3GPP
TSG-T meeting #2
Fort Lauderdale, Florida (USA) 2-4 March 1999

Document **TSGT#2(99)58**
TSGN#2(99)73
TSGR#2(99)171
TSGS#2(99)86
Page 1/1

Source: **Kevin HOLLEY (BT)**

Title: **Meeting Report from the Ad hoc meeting on Terminal Capabilities**

Executive Summary

This meeting was held to discuss the definition of Terminal Capabilities, especially to resolve the process between all the TSGs for handling of work. It aimed to review some of the current issues and reach a conclusion on some of the papers, however the most important thing was to have a better common understanding of the roles of the different groups.

The conclusions were:

1. Capabilities should be defined by the groups working on the individual system aspects, as those working on the *system* itself have the best understanding of the needs of the system in each specific scenario.
2. The TSGs should work according to a layered approach as shown in TSGT#2(99)003.
3. *TSG-S1* is responsible for the definition of service requirements and is not responsible for any detailed definition of technical capabilities.
4. *TSG-T2* should have an overview of the totality of capabilities available from the definitions made by the other groups, to understand the requirements on the terminals and to ensure overall consistency from the terminal perspective.
5. *TSG-T2* should identify basic requirements for terminal implementation and ascertain which basic capabilities are *required* in order for any terminal to work.
6. *TSG-T2* should identify certain types of terminal implementation (e.g. dual mode TDD/FDD, terminal providing video services, etc.) and ascertain which of the capabilities are *required* in order for the implementation to work.
7. *TSG-T2* should prioritise this work to ensure that the most urgent implementations are reviewed first.
8. *TSG-T2* should liaise with S1 to ensure that the implementations being considered meet the service requirements.
9. *TSG-S1* should take the initiative for the development of new service capabilities if needed following the discussions with *TSG-T2.*
10. *TSG-T2* should liaise with the groups defining the individual system aspects, where needed, to improve understanding of capabilities or to advise of areas where *TSG-T2* believes that there are corrections needed.
11. *Other groups* should take the initiative for the development of new system capabilities if needed following the discussions with *TSG-T2.*
12. Care needs to be taken by all groups in studying whether individual capabilities should be made mandatory or optional, bearing in mind the different regulatory requirements and objectives for the system as a whole.

Much of this is already work in progress and it was noted that TSG-T2 SWG6 already has an agreed work item which covers much of the above. However it was agreed that the meeting had been very worthwhile because it had achieved common understanding across all the TSGs of:

- the work areas appropriate to the individual groups.
- the principles needed for deciding whether a capability should be made mandatory or optional.

The chairman thanked the participants and closed the meeting.

3GPP
TSG-T meeting #2
Fort Lauderdale, Florida (USA) 2-4 March 1999

*Document **TSGT#2(99)58***
TSGN#2(99)73
TSGR#2(99)171
TSGS#2(99)86
Page 2/1

Annex 1 – Notes of what was discussed

Chairman: Niels Andersen, Motorola

This session is on UE capabilities. The main purpose is to identify the main issues, discuss the relevant papers and attempt to reach a conclusion on a consistent approach.

Documents considered:

T003
T005
T015
T022
T038
R082

Craig Bishop (Samsung) introduced T022, which describes a proposed framework for elaborating UE baseline capabilities and UE service capabilities. The former are fundamental capabilities required for operation in a UMTS network, whereas the latter are related to specific service capabilities which are additional and depend on the services to be offered on the particular terminal being produced.

Rémi Thomas (France Telecom) commented that he had some difficulty in understanding the purpose of defining the capabilities of the UE, and how the results should be used. Mr Bishop responded that the purpose was to ensure some consistency across all TSGs and to assist the terminal manufacturers with development of terminals.

Chen-Ho Ching (ICO Services) said that he had some sympathy with Remi Thomas and that it would be a mistake at this early stage to close the door on expanding terminal capabilities in the future.

Kevin Holley (BT) enquired whether the term UE was the same as the term "terminal" and why the term "terminal" was not being used. David Cooper (NEC) said that the terms were being used interchangeably already within 3GPP.

Jonas Brandén (Ericsson) introduced T038, which comments on T022 and suggests some modifications to the proposed procedures.

Niels Andersen said that we need to have a definition of the capabilities in order to negotiate a compatible connection between the terminal and the peer entity in the network. He added that operators and manufacturers need to know the features required of terminals in order for a given service to be offered via those terminals.

Rémi Thomas indicated said that there are a number of key functions, the support of which needs to be identified, for example, TDD or FDD modes. He said that it would not be appropriate to have one specification explaining the system perspective and then an additional specification just collecting the tasks and functions for the terminal.

David Cooper said that the group specifying the service requirements for a particular function would not also define the technical means for implementing the service requirements.

Niels Andersen said that many service capabilities could be implemented in a number of different ways, yet not all ways of implementation would be appropriate to the capabilities of all terminals.

Kiyohito Nagata (DoCoMo) said that the ARIB culture is very equipment oriented yet the ETSI culture is more layer oriented. He asked whether we need some procedure to check from the implementation of terminals perspective whether

3GPP
TSG-T meeting #2
Fort Lauderdale, Florida (USA) 2-4 March 1999

*Document **TSGT#2(99)58***
TSGN#2(99)73
TSGR#2(99)171
TSGS#2(99)86
Page 3/1

the specifications produced by the various groups is appropriate. He commented that with the proposed list of baseline capabilities and service capabilities it would be possible for the group T2 to identify some minimum sets of capabilities for implementation of certain types of terminal.

Niels Andersen said that it was necessary to have the capabilities for the UE but also for the network side, which must know what are the capabilities of the UE in order to run a given service. In the system as a whole we would have different functions having different termination points.

Jonas Brandén said that it was not appropriate to say that it would be mandatory to have certain capabilities in order to offer a given service as the market would ignore any such rules. He said that it would not be necessary to negotiate all capabilities, as some could be taken for granted for all terminals. It appears to be necessary to define primitives in order to negotiate capabilities rather than defining certain "terminal types" with given minimum feature subsets.

Chen-Ho Ching asked whether we should define the solid requirements of the capabilities and whether we should define what are the capabilities or define the primitive functions. It was clarified by Jonas Branden that the primitives he referred to were "enquiry" functions.

Frederic Gourgue (Alcatel) asked what would happen if someone wanted to define a video conference service, one terminal manufacturer offers composite channel, the other separate channels. How could a manufacturer sell a terminal which only supports one way when the other way could be required by an operator.

Niels Andersen said that if we allow all combinations of capabilities then we could result in a chaotic situation where the practical running of a network would be hopeless.

Peter Neumann (Siemens) said that the network should request the minimum set of requirements, the terminal should provide the maximum set of features available and then some negotiation should take place.

Gunilla Bratt (Ericsson) said that one of the issues discussed in the Terminals group was on the subject of which group should identify the individual features – whether it should be the terminals group itself or the other groups defining the system features. We need to agree some mandatory capabilities which are absolutely essential for running of the system and the people defining the system features themselves should identify those. TSG-T should have an overview but the basic decisions should be made by the people defining the system features.

David Cooper said that SA has decided to recommend default speech codecs to reduce the number of options, however there is a balance to be struck between enabling flexibility and enabling services to work consistently. He suggested that recommended defaults should be defined for certain services.

Niels Andersen said that we need to define a default speech codec because speech is needed as a basic service, however it would be possible to sell a data only terminal with no need for a speech codec. If there is a need for a default for any particular service then this should be defined by the SA group.

Jonas Brandén identified a few categories of mobile, e.g. voice only, voice plus data, voice plus video etc. and said that he could accept a small number of categories like this but not a large number.

Bill Robinson (Motorola) suggested that we should break down the problem by looking first at the baseline capabilities and then moving on to the service capabilities.

Kiyohito Nagata said that he sees a need for an overall analysis of minimum sets of capabilities required, rather than looking at individual capabilities in individual working groups.

Niels Andersen said that we have a multi-dimensional system where there are many groups identifying options in their

3GPP
TSG-T meeting #2
Fort Lauderdale, Florida (USA) 2-4 March 1999

Document ***TSGT#2(99)58***
TSGN#2(99)73
TSGR#2(99)171
TSGS#2(99)86
Page 4/1

own specific areas. S1 in the meantime defines what are the service requirements. There should be no problem with tasking the Terminals group with identifying the subset of features required from the different layers for a particular service requirement (e.g. handover).

Kiyohito Nagata said that going into standby mode would require a number of different scenarios, for example different searching capabilities according to whether the terminal is a single or multimode terminal. He said that the Terminals group should report on the different possibilities and recommend subsets of capabilities.

Niels Andersen said that he didn't think that anyone disagreed with the proposal that the TSG groups would identify and specify the individual capabilities, and TSG-T would look at the sets of capabilities required for given applications. He suggested that the initiative for further development of these ideas should come from the SA group. The different groups are responsible for their own layers. TSG-T identifies some categories of mobile and tries to map the capabilities defined in the other groups to the various categories identified. The output is then sent to SA to confirm that this is appropriate.

Gunilla Bratt pointed out that the TSG-T2 work programme includes the production of a report reviewing all terminal features (identifying the relevant specifications from other groups where the detail is provided), and then identifying minimum sets of capabilities needed for given categories of terminal and that this is entirely in line with the discussion.

Rune Lindholm (Nokia) said that he agreed with the discussion so far. He said that it is important for mobile manufacturers to be able to put certain capabilities on the box of a mobile phone, for example speech. In such a case it must be possible for the phone to be used for speech calls on all 3GPP-based networks.

Niels Andersen said that it is very important to have workgroup to workgroup liaison to ensure a quick resolution of important issues.

Kiyohito Nagata said that once TSG-T2 has reviewed the features, if changes might be needed in the base specifications from the other groups then appropriate liaison would be needed. He also indicated that there were some concerns from DoCoMo over the timeframe for completing conformance testing for the various features and some time schedule should be established.

Niels Andersen suggested that the approach should be to identify the implementations/types of equipment which are needed urgently and focus on the most important ones from a time perspective. This list of urgent requirements should be checked with SA to make sure that it is in agreement with the service perspective.

Rémi Thomas pointed out that in GSM there were certain combinations which were forbidden from being implemented (e.g. a terminal only supporting half rate channels). He said that concrete examples are needed in order for everyone to have a clear view of the direction in which we are headed.

Niels Andersen said that we had reached a consensus on a part of the available documents and that we should review some of the other documents.

3GPP
TSG-T meeting #2
Fort Lauderdale, Florida (USA) 2-4 March 1999

Document ***TSGT#2(99)58***
TSGN#2(99)73
TSGR#2(99)171
TSGS#2(99)86
Page 5/1

Gunilla Bratt highlighted a document from WG1 of RAN (TSGR1#2(99)043) which states that:

- A feature should be made mandatory if it is needed for the system to operate.
- A feature can be made mandatory if the benefits in terms of performance outweigh the complexity and cost.
- An otherwise mandatory feature might not need to be implemented if it is not needed for the applications supported on a particular terminal.
- A feature can be optional if terminals using it can co-exist with those that do not use the feature.
- Some features may be made mandatory for some classes of terminal (e.g. with high bit rate capability).

Niels Andersen said that whether something should be regarded as mandatory or not would depend on the relevant regulatory regime, for example in Europe the new terminals directive would not allow standards based on 3GPP specifications to be restrictive if it is not required for operation of the terminal.

Rémi Thomas said that there was a kind of "technical mandatoriness" where there would clearly be no point in implementing something different.

Document T003 was introduced by Peter Neumann. He said that this was an attempt by T2 to identify a procedure for development of service capabilities within the 3GPP framework and across the 3GPP TSGs.

Gunilla Bratt said that the document was intended to clarify the area of work for T2 to avoid too many different views of which groups should be defining which aspects.

Gunilla Bratt introduced document T005 and said that there were some problems between T2 and S1 over where the MMI should be treated and to what extent the MMI should be elaborated.

Niels Andersen said that in principle the Terminals group should specify the details of implementation for MMI if any detailed MMI is needed, whilst SA1 should only define the requirements.

Bill Robinson agreed with the summary of Niels Andersen.

Rune Lindholm asked how the document had been treated in SA. Niels Andersen said that the treatment of the document had been along the lines of his previous statement (i.e. technical work should not be done in SA1 and therefore T2 needs to be responsible for detailed implementation of MMI) and David Cooper backed this up.

Niels Andersen read out document T015, which expresses a concern about a potential overlap between T2 and S1 in the area of analysis of services. The brief discussion which followed agreed that S1 should be informed about the results of the technical analysis done by T2.

David Cooper added that S1 wanted a consistent set of service requirements.

Niels Andersen said that we need to monitor constantly to ensure that there is no overlap or "underlap" between the TSG working groups.

3GPP
TSG-T meeting #2
Fort Lauderdale, Florida (USA) 2-4 March 1999

*Document **TSGT#2(99)58***
TSGN#2(99)73
TSGR#2(99)171
TSGS#2(99)86
Page 6/1

Annex 2 – Attendees to the Ad hoc meeting

Niels Andersen	Motorola	(Chairman)
Kevin Holley	BT	(Secretary)
Prem Sood	Sharp	
Chen-Ho Chin	ICO Services	
David Cooper	Telecom Modus	
Craig Bishop	Samsung Electronics	
Lee Hyeon Woo	Samsung Electronics	
Annette Gröngvist	Sonera Ltd	
Sofi Persson	Telia AB	
Dominique Cyne	Mitsubishi Electric	
Francois de Ryck	Mistubishi Electric	
Didier Chauveau	Secretariat Industrie	
Matti Laserson	Transsky Corp	
Vrtel Berchin	Transsky Corp	
Bill Robinson	Motorola Ltd	
David Freeman	Motorola Ltd	
Rémi Thomas	France Telecom	
Han van Bussel	T-Mobil	
Mauri Ukonmaaanaho	Nokia Mobile Communications Co Ltd	
Eric Ljungberg	Telia AB	
Per Malmbak	Motorola	
Shin Itah	Motorola Japan	
Giovanni Fruscio	Telecom Italia Mobile	
Indaka Weerasekera	Lucent Technologies	
Klaus Pillekamp	Siemens	
Mike Fitton	Toshiba Europe	
Kazuaki Kawabata	Toshiba	
Jean-Michel Gabriagues	Alcatel CF	
Yoshikatsu Sano	NTT DoCoMo	
Toshihipo Shimizu	Matsushita Communication	
Shun-ichiro Nagareda	Matsushita Communication	
Kazuya Hashimoto	NEC Technologies (UK)	
Rune Lindholm	Nokia	
Paul Voskar	Nokia	
Guido Tognetti	Telital	
Jonas Brandén	Ericsson	
Gunilla Bratt	Ericsson	
Peter Dondl	BMWi (Germany)	
Kiyohito Nagata	NTT DoCoMo	
Ramin Afchar	Mannesmann Mobilfunk	
Frederic Gourgue	Alcatel France	
Peter Neumann	Siemens AG	
Bjarke Nielsen	Sony PMC-E	