iPhone users
- RIM / hardware dependent

- **Recent news / developments:**

- BlackBerry Application Center scheduled to debut w/ BlackBerry Storm OS v4.7
- Speculation that Storm (i.e., touchscreen iPhone competitor) will be available in November

- **Developer resources:**

- <http://na.blackberry.com/eng/developers/>
- <http://www.blackberrydeveloperconference.com/> (Oct. 20-22, Santa Clara)
- <http://crackberry.com/>



Notes:

1. Source: AdMob internal metrics

Windows Mobile



- **Pros**

- Strong user reach
 - #2 in US market with 30% of smartphone traffic ⁽¹⁾
 - #2 in worldwide market with 13% of smartphone traffic ⁽¹⁾
- Manufacturer agnostic
- >18K apps

- **Issues**

- Current version in market (Windows Mobile 6) lacks support for some popular technology enablers (e.g., multi-touch, GPS, accelerometer)
- Next-gen version will be late to market
- Less developer enthusiasm vs. that for iPhone and Android
- Application distribution more difficult today vs. iPhone's app store

- **Recent news / developments:**

- Microsoft to launch "Skymarket" applications marketplace for Windows Mobile 7 (planned for launch in 2H '09)
- Speculation that Windows Mobile 7 will support revamped UI and multi-touch

- **Developer resources:**

- <http://www.microsoft.com/windowsmobile/en-us/business/developers.mspx>



Notes:

1. Source: AdMob internal metrics

Android (Google)



- **Pros:**

- Open source => could help accelerate pace of innovation
- Manufacturer-independent => could help accelerate consumer adoption
- Technology support (e.g., touchscreen, GPS, accelerometer, video and still cameras)

- **Issues:**

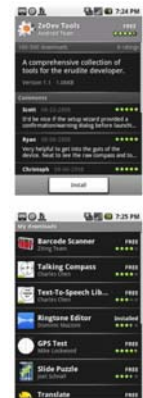
- Late to market relative to iPhone
- At least initially, demand is expected to trail iPhone demand

- **Recent news / developments:**

- 1st Android phone (T-Mobile G1) to go on sale on Oct. 22
- Sept. '08: Officially released v1.0 of SDK in Sept
- Aug '08: Awarded \$3.75MM to 20 developers in the Android Developer Challenge

- **Developer resources:**

- <http://android-developers.blogspot.com/>
- <http://code.google.com/android/documentation.html>



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Symbian (Nokia)



- **Pros**

- Massive global reach
 - Leads WW market with 62% of smartphone traffic ⁽¹⁾
 - 57% market share of smartphones sold in Q2 '08
- Like Android, being open source could help accelerate pace of innovation

- **Issues**

- Limited reach in the US
- Application distribution more difficult today vs. iPhone's app store

- **Recent news / developments:**

- June '08: Nokia announced plans to acquire full ownership of Symbian and start the Symbian Foundation, which will be an independent force for the future development of Symbian OS. They stated that Symbian OS (including the platforms S60, UIQ and MOAP(S)) will become open source in the first half of 2009

- **Developer resources:**

- <http://www.forum.nokia.com/main/resources/technologies/symbian/>



Notes:

1. Source: AdMob internal metrics

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