

DECT

FORUM



CAT-iq Profiles Explained

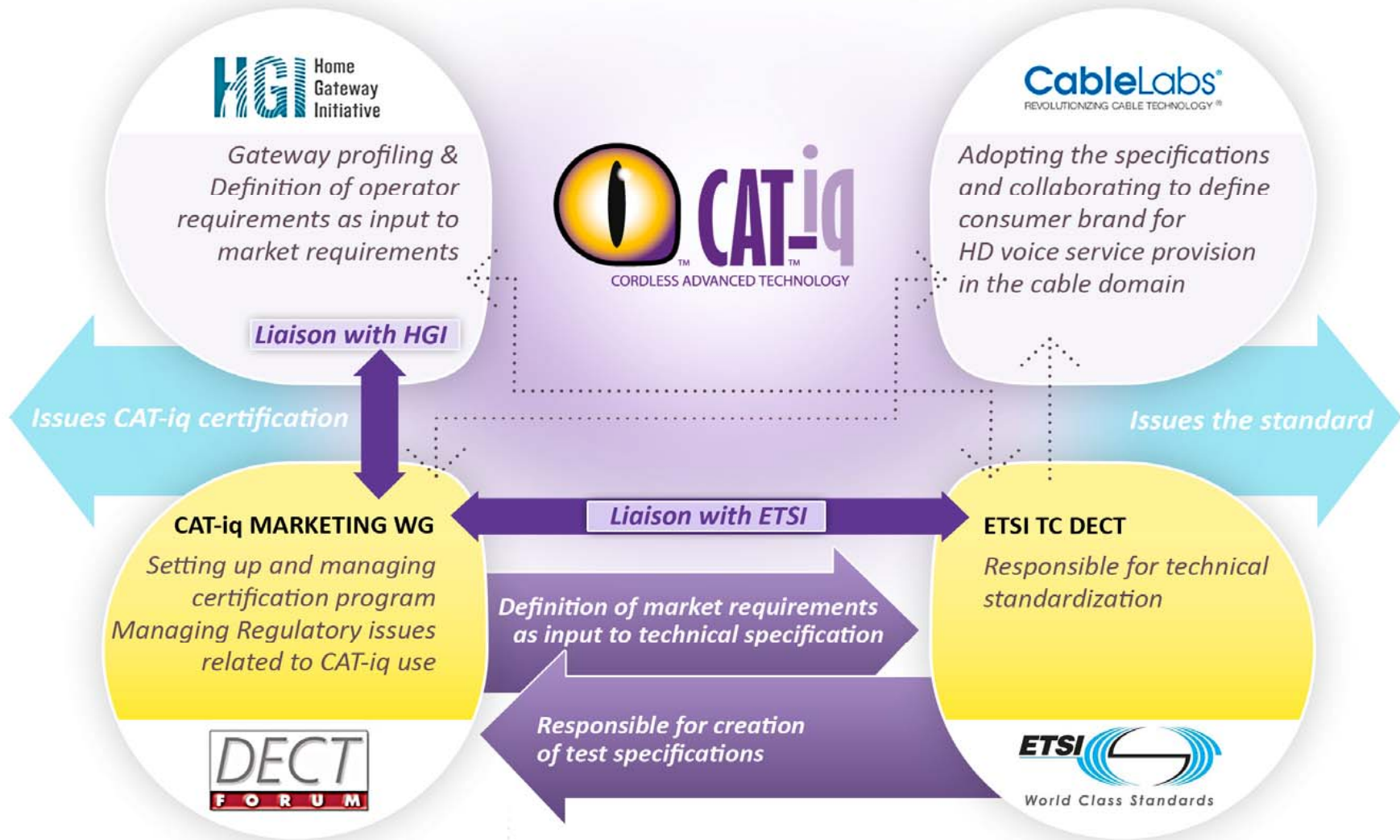
Global Technology for Broadband Home Connectivity

DECT Forum 2010

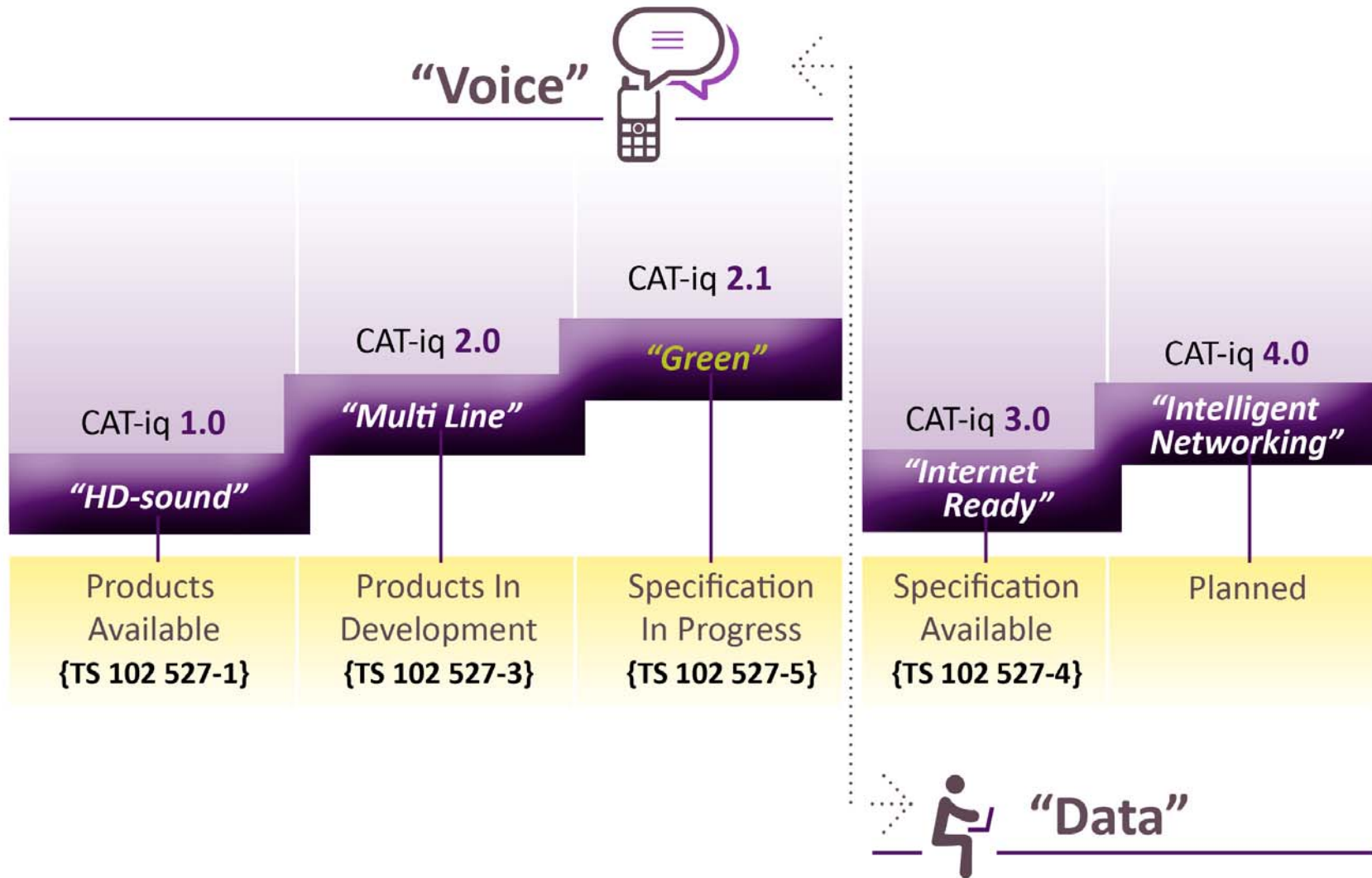
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- CAT-iq stands for Cordless Advanced Technology, Internet and Quality, and is the global technology initiative from the DECT Forum and is designed for IP-voice services in the next generation networks.
- CAT-iq is based on the regulatory framework of the mature and reliable DECT technology. It is fully backward compatible to DECT GAP and, focuses on high quality wideband audio as well as low bit-rate data application.
- CAT-iq has been developed to meet the needs of the operators, in cooperation with the Home Gateway Initiative (HGI) and has been realized into technical specifications by the European Telecommunications Standards Institute (ETSI)



CAT-iq Profile Overview



* Note that some data devices may incorporate voice services



- CAT-iq 1.0

- Wideband Audio
- Display of Caller id, Caller Name

- CAT-iq 2.0

- Wideband Audio
- Display of Caller id, Caller Name
- Synchronization of calls lists, family phonebook
- Synchronization of system settings e.g. date/time
- Multiple lines handling (optional on BS)
- Ability to handle parallel calls such as call transfer, forward, conference
- DTMF and Tones
- Support for Headset
- Easy PIN code registration
- Easy pairing registration
- Handset location
- No emissions mode (optional)

- CAT-iq 2.1

- 3-party conference call
- Intrusion call
- CLIR
- Answering Machine control
- Enhanced Security
- 'Green' Power Saving Aspects
- Diagnostics features
- Recommended Tones (optional)
- SMS

- CAT-iq 3.0

- 'Lite' data service
- Software Upgrade 'over-the-air' (SUOTA)



- CAT-iq 4.0

- "Intelligent Networking"



Voice services

- **M** Narrow band ADPCM G.726 32 kbit/s voice service
- **M** Wideband G.722 64 kbit/s voice service
- **M** Codec selection and switching

Network features

- **M** Codec negotiation
- **M** Codec switching
- **M** Outgoing and incoming call
- **M** Off hook, on hook (full release)
- **M** Dialed digits (basic)
- **M** Alerting (Base)
- **M** Subscription registration procedure on-air
- **M** Link control
- **M** Authentication of Handset
- **M/O** CLIP mandatory for external call, optional for internal call

Note : the "M" status applies to both base & handset except if otherwise specified.





Network features

- **M** Generic events notification (general)
- **M** Missed call notification
- **M** Voice message waiting notification
- **M** Date and time synchronization
- **M** Parallel calls
- **M** Common parallel call procedures (external or internal)
- **M** CLIP and CNIP for internal and external calls
- **M** Call transfer
- **M** Line identification (Base & Handset)
- **M** Call identification (Base & Handset)
- **M** Multiple Lines (Handset – status is O for Base).
- **M** Multiple Calls (Base & Handset)
- **M** Multiple Calls Mode Setting (Base & Handset)
- **M** Call Forwarding Feature (Base & Handset)
- **M** Call Forwarding Settings (Base & Handset)
- **M** List access service (access to a list/log in the base from the handset)
- **M** List access commands – edit/save/delete entry/ delete list/search entries (Base & Handset)
- **M** DTMF
- **M** Headset support (Base)
- **M** Tones provision

Supported "environmental" features

- **O** No emission mode settings (Base & Handset), including on/off setting





Supported lists

- M Missed call list
- M Internal names list
- M DECT system settings list
- M Line settings list
- M Incoming accepted call list (Base & Handset)
- M Contact list Base

Supported Security Features

- M "Encryption activation FT initiated" (Base & Handset) – Note : all voice calls encrypted.
- M On air key allocation (Base & Handset)
- M Authentication of PP (Base & Handset)

Supported DECT systems settings (Base & Handset)

- M Clock master
- M Base reset
- M Firmware version (FP version/EEPROM version)
- M Pin code change

Supported line settings (Base & Handset)

- M Line name
- M Line id
- M Attached handsets

Application features support

- M Easy PIN-code registration (Base & Handset)
- M Easy pairing registration (Base & Handset)
- M Handset locator (Handset)
- M Terminal identity number assignment in mono cell system





Network features

- M 3-party conference call, (Handset & Base)
- M Intrusion call with On/Off setting (Handset and Base)
- M CLIR with On/Off setting (Handset and Base)
- O Tones

Application features support

- M Answering Machine control (Handset, remains O for Base)
- M Diagnostics
- M SMS

Supported Security Features

- M Guaranteed encryption activation immediately after connection establishment
- M Procedure for re-keying with a new derived cipher key during a call
- O Enhanced Authentication Algorithm (DSAA2)

Supported "environmental" features

- M Handset ECO mode, handset auto adjust transmit power during call
- M Base ECO mode, base reduces transmission power when handset is on cradle in single HS system
- M Manual ECO mode, user can manually select the range allowing reduction in Base transmission power
- O No Emission mode settings (Base & Handset), including on/off setting





Title	Document Reference	Document Source
DECT Forum CAT-iq Feature Requirements	DF_CAT-iq 006_V1.5_04242010	DECT Forum
DECT; New Generation DECT; Overview and Requirements	TR 102 570, v1.1.1 (2007-03)	ETSI
DECT; New Generation DECT; Part 1: Wideband Speech.	TS 102 527-1, v1.2.1 (2008-06)	ETSI
DECT; New Generation DECT; Part 3: Extended Wideband Speech Service	TS 102 527-3, v1.2.1 (2010-04)	ETSI
DECT; New Generation DECT; Part 4: Light Data Services	TS 102 527-4, V1.1.1 (2009-10)	ETSI
DECT; New Generation DECT; Part 5: Additional Feature set NG Extended	TS 102 527-5, v.0.0.1 (2010-04)	ETSI



CAT-iq 2.0 Missed Calls List



Base Requirements:

- Maintain a calls list database
- All missed call are logged in the base database
- After reading missed call list, facility message should be sent from base to handset: All missed calls have been read.



Handset Requirements:

- Display Missed calls list (from newest to oldest)
- Initiate an external call from Missed Calls List
- Delete an item from Missed Calls List
- Delete the whole list with one command
- Save an item from Missed Call List to Contact List
- Ability to answer and release an incoming call while browsing the Missed Calls List



- Other useful documents:
 - CAT-iq at a Glance
 - Certification Overview
 - Certification Q & A
 - White Paper CAT-iq Part 1 – Voice
 - White Paper CAT-iq Part 2 – Data
- For more information about CAT-iq please visit the DECT Forum websites:
 - www.dect.org
 - www.cat-iq.org
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