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Foreword

This ETSI Technical Report (ETR) has been produced by the Special Mobile Group (SMG) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETR is a collection of terms, definitions and abbreviations related to the Universal Mobile Telecommunications System (UMTS). This ETR provides a tool for further work on UMTS technical documentation and facilitates their understanding. This ETR corresponds to SMG specification UMTS 01.02 version 3.1.0.

ETRs are informative documents resulting from ETSI studies which are not appropriate for European Telecommunication Standard (ETS) or Interim European Telecommunication Standard (I-ETS) status.

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1 Scope

This ETSI Technical Report (ETR) is a collection of terms, definitions and abbreviations related to the baseline documents defining Universal Mobile Telecommunications System (UMTS) objectives and systems framework. This ETR provides a tool for further work on UMTS technical documentation and facilitates their understanding.

The terms, definitions and abbreviations as given in this ETR are either imported from existing documentation (ETSI, ITU or elsewhere) or newly created by UMTS experts whenever the need for precise vocabulary was identified.

New terms, definitions and abbreviations may emerge in new documents specifying UMTS in greater detail. In this process, the consistency of UMTS terminology is maintained with updates of this ETR.

All efforts have been made to harmonize this vocabulary, i.e. to avoid conflicts with the usage of the same or similar terms in other not UMTS related applications.

2 References

This ETR incorporates by dated or undated references, provisions from other publications. These references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of the publications apply to this ETR only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] CCITT Recommendation E.105, "International telephone service".

[2] ITU-T Recommendation E.800, "Quality of service and dependability vocabulary".

[3] ITU-T Recommendation I.112, "Vocabulary of terms for ISDNs".

[4] CCITT Recommendation I.113, "Vocabulary of terms for broadband aspects of ISDN".

[5] ITU-T Recommendation I.114, "Vocabulary of terms for Universal Personal Telecommunication".

[6] ITU-T Recommendation I.210, "Principles of telecommunication services supported by an ISDN and the means to describe them".

[7] ITU-T Recommendation I.374, "Framework recommendation on network capabilities to support multimedia services".

[8] CCITT Recommendation Q.1001, "General aspects of Public Land Mobile Networks".

[9] ITU-T Recommendation Q.1290, "Terminology used in the definition of intelligent networks".

[10] Draft ETR DTR/NA-02503 STAG, "Glossary of security terminology".

[11] TCR-TR 015, "Work programme for the Universal Mobile Telecommunication System (UMTS)".

[12] Draft TCR-TR DTR/NA-60002, "Intelligent Networks - Vocabulary of terms and definitions".

[13] Draft TCR-TR DTR/NA-70103, "Universal Personal Telecommunication (UPT) - UPT vocabulary".

3 Terms and definitions related to UMTS

3.1 General

3.1.1 Parties involved in UMTS operations (Roles)

Network operator: A "network operator" is a person or another entity that provides the network capabilities to support a service or a set of services.

Private network operator: A "private network operator" provides the network capabilities needed to support the services offered to a closed group of subscribers, i.e. not to the general public.

Private service provider: A "private service provider" is a service provider which offers services to a closed group of subscribers, i.e. not to the general public.

Public network operator: A "public network operator" provides the network capabilities needed to support the services offered to the general public.

Public service provider: A "public service provider" is a service provider which offers services to the general public.

Service provider: A "service provider" is a person or an other entity that has the overall responsibility for the provision of a service or a set of services to the users and for negotiating network capabilities associated with the service(s) he provides.

NOTE 1: Sometimes the term "UMTS service provider" is used, especially where it is necessary to distinguish a service provider for UMTS services and a UPT service provider who may offer UMTS services to its subscribers through a UMTS service provider.

Subscriber: A "subscriber" is a person or other entity that has contractual relationship with a service provider on behalf of one or more users. (A subscriber is responsible for the payment of charges due to that service provider).

NOTE 2: Sometimes the term "UMTS subscriber" is used instead of "subscriber", especially where it is necessary to distinguish a person or organization which subscribes directly to a UMTS service from one which benefits from UMTS services by subscribing to UPT.

UMTS access provider: A "UMTS access provider" is a person or other entity that provides UMTS radio access to a telecommunications network in order that some or all of the services provided by that network may be made available to users.

User: A "user" is a person or other entity authorized by a subscriber to use some or all of the services subscribed to by that subscriber.

Value added service provider: A "value added service provider" is a service provider which offers services that add value to other (primitive) services. (A value added service cannot be used alone, i.e. without another primitive service).

3.2 Service aspects

3.2.1 General terms related to services

3.2.1.1 Characteristics of services

Application (in the context of services): An "application" is a set of activities performed to respond to the needs of the users in a given situation for purposes such as business, education, personal communication or entertainment. It implies software and hardware utilization. It could be performed in a fully or partially automatic way and could be accessed locally or remotely. In the last case it requests the use of a telecommunication service.

Bearer Service: A "bearer service" is a type of telecommunication service that provides the capability for the transmission of information between user-network interfaces.

Connectionless service: A "connectionless service" is a service which allows the transfer of information among users without the need for end-to-end call establishment procedures. Connectionless services may be used to support both interactive and distribution services.

Conversational service: A "conversational service" is an interactive service which provides bi-directional communication by means of real-time (no store-and-forward) end-to-end information transfer from user-to-user or between user and host.

Distribution service: A "distribution service" is a service characterized by the unidirectional flow of information from a given point in the network to the other (multiple) locations. Distribution service are subdivided into two classes:

- distribution services without user individual presentation control;
- distribution services with user individual presentation control.

Interactive service: An "interactive service" is a service which provides the means for bi-directional exchange of information between users or between users and hosts. Interactive services are subdivided into three classes of services: conversational services, messaging services and retrieval services.

Location service: A "location service" is a particular mobility service in which location information can be provided to authorized users or to relevant authorities in case of emergency calls or for vehicular traffic management.

Messaging service: A "messaging service" is an interactive service which offers user-to-user communication between individual users via storage units with store-and-forward, mailbox and/or message handling (e.g. information editing, processing and conversation) functions.

Mobility service: "Mobility services" are services which are directly related to mobility of the user including terminal mobility.

Retrieval service: A "retrieval service" is an interactive service which provides the capability of accessing information stored in database centres. This information will be sent to the user on demand only. This information can be retrieved on an individual basis, e.g. the time at which an information sequence is to start under the control of the user.

Service: A "service" is set of functions offered to a user by an organization.

Service feature: A "service feature" is a network function associated with a particular basic or supplementary services in order to upgrade such services in the interest of higher comfort to the users but, in general, not offered to them as a service on its own.

Supplementary service: A "supplementary service" is a service which modifies or supplements a basic telecommunication service. Consequently, it cannot be offered to a customer as a standalone service. It should be offered together with or in association with a basic telecommunication service. The same supplementary service may be common to a number of telecommunication service.

Teleservice: A "teleservice" is a type of telecommunication service that provides the complete capability, including terminal equipment functions, for communication between users according to standardized protocols and transmission capabilities established by agreement between Administrations and/or ROAs.

Virtual Home Environment: "Virtual Home Environment" (VHE) is a system concept for service portability in UMTS across network borders. In this concept, the visited network emulates for a particular user the behaviour of his home network. For the user, adaptation of his service handling is therefore unnecessary.

3.2.1.2 Service quality

Quality Of Service: "Quality Of Service" (QoS) is defined as the collective effect of service performances which determine the degree of satisfaction of a user of a service. It is characterized by the combined aspects of performance factors applicable to all services, such as:

- service operability performance;
- service accessibility performance;
- service retainability performance;
- service integrity performance and other factors specific to each service.

Serveability performance: "Serveability performance" is the ability of a service to be obtained - within specified tolerances and other given conditions - when requested by the user and continue to be provided without excessive impairment for a requested duration. Serveability performance may be subdivided into service accessibility performance, service retainability performance and service integrity performance.

Service accessibility performance: "Service accessibility performance" is the ability of a service to be obtained, within specified tolerances and other given conditions, when requested by the user.

Service integrity performance: "Service integrity performance" is the ability of a service to perform without excessive impairments, once obtained. Service integrity is mainly influenced by the transmission performance of the network.

Service operability: "Service operability" is the ability of a service to be easily and successfully operated by a user.

Service retainability performance: "Service retainability performance" is the ability of a service once obtained, to continue to be provided under given conditions for a requested duration. Generally this depends on the transmission tolerances, the propagation performance and reliability performance of the related systems.

Service support performance: "Service support performance" is the ability of an organization to provide a service and assist in its utilization.

3.2.2 Teleservices

3.2.2.1 Teleservices based on transmission of sound

Programme sound transmission service: The "programme sound transmission service" is a teleservice which supports the transmission of sound signals with transmission quality comparable to AM radio broadcasting (lowest level) up to CD sound (highest level)

Teleconference: The "teleconference service" is a teleservice which provides the ability for several parties to be engaged in speech. These parties may speak simultaneously and several parties may use the same terminal equipment.

Telephone service: The "telephone service" is a public telecommunication service primarily intended to exchange of information in the form of speech, whereby users can communicate directly and temporarily between themselves in conversational mode, and should be provided in accordance with the International Telecommunication Regulations (Melbourne, 1988), and the relevant CCITT Recommendations. The telephone service can also support a number of non-voice services such as facsimile and data transmission.

3.2.2.2 Teleservices based on transmission of still pictures

FFS

3.2.2.3 Teleservices based on transmission of moving pictures

FFS

3.2.2.4 Teleservices based on transmission of data

FFS

3.2.2.5 Message handling services

FFS

3.2.2.6 Multimedia services

Multimedia services: "Multimedia services" are services that handle several types of media in a synchronized way from the user's point of view. A multimedia service may involve multiple parties, multiple connections, and the addition or deletion of resources and users within a single communication session.

3.2.3 Bearer services

FFS

3.2.4 Supplementary services or service features

FFS, the following terms require definitions.

Number identification supplementary services or service features

Call offering supplementary services or service features

Call completion supplementary services or service features

Call restriction supplementary services or service features

Multiparty supplementary services or service features

Community of interest supplementary services or service features

Charging related supplementary services or service features

Additional information transfer and other supplementary services

3.2.5 Charging related terms

Accounting: "Accounting" is the function which apportions the revenue obtained by the service providers to network operators in line with commercial arrangements.

Billing: "Billing" is a function whereby charging information generated by the charging function is transformed into bills requiring payment. Billing also includes collecting payments from the subscribers.

Charging: "Charging" is a function, whereby information is gathered, recorded or transferred in order to make it possible to determine and to collate usage for which the subscriber may be billed.

Incontestable charging: "Incontestable charging" means a feature by which a solid proof of the correctness of a charging item can be shown to the customer, irrespective of when, where and in which network the reason for the charge occurred.

3.3 Radio aspects

3.3.1 General terms related to radio aspects

Active mode: "Active mode" is the state of a Mobile Station when processing a call.

Adaptive terminal: An "adaptive terminal" is terminal equipment with the capability of adapting to more than one type or variation of network by using a suitable technology or a combination of techniques.

Base Station: A "Base Station" (BS) is a physical grouping of equipment which provides access to the fixed part of the UMTS by receiving and transmitting radio signals from and to Mobile Stations within its area of coverage.

Cell: A "cell" is the geographical region into which radio coverage of a single base station extends. A cell consists of one or more sectors.

Idle mode: "Idle mode" is the state of a Mobile Station switched on but not actively processing a call.

Mobile base station: A "mobile base station" is a base station which is not located at a given fixed site. Such a base station could be located within a bus, train or aircraft for example. A mobile base station has two kinds of radio connections: one to the fixed part of UMTS, the other to the Mobile Stations.

Mobile Station: A "Mobile Station" (MS) is an entity capable of accessing a set of UMTS services via one or more radio interfaces. This entity may be stationary or in motion within the UMTS service area while accessing the UMTS services, and may simultaneously serve one or more users. A user of a Mobile Station may also have several simultaneous connections with the network.

Mobile Termination: The "Mobile Termination" (MT) is the part of the Mobile Station which terminates the radio path at the mobile side and adapts the capabilities of the radio path to the capabilities of the terminal equipment.

Paging: Paging is the act of seeking a Mobile Station when an incoming call has been placed to it.

Paging area: A "paging area" is the geographical region in which a Mobile Station will be paged as a part of incoming call establishment. A paging area may comprise one or more cells or sectors.

Radio interface: The "radio interface" is the tetherless interface between a Mobile Station and a base station. This term encompasses all the functionality required to maintain such interfaces.

Repeater: A "repeater" is a radio transceiver used to extend the transmission of a base station beyond its normal range.

Sector: A "sector" is a sub-area of a cell. All sectors within one cell are served by the same base station. A radio link within a sector can be identified by a single logical identification belonging to that sector.

3.3.2 Radio bearers and links

Downlink: A "downlink" is a unidirectional radio link for the transmission of signals from a base station to a Mobile Station, from a mobile base station to a Mobile Station or from a base station to a mobile base station.

Handover: "Handover" is the process of setting up and terminating one or more radio resource unit transmissions in order to maintain a radio connection while crossing a cell or sector boundary. Handover may also be used to optimize the traffic load or quality of communications in the network.

Inter-cell handover: An "inter-cell handover" is a handover between different cells. An inter-cell handover requires network connections to be altered.

Intra-cell handover: An "intra-cell handover" is a handover within one sector or between different sectors of the same cell. An intra-cell handover does not require network connections to be altered.

Macro diversity: "Macro diversity" is a operation state in which a Mobile Station simultaneously has radio links with two or more base stations for the sole aim of improving quality of the radio connection or providing seamless handover.

Radio resource unit: A "radio resource unit" is a single controllable resource employable for unidirectional information transfer over the radio interface. Typical examples for radio bearers are a time and frequency slot in a TDMA transmission scheme with frequency hopping, or the portion of radio resources characterized by a code sequence in a CDMA transmission scheme.

Radio connection: A "radio connection" is a logical association between one or more Mobile Stations and one or more base stations to establish point-to-point, point-to-multipoint, broadcasting communications or even macro diversity. A radio connection comprises one or more radio links.

Radio link: A "radio link" is a logical association between a single Mobile Station and a single base station. Its physical realization comprises one or more radio bearer transmissions.

Seamless handover: "Seamless handover" is a handover without perceptible interruption of the radio connection

Uplink: An "uplink" is a unidirectional radio link for the transmission of signals from a Mobile Station to a base station, from a Mobile Station to a mobile base station or from a mobile base station to a base station.

3.3.3 Spectrum characteristics and coverage

Coverage area: The "coverage area" is the area over which a reliable communication can be established and maintained.

Contiguous coverage: "Contiguous coverage" is a characteristic of a geographical zone in which UMTS service is uniformly provided and the service probability is above a certain threshold.

Equivalent Telephony Erlang: "Equivalent Telephony Erlang" (ETE) is a comparative measure of traffic which no longer refers to a particular service type like voice or data.

Island coverage: "Island coverage" is a characteristic of a geographical zone in which UMTS service is provided in a number of separate isolated areas ("islands") of moderate to large size. Each island potentially contains a large number of cells.

Spot coverage: "Spot coverage" is a characteristic of a geographical zone in which UMTS service is provided only in small, isolated areas, perhaps individual cells.

Spectrum efficiency: "Spectrum efficiency" is a comparative measure characterizing the extent to which a radio interface is able to support a given number of users of a given UMTS service. Spectrum efficiency can be measured in ETE per cell per MHz or ETE per square kilometre per MHz.

3.3.4 Operating environments and cell types

Macro cells: "Macro cells" are outdoor cells with a large cell radius, typically a few tens of km. However, the range can be extended by the use of directional antennas or repeaters.

Micro cells: "Micro cells" are small outdoor cells with radii of up to 1 km.

Mega cells / satellite cells: "Mega or satellite cells" are outdoor cells served by a satellite. The individual sectors of a satellite cell may have radii of 500 to 1 500 km.

Pico cells: "Pico cells" are cells, mainly indoor cells, with a radius typically less than 50 metres.

Radio operating environment: A "radio operating environment" is a classification for the UMTS operating regime, referring to differing radio related characteristics which affect the design of the radio interface necessary to provide service in that environment.

3.3.5 Channel structures

Control channel: A "control channel" is a logical channel which carries system management information.

Logical channel: A "logical channel" is a radio bearer, or part of it, dedicated for exclusive use of a specific communicating process.

Traffic channel: A "traffic channel" is a logical channel which carries users" information like speech or data.

3.3.6 Terms related to the selection of radio transmission technology

Commonality: "Commonality" is a measure of the degree to which two radio transmission technologies serving different test environments share the same attributes. These attributes include: access method, modulation scheme, duplexing method, equalization strategy, FEC, bit interleaving etc.

Deployment scenario: The "deployment scenario" is a description of assumed user density and traffic to be served by a system in simulations. In the radio transmission technology selection process, the deployment scenario serves as a representation of the ultimate UMTS deployment.

Evaluation criteria: "Evaluation criteria" are a set of capabilities and characteristics of radio transmission technology which may be supported or exhibited by a candidate technology. These criteria form the comparative basis of the radio transmission technology selection process.

Preselection criteria: "Preselection criteria" are a set of capabilities and characteristics of a radio transmission technology, indispensable for UMTS. For a candidate technology, failure to meet the preselection criteria will result in elimination from the radio transmission technology selection process.

Test environment: A "test environment" is the combination of a test propagation environment and a deployment scenario which together describe the parameters necessary to perform a detailed analysis of a radio transmission technology. A test environment allows direct comparison of various radio transmission technologies.

Test propagation environment: The "test propagation environment" is a description of the radio channel which will be used in simulations of the operation of radio transmission technologies during the radio transmission technology selection process. The test propagation environment is supposed to represent propagation conditions of the ultimate UMTS deployment.

3.4 Network aspects

3.4.1 Network architecture and description

Functional architecture: The "functional architecture" identifies and defines network entities and the functional interfaces between these network entities.

Functional model: A "functional model" identifies and defines functional entities and relationships between these functional entities.

Functional entity: A "functional entity" is a grouping of service providing functions at a single location and is a subset of the total set of functions required to provide the service. A functional entity is the atomic unit of functionality with respect to distribution.

Functional interface: A "functional interface" between a pair of network entities is defined by the application layer protocol between them.

Information flow: An "information flow" is an interaction between functional entities required to support their joint operation. The complete set of "information flows" between a pair of functional entities describes fully and sufficiently the relationship between them.

Intelligent Network: An "Intelligent Network" (IN) is a telecommunication network based on an architecture that provides flexibility for facilitating the introduction of new capabilities and services, including those under customer control.

Network (Telecommunication network): A "network" (Telecommunication network) is a set of nodes and links that provides connections between two or more defined points to facilitate telecommunication between them.

Network architecture: A "network architecture" identifies and defines physical entities and physical interfaces between these physical entities.

Network entity: A "network entity" is a set of functional entities that is mapped onto a single piece of equipment in all anticipated system implementations. A network entity always relates to one physical entity of the network architecture.

Physical entity: A "physical entity" is a set of zero or more functional entities which is mapped onto a single piece of equipment in all anticipated system implementations together with the required communication functionality. A "physical entity" corresponds to a single network entity, or it implements lower layer communication functions only.

Physical interface: A "physical interface" defines the physical aspects of the communication between physical entities. For each "physical interface" a complete protocol stack is needed which determines how physical entities can communicate.

Terminal equipment: A "terminal equipment" is an equipment that provides the functions necessary for the operation of the access protocols by the user.

3.4.2 Network performance

Availability performance: "Availability performance" is the ability of an item to be in a state to perform a required function at a given instant of time or at any instant of time within a given time interval, assuming that the external resources, if required, are provided.

Broadcast call: A "broadcast call" is a point-to-multipoint call in which the same information is transmitted simultaneously by the calling user to all intended users.

Call: A "call" is a complete information exchange between two or more parties.

Capability: "Capability" is the ability of an item to meet a service demand of a given quantitative characteristics under given internal conditions.

Dependability: "Dependability" is the collective term used to describe the availability performance and its influencing factors: reliability performance, maintainability performance and maintenance support performance. Dependability is used only for general descriptions in non-quantitative terms.

Maintainability performance: "Maintainability performance" is the ability of an item under stated conditions of use, to be retained in or restored to, a state in which it can perform a required function, when maintenance is performed under given conditions and using stated procedures and resources.

Maintenance support performance: "Maintenance support performance" is the ability of a maintenance organization, under given conditions, to provide upon demand the resources required to maintain an item, under given maintenance policy. The given conditions are related to the item itself and to the conditions under which the item is used and maintained.

Network Performance: "Network Performance" (NP) is the ability of a network or network portion to provide the functions related to communications between users; it contributes to service accessibility, service retainability and service integrity. Network performance parameter values are usually derived from quality of service (QOS) parameter values.

Propagation performance: "Propagation performance" is the ability of a propagation medium, in which a wave propagates without artificial guide, to transmit a signal within the given tolerances. The given tolerances may apply to variations in signal level, noise, interference levels etc.

Reliability performance: "Reliability performance" is the ability of an item to perform a required function under given conditions for a given time interval.

Trafficability: "Trafficability" is the ability of an item to meet a traffic demand of a given size and other characteristics, under given internal conditions.

Transmission performance: "Transmission performance" is the reproducibility of a signal input to a telecommunications network under given conditions. The given conditions may include the effect of propagation performance where applicable.

3.4.3 Network access

International Charged Subscriber Identifier: The "International Charged Subscriber Identifier" (ICSI) is a unique identifier allocated to each UMTS subscriber and used to identify the subscriber that is to be charged by the UMTS operator.

International Mobile Equipment Identity: The "International Mobile Equipment Identity" (IMEI) is a code allocated to each UMTS MT when manufactured and used to uniquely identify the UMTS MT to the network for the purpose of terminal equipment validation or other similar tasks.

International Mobile User Identity: The "International Mobile User Identity" (IMUI) is the unique identifier allocated to each UMTS user which is used to identify the user to the UMTS operator.

International Mobile User Number: The "International Mobile User Number" (IMUN) is a diallable number allocated to a UMTS user.

Personal Identification Number: A "Personal Identification Number" (PIN) is a personal code used for authentication of the user against the UIM to prevent its unauthorized use.

Personal mobility: "Personal mobility" is the ability of a user to access telecommunication services at any terminal on the basis of a personal telecommunication identifier, and the capability of the network to provide those services according to the user's service profile. "Personal mobility" involves the network capability to locate the user for the purpose of addressing, routeing, and charging of the user's calls.

Temporary Mobile Terminal Identifier: The "Temporary Mobile Terminal Identifier" (TMTI) is an identifier temporarily allocated to a terminal when visiting a UMTS network in order to provide a mutually agreed address for paging users of that terminal or other mobility related network functions.

Terminal mobility: "Terminal mobility" is the ability of a terminal to access telecommunications services from different locations and while in motion, and the capability of the network to identify and locate that terminal or the associated user.

UMTS identity module: A "UMTS identity module" in UMTS is a functional entity which contains all the information elements needed by the system to identify, authenticate and permit the user's registration.

3.4.4 Information transfer

Asynchronous Transfer Mode: "Asynchronous Transfer Mode" (ATM) is a transfer mode in which the information is organized into cells; it is asynchronous in the sense that the recurrence of cells depends on the required or instantaneous bit rate. Statistical and deterministic values may also be used to qualify the transfer mode.

Cell (as used in ATM description): A "cell" is a block of fixed length identified by a label at layer 1 of the OSI reference model.

Circuit transfer mode: "Circuit transfer mode" is a transfer mode in which transmission and switching functions are achieved by permanent or quasi-permanent allocation of channels, bandwidth or codes between identified points of a connection.

Frame: A "frame" is a block of variable length identified by a label at layer 2 of the OSI reference model, i.e. an HDLC block.

Packet: A "packet" is an information block identified by a label at layer 3 of the OSI reference model.

Packet transfer mode: "Packet transfer mode" is a transfer mode in which the transmission and switching functions are achieved by packet oriented techniques, so as to dynamically share network transmission and switching resources between a multiplicity of connections.

Synchronous Transfer Mode: "Synchronous Transfer Mode" (STM) is a transfer mode which offers periodically to each connection a fixed-length word.

Transfer mode: "Transfer mode" is an information transfer attribute covering transmission, multiplexing and switching in a telecommunication network.

Virtual circuit: A "virtual circuit" is a type of Asynchronous Transfer Mode (ATM) connection involving establishment and release procedures such that the label associated with each cell need not contain complete routeing information.

3.4.5 Network management

Telecommunication Management Network: A "Telecommunication Management Network" (TMN) is a network supposed to support the management requirements of an operator (e.g. service provider, network provider, backbone network provider, access provider) to plan, provision, install, maintain, operate and administer telecommunications and services.

TMN management function: A "TMN management function" is the smallest part of the TMN management service as perceived by the user of the service. A TMN management function is a co-operative interaction between application processes in managing and managed systems for the management resources (physical and logical). This normally corresponds to one (sometimes a set of very few) CMIS operation or notification.

TMN management service: A "TMN management service" is an area of management activity which provides for the support of operations, maintenance or administration of the network being managed, described from the user perception of the OAM requirements.

3.5 Security aspects

3.5.1 General terms related to security

Access control: "Access control" is the prevention of unauthorized use of a resource, including the prevention of use of a resource in an unauthorized manner.

Anonymity: "Anonymity" is the principle whereby ones identity is withheld from other parties.

Authorization: "Authorization" is the permission granted by an owner for a specific purpose.

Certificate (= User certificate): A (user) "certificate" is the public keys of a user, together with some other information (such as the user’s identity), rendered unforgeable by cyphering with the secret key of the certification authority which issued it.

Certification authority: A "certification authority" is an authority trusted to create and assign certificates. A certification authority may also create cryptographic keys.

Confidentiality: "Confidentiality" is the avoidance of the disclosure of information without the permission of its owner.

Data integrity: "Data integrity" is the property that data has not been altered or destroyed in an unauthorized manner.

Digital signature: The "digital signature" is data appended to, or a cryptographic transformation of, a data unit that allows a recipient of the data unit to prove the source and integrity of the data unit and protect against forgery e.g. by third parties or the recipient.

Identity: "Identity" is a system unique tag applied to an entity.

Information security: "Information security" is the combination of confidentiality, validity, authenticity, Integrity and Information availability.

Integrity: "Integrity" (in the context of security) is the avoidance of unauthorized modification of information.

Key management: "Key management" is the generation, storage, distribution, deletion, archiving and application of keys in accordance with a security policy.

Location confidentiality: "Location confidentiality" is a function by which the information about the location of an entity is accessible only to authorized parties.

Masquerade: "Masquerade" is the pretence by an entity to be a different entity.

Privacy: "Privacy" is the right of individuals to control or influence what information related to them may be collected and stored and by whom and to whom that information may be disclosed.

Repudiation: "Repudiation" is the denial by one of the entities involved in a communication of having participated in all or part of the communication.

Security: "Security" is the protection of information availability, Integrity and confidentiality.

System integrity: "System integrity" (in the context of security) is the property that data and the methods of handling the data cannot be altered or destroyed in an unauthorized manner.

Threat: "Threat" is a potential violation of security.

User identification: "User identification" is the process which enables an IT system to recognize a user as corresponding to one previously described to the system.

Validation: "Validation" is the process of checking the integrity of a message, or selected parts of a message.

3.5.2 Authentication

Authentication: "Authentication" is a property by which the correct identity of an entity or party is established with a required assurance. The party being authenticated could be a user, subscriber, service provider or network provider.

Authentication algorithm: An "authentication algorithm" is a sequence of security information maintained in an access device. It is used to provide secure access to the service. This may involve complex algorithms.

Data origin authentication: "Data origin authentication" is the corroboration that the source of data received is as claimed.

3.6 UMTS satellite component

3.6.1 Satellite component entities

Dual Mode Station (within the UMTS framework): A "Dual Mode Station" (DMS) is an entity which is both a Mobile Station and a Mobile Earth Station. This allows the user to access UMTS services using either a terrestrial or a satellite mode.

Land Earth Station (within the UMTS framework): A "Land Earth Station" (LES) is a part of the feeder link system of the satellite network which provides for traffic and signalling connections between the space and terrestrial infrastructure segments of the satellite system.

NOTE: Generally, the LES does not operate within the FPLMTS frequency bands 1885 MHz - 2025 MHz and 2110 MHz - 2200 MHz.

Mobile Earth Station (within the UMTS framework): A "Mobile Earth Station" (MES) is an entity capable of accessing a set of UMTS satellite services. This entity may be stationary or in motion within the UMTS service area while accessing UMTS satellite services and may simultaneously serve one or more users. A user of a mobile earth station may also have several simultaneous connections with the network.

3.6.2 Satellite orbit classification

Geostationary orbit: The "geostationary orbit" (GSO) is a equatorial circular geosynchronous orbit, i.e. with a period of 24 hours, at about 36 000 km altitude above the earth surface.

Highly-Inclined Elliptical Orbit: The "Highly-Inclined Elliptical Orbit" (HEO) is an elliptical orbit of about 3 000 to 47 000 km altitude above the earth surface with an inclination greater than 40 degrees.

Low Earth Orbit: The "Low Earth Orbit" (LEO) is a circular or elliptical orbit of about 700 to 3 000 km altitude above the earth surface.

Medium Earth Orbit: The "Medium Earth Orbit" (MEO) is a circular or elliptical orbit of about 8 000 to 20 000 km altitude above the earth surface.

4 Abbreviations used in UMTS Technical Specifications or Technical Reports

A

AAC	Authentication and Access Control
AAL	ATM Adaptation Layer
ACB	Automatic Call Back
ACCF	Access and Control Function
ACI	Access Core network Interface
ALS	Application Layer Structure
ASE	Application service elements
ATM	Asynchronous Transfer Mode

B

BA	Basic Access
BC	Bearer Control
BCAF	Bearer Control Agent Function
BCF	Bearer Control Function
BCPN	Business CPN
BCSM	Basic Call State Model
BER	Bit Error Ratio
B-ISDN	Broadband ISDN
BSI	Base Station Identifier

C

CCAF	Call Control Agent Function
CCF	Call Control Function
CCITT	International Telegraph and Telephone Consultative Committee (now ITU-T)
CDMA	Code-Division Multiple Access
CIC	Confidentiality and Integrity Control
CMIP	Common Management Information Protocol
CMIS	Common Management Information Service
CNMA	Customer Network Management Access
CPE	Customer Premises Equipment
CPM	Customer Profile Management
CPN	Customer Premises Network
CPT	Control Point Transfer
CS	Capability Set

D

DCPN	Domestic Customer Premises Network
DDB	Distributed Data Base
DMS	Dual Mode Station
DTMF	Dual Tone Multiple Frequency

E

EFS	Error Free Seconds
EIRP	Equivalent Isotropic Radiated Power
EMC	Electro-Magnetic Compatibility
ETE	Equivalent Telephony Erlang
ETR	ETSI Technical Report
ETS	ETSI Technical Specification

F

FDD	Frequency Division Duplex
FDMA	Frequency Division Multiple Access
FE	Functional Entity
FEC	Forward Error Correction
FFS	For Further Study [temporary entry]
FPLMTS	Future Public Land Mobile Telecommunications Systems
FSS	Fixed Satellite Service

G

GDMO	Guidelines for the Definition of Managed Objects
GSM	Global System for Mobile communications
GSO	Geostationary Orbit

H

HC	Handover Criteria
HEC	Header Error Control
HEO	Highly-inclined Elliptical Orbit
HID	Handover Initiation and Decision
HOC	Handover Control
HUP	Handover User Profile

I

IBCN	Integrated Broadband Communications Network
ICSI	International Charged Subscriber Identifier
IMEI	International Mobile Equipment Identity
IMUI	International Mobile User Identity
IMUN	International Mobile User Number
IN	Intelligent Network
INAP	Intelligent Network Application Protocol
IP	Intelligent Peripheral
ISCP	ISDN Control Part
ISDN	Integrated Services Digital Network
ISL	Inter-Satellite Links
ISO	International Standards Organization
IT	Information Technology
ITU	International Telecommunication Union
ITU-T	ITU Telecommunication Standardization Sector
IUN	International UMTS Number
IWF	Interworking Function
IWU	Interworking Unit

L

LAI	Location Area Identifier
LAV	Least Acceptable Value
LCA	Local Configuration Analysis
LE	Local Exchange
LEI	Local Exchange Identifier
LEO	Low Earth Orbit
LES	Land Earth Station
LOCM	Location Management
LOS	Line-Of-Sight (path)

M

MAD	Management Administrative Domain
MBCF	Mobile Bearer Control Function
MCCF	Mobile Call Control Function
MCF	Mobile Control Function
MEF	Measurement Function
MEO	Medium Earth Orbit
MES	Mobile Earth Stations
MOS	Mean Opinion Score
MoU	Memorandum of Understanding
MRLC	Mobile Radio Link Control
MRRA	Mobile Radio Resource Allocation
MRRC	Mobile Radio Resource Control
MRTR	Mobile Radio Transmission and Reception
MS	Mobile Station
MSCP	Mobility and service control point
MSF	Mobile Storage Function
MSS	Mobile Satellite System
MT	Mobile Termination
MTRN	Mobile Terminal Roaming Number
MWC	Multi-Way Calling

N

NP	Network Performance

O

OAM	Operations, Administration and Maintenance
OS	Operations System
OSI	Open Systems Interconnection

P

PABX	Private Automatic Branch Exchange
PAI	Paging Area Identifier
PC	Personal Computer
PDU	Protocol Data Unit
PIN	Personal Identification Number
PLMN	Public land Mobile Network
PM	Physical Medium (sublayer)
PMSN	Public Mobile Satellite Network
POTS	Plain Ordinary Telephone Service
PRA	Primary Rate Access
PSN	Public Switched Network
PSTN	Public Switched Telephone Network
PTN	Private Telecommunications Network

Q

QoS	Quality Of Service

R

RACE	Research and Development in Advanced Communications for Europe
RAS	Radio Access System
RBC	Radio Bearer Control
RF	Radio Frequency
RFTR	Radio Frequency Transmission and Reception
RLC	Radio Link Control
RRA	Radio Resource Allocation
RRC	Radio Resource Control
RRT	Rerouteing Triggering

S

SAP	Service Access Point
SAR	Segmentation And Reassembly (sublayer)
SCAF	Service Control Access Function
SCEF	Service Creation Environment Function
SCF 1)	Service Control Function
SCF 2)	Selective Call Forwarding
SCF(M)	Service Control Function (Mobile)
SDF	Service Data Function
SDF(M)	Service Data Function (Mobile)
SHR	Special Handover Request
SIB	Service Independent building Block
SMF	Service Management Function
SMAF	Service Management Access Function
SPM	Service Profile Modification
SRF	Specialized Resource Function
SSF	Service Switching Function
SSP	Service Switching Point
STM	Synchronous Transfer Mode

T

TC	Transmission Convergence (sublayer)
TCC	Target Cells and Connections
TCRTR	Technical Committee Reference Technical Report
TDD	Time Division Duplex
TDMA	Time Division Multiple Access
TE	Terminal Equipment
TMN	Telecommunications Management Network
TMTI	Temporary Mobile Terminal Identifier
TO	Telecommunication Operator

U

UMTS	Universal Mobile Telecommunications System
UNI	User Network Interface
UPT	Universal Personal Telecommunication
UUI	UMTS User Identity
UUM	UMTS User Mobility

V

VC	Virtual Channel
VAS	Value Added Services
VHE	Virtual Home Environment
VP	Virtual Path
VPI	Virtual Path Identifier

Annex A: Alphabetical Index

History

Document history	
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