The challenge of understanding devices

A tiny selection of device dimensions:

- **Hardware characteristics**
  - Screen size, network, keyboard

- **Standards supported**
  - GIF, JPEG, PNG, WBMP, AMR, RTTTL, MIDI, MPEG3, MPEG4, 3GPP...

- **Browser behaviour**
  - Formatting, speed, image layout

- **MMS formatting**
  - Sender, receiver clients

- **Regional character set support**
  - Chinese device revisions, European exports

- **Ease-of-usage**
  - “Clicks-to-MMS”, QWERTY, internet-button, dual-screen

Rich device knowledge is essential to ensure a successful user experience
What is needed?

**Flexible framework to store & track device information**
- Hardware characteristics & network compatibility
- Firmware and client software features
- Usability and performance

**Empirical profiling & test system**
- Ranges of reference content & services
- An efficient workflow for profiling
- Ability to customise the attributes and regressing test devices

**Device analysis & report platform**
- Compare sub-revisions of devices
- Track issues and bugs in platforms
- Benchmark device performance
- Version control of profiles

**Profile delivery platform**
- Publish profiles to content providers
- Export profiles to device infrastructure
- A marketplace for sharing profiles
A profiling architecture

Profiling platform

- Wireless delivery platform
- Profile capture
- MMS
- WAP
- SMS
- J2ME
- ... (other platforms)

Reference content
- Reference content
- Attribute definitions
- Device specification

Profile capture

Reporting engine

Extraction engine

- Private profiles
- Public profiles

Profiler uses both interfaces simultaneously

Profiler UI over Internet

- XHTML

Reference content over cellular or IP

Content providers

Adaptation infrastructure

Service testing and certification

Capability tracking

Competitive benchmarking

Revision management

Profiler uses both interfaces simultaneously
3 big challenges

1. Understand profiling constituencies
   - Manufacturers
     - UAPProf… is it working?
     - Do they always know their own devices?
     - Do other parties trust the data?
   - Content providers
     - The right part of the value chain
     - Fragmented stakeholders
     - Less visibility of future releases and trends
   - Network operators
     - Already aggressively defining devices
     - Have “brand incentive” for service quality
     - Need profiles for infrastructure

2. Scale the data structure
   - Too many devices in the world
     - User customisation
     - Localisation
     - Network operator customisation & skinning
   - Confidence-based profiles
     - Statistical assertions based on device components, region, network used
     - Develop device and profile taxonomies

3. Recognise devices
   - Multi-useragent mangling
     - “Everyone is trying to add value”
   - Push-based services
     - SMS, MMS, WAP-push, feeds, video-calling