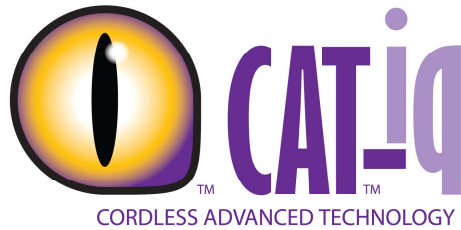


DECT

F O R U M



CAT-iq 3.0 And Beyond

CAT-iq Market and Developer Conference

Daniel Hartnett
Eindhoven 19.10.2010



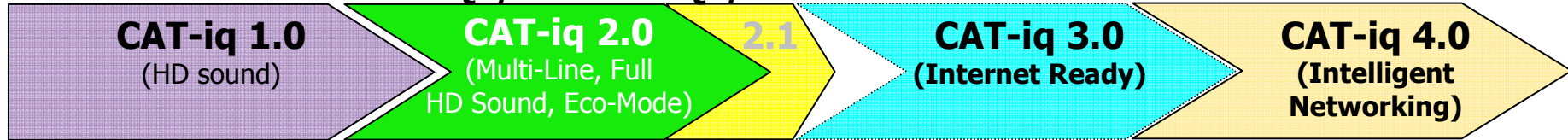
- Introduction to CAT-iq profiles
- CAT-iq 2.0 Certification – What it means for the Industry
- CAT-iq 3.0 Description and Significance
 - Typical applications, features
- Enabling CAT-iq 3.0:
 - What is our Job in the DECT Forum?
 - What will make 3.0 a success
- Beyond CAT-iq 3.0. what is CAT-iq 4.0 all about?

DECT CAT-iq profiles

FORUM
Launched

Products
Q4/2010

Products
Q4/2011



- Products available
- Supporting narrowband (G.726) and wideband (G.722) for FP/PP
 - Internal wideband calls inside a CAT-iq system
 - Support of 2 wideband calls and 1 narrowband call in a system
 - Backward compatibility (DECT, PSTN)
 - Interoperability (Basic GAP)
 - CLIP for external calls

Certification preparation, Product development

- Parallel call services: incl. double call, 3-pty conferencing, intrusion call, call deflection
- CLIP for internal calls, CNIP for external and internal calls
- Easy Pairing
- Generic event notification (MWI, missed call notification)
- List Access
 - Call List(s)
 - Phone book
 - System settings
- Zero emission mode

Definition

BTAM Control, SMS, Enhanced security, (Phonebook exchange)

Approval pending

- Firmware upgrade (SUOTA)
- Content download
- HTTP based applications: Light Browsing
 - Browser
 - Audio distribution
 - Channel Bundling
- ?? Presence/IM??

To be defined

- *Home control/metering*
- *ULE integration*
- *Plug & Play functionality*
- *Intuitive use of the devices*
- *QoS for streaming media*

Source: DECT Forum



The significance of CAT-iq 2.0:

- DECT becomes a broadband wireless technology!
- Game Changing:
 - DECT reinvents itself with CAT-iq to survive!
 - Integration into the Home Gateway means carrier driven
 - IOP unbundles Base and Handset
- Wideband voice can now gain critical mass of users
- IP connectivity places CAT-iq at the heart of the home network



- Profile Highlights:

- Data Channel reserved for Data Transfer via Bandwidth of 51,2kbp/s.
- Enables SUOTA (SW Update Over The Air)
 - Software or Firmware updates / Fixes while devices are in the field
 - New Feature Upgrades: Ringtones, Wallpaper, Games and Music downloads
- Light Browser:
- Tapping into IP Connectivity for Localized services
 - Weather Report
 - Yellow Pages
 - Music Download
 - Front Page News
 - Localized Services (Plumber, Carpenter, PC Doctor)

CAT-iq for Carriers : From voice ...



CAT-iq 1.0,2.0,2.1



- Excellent Audio
- Unbeatable Reach
- Superb Standby and
- Talk times
- Low Power consumption ...

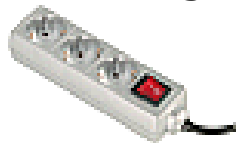
..to much much more: CAT-iq 3.0 Enabled Services for Carriers



- Home Entertainment: tapping into the power of the Home Gateway
 - e.g. broadband content to the rest of the home, streaming audio, internet radio, news ticker, Instant Messaging



- Home Automation
 - e.g. Energy saving, security, information and control systems



- Telemedicine
 - e.g. Healthcare/disease management, baby/elderly monitoring

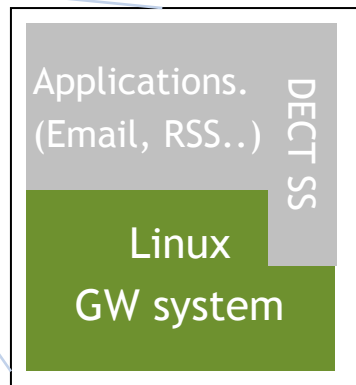
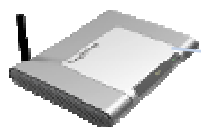


NEW Revenue Streams with Low bit rate applications: tailored for CAT-iq

The vision: - What could CAT-iq 3.0 Look like?

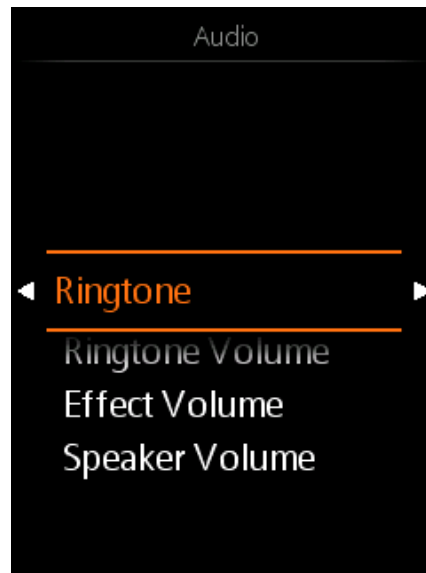
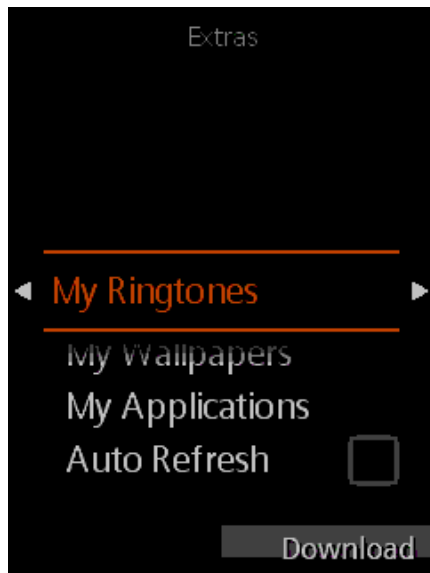


- The CAT-iq handset could become the „infoterminal“ in the home
 - HS to be MMI of GW
 - The HGW houses a huge amount of value, CAT-iq pulls it and displays it!!
 - (Diagnosis, Data Apps, Webradio, Home Automation, News...)
- The GW runs the apps, the CAT-iq Handset plays and displays them
 - Web Radio, RSS Feeds, Email Notification
- SUOTA means all phones can also be upgraded in the field!

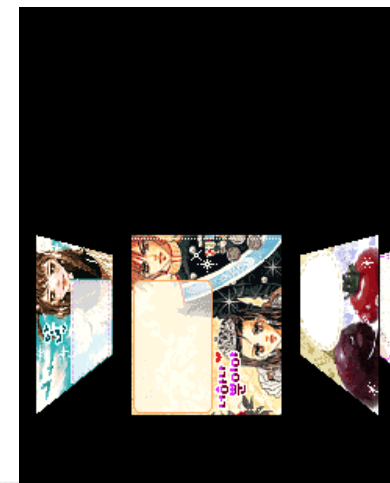
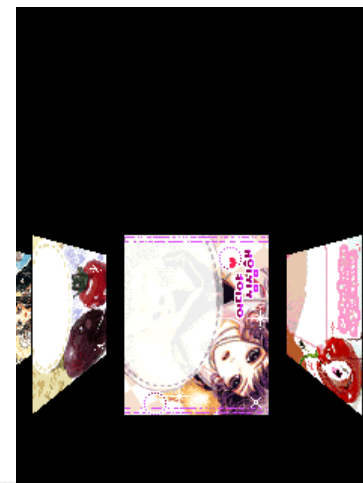
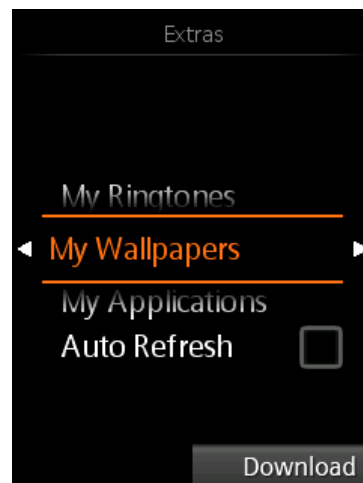




- Ringtones



- Wallpaper



DECT

New Revenue Streams: Pulling apps from the IP Network



The Power of the Gateway

- CAT-iq Set can be the display to the Gateway
- Streaming Web Radio
- Weather Station
- Home Control Unit
- RSS Feeds
- Email Notification



- What role does DECT Forum play in enabling CAT-iq 3.0?
 - CAT-iq 2.0 paves the way to add value add voice services in the home
 - Wideband Voice
 - Supplementary SIP (Call forwarding, transfer, conference)
 - DECT Forum Role in CAT-iq 3.0:
Having paved the way it's time to Build the highway !
 - strong standards
 - robust test spec
 - certification program
 - Standard should make it attractive for SW developers to work on CAT-iq
 - Generic API made available to the open source community (Android)
 - Allowances for pure data devices
 - Bandwidth: Inflate the pipe! (400kbp/s downstream is possible on current architectures!!)
 - Channel Bundling already included in standard
 - Higher Modulation techniques can even achieve higher data rates..5Mbps

Overlook CAT-iq 4.0

Examples Smart Home, Intelligent Network



Living Room (relax, communicate)

- Hands-free HD Audio
- News ticker, Email Notification
- Internet radio / stream music
- Home control
- Messaging services
- Networked Meters



Kitchen (relax, cook communicate)

- Hands-free HD Audio
- Internet radio
- Networked devices/Meters

Cellar, Utility Room

- Networked Utility Base
- Smart meters

Office (think, work, communicate)

- Hands-free HD Audio
- Device Management
- Media Server

Entrance Door (security, friendly welcome)

- Surveillance
- Internal communication
- Hands-free voice
- Door bell
- Home Control
- Networked meters

Patio and Garden (relax, come together)

- Wireless Headset
- Remote control



- CAT-iq 3.0 is about bringing Data to DECT devices
- CAT-iq 4.0 intelligently connects these devices
- CAT-iq 4.0 will make DECT a true home networking technology
 - Roll in Ultra Low Energy Profile
- Connectivity and compatibility of Ultra Low Energy devices
 - At least at a protocol level
- CAT-iq has real growth potential in home control and smart meter markets
 - CAT-iq 4.0 will enable this growth
- These Markets are already fiercely competitive
- CAT-iq can win on
 - Licensed spectrum
 - Low Power
 - Reach
 - IP Connectivity
 - Cost





- CAT-iq is now the Wireless Technology of Choice for VoIP in the Home Gateway
 - Stable, Licensed, with excellent reach
- With IP connectivity, CAT-iq becomes a vehicle for new Gateway-based services within the home
 - 2.0: Voice: Wideband Voice, Fixed line SMS
 - 3.0: Data: Web Radio, RSS Feeds, Email Notification
 - 4.0: Connectivity/Home Control, Connectivity of light data devices
- DECT Forum will build the highway to bring the profiles to market with HGI and other bodies but;
 - WE NEED SUPPORT TO ACCELERATE THE STANDARDIZATION PROCESS
 - MORE CONTRIBUTIONS TO TECHNICAL STANDARD