

GSMA Security Group Update

James Moran

jmoran@gsm.org

2nd ETSI Security Workshop: Future Security

16 - 17 January 2007 – Sophia Antipolis, France



GSM ASSOCIATION OVERVIEW

- World's largest and leading cellular trade association
 - 722 network operators in 215 countries
 - 200 key manufacturers and suppliers
- Objective is to arrive at a single voice on behalf of the operator community to establish building block requirements
- GSM serving 2.2 Billion customers globally
 - Took over a century for fixed line telephony to exceed 1Bn – GSM did it in less than 12 years
 - Global access – more people have access to GSM services than running water
 - More GSM handsets than PC and TVs combined
- \$500 Bn industry and GSMA is at the heart of it all!

Security Group - What is it?

- Oldest working group - Est 1989
- Specified security protocols for GSM - the most secure mobile standard
- Partners with 3GPP TSG SA3 and ETSI SAGE
- Chairman is Charles Brookson, DTI – assisted by Eric Gauthier, Orange and Petri Nyberg, TeliaSonera
- 4 meetings per year with 1 annual joint meeting with GSMA FF
- GSM 2000 joint project team with ESTI/3GPP TSG SA3
- Average attendance of 25 delegates



Terms of Reference

- Identify and analyse security risks to which network operators are exposed
- Advise network operators of the latest best practice being adopted in terms of technical security
- Maintain and develop security algorithms and protocols
- Apply and maintain technical security aspects of customer apparatus and network infrastructure
- Submit operator requirements to international standards bodies
- Advise on technical solutions to combat fraud

Overall Objectives

- Maintain the level of technical security of GSM
 - Network security
 - Customer security
- Improve level of security
 - New algorithms (A5/1, /2, /3 – Comp 128-1, -2, -3 and G Milenage)
- Meet changing threats

PRDs

- **SG.01 – 04**
 - Distribution rules and NDA's pertaining to algorithms
- **SG.07**
 - Threat Analysis of the GSM System
- **SG.09**
 - Interception Requirements
- **SG.11**
 - Frequently Asked Questions and Answers
- **SG.14**
 - Operations and Maintenance Access Control
- **SG.15**
 - Operator Guidance on the use of Security Mechanisms
- **SG.16**
 - Security Advice to GPRS Users
- **SG.17**
 - GRX Security Requirements
- **SG.18**
 - Functional Description of CEIR

Past success

- Regular algorithm improvements
- False base station attack solutions
- Lawful interception as a 'standard'
- Handling press comments and speculation
- PRDs for securing networks
- New IMEI Database and increased IMEI integrity
- Smart Card Security Accreditation Scheme
- Security reviews carried out on the following services:
 - WLAN
 - MMS
 - Root DNS
 - Push to Talk Over Cellular

2006 SG Work items

- Monitor network operator & manufacturer A5/2 withdrawal
- Security reviews of emerging services concluded:
 - IM (Phase 1), video share, IPX, SMS hubbing and HSPA in laptops
- Network threat analysis report (SG.07) updated:
 - G-Milenage, deployment, CLI spoofing, content blocking, SIP/IMS
- Frequently asked questions (SG.11) updated:
 - CLI spoofing
- Mobile Malware Group established
- New UMTS cipher algorithm published on GSMWorld
- IPv4 to IPv6 Migration Guide published
- GRX security requirements published (SG.17s)
- Content finalised for publication on public portal to provide users with guidance on secure use of mobile

2007 SG Work items

- Develop standard risk assessment methodology
- Emergency messaging and warning
- Develop operator guidelines for secure HSPA in laptops
- Develop handset security roadmap
- Analysis of the impact of mobile malware
- Identify and document BTS/IP security issues
- Counter phishing techniques hampering communications
- Standards based SMS/MMS Spam countermeasures
- Support deployment of A5/3 and GEA3 cipher algorithms
- Produce security algorithm implementation strategy
- Risk assessment of emerging services:
 - PVI, IM Phase, Video Share, NFC, M-Payment and Identity Management

GSMA Security Services

- Algorithm distribution services
- Fraud and security advisory service
- Support and project management
- Document and online content maintenance
- Security Accreditation Scheme
- GSMA fraud training programme
- IMEI Database
- Monitoring and reporting on handset theft

Finally.....

- SG has added significant value and has strategically contributed to many GSMA initiatives and industry successes
- SG is a working group ... it is also a forum where operators can share experiences and incident reports
- It can't do either without the necessary resources - members always welcome

Participation and contribution of the operator and vendor communities critical to ensure alignment and overall enhancement of security levels

Thank you for your attention

James Moran
Fraud and Security Director
GSMA Association
jmoran@gsm.org