

TSG Report#1 V1.0.0 (1999-03)

Meeting report

**3rd Generation Partnership Project (3GPP);
Technical Specification Groups (TSG);
Meeting Report
(TSG#1, 7-8 December 1998)**

3GPP

3GPP

Internet

secretariat@3gpp.org
Individual copies of this document
can be downloaded from
<http://www.3gpp.org>

Contents

Executive Summary	5
1 Opening of the Inaugurate meeting of the 3 rd Generation Partnership Project.....	7
2 Welcome address by the Organizational Partners	8
2.1 T1.....	8
2.2 TTC	8
2.3 ARIB.....	8
2.4 TTA	8
2.5 ETSI.....	8
3 Results of the ARIB/ETSI/T1/TTC/TTA meeting, 2 nd - 4 th December, Copenhagen	8
4 Creation of the Technical Specification Groups	9
4.1 Announcement of Technical Specification Groups Convenors.....	10
4.2 Procedures for the Election of TSG Chairmen and Vice Chairmen.....	10
5 Presentation of the Partner Organisation 3 rd Generation Mobile Systems Work Programs.....	11
5.1 ARIB.....	11
5.2 ETSI.....	11
5.2.1 SMG1	11
5.2.2 SMG2.....	11
5.2.3 SMG3.....	11
5.2.4 SMG4.....	11
5.2.5 SMG6.....	12
5.2.6 SMG7.....	12
5.2.7 SMG8.....	12
5.2.8 SMG9.....	12
5.2.9 SMG10.....	12
5.2.10 SMG11.....	12
5.2.11 SMG12.....	12
5.2.12 Working Methods.....	12
5.2.13: SMG Co-ordination group	12
5.2.14: SMG UMTS baseline documents.....	12
5.3 T1.....	12
5.4 TTA	13
5.5 TTC	13
6 Introduction of 3GPP Working Procedures.....	13
7 Organisation of TSGs FTP servers and WWW site	14
8 TSG Working Practices	14
9 Any Other 3GPP Inaugural session Business.....	14
10 Adjournment of the common Inaugural session	14
11 Report of first meeting of TSG Core Network.....	15
11.1 TSG CN opening address by the TSG CN Convenor	15
11.2 Arrangements for the Election of TSG Chairmen and Vice Chairmen	15
11.3 Review and endorsement of CN Terms of Reference	15
11.4 TSG CN Work Programme.....	16
11.5 Organisation of the transfer of work from Partner organisations	16
11.6 TSG CN Sub-structure organisation	16
11.6.1 Creation of TSG CN Working Groups.....	17
11.6.2 Appointment of CN working group convenors	17
11.7 TSG CN and WG future meetings	17
12 Report of first meeting of TSG Terminals.....	17
12.1 TSG Opening Address by TSG T Convenor.....	17

12.2 Arrangements for the Election of TSG Chairmen and Vice Chairmen 18

12.3 Review and endorsement of TSG T Terms of Reference..... 18

12.4 TSG T Work program..... 18

12.5 Organisation of the transfer of Work items from Partner Organisations..... 19

12.5.1 ARIB 19

12.5.2 ETSI..... 19

12.5.3 T1 20

12.5.4 TTA..... 21

12.5.5 TTC..... 21

12.6 TSG T sub-structure organisation 21

12.6.1 Creation of TSG T Working Groups..... 21

12.6.2 Appointment of TSG T Working Group Convenors 21

12.7 TSG and TSG Working Groups future meeting schedule..... 22

12.8 Any Other Business 22

12.9 Close of individual Session..... 22

13 Report of first meeting of TSG Services and System Architecture..... 22

13.1 Opening address by the TSG SA Convenor..... 22

13.2 Arrangements for the Election of TSG Chairmen and Vice Chairmen 22

13.3 Review and endorsement of SA Terms of Reference..... 22

13.4 TSG SA Work Programme 23

13.5 Organisation of the transfer of work from Partner organisations 23

13.5.1 ARIB 23

13.5.2 ETSI..... 24

13.5.3 T1 24

13.5.4 TTA..... 24

13.5.5 TTC..... 24

13.6 TSG SA Sub-structure organisation..... 24

13.6.1 Creation of TSG SA Working Groups 25

13.6.2 Appointment of working group convenors 25

13.7 TSG SA and WG future meetings..... 26

14 Report of first meeting of TSG Radio Access Network..... 26

14.1 Opening address by the TSG convenor..... 26

14.2 Arrangements for election of TSG Chairmen and Vice-Chairmen 26

14.3 Review and endorsement of TSG Terms of Reference 26

14.4 TSG work programme 27

14.5 Organisation of the Transfer of Work items from Partner Organisations 27

14.6 TSG RAN sub-structure organisations..... 27

14.6.1 Creation of TSG RAN Working Groups 27

14.6.2 Appointment of working group convenors 28

14.7 TSG and TSG working groups future meeting schedule..... 28

14.8 Any Other Business 28

14.9 Close of individual session 29

15 Reports from the TSG individual sessions 29

15.1 TSG Terminals..... 29

15.2 TSG RAN 29

15.3 TSG SA..... 30

15.4 TSG CN..... 30

16 Close 30

Annex A: Revised TSG Terms of Reference..... 31

Executive Summary

Opening of the Inaugurate meeting of the 3rd Generation Partnership Project

The Chairman, Mr. Karl-Heinz Rosenbrock, ETSI Director General, opened the meeting, welcoming the 325 delegates from 19 Countries including Japan, Korea and the United States of America. The Chairman introduced the Heads of delegation of the Partner Organizations and the Technical Specification Group Convenors.

The Chairman reported that the 5 Partners signed an agreement for the creation of the 3GPP. This is a milestone in the creation of the 3rd generation mobile system development of the IMT-2000.

Welcome address by the Organizational Partners

T1: Mr. Lord welcomed delegates on behalf of T1 and looked forward to productive work on the 3rd Generation project.

TTC: Mr. Yamamoto welcomed delegates on behalf of the TTC. He congratulated the 3GPP agreement reached by the Partners. TTC is prepared to provide maximum support and are very happy to work with their Partners.

ARIB: Mr. Sasaki welcomed delegates on behalf of ARIB, explaining that the 3GPP innovation was a step forward towards the IMT-2000 ambitions of global network collaboration. 3GPP gives a good opportunity to establish global standards and ARIB will fully co-operate to reach the goals of the 3GPP.

TTA: Mr. Lee said that following the agreement reached in Copenhagen, TTA were pleased to be a Partner of the Project and looked forward to successful co-operation results from the 3GPP. Korea has launched innovative networks and look forward to contributing their CDMA experience in the 3GPP. He wished the project all speed in the harmonisation of the standardisation work.

ETSI: Mr. Rosenbrock welcomed the creation of the Project. ETSI and the ETSI General Assembly have agreed that activities from SMG related to the 3rd generation work will be brought into the Project, while ETSI SMG will continue to exist for 2nd generation work. The 3GPP is expected to produce global standards in time for the market requirements.

Results of the ARIB/ETSI/T1/TTC/TTA meeting, 2nd - 4th December, Copenhagen

The 3rd Generation Project agreement was introduced. The agreement was signed on 4th December by the 5 Partners. The UMTS Forum has also been invited to join and is expected to sign an agreement shortly. A statement from the GSM MoU was made, indicating the desire to also reach an acceptable agreement soon.

The Project Co-ordination group Terms of Reference and the responsibilities of the PCG were introduced and Discussed.

The Chairman Presented the Partnership Project Description.

Creation of the Technical Specification Groups

Mr. Grassot presented the Technical Specification Groups' Terms of References. Each TSG was invited to discuss and review their Terms of Reference. It was highlighted that the Services and System Aspects TSG has a responsibility for the overall co-ordination of the technical issues between the TSGs.

The Convenors for the TSGs were appointed at the Partners meeting in Copenhagen. The Convenors were appointed as follows:

TSG Core Network:	Mr. Stephen Hayes , Ericsson (T1)
TSG Radio Access Network:	Mr. Akio Sasaki , NTT DoCoMo (ARIB)
TSG Service and System Architecture:	Mr. Fred Harrison , BT (ETSI)
TSG Terminals:	Dr. Sang-Keun Park , Samsung/ETRI (TTA)

The rules for the election of TSG Chairmen and Vice Chairmen were presented and discussed.

Presentation of the Partner Organisation 3rd Generation Mobile Systems Work Programs

ARIB: Mr. Sasaki presented the work program of ARIB, emphasising the need for specifications to be available before the end of 1999. The presentation was for information to the joint session, but the timing issues were for discussion within the relevant TSGs.

ETSI: Mr. Hillebrand, ETSI SMG Chairman, presented the overall ETSI SMG work plan, this was followed by detailed presentations of the individual ETSI SMG Technical Committees work.:

SMG1: Mr. Cox, ETSI SMG 1 Chairman, presented the Committees Work.
 SMG2: Mr. Andersen, ETSI SMG 2 Chairman, presented the Committees Work..
 SMG3: Mr. Dettner, ETSI SMG 3 Chairman., presented the Committees Work..
 SMG4: Mr. Holley, ETSI SMG 4 Chairman, presented the Committees Work.
 SMG6: Mr. Sanders, SMG 6 Project manager, presented the work program, on behalf of Dr. Hertel (SMG6 chairman).
 SMG7: Mr. Thomas, ETSI SMG 7 Chairman, presented the Committees Work.
 SMG8: Mr. Pike ETSI SMG 8 Chairman, presented verbally that there were no plans to transfer SMG8 work to 3GPP, as the work was GSM specific.
 SMG9: Dr. Vedder, ETSI SMG 9 Chairman, presented the Committees Work.
 SMG10: Prof. Walker, ETSI SMG 9 Chairman, presented the Committees Work.
 SMG11: Mr. Usai, ETSI SMG 11 Vice Chairman, presented the Committees Work.
 SMG12: Mr. Courau, ETSI SMG 12 Chairman, presented the Committees Work.
 Working Methods: Mr. Donat, ETSI SMG WOME Chairman, presented the Committees Work..
 SMG Co-ordination group: Mr. Thomas presented inputs from the SMG Co-ordination group for the TSGs.
 Mr. Samukic introduced the SMG UMTS baseline documents.

T1: Ms. Melvin presented the T1 background and proposed input to the 3GPP. T1 wishes to speed the merging of the global standardization on 3rd generation mobile for the benefit of all involved.

TTA: Mr. Lee presented the TTA Objectives for 3GPP.

TTC: Mr. Takabatake presented the TTC work in Japan.

Introduction of 3GPP Working Procedures

A presentation was given which provided an overview of 3GPP Working Procedures, which was agreed by the Partner Organizations on 4 December.

General matters

Mr. McAuley of ETSI Secretariat FAS department presented details of the 3GPP server site and Web site.

Due to time difficulties the TSG Working Practices were not discussed in the joint plenary, however, the TSGs were requested to review these documents and act as appropriate.

Reports from the TSGs to the final TSG common session 8th December.

TSG Terminals

The Convenor presented the results of the Terminals TSG meeting.

Some modifications to the Terms of Reference were agreed.

Working groups were agreed as follows:

WG1 Mobile Terminal Conformance Testing, Convened by Mr. R Thomas (France Telecom).
 WG2 Mobile Terminal Services & Capabilities, Convened by Mr. K Holley (BT).
 WG3 USIM, Convened by Dr. Vedder (Gieseke & Devrient).

A meeting schedule for the TSG and it's Working Groups was developed.

TSG Radio Access Network

The Convenor presented the results of the RAN TSG meeting.

Some modifications to the Terms of Reference were agreed.

Working groups were agreed as follows:

WG1: Radio layer 1 specification, Convened by Mr. Furuya (NEC).
 WG2: Radio layer 2, Radio layer 3 RR specification, Convened by Mr. Fauconnier (Nortel).

- WG3: lux specifications, UTRAN & O&M requirements, Convened by Mr. Willars (Eriksson).
WG4: Radio performance/protocol aspects and Base Station conformance aspects, Convened by Mr. Benn (Motorola).
Ad-hoc group on ITU: Internal co-ordination (for liaisons, etc.) Convened by Mr. Magnani (CSELT).

A draft meeting schedule was developed. The WGs will confirm the schedules by correspondence.

TSG Services and System Architecture

The Convenor presented the results of the SA TSG meeting.

The following Interim WGs were set-up, which will be revised if necessary at the next TSG meeting.

- WG1 Services: Convened by Mr. A Cox (Vodafone).
WG2 Architecture: Convened by Mr. Hiramatsu (NTT).
WG3 Security: Convened by Prof. M Walker (Vodafone).
WG4 CODEC: Convened by Mr. K Jarvinen (Nokia).
WG5 Network Management ad-hoc group:
Mr. I Cabrera (AirTel Movil) (to be confirmed, Mr. A Yuhan (Omnipoint) will be appointed in the case that Mr. Cabrera is unavailable).

A meeting schedule was also produced for the TSG and the Interim WGs.

TSG Core Network

The Convenor presented the results of the CN TSG meeting.

The Terms of Reference and Work Plan for TSG CN was approved with some minor changes.

Working groups were agreed as follows:

- WG1: Mobility Management, Call Control, Session Management, Convened by Ms. Hietalahti (Nokia).
WG2: CAMEL and MAP, Jointly convened by Mr. M Yabusaki (DoCoMo) and Mr. I Park (Vodafone).
WG3: Interworking with External Networks, Jointly convened by Mr. O Lopez-Torres (Telemobile) and Mr. N Klehn (Siemens).

A meeting schedule was also produced for the TSG and Interim WGs.

Close

The Chairman closed the meeting, which had achieved all its goals and thanked the delegates for their co-operation and fine work.

1 Opening of the Inaugurate meeting of the 3rd Generation Partnership Project

The Chairman, Mr. Karl-Heinz Rosenbrock, ETSI Director General, opened the meeting, welcoming the 325 delegates from 19 Countries including Japan, Korea and the United States of America. The Chairman introduced the Heads of delegation of the Partner Organizations and the Technical Specification Group Convenors.

The Chairman reported that the 5 Partners signed an agreement for the creation of the 3GPP. This is a milestone in the creation of the 3rd generation mobile system development of the IMT-2000.

The agenda was approved.

2 Welcome address by the Organizational Partners

2.1 T1

Mr. J Lord, head of delegation welcomed delegates on behalf of T1 and looked forward to productive work on the 3rd Generation project.

2.2 TTC

Mr. Yamamoto welcomed delegates on behalf of the TTC. In Japan, the number of mobile subs have been increasing fast in the last few years. In order to keep up - need urgently to introduce 3rd generation Internet, data, etc. Global roaming, PCS most lightweight terminal, but limited in geographical area (Japan) - now will be able to roam anywhere in the world. He congratulated the 3GPP agreement reached by the Partners. TTC is prepared to provide maximum support and are very happy to work with their Partners.

2.3 ARIB

Mr. Sasaki welcomed delegates on behalf of ARIB, explaining that the 3GPP innovation was a step forward towards the IMT-2000 ambitions of global network collaboration. 3GPP gives a good opportunity to establish global standards and ARIB will fully co-operate to reach the goals of the 3GPP.

2.4 TTA

Mr. Lee said that following the agreement reached in Copenhagen, TTA were pleased to be a Partner of the Project and looked forward to successful co-operation results from the 3GPP.

Korea has launched innovative networks and look forward to contributing their CDMA experience in the 3GPP. He wished the project all speed in the harmonisation of the standardisation work.

2.5 ETSI

Mr. Rosenbrock welcomed the creation of the Project. ETSI and the ETSI General Assembly have agreed that activities from SMG related to the 3rd generation work will be brought into the Project, while ETSI SMG will continue to exist for 2nd generation work. The 3GPP is expected to produce global standards in time for the market requirements.

3 Results of the ARIB/ETSI/T1/TTC/TTA meeting, 2nd - 4th December, Copenhagen

TD Gx98-040 was introduced which gives the 3rd generation project agreement. The agreement was signed on 4th December by the 5 Partners. The UMTS Forum are also invited to sign. A statement with the representation of the GSM MoU has been made, which is the desire to reach an acceptable agreement. This document was noted.

TD Gx98-041 - Project Co-ordination group Terms of Reference. Each Organisation Partner and Market representation Partner can send 3 representatives, and the PCG will be made up of these representatives and the TSG Chairmen. The responsibilities of the PCG are also given in TD Gx98-041.

Mr. Toepfer (Mannesmann Mobilfunk, GSM MoU representative) reported that they had objections to the responsibilities, in the "fairness" of the different Members in such things as the voting rights and weights (the current rules allow one member company one vote, irrespective of their company size).

It was stated that the PCG is not really equipped to deal with technical issues, and questioned how they can co-ordinate this and resolve disputes. It was explained that the detailed Technical issues were the responsibility of the TSGs, and the PCG would resolve disputes on the more Political level. Mr. Sandergren (Ericsson) pointed out it is possible for the PCG to resolve Technical issues by calling a joint plenary of the TSGs to solve problems beyond their expertise.

Mr. Jones (Omnipoint, US) asked what steps will be taken to address the concerns of the GSM MoU and in what time-frame. Agreement is aimed by 24 February. This will be addressed by the ETSI Board this week and the Partners will address this together at the next meeting (which has not been scheduled yet).

Mr. Toepfer (Mannesman Mobilfunk, GSM MoU representative) responded that this should be addressed by the Partners rather than the ETSI Board and requested that this meeting be scheduled and the item placed on the agenda. It was explained that the ETSI Board would formulate the ETSI Position, which would be discussed with the other Partners at their meeting, where the Partners' positions would also be taken into account.

Dr. Neumann (Siemens) asked who could join the PCG. This will be decided by the Partners and has not yet been fully decided.

Mr. Thomas (France Telecom) asked for clarification on who will be part of the PCG, and for a general indication of the current thinking for this. The Chairman responded that the PCG will probably meet in conjunction with TSG meetings, the next meeting is expected around February 1999. When the TSG Chairmen and Vice-Chairmen have been determined, the full make-up of the PCG will be known. Currently, the PCG is expected to consist of 3 representatives from each Partner organisation, 3 from the UMTS Forum and 3 from the GSM MoU.

The Chairman then presented the Partnership Project Description.

"One member, one vote" was questioned as a principle, as it did not seem fair to the different weightings of different individual members. Also the level of vote for agreement should be lower than 71%, and a level of 50% was suggested. The Chairman replied that the consensus process was designed to prevent blocking from a few members, of work to the interest of the larger majority. The process will be reviewed after 6 months, and all comments of this type will be taken into account.

TTA reported that the process seemed to be reasonable, and that many standardization bodies getting together in a globalisation process will exasperate the problem of reaching agreement already experienced in regional bodies.

It was stated that the main objective is to make a single set of system specifications wherever possible, but that regional variations would be necessary in some cases (e.g. regulatory requirements).

Mr. Thomas (France Telecom) asked what representation ETSI would have in the PCG. It was clarified that ETSI would have equal power as the other 4 Partners (1 of 5 votes).

The question of voting weights between organisations was raised. The Partners have different rules in their organisations and it was difficult to align them, so a pragmatic approach of 1 member 1 vote was chosen, to be reviewed after 6 months.

4 Creation of the Technical Specification Groups

TD Gx98-0007 - Mr. Grassot (Nortel) presented the TSG Terms of References. Each TSG was invited to discuss and review their Terms of Reference and report back to the closing Joint session. It was highlighted that the System Aspects (SA) TSG has a responsibility for the overall co-ordination of the technical issues between the TSGs.

Dr. Neumann (Siemens) asked about the links between Core Network and Terminals TSGs, and wondered if this meant that companies had to send their delegates to all TSGs instead of a single group. It is left to the TSGs to organise their work in a work-objective way in order to overcome these problems.

Mr. Wiener (One-2-One) asked if "liaison" refers to groups of the 3GPP or Partners, or groups world-wide, such as the ITU. It was pointed out that liaison is intended between the TSGs automatically. External relations should be made via the PCG in order to set up agreements as necessary.

Dr. Neumann (Siemens) asked about the SA TSG being responsible for co-ordination. The other groups are responsible for their technical work, and SA has the additional responsibility of the final approval and maintenance of work packages (i.e. the Project co-ordination role). Siemens would like to see a Technical co-ordination group, this should be discussed during the SA TSG meetings. Joint meetings are a tool which may be considered for co-ordination matters.

Mr. Crisp (Marconi communications) asked about the FDD/TDD aspects, as they are not mentioned in the RAN Terms of Reference. It was explained that this document is under the main 3GPP description document, and therefore the FDD/TDD is included. The Terms of References should be reviewed by the individual TSGs in order to answer the open issues (TD Gx98-007).

Mr. Jarvis (Lucent UK) asked if the ITU has been approached for use of their buildings in Geneva. This has not been done yet, but no options will be ruled out for future meeting venues.

Mr. Thomas (France Telecom) stated that, to him, it seemed that the Scope of the SMG UMTS work had been split among the TSGs, and that joint meetings should be considered. This should be discussed in the TSGs and any necessary joint meetings should be proposed.

Mr. Toepfer (Mannesman Mobilfunk) asked if joint TSG meetings could be set up, where the meetings may occur on different days at the same place, in order to maximise the available experts. Mr. Andersen (Tele Danmark) said that the TSGs will probably need too much time to allow serial meetings. The TSGs should discuss their meeting requirements and arrange the co-ordination methods to be used. The TSGs will fix their next meetings in their individual sessions. Organisational matters should also be discussed in order to suit the practicalities and needs of each group.

The test specifications in TSG Terminals was questioned, as the RAN group may be better to hold all of the Radio related work. It was explained that the TSGs would develop their Terms of References based upon these proposals.

Mr. Gilchrist (Motorola) said that the TSGs CN and RAN appear to have joint responsibility on the Iu interface, and this could lead to problems. It was explained that the drafting group thought the Iu interface should be under the control of the RAN TSG, but this should be discussed within the TSGs.

4.1 Announcement of Technical Specification Groups Convenors

The Convenors for the TSGs were appointed at the Partners meeting in Copenhagen. Convenors were appointed as follows:

TSG Core Network - Mr. Stephen Hayes, Ericsson (T1).

TSG RAN - Mr. Akio Sasaki, NTT DoCoMo (ARIB).

TSG SA -Mr. Fred Harrison, BT (ETSI).

TSG T - Dr. Sang-Keun Park, Samsung (TTA).

4.2 Procedures for the Election of TSG Chairmen and Vice Chairmen

The rules for the election of Chairmen and Vice Chairmen were presented.

Point (vi) was questioned, because if the PCG rejects the elected candidate from a TSG, then they may need to run the election again.

Mr. Gilchrist (Motorola) took a strong exception to point (vi), as this seems to make the election procedure redundant. It was explained that the PCG would respect the vote unless the results were unacceptably unbalanced on Geographical and company balance. It was clarified that the PCG intend to prevent unacceptable imbalance, rather than ensure complete balance within the Chairmanships, so it was not expected that the elected candidates would be refused in normal circumstances.

It was suggested that the TSG should have rules which prevent Vice Chairmen being from the same partner or country as the elected Chairman. This would prevent rejection at the PCG level of chosen candidates.

Much discussion took place, and it was finally decided to discuss this matter with TD Gx98-006, which gives the rules of Procedures, including the election requirements.

Mr. Holley (BT) considered point (iii) and suggested that candidatures should not be accepted at any time up to the vote, but say 1 week before the meeting so that everybody could consider the candidatures.

Siemens said that insisting on pre-candidature would mean that candidates cannot be chosen during meetings in case of unforeseen problems with candidatures.

Mr. Sandegren (Ericsson) suggested a pragmatic approach, that candidates should apply at least 1 week before the meeting, and that applicants should indicate whether they would accept Vice-Chairmanship in case of not being elected as Chairman. Late applications should be allowed in exceptional circumstances.

It was agreed to take the suggestion of Mr. Sandegren.

5 Presentation of the Partner Organisation 3rd Generation Mobile Systems Work Programs

5.1 ARIB

Mr. Sasaki made a presentation, as given in TD Gx98-052.

The document is for information to the joint session, but the timing issues are for discussion within the relevant TSGs. USIM (due for completion 04/99) is not currently a mandatory feature in IMT2000, but may become pseudo mandatory depending on the definition of the UIM in 3GPP. The ARIB work corresponds to the SMG9 work on SIMs, and this work will be followed as far as possible for compatibility with GSM interfaces. It was also clarified that the USIM is optional in ARIB work.

ARIB were asked if the completion of their Layer 1 and Layer 2 specifications were on target for 12/98, as well as other documents for the ambitious time scales presented. ARIB said that they expect the completion in time. 3GPP will need to check the technical compatibility, but there did not seem to be a problem so far. There are, however, some terminology differences, which makes direct comparison of the SMG work and ARIB work difficult. Because of this, some milestones may need to be revised to ensure they are fully understood. TSG RAN will discuss this and report back to the closing joint session.

5.2 ETSI

Mr. Hillebrand (ETSI TC SMG Chairman) gave a presentation on the ETSI SMG work plan, as given in TD Gx98-056.

5.2.1 SMG1

SMG 1 Chairman, Mr. Cox, presented TD Gx98-017 (with a view-foil summary)

5.2.2 SMG2

SMG 2 Chairman, Mr. N.P.S. Andersen, presented TD Gx98-049

It was suggested that the hand-over meeting of SMG2 UMTS work be a joint SMG2 TSG RAN meeting to assist in the hand-over. This will be discussed in TSG RAN.

It was clarified that SMG2 would continue to work on 2nd generation work. For efficiency, all the work on 3rd generation radio should be done in a single body (RAN).

5.2.3 SMG3

SMG 3 Chairman, Mr. Dettner, presented TD Gx98-026.

5.2.4 SMG4

SMG 4 Chairman, Mr. Holley, presented TD Gx98-029.

5.2.5 SMG6

SMG 6 Project co-ordinator, Mr. Sanders, presented TD Gx98-015 on behalf of Dr. Hertel (SMG6 Chairman).

5.2.6 SMG7

SMG 7 Chairman, Mr. Thomas, presented TD Gx98-058.

5.2.7 SMG8

SMG 8 Chairman, Mr. Pike, presented verbally that there were no plans to transfer SMG8 work to 3GPP, as the work was GSM specific.

5.2.8 SMG9

SMG 9 Chairman, Dr. Vedder, presented TD Gx98-024.

SMG9 basic UMTS document and general mechanical interface work will go into the UMTS area. Some API work may also be applicable. TD Gx98-063 gives more SIM information.

5.2.9 SMG10

SMG 10 Chairman, Prof. Walker, presented TD Gx98-012.

5.2.10 SMG11

SMG 11 Vice Chairman, Mr. Usai, presented TD Gx98-032.

5.2.11 SMG12

SMG 12 Chairman, Mr. Courau, presented TD Gx98-018.

It was recognised that SMG12 may move all of its work into the 3GPP in a combination of transfer and sub-contracting arrangements in order to ensure non-divergence of the evolution of the GSM Core Network towards UMTS.

5.2.12 Working Methods

The SMG WOME Chairman, Mr. Donat, presented TD Gx98-045 and TD Gx98-061 on SMG WOME.

WOME offer their experience and services to the 3GPP to develop working methods for the specification making and request the decision for the creation of a 3GPP Permanent Nucleus. This should be discussed in the TSGs and recommendations made to the closing joint session.

5.2.13: SMG Co-ordination group

Mr. Thomas presented TD Gx98-009 which contains inputs from the SMG Co-ordination group for the TSGs and will be discussed in detail in the relevant TSGs.

5.2.14: SMG UMTS baseline documents

Mr. Samukic introduced the contents of TD Gx98-021 and TD Gx98-031 for information.

5.3 T1

Ms. Melvin presented the T1 background and proposed input to the 3GPP. T1 wishes to speed the merging of the global standardization on 3rd generation mobile for the benefit of all involved.

5.4 TTA

Mr. Lee presented TD Gx98-064 on TTA Objectives for 3GPP.

5.5 TTC

Mr. Takabatake presented the TTC work in Japan (TD Gx98-059). Again the time scales are for 04/99 presentation of specifications, and this needs further discussion in the TSGs in order to check the realism of these targets in line with SMG Core Network evolution work to be done.

6 Introduction of 3GPP Working Procedures

A presentation was given which provided an overview of TD Gx98-006. The final agreements were made on 4 December, so some items in TD Gx98-006 may need updating for recently agreed modifications. The presentation slides were an up-to-date summary of the agreed procedures.

The issue of proxy voting versus company representation at meetings was explained, which are given in TD Gx98-006.

The absence of text on the dismissal of the PCG officials was questioned, as text exists for the dismissal of TSG officials. It was clarified that this had not been an issue in the Working Procedures meetings.

Work Item adoption by the PCG was questioned, but it was explained that this function would only be for a co-ordination and to check that work falls within the agreed Terms of reference of the TSG raising the work items. In order not to add any delay in the PCG adoption process, work can continue on the proposed item in the TSG until adoption by the PCG, and any issues would be signalled at this time.

It was asked that for TSG Membership listings, could single delegates register for more than 1 TSG. This should be possible for the case of co-located/parallel meetings of TSGs (irrespective of the actual attendance to all groups during the meeting).

Electronic working methods were not visible in the Procedures, it was explained that the electronic working aids would be the subject of a presentation under agenda item 7.

A proposal was made not to approve the Working Procedures here, but to give time for delegates to come back with comments in the future. The Chairman preferred that we approve what is available and review after the 6 month trial period. There will in any case be representation in PCG by the TSG Chairmen and Vice Chairmen before decisions are made by the PCG Partner members.

It was clarified that "Regions" in the 3GPP context refer to Asia, Europe and North America.

A question about access to information (e.g. 3GPP Web site) for people dropped from the membership list was raised. It was clarified that the principle was to leave access open to the information, even to members who do not appear on the membership lists of individual TSGs.

The time plan for the 3GPP was questioned. The Chairman replied that the implementation was expected by 2001, but the actual end date of the Project could not be defined exactly at this stage, as additional Phases may be implemented, depending on the success of the Project and the future market requirements.

It was requested by Telecom Italia Mobile that the Voting mechanism (rights/weighting) be modified to be more fair (ref: Article 28).

Article 22 should be corrected where it mentions "Organization", where it should be "Member company" (3rd paragraph).

Mr. Andersen (Tele Danmark), asked if changes to the Working Procedures need to be approved by ETSI GA (and the equivalent for the other Partners organisations) before proposing changes to the PCG. It was explained that this may not be necessary, but would be examined on a case by case basis, depending on the changes proposed.

It was clarified that an individual can only represent one member company at an individual TSG meeting. Proxies can only be carried for eligible member companies. The use of a proxy vote does not count as attendance to a meeting for remaining on the membership list of the TSG.

Article 28 gives a clear description of the election procedures. Article 14 gives the possibility for the PCG to ask for a re-election in exceptional circumstances.

Article 3 was questioned, as it mentions the "first phase" of Core network, so is there a second Phase, and if so, what is it?

The Chairman explained that this had not been defined, as it depends upon the results of the work on the "first Phase". Mr Cox added that the other work ongoing in the UMTS area will also help to define the future 3rd Generation work.

It was clarified the paragraphs 3 and 4 of Article 35 should be deleted (they were replaced by the first 2 paragraphs and should have been deleted during the editing of the document).

Mr. Sandegren (Ericsson) stated that the document should be read in a flexible manner to make the working of the TSGs smoother, rather than reading the letter of the rules, as they have not been finalised in a fully consistent manner. This was agreed and the discussion on the document was ended in order to go on to other items.

Concerns with the Procedures should be forwarded from the TSGs to the PCG for future update. Delegates to the TSGs are expected to contribute to these comments for improvement.

7 Organisation of TSGs FTP servers and WWW site

Mr. McAuley (ETSI Secretariat FAS Department) presented details of the 3GPP server site and Web site.

8 TSG Working Practices

TD Gx98-008, TD Gx98-0022, TD Gx98-0023, TD Gx98-0039, TD Gx98-0045 and TD Gx98-0046 were not discussed in the joint session. The TSGs should check these documents and act as appropriate, reporting back to the closing joint session.

9 Any Other 3GPP Inaugural session Business

None.

10 Adjournment of the common Inaugural session

The session was adjourned and TSGs asked to start at 08.30 the next morning. The final session will commence at 15.15.

The individual TSGs then met and discussed agenda items 11 to 19, reporting back to the closing joint session.

11 Report of first meeting of TSG Core Network

11.1 TSG CN opening address by the TSG CN Convenor

The Convenor, Mr. Stephen Hayes opened the meeting, welcoming the delegates, and introduced the himself and the Secretary (Mr. J. M. Meredith).

The Chairman explained the expectations of the 3GPP Project and the work in the TSG CN.

The Agenda was considered, and some adjustment to the order made. The Chairman outlined what the group should achieve.

11.2 Arrangements for the Election of TSG Chairmen and Vice Chairmen

This was covered in joint plenary.

11.3 Review and endorsement of CN Terms of Reference

TD Gx98-007: The CN terms of reference were considered and discussed in depth.

The Terms of Reference were then endorsed by the group with the above observations which are recorded in the updated ToR (TD Gx98-071r1).

The meeting agreed to propose to the TSG's common session the following modifications to the TSG-Core Network's Terms of Reference:

The **TSG Core Network** (TSG-CN) is responsible for the specifications of the Core network part of systems based on 3GPP specifications.

Specifically it has a responsibility for:

- User Equipment - Core network layer 3 radio protocols (Call Control, Session Management, Mobility Management).
- Core Network internal interfaces for Call Associated and Non Call Associated signaling.
- Interconnection of the Core Network with external networks.
- Management of work items placed under its responsibility.

More specifically, TSG-CN will address the following areas of work:

- Mobility management, call connection control and session management signalling between the user equipment and the core network.
- Core network signalling between the core network nodes. The signalling supports functionality such as user information, subscription information and control of network services.
- Interworking with 2nd generation networks (e.g. handover to / from GSM).
- Definition of interworking functions between the core network and external networks.
- Packet related matters such as mapping of QoS (e.g. transparency for IP domain applications, general for bearer types, special for optimized applications such as Voice over IP).
- Core network aspects of the Iu interface.
- Core network O&M requirements.

11.4 TSG CN Work Programme

TD Gx98-071r1 was studied in detail and approved with some modification as follows:

Objectives

The UMTS core network shall be based on an evolution of the GSM core network for both circuit and packet switched traffic.

The first release of specifications shall be finalized at the end of 1999.

Work plan

The **work plan** for the Core Network TSG shall include:

- Evolving GSM MM/CC to UMTS
assigned to WG1.
- Evolving GSM MAP/CAMEL to UMTS core network signalling ensuring compatibility with GSM networks
assigned to WG2.
- Evolving GSM interworking functions to UMTS interworking to external networks
assigned to WG3.
- Evolving GPRS layer 3 protocols (SM, GMM) to UMTS packet services
assigned to WGs 1, 2 & 3.
- Core network O&M requirements
no assignment yet.
- Support of Handover to/from GSM shall be defined
assigned to WGs 1 & 2.

11.5 Organisation of the transfer of work from Partner organisations

It was agreed that "3GPP Release 1999" specifications use will use GSM Release 1998 Specifications as baseline.

11.6 TSG CN Sub-structure organisation

TSG CN agreed that WG1 and WG2 should be physically one group and logically two groups (i.e. reporting to both SMG3 and 3GPP TSG-CN).

It was agreed that Mailing Lists will be created for each of the WGs (e.g. 3GPP_TSG_CN_WGx@LIST.3GPP.ORG).

The relationship and dependencies with TSG Services and System Architecture was discussed, the area of work boundaries need to be identified and requires further discussion.

TSG CN needs to appoint secretaries of the WGs, however 3GPP support arrangements have not yet determined.

The meeting agreed there should be a duplication of mailing lists between ETSI SMG3 and 3GPP TSG CN and that SMG3 will eventually be migrated to TSG CN.

11.6.1 Creation of TSG CN Working Groups

The meeting approved the following Working Groups:

WG1 - MM/CC/SM (Iu)

This WG will hold Joint meetings with SMG3 WPA.

WG2 - CAMEL/MAP

This WG will hold Joint meetings with SMG3 WPC.

WG3 - Interworking with external networks.

11.6.2 Appointment of CN working group convenors

The meeting approved the following Working Groups and Convenors:

WG1 - MM/CC/SM (Iu)

Convenor: Mr. Hannu Hietalahti (Nokia).

WG2 - CAMEL/MAP

Co-Convenors: Mr. Masami Yabusaki (DoCoMo), Mr. Ian Park (Vodafone).

WG3 - Interworking with external networks

Co-Convenors: Mr. Oscar Lopez-Torres (Telemobile), Mr. Norbert Klehn (Siemens).

11.7 TSG CN and WG future meetings

The next full TSG-CN meeting was arranged for 1-5 March 1999 in Dallas, US, and should be joint meeting of all TSGs. The election of the Chairman and Vice Chairmen of TSG CN should take place at this meeting. It was further agreed that TSG-CN would have two Vice Chairmen.

Working Group Meetings:

Initial WG meetings will be held 26-28 January 1999, Sophia Antipolis, France, the specific WG agendas and duration of the WG meetings will be discussed and determined by convenors electronically.

12 Report of first meeting of TSG Terminals

12.1 TSG Opening Address by TSG T Convenor

50 delegates attended the 1st 3GPP TSG-Terminals meeting, chaired by Dr. Sang-Keun PARK (Samsung / ETRI Korea). Mr. Adrian ZOICAS, ETSI Technical Officer, was assigned as Secretary of this meeting session. The list of participants is given at annex.

12.2 Arrangements for the Election of TSG Chairmen and Vice Chairmen

Referring to the 3GPP Working Procedures (TD Gx98-006) Article 22 (TSG and WG election of Chairman and Vice Chairman) the meeting noted that:

- The TSG Chairman and Vice Chairmen shall be elected by the Technical Specification Group from amongst the Individual Member representatives. Each TSG shall elect a maximum of two Vice Chairman.
- A candidate for TSG election shall provide a letter of support from his Organization and nominations may be made up to the point when an election takes place.
- The TSG Chairman and Vice-Chairmen shall be appointed by the PCG on the proposal of the TSG.
- The Chairman and the Vice-Chairmen shall be appointed for a two year term of office.
- The initial election for TSG Chairman and Vice Chairmen shall take place at the second TSG meeting.

12.3 Review and endorsement of TSG T Terms of Reference

The meeting agreed to propose to the TSGs common session (and subsequently to the PCG for approval) the following modifications to the TSG-Terminals' Terms of reference:

The TSG Terminals (TSG-T) is responsible for specifying the Terminal Equipment interfaces ensuring that terminals based on the relevant 3GPP specifications meet the 3GPP objectives.

Specifically it has a responsibility for:

- Terminal Equipment performance specifications,
- USIM and its interface specifications,
- Management of the work items placed under its responsibility.

More specifically, TSG-T will address the following areas of work:

- Service capability protocols,
- Messaging,
- Services end-to-end interworking,
- USIM to Mobile Terminal interface and functionality,
- Model/framework for terminal interfaces and service (application) execution,
- Conformance test specifications of terminals, including radio aspects,
- Multi-mode terminals.

Glossary of terms

USIM	UMTS Subscriber Identity Module
------	---------------------------------

12.4 TSG T Work program

Agenda item 15 has been dealt with first.

(TD Gx98-009) "Proposal of Objectives and Work plan for TSG" from the ETSI SMG Co-ordination Group proposed for TSG-T the following:

Objectives

- The specifications must make it possible to have a dual mode GSM/UMTS terminal from the start.
- The first release of specifications shall be finalized at the end of 1999.

Work plan

The work plan for the Terminals TSG shall develop and maintain specifications for:

- Messaging,
- Services end-to-end interworking,
- USIM to Mobile Terminal interface,
- Terminal service execution environment including service capability protocols,
- Performance of dual mode GSM/UMTS terminals,
- Specifications for conformance testing,
- Other terminal interfaces (e.g. APIs).

(TD Gx98-027) "Proposed Specification Structure for the Terminals TSG" from Ericsson gives a document structure and suggests that the first versions should be based on applicable parts of the SMG4, SMG7 and SMG9 specifications. Material available from ARIB/TTC, TTA and T1 is to be mapped into the appropriate corresponding specifications. Below applicable parts of the present structure are logically grouped and presented. In the future it may be required to incorporate additional specifications into the structure.

12.5 Organisation of the transfer of Work items from Partner Organisations

12.5.1 ARIB

(TD Gx98-052) "Working Program for IMT-2000" indicates availability in January 1999 of the ARIB Draft Specifications Version 1.0 for Initial Commercial service early 2001. Specifications for IMT-2000 are being jointly produced by both ARIB and TTC in Japan. Specifications currently being produced by ARIB initiative (target availability dates in brackets):

Terminals TSG

- MS Specification (99.4)
- MS-UIM Interface (99.4)
- Conformance Test for MS (99.4)
- MS Adapter Interface (99.4)

(TD Gx98-053) "ARIB Action Plan toward 3GPP" reveals plans to propose ARIB's specifications to 3GPP as baseline documents. If accepted, ARIB will move the copyright of the specifications to 3GPP.

Action T1/1: ARIB to provide INPUT for baseline specification in Jan '99 (Mr. K. Nagata - NTT DoCoMo).

12.5.2 ETSI

(TD Gx98-029) "Proposals for Treatment of *Data Service Technical Work* in UMTS" by Mr. Kevin Holley (BT), Chairman ETSI/SMG4 (Data Services) outlines the Work Transfer from SMG4 to TSG-Terminals and gives timescales. Work in progress which is nearly complete should stay in SMG4 for completion (MeXe Release 98, GPRS Octet Stream, etc.). All other work should be moved by SMG#28 (Feb 1999) to 3GPP. The detail of work transfer should be worked out at relevant joint meetings SMG/3GPP before or soon after SMG#28.

(TD Gx98-058) "Conformance Testing for the UMTS Mobile Stations" by Mr. Remy Thomas (France Telecom), Chairman ETSI/SMG7 (Mobile Station Testing) points out that TSG-T should deal with conformance specifications and not with type approval specifications. It proposes that the drafting of a conformance specification for UMTS MSs should be the task of a working group reporting to TSG-T.

(TD Gx98-063) "Proposal for USIM working party in TSG Terminals" by Dr. Klaus Vedder (Gieseke & Devrient), Chairman of ETSI/SMG9 and SMG9 UMTS WP, explained that work on the USIM, the UMTS application residing on the UICC (the UMTS Integrated Circuit Card), has been underway for quite some time in ETSI/SMG9 "SIM Aspects", resulting in a requirements specification for the USIM (UMTS 21.11). SMG9 believes that this document together with other specifications developed or under development by SMG9 could form a viable basis for the work on a security module in UMTS supporting a range of telecom and other sector applications. Two documents SMG9 is currently working on are of particular interest to UMTS. These are a document on the electrical and mechanical interface of a UICC and a new specification for a standardised way of downloading applications into a SIM/UICC.

- The first document is based on existing standards and will be available within in the next two months. It comprises the relevant parts of GSM 11.11, the basic interface specification between a SIM card and a (mobile) terminal, of GSM 11.12, which is the world's first three Volt interface specification for smart cards, and of the recently approved low voltage (1.8V) standard GSM 11.18. It is also intended to add mechanical aspects.
- The API (Application Protocol Interface) standard is elaborated in close co-operation with the JAVA™ Card Forum. Furthermore, VISA and SMG9 will work together in employing the VISA Open Platform for a truly interworking standard allowing applications not only from the telecommunications sector to be loaded remotely from a GSM/UMTS network into a SIM/UICC. The stage one version (GSM 02.19) is available as an approved GSM specification, while the stage 2 technical specification is planned to have been finalised by June 1999.

Draft Terms of Reference for a USIM Working Group in 3GPP TSG-Terminals were proposed by the ETSI/SMG9 Chairman:

1 Responsibilities

Development of phase 1 specifications and associated test specifications for the UMTS USIM, and its interface with the Mobile Terminal.

2 Tasks

- to design USIM functionality to support UMTS security requirements;
- to provide capabilities for service creation; e.g. evolution of SIM Application Toolkit, APIs, Ecommerce, multi-application cards, multi-card reader terminals etc.;
- to produce specifications such that existing SIM capabilities are transferred into the USIM;
- to evolve current capabilities based on the SIM into a form suitable for UMTS; such as physical format (e.g. smaller physical size) and electrical interface and protocols, nevertheless maintaining backwards compatibility with the SIM;
- to facilitate backward roaming between UMTS and GSM (including "plastic roaming").

3 Organisation

- [to be decided by TSG Terminals]

4 Liaisons

- with SMG9 for compatibility with GSM and generic IC Cards issues;
- with other forums; e.g. Java Card Forum, WAP Forum, EP UMTS, EP SMG etc.

Action T1/2: ETSI to make available on the server for the next meetings all the identified SMG documents relevant for the 3GPP work (Responsible: SMG4/7/9 via TSG-T Secretary).

12.5.3 T1

No written contribution was submitted to the meeting. The Nokia (USA) representative informed that no work has been started in T1 in the hope that work will be done in a single place i.e. in 3GPP.

12.5.4 TTA

(TD Gx98-066) "IMT-2000 activity in TTA" outlines the mapping of TTA (WG4.1; Terminal) to 3GPP (TSG-Terminals).

12.5.5 TTC

(TD Gx98-051), (TD Gx98-059), (TD Gx98-066) "TTC Work Program/Items for IMT-2000" do not address the TSG-Terminals directly.

12.6 TSG T sub-structure organisation

12.6.1 Creation of TSG T Working Groups

Ericsson (TD Gx98-028), Nokia (TD Gx98-036) and ARIB (TD Gx98-055) proposals had been used for defining the TSG-T sub-structure as follows:

- WG T1 Mobile Terminal Conformance Testing.
- WG T2 Mobile Terminal Services & Capabilities.
- WG T3 USIM.

12.6.2 Appointment of TSG T Working Group Convenors

For the new TSG Working Groups established, the TSG appointed a Convenor for the first two Working Group meetings.

The initial election for Working Group Chairman and Vice Chairmen will take place at the second Working Group meeting.

- WG T1 – Mr. R. Thomas (France Telecom).
- WG T2 – Mr. K. Holley (BT).
- WG T3 – Dr. K. Vedder (Gieseke & Devrient).

Referring to the 3GPP Working Procedures (TD Gx98-006) Article 22 (TSG and WG election of Chairman and Vice Chairman) the meeting noted that:

- The Working Group Chairman and Vice Chairmen shall be elected by the Working Group from amongst the Individual Member representatives. Each Working Group shall elect a maximum of two Vice Chairmen.
- A candidate for Working Group election shall provide a letter of support from his Organization and nominations may be made up to the point when an election takes place.
- The Chairman and the Vice-Chairmen shall be appointed for a two year term of office. The Chairman and Vice-Chairmen may be appointed for one further consecutive term. If no other candidates are available, the Chairman or Vice Chairmen may be appointed for a further term.
- When a new TSG Working Group is established, the TSG shall appoint a Convenor for the first two Working Group meetings. The initial election for Working Group Chairman and Vice Chairmen shall take place at the second Working Group meeting.

12.7 TSG and TSG Working Groups future meeting schedule

The following meeting dates had been agreed, subject to final confirmation from the hosts:

- WG-T1#1 1-3 Feb 99 ETSI.
- WG-T2#1 27-29 Jan 99 ETSI.
- WG-T3#1 25-27 Jan 99 ETSI.
- WG-Tx#2 Feb 99 (TBD).
- TSG-T#2 1-5 March 99 Dallas (joint TSG).

12.8 Any Other Business

There was no other business identified.

12.9 Close of individual Session

[TD Gx98-072] the "Results of TSG-T#1 meeting" were subsequently reported to the TSGs common Session by the Convenor, Dr. Sang-Keun PARK (Korea).

13 Report of first meeting of TSG Services and System Architecture

13.1 Opening address by the TSG SA Convenor

The Convenor, Mr. Harrison (BT) opened the meeting, welcoming the delegates, and introduced the himself and the Secretary (Mr. Pope, ETSI Secretariat).

The Chairman explained the expectations of the 3GPP Project and the work in the SA TSG.

The Agenda was considered, and some adjustment to the order made. The Chairman outlined what the group should achieve. The Chairman proposed to discuss the working group structure first, in order to get work started as soon as possible.

13.2 Arrangements for the Election of TSG Chairmen and Vice Chairmen

This was covered in joint plenary.

13.3 Review and endorsement of SA Terms of Reference

TD Gx98-007: The SA terms of reference were considered. It was commented that the Terms of Reference (ToR) has only the framework of security aspects are included. This was not the intention, and the ToR should be updated to include the usage and implementation of security for the complete system.

The Network Management aspects were questioned. It was explained that the O&M aspects would be a cross TSG activity, and required a co-ordination role to guide the concepts for Network Management. Co-ordination will be done in the SA group and detailed specification work in other TSGs (particularly TSG Core Network). It was emphasised that Network Management should not be done in only one place as it is a cross-TSG discipline.

There was some debate on the scope of the SA group, as the current version of the ToR defines the group as working on "service capabilities" and "defining services". It was explained that the services would be defined outside of the TSG, and the service capabilities and feature requirements will be defined in the SA group.

The ToR should be interpreted in a broad way for the start of the work, and refined later after the work programme for the group has been more clearly defined. The services to be defined do not necessarily refer to end-user services, but internal system services.

The question was raised whether the group were to work on 3rd generation aspects only, or 2nd to 3rd generation interworking aspects. It was clarified that the agreed requirement was for roaming to GSM networks in the early Phase(s) of the 3rd generation system.

The SA group should take into account all possible applications, and the Terms of reference should not be written to limit the possible future applications. The group should concentrate on the aspects as and when they are needed.

The inclusion of the "cordless applications" (which had been left for discussion in the draft ToR) was discussed. It was decided that the brackets should be removed. Further development of the cordless applications should include both business and residential aspects explicitly.

It was recognised that the full scope of the group needs to be defined later, when the work programme has been more fully defined.

USIM should be the Universal SIM (rather than UMTS SIM).

The Terms of Reference were then endorsed by the group with the above observations which are recorded in the updated ToR (TD Gx98-070).

13.4 TSG SA Work Programme

TD Gx98-067 - Mr. Mouly (Nortel) presented the document which contains a proposal for the working practice for the TSGs for the creation of Work Packages (WPs) to focus the work of the groups. Work packages will be proposed with the work title, scope and schedule. The time scales will be reviewed and maintained by the TSG.

The need of some form of control body for the management of the work programme was recognised.

TSG SA approved the use of this proposal for establishing the work programme within the TSG and WGs.

The need for a Permanent Nucleus ("project team") was recognised to work across all of the TSGs for the control and management of the 3GPP work programme. This team should report to the TSG SA plenary meetings.

The Project Co-ordination Function for cross TSG work programme management was considered. Contributions are invited on the setting up of this activity for the next TSG meeting.

13.5 Organisation of the transfer of work from Partner organisations

13.5.1 ARIB

TD Gx98-053 - Radio Access, and CODEC groups are to be transferred to 3GPP between now and April 1999. ARIB will set up a co-ordination group and have working groups under it corresponding directly to the 3GPP TSGs. The document structure for ARIB work is given in pages 7-9 of TD Gx98-053. Analysis of this shows that some items are relevant to SA - including items 2, 5, 10 and 23.

System Configuration - for transfer in March 1999, Service and systems - ready to submit now (almost finalised). Security aspects are also ready to submit to the Security WG. The CODEC work should be ready for transfer by the end of March 1999.

13.5.2 ETSI

TD Gx98-031 - UMTS 30.00 (UMTS Work Programme). This was noted as an overview of the UMTS work in ETSI. It was noted that there are, in addition, a number of GPRS work items which may be relevant to the 3GPP work, this needs to be discussed in the WGs to ensure that the work relevant to both 3GPP and GSM does not unnecessarily diverge or result in the unnecessary duplication of work in the two groups.

TD Gx98-012 - Security issues. It was agreed to transfer this work into the Security WG of TSG SA.

TD Gx98-015 - The transfer of work detailed in this document needs to be analysed in the Network Management group.

TD Gx98-029 - The key area for SA is Item 1 (Overall end-to-end data service review for UMTS). The document also highlights the need for cross TSG ad-hoc groups for some work (e.g. Multimedia between Systems and Terminals).

The document was noted and the WG on services will report back to the next TSG SA meeting.

TD Gx98-018 - The items proposed for transfer from SMG12 after the SMG#28 Plenary (February 1999). The document also presents the idea of subcontracting work to SMG4.

It was decided that rather than subcontracting work, the work will be done by 1 physical group which consists of 2 logical groups for UMTS and for GSM activities (i.e. LCS, SOLSA, MNP, GPRS Phase 2 and EDGE).

13.5.3 T1

T1P1 plans to bring the W-CDMA package to the 3GPP Project. A detailed work programme will be developed at the upcoming T1P1 meeting (next week). This will be made available to the working groups when available.

13.5.4 TTA

No detailed plan has been prepared, but TTA will analyse their work plan at their meeting 16 December and discuss the transfer of relevant work to 3GPP based on this analysis. TTA have groups covering Network Aspects, Services, Architectures and Security.

TD Gx98-052 gives target dates for the completion of work in TTA.

13.5.5 TTC

TD Gx98-066 - TTC SWG 6-2-1 and 6-3-1 work is presented in this document. Work items included in the areas VHE, High Speed Packet, High Speed Data, ATM, W-CDMA Routing and Call/Connection Control are proposed for transfer to 3GPP, as detailed in TD Gx98-066. TTC intend to complete these specifications by the end of March 1999. The information flows documents can be input to 3GPP as a basis for discussion. The Network requirements and system configuration documents can also be forwarded as a basis for the 3GPP work.

The VHE work is considered a good basis for the SA VHE work, but may requires more items, such as Service Creation. This needs to be analysed in the Working Groups.

Working groups are tasked to study the transferred work and report the feasibility and time scales for completion of the work to the next TSG SA meeting.

13.6 TSG SA Sub-structure organisation

TD Gx98-05, TD Gx98-09, TD Gx98-012, TD Gx98-015, TD Gx98-017, TD Gx98-030, TD Gx98-038, TD Gx98-055.

TD Gx98-005 - Motorola introduced the document which proposes the creation of a new TSG for Value-Added Services, or otherwise to create a working group within SA for Value-Added services.

TD Gx98-012 - SMG10 Chairman introduced the document which proposes a UMTS Security working group within the SA group to ensure the integrity of the systems developed in the 3GPP.

TD Gx98-015 - SMG6 propose that the SMG6 WPA (O&M for UMTS) transfer to 3GPP.

TD Gx98-017 - SMG1 Chairman introduced this document, which reports on SMG1 progress. It is intended to identify the services needed for the 3GPP, in order to co-ordinate the work across the TSGs. The document proposes a working group to deal with UMTS services.

TD Gx98-030 - Mr. Adams (BT) introduced the document, which proposes a working group structure for consideration.

TD Gx98-038 - This document proposes a working group structure.

TD Gx98-055 - This ARIB contribution proposes the establishment of working groups, including a Network Management group within the SA TSG. The role of the proposed Project management group is to act as an advisory committee to the PCG.

Some discussion over whether the Working Groups (WGs) would be defined and the task of defining their work delegated to them, or whether the WGs would be given a detailed work plan by the TSG Plenary. TSG SA should define the WGs it needs and these WGs should detail their work areas, reporting to the next TSG meeting. Detailed ToRs should be proposed by the groups to TSG SA for approval.

13.6.1 Creation of TSG SA Working Groups

It was decided to take TD Gx98-030 and TD Gx98-055 as a basis and to consider other contributions to form an overall decision on the working group structure.

Mr. Mouly pointed out that the creation of the working groups before analysing the tasks of the SA group implies that the definition of the work of those groups would be defined at the WG meetings. This was accepted, and the working groups would report their decisions to the TSG meeting for analysis and agreement.

The Working Groups internal structure will be defined by the WGs and the ToR for each presented to the next TSG SA meeting.

WG1, Services: The creation of a services Working Group was agreed. The inclusion of Value-Added Services (Service requirements) within this group was discussed. It was agreed to include the VAS service aspects and Charging and Accounting within this group.

WG2, Architecture: It was agreed to set up an Architecture group, which would include a high-level overview group for co-ordination of the technical work.

WG3, Security: It was agreed to set up a Security working group to analyse the security requirements for the UMTS system and services.

WG4, CODEC: It was agreed to set up a CODEC working group to analyse the work needed for the 3GPP Service aspects requirements (i.e. not speech/transmission experts). The Terminals group requested close liaison with this Working Group.

WG5, Network Management: It was agreed to set up an interim ad-hoc group to analyse the Network management issues across the TSGs.

Project Co-ordination: It was agreed that contributions on methods of co-ordination, including the possible creation of a Project Management group should be made to the next TSG SA Meeting.

13.6.2 Appointment of working group convenors

WG1, Services: Mr. A. Cox (Vodafone).

WG2, Architecture: Mr. Y. Hiramatsu (NTT)

WG3, Security: Prof. M. Walker (Vodafone)

WG4, CODEC: Mr. K. Jarvinen (Nokia)

WG5, Network Management ad-hoc group: Inaki Cabrera (AirTel Movil) was appointed, but his availability is to be confirmed. Mr. Albert Yuhan (Omnipoint) will be appointed in the case that Mr. Cabrera is unavailable.

13.7 TSG SA and WG future meetings

It is proposed that the next TSG SA meeting (TSG SA#2) should be held the 1-5 March 1999. This could be a joint TSG meeting allowing joint sessions of the TSGs during the meeting.

T1 invite the SA TSG to US 21-25 June 1999 in conjunction with the SMG Plenary (TSG SA#3).

Working Group Meetings:

WG1, Services: 1st week February 1999.

WG2, Architecture: 18-22 January (with SMG12, to be confirmed) and 1st week February 1999.

WG3, Security: 1st week February (to be confirmed).

WG4, CODEC: 11-15 January with SMG11 (to be confirmed).

WG5, Network Management interim group: 18-22 January (US) or 1st week February (to be decided).

14 Report of first meeting of TSG Radio Access Network

14.1 Opening address by the TSG convenor

The TSG convenor, Mr. Akio Sasaki (ARIB) opened the session and explained the objectives of the meeting:

- 1 to identify a working structure of the TSG and allocate work areas to each working group.
- 2 to identify the required output from each working group.
- 3 to appoint working group convenors.
- 4 to identify the meeting schedule.

It was agreed to take agenda item 15 after agenda item 13, to allow for more detailed presentations from the SDOs if necessary.

14.2 Arrangements for election of TSG Chairmen and Vice-Chairmen

It was agreed to use the procedures identified in TD Gx98-048, without any change.

14.3 Review and endorsement of TSG Terms of Reference

The meeting considered TD Gx98-007. A discussion took place on the Terms of Reference of TSG RAN, and how they related to the Terms of Reference of the other TSGs.

The revised Terms of Reference are shown as annex A.

Conformance specifications for terminals and base stations

A potential conflict was noted with the Terms of Reference of TSG Terminals. TSG RAN considered that the responsibility for conformance specifications of Terminals should remain within TSG Terminals. However, the performance of the radio aspects of the Terminals should be within TSG RAN. For base-stations, the specification of both the performance requirements and the conformance tests should be within TSG RAN.

Regulatory standards

It was agreed that regulatory requirements will be produced by the regional standards bodies, as they are specific to the individual regions. TSG RAN will take account of regulatory requirements in different regions in order to ensure that the deployment of 3rd Generation system will not be hampered by regional regulatory requirements.

Hand over between GSM and the 3rd Generation System

There was a discussion on whether handover arrangements between GSM and the 3rd Generation system should be explicitly mentioned in the Terms of Reference. The meeting decided not to include a specific statement in the Terms of Reference. However, it was agreed that a work item should be introduced to cover hand over requirements, to be approved by correspondence.

14.4 TSG work programme

This was discussed concurrently with item 16, sub structure organisation.

14.5 Organisation of the Transfer of Work items from Partner Organisations

The meeting received additional presentations from the following organisations:

- ARIB (TD Gx98-053), noting that ARIB plan to modify its working structure to align with the structure of 3GPP.
- T1, noting that T1.P1 plan to move all work on 3rd Generation systems to 3GPP.
- TTC (TD Gx98-014 rev 3), noting the work underway in TTC and proposing how it could be mapped onto the 3GPP TSGs.

It was noted that ARIB and TTC intend to produce stable draft documentation by April 1999.

14.6 TSG RAN sub-structure organisations

The meeting noted TD Gx98-04 (Ericsson), TD Gx98-035 (Nokia), TD Gx98-020 (CSELT, TIM), TD Gx98-055 (ARIB), TD Gx98-060 (Siemens), making proposals for a working structure.

The meeting noted TD Gx98-003 (Ericsson), TD Gx98-014 (TTC), TD Gx98-050 (SMG 2) and TD Gx98-053 (ARIB) making proposals for a document structure and mapping of work areas.

14.6.1 Creation of TSG RAN Working Groups

It was agreed to form the following working groups within TSG RAN:

WG 1:

Radio layer 1 specification.

WG 2:

Radio layer 2 specification,

Radio layer 3 RR specification.

WG 3:

Iub specification,

Iur specification,

Iu specification,

UTRAN O&M requirements.

WG 4:

Specifications for radio performance and protocol aspects from a system point of view - responsibility for specification of RF parameters,

BS conformance.

It was decided to place Base station conformance within WG 4 for the time being, but to review this decision in the light of experience.

The meeting considered TD Gx98-033 (Nokia & BT) proposing a mechanism to co-ordinate liaisons with ITU-R TG 8/1. It was agreed to set up an ad-hoc group co co-ordinate contributions to the ITU. Such contributions made by national administrations to the ITU using normal channels. Mr. Magnani (CSELT) was appointed as contact person for the ad-hoc group.

It was agreed that the specification structure would be based on documents TD Gx98-003; TD Gx98-014; TD Gx98-050 and TD Gx98-053. These documents would be examined prior to the first working group meetings and proposals made to TSG meeting 2.

It was noted that a stable draft version of the RAN specifications should be available by April 1999. The target for the first published release is the end of 1999.

14.6.2 Appointment of working group convenors

The following working groups convenors were agreed:

WG 1: convenor: Mr Furuya (NEC).

WG 2: convenor: Mr Fauconnier (Nortel).

WG 4 - convenor: Mr Benn (Motorola).

ITU ad-hoc group - Contact person: Mr Magnani (CSELT).

14.7 TSG and TSG working groups future meeting schedule

The working groups will meet before TSG RAN#2 (e.g. in mid-January). The dates of the meetings will be agreed by correspondence through the WG convenors.

The second meeting of TSG RAN is intended to be 1 to 5 March 1999 (Dallas). This is intended to be co-located with the other TSGs. It is intended that the Chairmen should be elected at the second TSG meeting.

14.8 Any Other Business

The meeting considered TD Gx98-034 (Qualcomm) proposing that a reference should be made in the objectives and work plans of all TSGs to consider the issue of convergence of WCDMA with cdma2000 and other RTT proposals.

As this issue related equally to all TSGs, it was agreed to request the combined session to consider this item.

14.9 Close of individual session

The chairman thanked the delegates for their active participation and formally closed the session.

15 Reports from the TSG individual sessions

15.1 TSG Terminals

The Convenor presented the results of the Terminals TSG meeting, as given in TD Gx98-072.

Some modifications to the Terms of Reference were agreed.

Working groups were agreed as follows:

- Mobile Terminal Conformance Testing, Convened by Mr. Remi Thomas (France Telecom).
- Mobile Terminal Services & Capabilities, Convened by Mr. Kevin Holley (BT).
- USIM, Convened by Dr. Klaus Vedder (Gieseke & Devrient)

A meeting schedule for the TSG and its working groups was developed and is included in TD Gx98-072.

15.2 TSG RAN

The Convenor presented the results of the RAN TSG meeting.

Election of TSG Chairmen was discussed and it was concluded to follow procedures in TD Gx98-048.

Some modifications to the Terms of Reference were agreed and were presented to the Joint session. These modifications were discussed and clarifications were provided. The inclusion of handover between GSM and UMTS was proposed, and 3GPP Members asked to consider if this is appropriate for the Terms of Reference. It was decided that the issue is not a ToR subject, but the inclusion of the work in individual TSGs should be considered. The specification of the Iu interface was discussed and some modifications to the text of the Terms of Reference were agreed.

TSG Terminals will be responsible for terminal equipment radio conformance specifications. TSG RAN will be responsible for terminal equipment radio performance specifications.

Working groups were agreed as follows:

WG1, Radio layer 1 specification, Convened by Mr. Furuya (NEC).

WG2, Convened by Mr. Fauconnier (Nortel).

WG3 Iu, Convened by Mr. Willars (Ericsson).

WG4: Radio performance/protocol aspects and Base Station conformance aspects, Convened by Mr. Benn (Motorola).

Ad-hoc group on ITU internal co-ordination (for liaisons, etc.), Convened by Mr. Magnani (CSELT).

Some discussion took place about the scope of WG4. Members are asked to contribute to the RAN and Terminals TSGs on this matter.

A draft meeting schedule was developed. WGs to decide by correspondence.

15.3 TSG SA

The Convenor presented the results of the SA TSG meeting.

The following Interim WGs were set-up, which will be revised if necessary at the next TSG meeting.

Services, Convened by Mr. Alan Cox (Vodafone).

Architecture, Convened by Mr. Yukio Hiramatsu (NTT).

Security, Convened by Prof. Michael Walker (Vodafone).

CODEC, Convened by Mr. Kari Jarvinen (Nokia).

Network Management ad-hoc group: Mr. Inaki Cabrera (AirTel Movil) (availability is to be confirmed, Mr. Albert Yuhan (Omnipoint) will be appointed in the case that Mr. Cabrera is unavailable).

A meeting schedule was also produced for the TSG and Interim WGs.

15.4 TSG CN

The Convenor presented the results of the CN TSG meeting.

The Terms of Reference were approved with minor changes. The Work Plan for CN was approved with some minor changes.

Working groups were agreed as follows:

WG1: Mobility Management, Call Control, Session Management, Convened by Mr. Hannu Hietalahti (Nokia).

WG2: CAMEL and MAP, Jointly convened by Mr. Masami Yobusaki (DoCoMo) and Mr. Ian Park (Vodafone).

WG3: Interworking with External Networks, Jointly convened by Mr. Oscar Lopez-Torres (Telemobile) and Mr. Norbert Klehn (Siemens).

A meeting schedule was also produced for the TSG and Interim WGs.

16 Close

The Chairman closed the meeting, which had achieved its goals and thanked the delegates for their co-operation and fine work.

Annex A: Revised TSG Terms of Reference

TERMS OF REFERENCE RADIO ACCESS NETWORK Technical Specification Group

including revisions made at TSG#1, 7-8 December 1999

Background

Third generation mobile systems should be based on new wide band, multimode, flexible radio access. This approach will ensure that systems based on 3GPP specifications will be capable of rapid development and deployment of competitive service offerings while still enabling global roaming.

Terms of reference

The technical specification development work within 3GPP is accomplished by Technical Specification Groups (TSGs) according to the principles and rules contained in the Project reference documentation (Partnership Project Description, Partnership Project Agreement, Partnership Project Working Procedures).

In particular the TSGs report to the Project coordination Group (PCG), and may organize their work in Working Groups and liaise with other groups as appropriate.

Each TSG has the responsibility to develop, approve and maintain the specifications within its terms of reference.

The TSG **Radio Access Network** (TSG-R) is responsible for the radio access part, including its internal structure, of systems based on 3GPP specifications.

Specifically it has a responsibility for:

Terminal Equipment and UTRAN functions (FDD & TDD), requirements and interfaces. Management of work items placed under its responsibility.

More specifically, TSG-R will address the following areas of work:

- Radio Layer 1 specification;
- Radio Layer 2 specification;
- Radio Layer 3 RR specification;
- Iub specification;
- Iur specification;
- Iu specification;
- UTRAN O&M requirements;
- Conformance test specifications for testing of all aspects of base stations;
- Specifications for radio performance and protocol aspects from the system point of view.

Glossary of terms

CN	Core Network
FDD	Frequency Division Duplex
IP	Internet Protocol
O&M	Operations and Maintenance
QoS	Quality of Service
RR	Radio Resource
TDD	Time Division Duplex
UE	User Equipment
USIM	UMTS Subscriber Interface Module
UTRAN	Universal Terrestrial Radio Access Network
VHE	Virtual Home Environment

**TERMS OF REFERENCE
TERMINALS
Technical Specification Group**

including revisions made at TSG#1, 7-8 December 1999

Background

One of the key objectives of third generation systems is that they should aim at providing services anywhere, anytime. This translates into requirements for the 3GPP terminals to roam freely between networks and to be able to circulate freely around the globe.

Terms of reference

The technical specification development work within 3GPP is accomplished by Technical Specification Groups (TSGs) according to the principles and rules contained in the Project reference documentation (Partnership Project Description, Partnership Project Agreement, Partnership Project Working Procedures).

In particular the TSGs report to the Project coordination Group (PCG), and may organize their work in Working Groups and liaise with other groups as appropriate.

Each TSG has the responsibility to develop, approve and maintain the specifications within its terms of reference.

The TSG **Terminals** (TSG-T) is responsible for specifying the Terminal Equipment interfaces ensuring that terminals based on the relevant 3GPP specifications meet the 3GPP objectives.

Specifically it has a responsibility for:

- Terminal Equipment performance specifications;
- USIM and its interface specifications;
- Management of the work items placed under its responsibility.

More specifically, TSG-T will address the following areas of work:

- Service capability protocols;
- Messaging;
- Services end-to-end interworking;
- USIM to Mobile Terminal interface and functionality;
- Model/framework for terminal interfaces and service (application) execution;
- Conformance test specifications of terminals, including radio aspects;
- Multi-mode terminals.

Glossary of terms

USIM UMTS Subscriber Identity Module

**TERMS OF REFERENCE
SERVICE AND SYSTEM ASPECTS
Technical Specification Group**

including revisions made at TSG#1, 7-8 December 1999

Background

One key aspect of third generation systems is that they should be based on defined «service capabilities» rather than on defined services. This approach will ensure that systems based on 3GPP specifications will be capable of rapid development and deployment of competitive service offerings while still enabling global roaming via the Virtual Home Environment (VHE) concept.

Terms of reference

The technical specification development work within 3GPP is accomplished by Technical Specification Groups (TSGs) according to the principles and rules contained in the Project reference documentation (Partnership Project Description, Partnership Project Agreement, Partnership Project Working Procedures).

In particular the TSGs report to the Project coordination Group (PCG), and may organize their work in Working Groups and liaise with other groups as appropriate.

Each TSG has the responsibility to develop, approve and maintain the specifications within its terms of reference.

The TSG **Systems Aspects** (TSG-S) is responsible for the overall architecture and service capabilities of systems based on 3GPP specifications and, as such, has a responsibility for cross TSG co-ordination. Any difficulty that may appear in this role shall be reported to the PCG.

Specifically it has a responsibility for:

- Overall system architecture including the assignment of functions to particular subsystems (UTRAN, CN, Terminal Equipment, USIM), key information flows and definition of required bearers and services offered by these different subsystems;
- Development of a framework for services, service capabilities, service architecture, charging and consideration of need for «default» services and/or applications;
- Definition of a security framework and review of security aspects of overall system;
- Management of work items including assignment of tasks to other TSGs and monitoring of progress.

More specifically, TSG-S will address the following areas of work:

- **Services Capabilities:**
 - Definition of service and feature requirements;
 - Development of service capabilities and a service architecture for cellular, fixed and cordless applications.
- **Operational capabilities:**
 - Charging and Accounting;
 - Network Management;
 - Security Aspects.
- **Architecture:**
 - Definition, evolution and maintenance of the overall architecture including the assignment of functions to particular subsystems (e.g. UTRAN, CN, Terminal Equipment, USIM) and key information flows;

- In co-operation with the other TSGs, define required services, service capabilities and bearers capabilities offered by the different subsystems, including Quality of Service requirements for access to both packet and circuit switched networks.
- **CODEC aspects:**
 - Principles for definition of end-to-end transmission;
 - Definition, evolution and maintenance of relevant specifications.
- **Project Co-ordination:**
 - High level co-ordination of the technical work performed in other TSGs and monitoring of progress.

Glossary of terms

CN	Core Network
IP	Internet Protocol
O&M	Operations and Maintenance
QoS	Quality of Service
RR	Radio Resource
UE	User Equipment
USIM	Universal Subscriber Interface Module
UTRAN	Universal Terrestrial Radio Access Network
VHE	Virtual Home Environment

**TERMS OF REFERENCE
CORE NETWORK
Technical Specification Group**

including revisions made at TSG#1, 7-8 December 1999

Background

The third generation systems based on 3GPP specifications will rely on evolutions from the GSM network standards. This approach will ensure that systems based on 3GPP specifications will be capable of rapid development and deployment of competitive service offerings while still enabling global roaming.

Terms of reference

The technical specification development work within 3GPP is accomplished by Technical Specification Groups (TSGs) according to the principles and rules contained in the Project reference documentation (Partnership Project Description, Partnership Project Agreement, Partnership Project Working Procedures).

In particular the TSGs report to the Project coordination Group (PCG), and may organize their work in Working Groups and liaise with other groups as appropriate.

Each TSG has the responsibility to develop, approve and maintain the specifications within its terms of reference.

The TSG **Core Network** (TSG-CN) is responsible for the specifications of the Core network part of systems based on 3GPP specifications.

Specifically it has a responsibility for:

- User Equipment - Core network layer 3 radio protocols (Call Control, Session Management, Mobility Management);
- Core Network internal interfaces for Call Associated and Non Call Associated signaling;
- Interconnection of the Core Network with external networks;
- Management of work items placed under its responsibility.

More specifically, TSG-CN will address the following areas of work:

- Mobility management, call connection control and session management signalling between the user equipment and the core network;
- Core network signalling between the core network nodes. The signalling supports functionality such as user information, subscription information and control of network services;
- Interworking with 2nd generation networks (e.g. handover to / from GSM);
- Definition of interworking functions between the core network and external networks;
- Packet related matters such as mapping of QoS (e.g. transparency for IP domain applications, general for bearer types, special for optimized applications such as Voice over IP);
- Core network aspects of the Iu interface;
- Core network O&M requirements.

Glossary of terms

CN	Core Network
IP	Internet Protocol
O&M	Operations and Maintenance
QoS	Quality of Service
RR	Radio Resource
UE	User Equipment
USIM	UMTS Subscriber Interface Module
UTRAN	Universal Terrestrial Radio Access Network
VHE	Virtual Home Environment