

Glossary of Terms and Acronyms

Virtual Multimedia Resource Function

TERMINOLOGY

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1 Introduction

This document defines the terms and acronyms used in this library.

The defined terms, definitions, acronyms, and abbreviations are sorted in alphabetical order. Some of them can have more than one definition.



2 Terms

In the following sections, terms and definitions used in Virtual Multimedia Resource Function (vMRF) CPI are defined.

2.1

A-E

1+n redundancy	A redundancy scheme used in the VNF where SC functions are active in only one VM at a time, and all other VMs serve as standby.
3GPP	3rd Generation Partnership Project. 3GPP® is a body that produces standards and specifications for third-generation systems.
Access network	A network from which the individual users connect to the core network through the P-CSCF. Private overlapping address spaces can be used in access networks.
Access transfer	Transfer at the IMS-level of one or more media paths of an ongoing IMS session on one UE between access and CS networks.
ACL	Access Control List. A list of permissions attached to an object. An ACL specifies which users, entities, or system processes are granted access to objects, and what operations are allowed on given objects. Each entry in a typical ACL specifies a subject and an operation.
Action	An executable operation triggered by setting attributes on an MO. Each action is defined in the related MOC description.
AF	Application Function. An element of the service layer architecture offering applications that require information about the characteristics of the IP-connectivity session used to access such applications.



Alarm	<p>Issued by the system to indicate an unexpected behavior of malfunction requiring corrective action by the user. An alarm at least has the states “raised” (initial detection of the fault) and “cleared” (when the fault no longer exists). An alarm can also change state regarding perceived severity. Alarms are also called “stateful” alarms to emphasize that they have a state. An active alarm is an alarm that has been issued but not cleared.</p> <p>All alarm state changes, including cleared state, are recorded in the Alarm Log. Each alarm has an alarm Operating Instructions document. It describes the possible fault reasons, fault locations, and the potential service impact. It also describes the procedures required to eliminate the problem and eventually clear the alarm.</p>
APN	<p>Access Point Name. The APN is the name of a gateway between a GPRS, 3G, or 4G mobile network and another computer network, frequently the public Internet.</p> <p>A mobile device making a data connection must be configured with an APN to present to the carrier. The carrier examines this identifier to determine what type of network connection to create, for example: what IP addresses to assign to the wireless device, what security methods to use, and how, or if, it to connect to a private customer network.</p>
Application	<p>A service enabler deployed by service providers, manufacturers, or users. Individual applications are often enablers for a wide range of services.</p>
ARP	<p>Address Resolution Protocol. A telecommunications protocol used for resolution of network layer addresses into link layer addresses.</p>
AS	<p>Application Server. A SIP-based server that provides value added IM services and resides either in the home network of the user or in a third-party location.</p>
ATCF	<p>Access Transfer Control Function. The ATCF is a logical entity and coordinates the access transfer of a session between access and CS networks.</p>
Attribute	<p>Represents the configuration. The read-only attributes in the MOs describe configuration state and operational values. The writable attributes control the operation and configuration for the particular network resource. Each attribute is defined in the related MOC description.</p>
Authentication	<p>The process of verifying the identity of an entity.</p>



Authorization	The granting of permission based on authenticated identification.
BFD	Bidirectional Forwarding Detection. A network protocol used to detect faults between two forwarding engines connected by a link.
C-RACF	Core Resource and Admission Control Function. Acts as the mediator between SCF and transport functions for QoS-related transport. C-RACF resides in the core network and makes decisions according to defined policies based on resource status in the transport layer and also based on use information, SLA, network policy rules, and service priorities.
CAC	Call Admission Control. A validation process in communication systems that confirms that there are sufficient resources for a proposed connection before the connection is accepted and established.
Cardinality	Cardinality in the MOM means the number of elements of MOs in a parent-child relationships, and in associations between MOs.
Cloud Administrator	The role of the cloud service provider who provides the cloud service to the end user.
Codec latching	During transcoding, if a subsequent SDP offer is received from either side after a previous SDP offer/answer exchange and the new SDP offer contains a single codec that is the same as currently negotiated for the side on which the new offer was received, then the same codec parameters that resulted from the previous SDP offer/answer negotiation are used when forwarding the subsequent SDP offer.
Codec lockdown	During transcoding, the locking down to a single codec when an answer contains multiple codecs from the offer.
Compute host	A compute host (or simply host) is the whole server entity providing computing resources, composed of the underlying hardware platform: processor, memory, I/O devices, and disk.
Compute node	See compute host.
Control plane	The IP traffic between users or IMS core network nodes to control, for example, sessions, dialogs, and registration states. Realized by SIP. Compare with media plane.



Core network	Central part of a multimedia network including, for example, databases, SIP servers, media servers, and media gateways. Compare with IMS Core Network.
Counter	An entity that accumulates the measured values of a certain monitored item as the time passes. The counter value is incremented, never decremented, until it is restarted.
CPI	Customer Product Information. Documentation for an ME, delivered in the Active Library Explorer.
CS network	The IP network between the MSC and the P-CSCF (ATCF), which is used in the transfer of a session between the LTE network and CS network.
CSCF	Call Session Control Function. Several roles of SIP servers or proxies that are collectively called Call Session Control Function. A CSCF is used to process SIP signalling packets in the IMS. See P-CSCF, I-CSCF, and S-CSCF for details regarding the different CSCF types within IMS.
CSR	Customer Service Request. Used during the trouble reporting process to describe the problems identified.
Data model	A mapping of the contents of an information model into a form that is specific to a particular type of data store or repository. A data model is basically the rendering of an information model according to a specific set of mechanisms for representing, organizing, storing, and handling data. In contrast to an information model, a data model includes implementation and protocol-specific details. That is, rules that explain how to map MOs onto lower-level protocol constructs.
DDoS	Distributed Denial of Service. A DDoS attack occurs when multiple systems flood the bandwidth or resources of a targeted server. When a server is overloaded with connections, new connections can no longer be accepted.
Defense in depth	A security approach where the security mechanisms are implemented in layers from the outermost part of the network to the inner part of the network. An example is from the user host and access network through the perimeter firewalls and routers to the core of the core network. Each layer must be protected from the attacks.



Derived data type

Data type enhanced with extra restrictions and properties. Derived string data types contain, for example, length and content constraints. Derived integer data types contain extra range constraints. Each derived data type is defined in the related MOC description.

DHCP

Dynamic Host Configuration Protocol. DHCP is a protocol for plug-and-play configuration of IP hosts. IP hosts query a DHCP server using the DHCP.

Dialog

A dialog represents a peer-to-peer SIP relationship between two user agents. A dialog is identified by a call identifier, local tag, and a remote tag. An early dialog exists until a final response has been received at which point a stable session exists.

DN

Distinguished Name. The name of an object tree that is shared between the system and the Management System. The DN is in 3GPP format (from root to leaf). The DN is used to identify an MO uniquely in the system. It gives the path of the MO in the tree of objects. The system uses 3GPP formatted DNs where each relative DN part consists of the MOC name equal to the MO identity. If the key attribute name is not equal to the MOC name plus ID, then the key attribute name is also appended to the MOC name separated by a dot.

DNS

Domain Name System. A logical node that maintains information associated with hostnames within a naming domain or subdomain. A DNS offers the mapping of names to addresses and the mapping of addresses to names.

DNS SRV record

A DNS Resource Record for specifying the domain name of a server.

DoS

Denial of Service. A DoS attack occurs when a single system floods the bandwidth or resources of a targeted server. When a server is overloaded with connections, new connections can no longer be accepted.

DSCP

Differentiated Services Code Point. DSCP is a value in an IP packet header. It is used to specify a particular QoS behavior for the packet. DSCP is defined in [RFC 2472](#).

E-CSCF

Emergency Call Session Control Function. A CSCF used for handling emergency calls.



Early media	Early media refers to media (for example, audio and video) that is exchanged before a particular session is accepted by the called user. Early media is defined in RFC 3959 .
ECIM	Ericsson Common Information Model. Controls the MOM structure. The ECIM is based on the CIM standard.
ECLI	Ericsson Command-Line Interface. A terminal-based command-line interface that is used to monitor and manage the ME. The ECLI is based on industry de facto standard patterns.
Emergency bearer	A bearer that is used for emergency services. For P-CSCF, an emergency bearer is a configurable IP subnet.
Emergency registration	A registration initiated by UE for emergency calls, that has an “sos” URI parameter present in the Contact header.
End-to-end security	Media protection extending between two UEs without being terminated by any intermediary.
End User	The role of the vMRF operator, who is assumed to be a cloud service consumer. Also referred to as tenant.
Enumeration	Integer-name pairs defining a fixed set of named values for an attribute, return value, or action parameter. Each enumeration is defined in the MOM.
Ericsson NETCONF interface	A machine to machine interface for configuration management of the ME, using the NETCONF protocol over the Secure Shell.
Event	Occurrence of significance to users, the MEs under surveillance and network management specifications. Events do not have states.
F-K	
Firewall	A network security system that controls the incoming and outgoing network traffic. Traffic is filtered by analyzing the data packets and determining whether they are to be allowed through, based on an applied rule set.
Flavor	Virtual resource templates in OpenStack that define RAM size, number of vCPU cores, and so on, for running VNFs.

2.2



Foreign network	The network of another carrier or a separate portion within the network of the carrier. The foreign network can either be a trusted SIP network, or an untrusted SIP network.
FTP	File Transfer Protocol. A protocol for reliable transfer of text and binary files between computers. Specified in RFC 959 .
Gauge	An entity that shows the current measured value of a certain monitored item. A gauge value can be incremented and decremented.
GP	Granularity Period. The time between the initiation of two successive gatherings of measurement data.
HA	High Availability. A system or component that is continuously operational for a desirably long length of time. Availability is measured relative to 100% operational status.
Heartbeats	Used by a Management System to monitor the interface over which the alarms or alerts are to be sent. Heartbeats are needed because a management system cannot assume that a “silent” ME behaves properly. The Heartbeat event is reported as an SNMP notification at regular intervals.
HOT	Heat Orchestration Template. In OpenStack, HOT is a file that defines the infrastructure for a cloud application in a textual format.
HPLMN	Home Public Land Mobile Network. The home telecommunications network providing mobile cellular services. Defined in 3GPP TR 21.905 .
HSS	Home Subscriber Server. An IMS database that contains subscription-related information (subscriber profiles), user authentication and authorization, and information about the subscriber location and IP information.
Hypervisor	A hypervisor, or VMM, is a piece of software, firmware, or hardware that creates and runs VMs.
I-CSCF	Interrogating Call Session Control Function. Acts as an inbound SIP proxy server in the IMS. During IMS registrations, the I-CSCF queries the HSS to select the appropriate S-CSCF that can serve the UE. During IMS sessions, the I-CSCF acts as the entry point to terminating session requests. The I-CSCF routes the incoming session requests to the S-CSCF of the called party.



	IMS	IP Multimedia Subsystem. An architectural framework for delivering IP Multimedia services as defined by 3GPP 23:288 .
	IMS core network	The central part of the IMS network architecture. The IMS core can include databases (HSS), SIP call/session servers (CSCF), ASs, media resource functions (MRFC and MRFP), and PSTN gateways. An IMS core network is typically separated from access networks (where users reside) and other operator IP Multimedia networks by an SBG.
	Information model	An abstraction and representation of the entities (or MOs) in a managed environment, their properties, attributes, and operations, as well as the way that they relate to each other. It is independent of any specific repository, software use, protocol, or platform.
	IP host	An endpoint that terminates the IP layer (L3) in an IP network (in contrast to a router, which is a transit node).
	IP interface	An interface terminating the IP Layer 3 (L3). The IP interface has an associated IP address.
2.3	L-P	
	L1	Layer 1. Physical layer is the first (lowest) layer of the OSI model. The implementation of this layer is often termed PHY. The physical layer consists of the basic networking hardware transmission technologies of a network.
	L2	Layer 2. The data link layer is the OSI protocol layer. L2 transfers data between adjacent network nodes in a wide area network or between nodes on the same local area network segment. The data link layer provides functions and procedures to transfer data between network entities. The data link layer can provide the means to detect and possibly correct errors that can occur in the physical layer. Examples of data link protocols are Ethernet for local area networks (multi-node), the PPP, HDLC, and ADCCP for point-to-point (dual-node) connections.
	L3	Layer 3. The network layer is responsible for packet forwarding including routing through intermediate routers. The data link layer is responsible for Media Access Control, flow control, and error checking. The network layer provides functions and procedures for transferring variable length data sequences from a source to a destination host through one or more networks. The network layer maintains the quality of service functions.



L4	Layer 4. The transport layer provides convenient services such as connection-oriented data stream support, reliability, flow control, and multiplexing.
LAN	Local Area Network. A computer network that interconnects computers in a limited area such as a home, school, computer laboratory, or office building using network media.
Load balancing	The distribution of processing and communications activity evenly across a network so that no single node is overwhelmed.
Logical network	A way to group a set of subnets and subnet segments together. Normally the subnets and subnet segments grouped have a common use. Each of these logical networks contains several subnets used in the associated network.
LOTG	Linux® Open Telecom Cluster. A custom Ericsson operating system distribution based on GNU/Linux. The LOTG provides a Linux cluster with high-availability characteristics.
LTE	Long Term Evolution. A standard for wireless communication of high-speed data for mobile phones and data terminals.
MAC	Media Access Control. MAC is a data communication protocol that is a sublayer of the OSI data link layer (L2). The MAC sublayer provides addressing and channel access control mechanisms. The MAC mechanisms allow several terminals or network nodes to communicate within a multiple access network that incorporates a shared medium, for example, Ethernet.
Malicious traffic	Traffic that can harm the network, the network core nodes, or user entities. Examples of traffic considered malicious by the SBG are packets using invalid source or destination addresses or ports and packets using IP options.
Managed function	The function of a managed element.
Managed Object Management	A folder in the Active Library Explorer containing the MOM.



ME	Managed Element. Telecommunications equipment that performs managed element functions, that is, provides support and services to the user. A managed element communicates with a manager (directly or indirectly) over one or more interfaces being monitored or controlled.
Measurement job	The execution of measurement data collection, aggregation, and reporting in PM XML files is performed by measurement jobs.
Media	IP traffic containing audio, video, fax, and so on. Some packets not containing actual payload (for example, RTCP packets or TCP segments for connection establishment) are considered media as they are prerequisites for, or closely coupled to, the payload.
Media anchoring	Forcing media to take a certain path by altering source or destination address and port in SDP.
Media plane	Media traffic between network entities. Compare with control plane.
MGW	Media Gateway. A translation device or service that converts digital media streams between disparate telecommunications networks.
MIB	Management Information Base. A set of managed objects in a management domain, together with their attributes, constitutes a management domain MIB. MIB is also used in SNMP for trap and counter-definition.
MIM	Management Information Model. Describes MOCs, their associations, attributes, and operations.
MO	<p>Managed Object. A resource within the telecommunications environment that can be managed using OAMP application protocols.</p> <p>The MO is a software object that encapsulates the manageable characteristics and behavior of a particular hardware or software resource. An MO is an instance of a MOC. An MO normally has attributes that provide information used to characterize the MOs that belong to the MOC. An MO can also have actions that allow the user to perform operations on the underlying implementation.</p>
MOC	Managed Object Class. A description of all the common characteristics for several MOs, such as attributes, operations, notifications, and behavior.



MOM	Managed Object Model. A structured collection of configuration information that defines the O&M capability on an ME. The MOM is defined as a set of MOCs. The MOCs contain attributes representing the configuration that can be performed by the user, and actions representing the operations that can be started by the user. The MOM is a static blueprint for the creation of the actual object model.
MTAS	Multimedia Telephony Application Server. Application server that supports IMS-based multimedia services.
MTU	Maximum Transmission Unit. The size (in bytes) of the largest protocol data unit that the communication layer can pass onwards.
NAPT	Network Address Port Translation. A method by which many network addresses and their TCP/UDP ports are translated into a single network address and its TCP/UDP ports. NAPT is defined in RFC3022 .
NAT	Network Address Translation. A network protocol used in IPv4 networks that allows multiple devices to connect to a public network using the same public IPv4 address. NAT modifies the IP address information in IPv4 headers when passing through a routing device.
NBI	Northbound Interface. The interface to a management system and a CLI client. The protocols used are ECLI, NETCONF, SFTP, and SNMP.
ND	Neighbor Discovery. A method for mapping an IPv6 address to the corresponding MAC address.
NE	Network Element. An NE provides telecommunications and support functions, and is managed by a telecommunications operations support system.
NETCONF	Network Configuration. NETCONF is a network management protocol developed in the IETF. It uses an XML-based data encoding for the configuration data and the protocol messages. The NETCONF protocol operations are realized on top of a simple RPC layer.
Next hop	A node through which IP traffic is routed. A next hop is needed when an IP source address and an IP destination address are not in the same subnet. A next hop is used when IP routing is needed to send an IP packet from the source to the destination. Separate next hops are normally configured for media transport and for SIP signaling. A next hop address is normally associated with one route but can also be associated with more than one route.



NF	Network Function. An NF is a functional block within a network infrastructure that has well-defined external interfaces and well-defined functional behavior. In practical terms, an NF is often a network node or physical appliance.
NFV	Network Functions Virtualization. NFV is the principle of separating network functions from the hardware they run on by using virtual hardware abstraction.
NFVI	Network Function Virtualization Infrastructure. NFVI is the totality of all hardware and software components that build up the environment in which VNFs are deployed.
NIC	Network Interface Controller. A NIC is a device in a compute node that provides a physical interface with the infrastructure network.
NMC	Network Management Center. One or more locations from which network monitoring and control, or network management, is exercised over a telecommunication network.
NNI	Network-to-Network Interface. An interface that specifies signaling and management functions between two networks.
Notification	A general term for a message that carries an alarm or alert instance.
NTP	Network Time Protocol. NTP is a protocol built on top of TCP/IP that is used to synchronize computer clock times in a network of computers. Defined IETF RFC 1119 .
O&M	Operation & Maintenance. O&M provides the processes, activities, tools, standards, and so on, involved with operating, and maintaining any system.
OAM	Operations, Administration, and Maintenance. OAM provides the processes, activities, tools, standards, and so on, involved with operating, administering, managing and maintaining any system.
OSPF	Open Shortest Path First. A link-state routing protocol for IP networks. It uses a link state routing algorithm and falls into the group of interior routing protocols, operating within a single autonomous system. It is defined as OSPF Version 2 in RFC 2328 for IPv4. The updates for IPv6 are specified as OSPF Version 3 in RFC 5340 .



OSS	Operations Support System. Systems dealing with the telecom network to support processes such as maintaining network inventory, provisioning services, configuring network components, and managing faults.
P-CSCF	Proxy Call Session Control Function. The first contact point for the UE within the IMS core network. The P-CSCF performs several tasks, for example: forwards the SIP register request received from the UE to the correct destination, forwards SIP messages received from the UE to the SIP server (for example, S-CSCF), forwards SIP requests or responses to the UE, detects and handles emergency session establishment, and generates CDRs.
Payload function	The payload function of a vMRF VM processes user plane traffic and H.248 signaling traffic.
PCP	Priority Code Point. Priority marking in an Ethernet frame.
Pinhole	A set of criteria defining a media stream that is let through the dynamic pinhole firewall. The criteria include local IP address and port, direction of media, and transport protocol. The criteria can also include remote IP address and port for media source filtering and bandwidth for policing.
PLMN	Public Land Mobile Network. A telecommunications network providing mobile cellular services. Defined in 3GPP TR 21.905 .
PNF	Physical Network Function. A PNF is an implementation of an NF using a tightly coupled software and hardware system.
Priority call	A call that is given priority over other calls. A priority call can be a call from a priority subscribed user or a call received that indicates priority using the RPH in SIP.
Proactive transcoding	A service where proactive measures are taken, when processing an SDP offer, to allow transcoding to be invoked at the reception of the SDP answer. Transcoding is only activated in the case the B-party does not support any codec that the A-party listed in the SDP offer. Based on local policy, more codecs can be inserted in the forwarded offer and transcoding is then invoked if one of the added codecs is selected by the answerer.



2.4

Q-T

Realm	A realm represents a network the vMRF is connected to. It can be an access network, a core network, or a foreign network. For each realm defined in the vMRF there must be a corresponding realm defined in the MTAS configuration.
Role	Role is equivalent to the user occupation within an organization, for example, System Administrator. A user can have one or more roles.
Route	Routes represent the paths IP packets travel on their way to a specific destination network (IP subnet). A route is defined by the destination network and the next hops to use when forwarding packets to this network.
RTCP	RTP Control Protocol. A protocol that monitors the quality of service and to conveys information about the participants in ongoing sessions.
RTP	Real-Time Transport Protocol. A standardized transport protocol for delivering audio and video over IP networks as defined by RFC3550 .
Rule	When applied to user authorization, rules specify the permissions to a set of resources within a ME. The authorization rules depend on predefined roles. Roles and authorization rules are defined to build a Role-Based Access Control (RBAC) model for controlling access to Managed Element resources.
Rx	An interface used by a P-CSCF for policy control (resource and QoS authorization) in an access network.
S-CSCF	Serving Call Session Control Function. Acts as a registrar server, and in some cases as a redirect server. It is the central point for IMS service control over the ISC reference point. Moreover, the S-CSCF facilitates the routing path for mobile originated or mobile terminated session requests. The S-CSCF provides initial filter criteria processing logic that enables IMS service control. It also interacts with the Media Resource Function over the Mr interface for playing tones and announcements.
SA	Security Association. The establishment of shared security attributes between two network entities to support secure communication. An SA can include attributes such as: cryptographic algorithm and mode; traffic encryption key; and parameters for the network data to be passed over the connection.



SC function	System Controller function. The SC function is responsible for processing O&M traffic and for the VNF internal clustering function that is needed for scaling out and scaling in. The SC function is present in all VMs, but it is active in only one VM at a time, and all other VMs in the VNF serve as standby SC VMs.
Scaling	The ability to dynamically extend or reduce resources granted to the VNF. This includes scaling up and down, and scaling out and in.
Scaling out/in	The ability to scale by adding or deleting resource instances (for example, VMs).
Scaling up/down	The ability to scale by changing allocated resource, for example, increase or decrease memory, vCPU capacity, or storage size.
SCTP	Stream Control Transmission Protocol. A transport layer protocol for transmitting multiple streams of data at the same time between two endpoint. It provides a combination of service features from UDP and TCP: it is message-oriented like UDP and ensures reliable, in-sequence transport of messages with congestion control like TCP. SCTP is defined in RFC 4960 .
SDES	Security Description for SDP. A way to negotiate cryptographic parameters for media streams between SDP and SRTP. It has been proposed for standardization to the IETF in July 2006 (refer to RFC 4568).
SDP	Session Description Protocol. A format for describing streaming media initialization parameters as defined by RFC 4566 .
SF	System Functions. Common system functions and resources for the management entity such as Fault Management (FM), Performance Management (PM), and Security Management (SecM). System Functions is one of the first-level branches in the MOM.
SFTP	Secure File Transfer Protocol. A network protocol for secure file transfer over secure shell.
SIP	Session Initiation Protocol. A signaling communications protocol for controlling multimedia communication sessions such as voice and video calls over IP networks.
SRTCP	Secure Real-Time Control Protocol. A profile of RCTP to provide encryption, message authentication and integrity, and replay protection to the RCTP data.



SRTP	Secure Real-Time Transport Protocol. A profile of RTP to provide encryption, message authentication and integrity, and replay protection to the RTP data in both unicast and multicast applications.
SSH	Secure Shell. A cryptographic network protocol for secure data communication, remote command line logon, remote command execution, and other secure network services. The secure shell exists between two networked computers that connect, using a secure channel over an insecure network. The secure shell is implemented by a server and a client (running SSH server and SSH client programs, respectively).
SSL	Secure Socket Layer. A commonly used protocol for managing the security of a message transmission on the internet.
Struct	Struct is a compound data type in the MOM that groups element members of different types.
Subnet	A subnet is defined as a contiguous IP address range. A subnet is an IP address or IP prefix, which is the first address in the subnet, and an address mask that specifies the size of the subnet. For example, the 10.10.10.0/24 subnet has the IP prefix 10.10.10.0 and the mask is 24 bits, thus allowing 256 addresses in the subnet.
TCP	Transmission Control Protocol. Part of the TCP/IP protocol stack. It provides connection-oriented communication to move data across the network. The protocol supports byte-oriented transfer of data between the applications, and is a reliable end-to-end transport protocol between the TCP processes.
TLS	Transport Layer Security. A cryptographic protocol that is designed to provide communication security. In vMRF, it is used to secure the transport layer for the LDAP protocol.
Topology hiding	Topology hiding is a feature that hides the network address topology of one network from another. Deletion, modification, and insertion of certain information is done to achieve topology hiding.
Transaction	For administration, configuration changes are applied through atomic transactions.
Transcoding	Conversion from one encoding format to another. vMRF supports basic transcoding allowing for calls between two endpoints that do not support a common codec.



Transport Management

Transport-related functions and resources, for example, load sharing between all configured and available blades in the cluster, and distribution of incoming traffic to the system. Transport is one of the first-level branches in the MOM.

Trap

An unacknowledged SNMP message that carries a notification or heartbeat.

Trombone

Media path that is routed out from a node and back to the same point in the network (hairpinning).

2.5

U-Z

UDP

User Datagram Protocol. Supports the transmission of messages to other hosts on an IP network without prior communications to set up special transmission channels or data paths. UDP messages are referred to as datagrams. The protocol is defined in [RFC 768](#).

UE

User Equipment. A device allowing a user to access network services. For example a PC with proper software or a SIP-telephone. Defined in [3GPP TR 21.905](#).

UNI

User-to-Network Interface. A demarcation point between the responsibility of the service provider and the responsibility of the subscriber.

Upgrade

A product or product version that is created to provide an increased level of functionality or performance to a user. Upgrade is also the operation to replace a previous product or product version with a new product or product version that provides an increased level of functionality.

UTC

Coordinated Universal Time. UTC is the time-scale maintained by the BIPM, with assistance from the IERS. UTC forms the basis of a coordinated dissemination of standard frequencies and time signals. It corresponds exactly in rate with International Atomic Time (TAI) but differs from it by an integer number of seconds.

VC

Virtualization Container. A VC is a partition of a compute node that provides an isolated virtualized computation environment. Examples of VCs include VM and OS container.



VM	Virtual Machine. A VM is a virtualized computation environment. A VM has all the virtualized counterparts (processor, memory, storage, interfaces, ports) of a physical computer and is generated by a hypervisor, by partitioning the underlying physical resources and allocating them to VMs. VMs are capable of hosting a VNFC.
vMRF	The Virtual Multimedia Resource Function is a VNF running in a cloud environment. The vMRF provides media-related functions, such as, stream mixing and playing of tones and announcements. The vMRF is controlled by the MTAS through H.248.
VNF	Virtual Network Function. Network function virtualization is a concept that uses virtualization of entire classes of network node functions into building blocks that may connect, or chain together, to create communication services. vMRF can contain one or more VNFs. A single VNF contains multiple VMs.
VNFC	Virtualized Network Function Component. A VNFC is an internal component of a VNF providing a defined subset of the functionality of that VNF.
VNFCI	Virtualized Network Function Component Instance. A VNFCI is an instance of a VNFC deployed in a specific VC instance. It has a life cycle dependency with its parent VNF instance.
VNFD	Virtual Network Function Descriptor. Links to scripts for initiation and termination, description of internal and external connectivity, and dependencies between VNFCs.
VNFI	Virtualized Network Function Instance. A VNFI is a runtime instantiation of the VNF software, resulting from completing the instantiation of its components and of the connectivity between them. This is achieved using the VNF deployment and operational information captured in the VNFD, as well as additional runtime instance-specific information and constraints.
vNIC	Virtualized Network Interface Controller. A vNIC is created for a VM by a hypervisor.
VPLMN	Visited Public Land Mobile Network. VPLMN is the PLMN on which the mobile subscriber has roamed when leaving their HPLMN.



VR	<p>Virtual Router. A VR is a VNF, a software-based routing framework that allows packet routing and forwarding. To be able to handle multiple IP domains in the same router, the router can be divided into different VRs. Each VR is handling a separate IP domain. To each VR, routes and IP interfaces are connected.</p>
VRRP	<p>Virtual Router Redundancy Protocol. VRRP is a protocol that provides for automatic assignment of available IP routers to participating hosts. VRRP increases the availability and reliability of routing paths using automatic default gateway selections on an IP subnetwork. In vMRF, L3 redundancy is provided by VRRP.</p>
WCG	<p>Web Communication Gateway. A WCG converts between web client signalling (for example, HTTP REST) and SIP (for example, registration, session setup, and session modification signaling).</p> <p>The WCG abstracts the complexity of the IMS signalling protocol from the client developer by providing an SDK API for client application development.</p> <p>WCG sends converted client signaling over the Gm reference point to the SBG (P-CSCF).</p>
Web client	<p>A browser-based client uses HTTP REST or other equivalent signalling to interact with the WCG for registration and session control. The web client can use any media protocol supported by the IMS and normally use RTP for audio and video call.</p> <p>WCG sends converted client signaling over the Gm reference point to SBG (P-CSCF).</p>
Wildcard	<p>A character that substitutes for another character or character range in a regular expression.</p>



Glossary

3DES

Triple Data Encryption Standard

3GPP

3rd Generation Partnership Project

A-RACF

Access Resource and Admission Control Function

AA

Authentication Authorization

AAA

AA-Answer

AAAA

Authentication, Authorization, Accounting, and Auditing

AAR

AA-Request

ABNF

Augmented Backus-Naur Form

ACA

Accounting-Answer

ACL

Access Control List

ACR

Accounting-Request

ADCCP

Advanced Data Communication Control Procedures

AES

Advanced Encryption Standard

AF

Application Function

AKA

Authentication and Key Agreement

ALB

Abstract Load Balancer

AMF

Availability Management Framework

AMR

Adaptive Multi-Rate

AMR-NB

Adaptive Multi-Rate Narrowband

AMR-WB

Adaptive Multi-Rate Wideband

ANSI

American National Standards Institute

API

Application Programming Interface

APN

Access Point Name

ARP

Address Resolution Protocol

AS

Application Server

ASA

Abort-Session-Answer

ASCII

American Standard Code for Information Interchange

ASI

Additional System Information

ASN.1

Abstract Syntax Notation One

ASR

Abort-Session-Request



ATCF

Access Transfer Control Function

ATGW

Access Transfer Gateway

ATM

Asynchronous Transfer Mode

ATU-STI

Access Transfer Update - Session Transfer Identifier

AVC

Attribute Value Change

AVP

Attribute-Value Pair

Audio-Visual Profile

AVPF

Extended Audio Video Profile for RTP Feedback

BFD

Bidirectional Forwarding Detection

BIPM

Bureau International DES Poids et Mesures

BRF

Backup and Restore Framework

BRM

Backup and Restore Management

BSP

Blade Server Platform

BT

Business Trunking

C-RACF

Core Resource and Admission Control Function

CA

Certificate Authority

CAC

Call Admission Control

CBA

Component Based Architecture

CC

Cumulative Counter

CEA

Capabilities-Exchange-Answer

CEE

Cloud Execution Environment

CEP

Connection End Point

CER

Capabilities-Exchange-Request

CertM

Certificate Management

CIM

Common Information Model

CLB

Converged SIP/HTTP Load Balancer

CLI

Command-Line Interface

CLISS

CLI Secure Shell

CLM

Cluster Management

CM

Configuration Management

CMP

Certificate Management Protocol

CMPv2

Certificate Management Protocol version 2

CMX

Component Main Switch

CMXB

Component Main Switch Board

CN

Common Name



CNB Collapsed Northbound	DBS Database Service
codec Coder-Decoder	DCN Data Communication Network
COTS Commercial-Off-The-Shelf	DDoS Distributed Denial of Service
CPE Customer-Premises Equipment	DER Discrete Event Registration
CPI Customer Product Information	DES Data Encryption Standard
CPU Central Processing Unit	DF Don't Fragment
CRC Cyclic Redundancy Check	DHCP Dynamic Host Configuration Protocol
CRM Customer Relationship Management	DiffServ Differentiated Services
CRV Call Reference Value	DMX Distributed Main Switch
CS Circuit Switched	DMXC Distributed Main Switch Controller
CS-ACELP Conjugate Structure Algebraic Code Excited Linear Prediction	DMZ Demilitarized Zone
CSCF Call Session Control Function	DN Distinguished Name
CSR Customer Service Request	DNS Domain Name System
Certificate Signing Request	DoS Denial of Service
CUA Capabilities Update Answer	DPA Disconnect Peer Answer
CUR Capabilities Update Request	DPR Disconnect Peer Request
DAD Optimistic Duplicate Address Detection	DR Disaster Recovery
DBN Database Network	DRA Diameter Routing Agent



DRBD
Distributed Replicated Block Device

DSA
Digital Signature Algorithm

DSCP
Differentiated Services Code Point

DST
Daylight Saving Time

DTLS
Datagram Transport Layer Security

DTMF
Dual-Tone Multifrequency

DTMF-S
DTMF Sender

DTMF-R
DTMF Receiver

DTX
Discontinuous Transmission

DU
Destination Unreachable

DWA
Device Watchdog Answer

DWR
Device Watchdog Request

E-CSCF
Emergency Call Session Control Function

e2e
End-to-end

EBNF
Extended Backus-Naur Form

EBS
Ericsson Blade System

EC
Emergency Call

ECDSA
Elliptic Curve Digital Signature Algorithm

ECGI
E-UTRAN Cell Global Identifier

ECIM
Ericsson Common Information Model

ECLI
Ericsson Command-Line Interface

ECM
Ericsson Cloud Manager

ECMP
Equal-Cost Multipath routing

EJB
Enterprise JavaBeans

ECS
Ericsson Cloud System

EFR
Enhanced Full Rate

EO
Ericsson Orchestrator

EPC
Evolved Packet Core

EPS
Evolved Packet System

ETSI
European Telecommunications Standards Institute

eVIP
Evolved Virtual Internet Protocol

EVRC
Enhanced Variable Rate Codec

EVRC-A
Enhanced Variable Rate Codec A

EVRC-B
Enhanced Variable Rate Codec B

EVRC-NB
Enhanced Variable Rate Codec
Narrowband-Wideband



EWMA
Exponentially Weighted Moving Average

FEE
Front-End Element

FIFO
First In First Out

FM
Fault Management

FM
File Management

FNI
Foreign Network Identifier

FOSS
Free Open Source Software

FQDN
Fully Qualified Domain Name

FS
Function Specification

FTP
File Transfer Protocol

FW
Firewall

GCP
Gateway Control Protocol (H.248)

GE
Gigabit Ethernet Interface

GP
Granularity Period

GSM
Global System for Mobile Communications

GW
Gateway

GUI
Graphical User Interface

HA
High Availability

HDLC
High-Level Data Link Control

HCM
Health Check Management

HLR
Home Location Register

HOT
Heat Orchestration Template

HPLMN
Home PLMN

HSS
Home Subscriber Server

HTML
Hypertext Markup Language

HTTP
Hypertext Transfer Protocol

HTTPS
Hypertext Transfer Protocol Secure

HW
Hardware

I-CSCF
Interrogating Call Session Control Function

I/O
Input/Output

IANA
Internet Assigned Numbers Authority

IAP
Interception Access Point

ICE
Interactive Connectivity Establishment

ICID
IMS Charging Identifier

ICMP
Internet Control Message Protocol

ICSI
IMS Communication Service Identifier



ID
Identity

IEEE
Institute of Electrical and Electronics Engineers

IEPS
International Emergency Preference Scheme

IERS
International Earth Rotation Service

IETF
Internet Engineering Task Force

IKE
Internet Key Exchange

IMI
Integrated Management Interface

IMM
Information Model Management

IMS
IP Multimedia Subsystem

INAP
Intelligent Network Application Protocol

IOI
Inter-Operator Identifier

IOPS
Input/Output Operations Per Second

IP
Internet Protocol

IP-CAN
IP Connectivity Access Network

IP-PBX
IP Private Branch Exchange

IPsec
Internet Protocol Security

IPv4
IP version 4

IPv6
IP version 6

IPVS
Internet Protocol Virtual Server

IPX
Internet Packet Exchange

IRP
Integration Reference Point

ISDN
Integrated Services Digital Network

ISO
International Organization for Standardization

ISP
In-Service Performance

ISUP
Integrated Services Digital Network User Part

ITU
International Telecommunication Union
Telecommunications Standardization Sector

ITU-T
International Telecommunication Union –
Telecommunications

IVR
Interactive Voice Response

IWD
Interwork Description

IWF
Interworking Function

KPI
Key Performance Indicator

KQI
Key Quality Indicator

L1
Layer 1 (according to the OSI layered model)

L2
Layer 2 (according to the OSI layered model)

L3
Layer 3 (according to the OSI layered model)



L4
Layer 4 (according to the OSI layered model)

LAF
Lifecycle Automation Framework

LAN
Local Area Network

LBE
Load Balancer Element

LBaaS
Load-Balancing-as-a-Service

LCT
Local Craft Terminal

LDAP
Lightweight Directory Access Protocol

LDAPS
LDAP over SSL

LDIF
LDAP Data Interchange Format

LDN
Local Distinguished Name

LEA
Law Enforcement Agency

LFV
Logic File Validator

LKF
License Key File

LM
License Management

LOTG
Linux Open Telecom Cluster

LTE
Long Term Evolution

MAC
Media Access Control

MAF
Middleware Agnostic Framework

MBS
Maximum Burst Size

MD5
Message-Digest algorithm 5

MDF
Model Delivery Function

ME
Managed Element

MG
Media Gateway

MGC
Media Gateway Controller

MGCF
Media Gateway Control Function

MGW
Media Gateway

MIA
Manual Intervention Allowed

MIB
Management Information Base

MIM
Management Information Model

MIP
Movable IP

MMAS
Multimedia Application Server

MO
Managed Object

MOC
Managed Object Class

MOM
Managed Object Model

MPD
Media Processing Device

MRF
Multimedia Resource Function

**MS**

Mobile Station

MSC

Mobile Switching Center

MSCML

Media Server Control Markup Language

MSD

Master Slave Determination

MSISDN

Mobile Subscriber ISDN Number

MSML

Media Server Markup Language

MSS

Mobile Softswitch Solution

MTAS

Multimedia Telephony Application Server

MTP

Message Transfer Part

MTU

Maximum Transmission Unit

MW

Middleware

NAI

Network Access Identifier

NAPT

Network Address Port Translation

NAT

Network Address Translation

NB

Narrowband

NBI

Northbound Interface

ND

Neighbor Discovery

NE

Network Element

NeLS

Network License Server

NetAnn

Network Announcement

NETCONF

Network Configuration

NF

Network Function

NFV

Network Function Virtualization

NFVI

Network Functions Virtualization Infrastructure

NFVO

NFV Orchestrator

NIC

Network Interface Controller

NMC

Network Management Center

NMS

Network Management System

NNI

Network-to-Network Interface

NPLI

Network Provided Location Information

NTP

Network Time Protocol

O&M

Operation and Maintenance

OAM

Operations, Administration, and Maintenance

OAMP

Operations, Administration, Maintenance, and Provisioning

OID

Object Identifier



OLP Overload Protection	PCP Priority Code Point
OPI Operating Instructions	PCRE Perl Compatible Regular Expressions
OS Operating System	PCV P-Charging-Vector
OSI Open Systems Interconnection	PDB Parameter Database
OSPF Open Shortest Path First	PDF Probability Density Function
OSS Operations Support System	Portable Document Format
OVA Open Virtualized Architecture	PDN Packet Data Networks
OVF Open Virtualization Format	PDU Protocol Data Unit
P-CSCF Proxy Call Session Control Function	PI Performance Indicator
PAI P-Asserted-Identity	PKCS Public-Key Cryptography Standards
PAM Pluggable Authentication Module	PKI Public-Key Infrastructure
PANI P-Access-Network-Info	PL Payload
PBX Private Branch Exchange	PLC Packet Loss Concealment
PC Personal Computer	PLMN Public Land Mobile Network
Probable Cause	PM Performance Management
PCFA P-Charging Function Address	PNF Physical Network Function
PCM Pulse Code Modulation	PNI Private Network Interface
PCMU Pulse Code Modulation, μ -law	PoC Push to Talk over Cellular



POSIX
Portable Operating System Interface

PPI
P-Preferred-Identity

PPP
Point-to-Point Protocol

PS
Packet Switched

PSI
Public Service Identity

PSK
Preshared Key

PSTN
Public Switched Telephone Network

PXE
Preboot eXecution Environment

QoS
Quality of Service

RA
Registration Authority

RAA
Re-Auth-Answer

RACF
Resource and Admission Control Function

RACS
Resource and Admission Control Subsystem

RAM
Random-Access Memory

RAR
Re-Auth-Request

RBAC
Role-Based Access Control

RBS
Radio Base Station

RCA
Root Cause Analysis

RDN
Relative Distinguished Name

RFC
Request for Comments

ROP
Report Output Period

RPC
Remote Procedure Call

RPH
Resource-Priority Header

RPM
RedHat® Package Manager

RR
Resource Records

RRT
Realm Routing Table

RSA
Rivest, Shamir and Adleman

RSIP
Realm Specific Internet Protocol

RTCP
RTP Control Protocol

RTP
Real-Time Transport Protocol

RTT
Round-Trip Time

S-CSCF
Serving Call Session Control Function

SA
Security Association

Support Agent

SAF
Service Availability Forum

SAVP
Secure Audio Video Profile

**SB-ADPCM**

Sub-Band Adaptive Differential Pulse Code Modulation

SC

System Controller

SCC-AS

Service Centralization and Continuity Application Server

SCCP

Signalling Connection Control Part

SCEP

Simple Certificate Enrollment Protocol

SCF

Service Control Functions

SCTP

Stream Control Transmission Protocol

SCX

System Control Switch

SCXB

System Control Switch Board

SDES

Security Description for SDP

SDK

Software Development Kit

SDP

Session Description Protocol

Software Delivery Package

SE

Security Element

SecM

Security Management

SELinux

Security-Enhanced Linux

SF

System Functions

SFTP

Secure File Transfer Protocol

SHA

Secure Hash Algorithm

SI

Service Instance

Status Inspection

SID

Silence Insertion Descriptor

SIP

Session Initiation Protocol

SIP-I

SIP with encapsulated ISUP

SIP-T

SIP for Telephones

SLA

Service Level Agreement

SMMS

Simultaneous Multimedia Session

SMMSL

SIP Message Manipulation Scripting Language

SNMP

Simple Network Management Protocol

SoC

Statement of Compliance

SPDF

Service-Based Policy Decision Function

SPL

Service Priority Level

SPLMN

Serving PLMN

SR

Site Router

SRT

Server Resource Template (known as "Flavor" in OpenStack and Ericsson CEE)

**SRTCP**

Secure Real-Time Control Protocol

S RTP

Secure Real-Time Transport Protocol

S RTP-DTLS

Secure Real-Time Transport Protocol Datagram
Transport Layer Security

SRV

Service

SRVCC

Single Radio Voice Call Continuity

SS7

Signalling System No. 7

SSCF

Service Specific Coordination Functions

SSCOP

Service Specific Connection Oriented Protocol

SSH

Secure Shell

SSHFS

SSH Filesystem

SSL

Secure Socket Layer

STA

Session-Termination-Answer

STP

Spanning Tree Protocol

STR

Session-Termination-Request

SU

Service Unit

SW

Software

SwIM

Software Inventory Management

SwM

Software Management

TBAC

Target-Based Access Control

TC

Textual Convention

TCAP

Transaction Capabilities Application Part

TCP

Transmission Control Protocol

TDM

Time Division Multiplexing

TDMA

Time Division Multiple Access

TGRP

Trunk Group

TIPC

Transparent Inter-Process Communication

TISPAN

Telecoms & Internet converged Services &
Protocols for Advanced Networks

TLS

Transport Layer Security

TrFO

Transcoder Free Operation

TrGW

Transition Gateway

TS

Technical Specification

TTC

Telecommunication Technology Committee

TTL

Time To Live

UCF

Upgrade Control File



UDA
User-Data-Answer

UDP
User Datagram Protocol

UDPTL
UDP Transport Layer

UDR
User-Data-Request

UE
User Equipment

UG
User Guide

ULN
Unique Logical Name

UML
Unified Modeling Language

UMTS
Universal Mobile Communication System

UNI
User-to-Network Interface

UP
Upgrade Package

URI
Uniform Resource Identifier

URL
Uniform Resource Locator

URN
Uniform Resource Name

USM
User-based Security Model

UTC
Coordinated Universal Time

UTF
Unicode Transformation Format

UUID
Universal Unique Identifier

VC
Virtualization Container

vCD
vCloud Director

vCPU
Virtual CPU

VDP
Virtual Deployment Package

VDU
Virtualization Deployment Unit

VIM
Virtual Infrastructure Manager

VIP
Virtual Internet Protocol

VLAN
Virtual LAN

VM
Virtual Machine

vMRF
Virtual Multimedia Resource Function

VNF
Virtualized Network Function

VNFC
Virtualized Network Function Component

VNFCI
Virtualized Network Function Component Instance

VNFD
Virtualized Network Function Descriptor

VNFI
Virtualized Network Function Instance

VNFM
Virtualized Network Function Manager

VNF-LCM
VNF Lifecycle Manager



vNIC

Virtualized Network Interface Controller

VoIP

Voice over IP

VoLTE

Voice over LTE

VMDK

Virtual Machine Disk

VMM

Virtual Machine Monitor

VPLMN

Visited - Public Land Mobile Network

VPN

Virtual Private Network

VR

Virtual Router

VRRP

Virtual Router Redundancy Protocol

WB

Wideband

WCDMA

Wideband Code Division Multiple Access

WCG

Web Communication Gateway

xDSL

Digital Subscriber Line

XML

Extensible Markup Language

XSD

XML Schema Definition