Worldwide Market Analysis & Strategic Outlook 2001-2006

Wireless JAVA™

Handset and Application Revenue Streams

This new study looks at the rapid emergence of Java as a leading wireless application technology and assesses its potential across a number of key areas:

- **Wireless Java – what it is, how it works and its real potential**
- **Maximising Java revenue streams for operators, handset manufacturers and application developers**
- **Implications of implementing wireless Java in the handset**
- **Comprehensive market forecasts by technology and region to 2006 including:**
  - **Java handset forecasts**
  - **Java application user forecasts by type**
  - **Mobile Subscribers and Mobile Data user forecasts**
- **Who will be the leading Java handset vendors and service providers in the future and what will they be doing?**
- **Learn from current Java services in Asia and North America, including NTT DoCoMo and Nextel**
- **How and when will Java be deployed by operators and service providers worldwide?**

FREE Survey Results when you buy CD-ROM

Views on previous ARC Group Strategic reports:

'The best data on handsets I have ever seen. ARC Group clearly has a very good understanding of all the issues'.

Intel

'I found the report extremely helpful not only as a great way to learn about the industry, but also as ongoing reference material'.

Signalsoft

'I'd recommend the report to anyone who wants a comprehensive impression of what Wireless Internet is about'.

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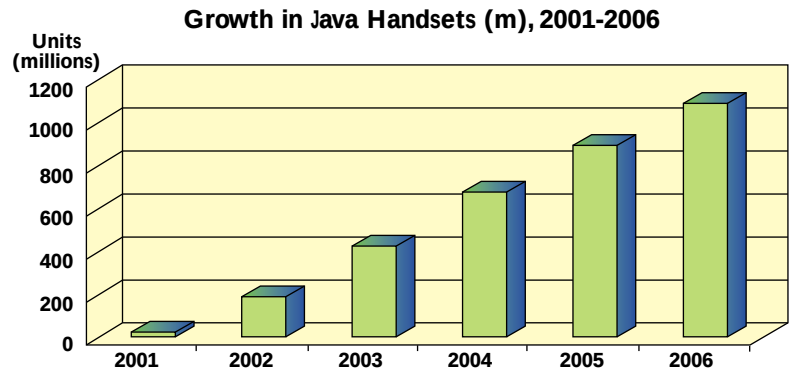
Wireless Java – the New Opportunity

In January 2001, NTT DoCoMo launched its i-appli service, allowing users to download Java applications to their mobile handsets. By October of the same year seven million subscribers had signed up to the service, over 25% of the already hugely successful i-mode service. This is significant because it occurred at a time of high expectation for 3G services. Users chose to upgrade to a Java handset rather than wait for 3G. The huge success of NTT DoCoMo's i-appli has generated a great deal of interest among global service providers and handset manufacturers, who now see Java as enabling the rapid take up of mobile data services.

This strategic report from ARC Group, looks at the key success factors for wireless Java, including:

- Maximising handset and application revenue streams
- Java handset vendor strategies and implementation scenarios
- The most popular Java applications
- Java application development and deployment
- Building the business case and optimising business opportunities.



Source: ARC Group

Central to the uptake of wireless Java is the emergence of 2.5G and 3G networks, but what impact will Java have on mobile handsets? How can handset vendors benefit from the technology? In addition, operators and application developers need to know what applications are currently proving most popular among users of the services and how that success can be leveraged around the world. This report studies the Java strategies of the world's leading handset manufacturers and operators and reveals what can be learned from early deployments of Java handsets.

It also provides best practice applications and services from operator case studies around the world.

Through face-to-face interviews and a unique online survey of over 250 industry professionals, Wireless Java – Handset and Application Revenue Streams provides an independent and authoritative guide to wireless Java technology and markets. Essential global market and forecast data are combined to provide an insight into the strategies and implementation options, which will maximise the revenue opportunities of this rapidly developing technology.

Exclusive Survey Results

*When you buy the CD ROM version of the new **Wireless Java** Strategic Report you will receive a FREE copy of the findings from the **Wireless Java** survey. Results by industry sector and region are provided in Excel format, enabling interactive chart design.*

Over 250 wireless Java experts were polled and asked their views on topics including:

- **How can operators, handset manufacturers and application developers make money from wireless Java?**
- **What proportion of handsets will be Java enabled in two years time?**
- **When will Java handsets reach Europe in mass volumes?**
- **Which Java applications will generate the greatest usage?**
- **What business models are most suited to wireless Java content provision?**
- **Who will be the most important players in the wireless Java value chain?**

A selection of survey results have been incorporated into the strategic report giving an invaluable objective industry view. The opinions of different segments have been correlated and compared to give a detailed insight into how the various sectors see the industry developing.

Report Contents

Visit our website to view the complete lists of contents, tables and figures

1. Executive Summary

2. Java: Technology, Market Status & Outlook

Introducing wireless Java technology in the context of mobile data services; why Java is gaining such strong support from the mobile industry; complementary and competing technologies; and the future for the use of Java in the mobile sector.

- Industry support for wireless Java
- Java technology overview: J2ME, Connected Limited Device Configuration (CLDC), Mobile Information Device Profile (MIDP), PersonalJava and JavaPhone
- Strengths and weaknesses of wireless Java
- Complementary Java technologies: JavaCard and Project JXTA
- Complementary and Competing Technologies (WAP, BREW, Bluetooth, Microsoft and SIM Toolkit)
- An introduction to the market for mobile data services
  - Forecasts for mobile subscribers, 2001-2006 by region and selected countries
  - Mobile data users as a percentage of subscribers, 2001-2006
- What will the introduction of 2.5G and 3G mean for Wireless Java?
- Current deployments of wireless Java: handsets and services
- Future developments: Wireless Java technology roadmap

3. Java Handsets

A look at the positive impact of Java on the handset industry and uptake of 2.5G and 3G handsets, with an analysis of the technical and business implications for handset vendors. Also contains a detailed study of the current and future Java strategies of the world's leading manufacturers.

- Introduction to the handset market, value chain and market segmentation
- Mobile handset forecasts 2001-2006 by region, selected countries and type of service
- Requirements and limitations imposed on handsets by the introduction of Java and how existing Java manufacturers have overcome them
- Java handset feature, form factor and pricing trends
- Review of hardware and software implementation scenarios for Java on the handset
- Vendor strategies for wireless Java; Java handset product roadmaps; availability; and device pricing.
- Detailed Java handset forecasts 2001-2006
  - By region and selected countries
  - By technology

4. Java Application Development & Deployment

What are the most important issues facing Java application developers? An investigation of the infrastructure and tools required to develop and deploy compelling Java content.

- Java application development issues and hurdles
- Overview of Java development toolkits
- Implications for the deployment of Java applications
- Application deployment technologies

5. Java Applications

The applications that will play a significant role in driving uptake of wireless Java services, with an analysis of current Java services in Japan and the US.

- Introduction to the applications marketplace and value chain
- Forecast of mobile users by application, 2001-2006 by region and selected countries
- Opportunities for Java applications: Where and how will the money be made?
  - Mobile Java entertainment and games
  - Enterprise Java applications
  - Java enabled mobile commerce
  - Utilising Java for mobile financial services
  - Java and mobile advertising
- Case studies: Lessons learned from Java service providers, including NTT DoCoMo, J-Phone, KDDI and Nextel and future Java operator Telefonica Moviles.
- Java application user forecasts, 2001-2006:
  - By application type
  - By region and selected countries

6. Conclusions: Opportunities, Threats, Business Cases & Revenue Streams

An analysis of the market opportunities presented by wireless Java and how all the players along the wireless Java value chain can benefit.

- What will be the best business models to take advantage of Java?
- Who will be the most important players in the wireless Java value chain?
- What are the specific strategic considerations and opportunities for:
  - Handset vendors?
  - Component manufacturers?
  - Operators?
  - Application developers?

The Authors

Steven Hartley is a Consultant at ARC Group and has worked in telecoms and digital media for the past six years. He has worked on mobile handset strategic research projects, including ARC Group's Future Mobile Handsets report. He is product manager of ARC Group's industry surveys, authoring the North American Cellular/PCS, GSM, Mobile Internet & WAP Industry Surveys. Previously, he was entertainment, media and communications knowledge manager at PricewaterhouseCoopers and has worked on projects for the world's leading blue chip clients.

With contributions from David McQueen

David McQueen is a Market Analyst. His main areas of expertise include forecasting of the telecommunications industry at various levels of the value chain as well as market dynamics and dimensioning.

About ARC Group

Strategic Reports

ARC Group Strategic Reports are unparalleled in achieving a fine balance between technology and market issues and are highly valued for their superlative analysis and forecasts.

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- Future Mobile Handsets
- Content and Applications for the Wireless Internet
- Mobile Entertainment
- Mobile Advertising
- 3G Technology, Markets and Business Strategies
- MVNO Strategies
- Wireless ITS

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