Measuring Mobile Vulnerabilities

• Complicated mobile software ecosystem
  – Platform provider, OEM, carriers, third-parties
  – Unhardened platforms, customizations

• Core platform vulnerabilities
  – Accessible via malicious apps or client-side exploitation
  – Allows escalation of privileges to obtain full device control

• Conservative patching practices
  – Desktop: hours/days, mobile: months/years
  – Lack of penalties, inversion of incentives
X-Ray Vulnerability Assessment

- **X-Ray for Android**
  - DARPA-funded research project publicly launched last year
  - Identifies 8 of the most common Android privilege escalation vulnerabilities
  - Freely available for end users to run

59,277 devices
1,602 models
151 countries

http://xray.io
Vulnerable Android Populations

August, 2012: 60.6% vulnerable

January, 2013: 52.3% vulnerable