Wireless Networks: Can Security Catch Up With Business?

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Wireless Security NewsFlash

• General Francissimo Franco is still dead
  – and so are WEP and WAP
• A cellphone virus has been sighted!
  – But it was just a wrong number…
• Airport security screenings are much more thorough
  – And many more laptops and PDAs are being left at the security checkpoints
• WLAN Security Standards are here
  – Sorta
  – Lots of them, too
What do enterprises need?

- Secure out of the box defaults
- Multi-vendor interoperability
- Security that lasts longer than the products
- Hotspot private connections
- WLAN Intrusion Detection from the wired side
- Basically, they need Wired Equivalent Security

- Then bring on roaming, voice, etc.
WLAN: Fastest Growing Wireless Technology

North American WLAN Users

Frequent WLAN HotSpot Users

Infrequent WLAN HotSpot Users

Worldwide Hotspot Locations

Worldwide Hotspot Users

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Where Does WLAN Fit?
Where Does WLAN Fit?

Coverage:
- 10 meters Personal
- 100 meters Local
- 10 Kilometers Wide

Data Rates:
- 9.6 K
- 19.6 K
- 2 M
- 4 M
- 54 M
- 100 M

Network Types:
- Bluetooth
- Narrow Band WLANs
- Metricom
- Circuit and Packet Data Cellular, CDPD, RAM, ARDIS
- Spread Spectrum Wireless LANs
- 2G WWAN
- 2.5 G WWAN
- 3G WWAN
- Satellite
Mobile Packet Data Applications

Percentage of GPRS Revenue, 2006

- Mobile Instant Messaging: 11%
- MMS: 22%
- Always On Email: 8%
- B2E: Corporate Email: 5%
- B2E: Vertical Applications: 1%
- B2C: Services/Transaction: 7%
- B2C: Browsing: 18%
- M2M: 4%
- GPRS Subscriptions: 24%

WWAN Data Drivers
- Complementary to WLAN Explosion
- Introduction of 1xRTT and GPRS technology
- Maturing WAG offerings
- Improved device form and functionality

WWAN Data Inhibitors
- Monthly cost
- Support issues for wide array of SW Platforms
- Billing and Roaming issues
- Lack of standard e-mail clients/servers
- Confusing device landscape
Industry Segments: Vertical Mobile Application Trends

- Government
- Financial Services
- Manufacturing: High Tech, Aerospace, Auto, Pharmaceutical

- Communications
- Services: Business, Hospitality, Social, Legal, Engineering
- Fin. Services: Real Estate/Holdings
- Utilities: Electric/Natural Gas
- Utilities: Water Supply
- Utilities: Electric/Natural Gas

- Retail/Wholesale
- Healthcare
- Manufacturing: High Tech, Aerospace, Auto, Pharmaceutical
- Agriculture, Mining, Fisheries

- Education: Higher, K-12
- Transport: Rail, Passenger, USPS, Pipeline, Telematics
- Oil and Gas Extraction
- Building and Construction
- Transport: Air and Motor Freight

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% U.S. IT Spending

Mobile Application Readiness

Immature

Mature

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Mobile Access Security

- Access Control
- Personal Firewalls
- Over-the-Air Security
- Malicious Content Protection

Corporate Policies

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The Complexity of Standards

- Most standards bodies have become competitive battlegrounds vs. cooperative coalitions.
- Since wireless has been seen as “the next big thing,” the battles have been long and hard-fought.
- Assume single vendor lock-in until Phase V:
  - Standards body formed
  - First vendor press release
  - Standard ratified
  - Rampant vendor press releases
  - Second trade show after Phase III
- Assume security flaws will be found until 18 months after Phase V.
## Cell Phone Wireless Threat Time Frame

<table>
<thead>
<tr>
<th>Phone Technology</th>
<th>Dumb Phone</th>
<th>WAP Browser</th>
<th>HTML Scripting</th>
<th>Download Applets</th>
<th>E-Mail Attach/Save</th>
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<tbody>
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<tr>
<th>Threats</th>
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<td>Cookie Stealing Bugs</td>
<td>File Stealing Money Stealing?</td>
<td>Malicious Content</td>
<td>Viruses</td>
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