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ECMA

Standardizing Information and Communication Systems

Glossary of Definitions and Terminology for Computer Supported Telecommunications Applications (CSTA) Phase III

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Brief History

This Technical Report provides definitions and terminology for Standard ECMA-269, *Services for Computer Supported Telecommunications Applications (CSTA) Phase III*, Second Edition, published by ECMA in June 1998. It is part of a suite of Standards and Technical Reports for Phase III of CSTA. These Standards and Technical Reports reflect agreements of ECMA member companies on Phase III of CSTA. All of the Standards and Technical Reports in the suite are based on the practical experience of ECMA member companies and each one represents a pragmatic and widely-based consensus.

This Technical Report was created from glossary material originally appearing in CSTA Phase II (ECMA-217), from the *versit* CTI Encyclopedia (Version 1.0), which was contributed to ECMA by *versit*. Additional definitions and acronyms were contributed by ECMA member companies.

This Technical Report has been adopted by the ECMA General Assembly of June 1998.

Table of contents

1 Scope

This Technical Report contains definitions of technical terms and acronyms used throughout the suite of publications comprising CSTA Phase III.

2 References

ECMA-269 Services for Computer Supported Telecommunications Applications (CSTA) Phase III, 2nd Edition (June 1998)

3 Definitions and Acronyms

3.1 ACD

Automatic Call Distributor, Automatic Call Distribution.

3.2 Acknowledgement Model

The model by which a service provides a response (acknowledgement) to a requesting function (or client). Each individual service specifies the acknowledgement model it supports. See *Atomic Acknowledgement Model* and *Multi-StepAacknowledgement Model*.

3.3 Acknowledgement

An acknowledgement is a message that is sent from the switching function to the computing function and visa-versa, and that informs the requesting computing or switching function whether an earlier request was accepted or rejected.

3.4 ACSE

Association Control Service Element.

3.5 Active Call

With respect to a particular device, an active call is a call whose connection with the device is in the Connected connection state.

3.6 Active Participation

This feature is typically used to allow intrusion with the ability to speak and listen by a supervisor into an *ACD Call*.

3.7 Addressability

The property of an appearance of having an identifier associated with it.

3.8 Addressable Appearance

An appearance that can be referenced by the switching function via a *device identifier*.

3.9 Addressable Device

A device with an associated device identifier. See *Device*, *CSTA Device*, *Device Identifier*.

3.10 Agent

A CSTA user authorized to act on behalf of the provider of the CSTA application.

3.11 Alerting

A call with a connection in the Alerting connection state is said to be *alerting* the subject device of that connection.

3.12 Alerting Call

A call for which the subject connection is in the Alerting state. This usually implies that the telephone instrument is ringing.

3.13 Alerting Connection State

A connection state in which a device is alerting (e.g., ringing) or is being presented (offered) to a device. This indicates an attempt to connect a call to a device. The device may be a device such as a telephone station. The device may also be a routeing or distribution type of device.

3.14 Allocation Condition

For the Make Predictive Call service, an indication of whether a calling device (e.g., the agent to which the call is to be connected) has been allocated for the call.

3.15 Analogue

Analogue transmission (such as POTS signals) consists of sound travelling over lines as variations in a electrical current. Analogue signals are very vulnerable to interference and noise on the line. They are also limited to the bandwidth of amplifiers, analog-to-digital converters, and other network equipment.

3.16 Analogue Line

A POTS telephone line that utilizes analog transmission. Signals on an analogue line use a set of standard in-band tones for call progress and DTMF signalling.

3.17 ANI

Automatic Number Identification. See *Automatic Number Identification*.

3.18 API

Application Programming Interface.

3.19 Appearance

A component of a device's logical element at which a connection to a call is permitted. A single logical element may have multiple appearances. Also called *call appearance*.

3.20 Appearance Type

An attribute whose value is a categorization of appearances in terms of their interaction with other appearances. Possible values include *selected-standard*, *basic-standard*, *basic-bridged*, *exclusive-bridged*, *shared-bridged*, *Independent-shared-bridged, Interdependent-shared-bridged*.

3.21 Application Domain

The union of one switching sub-domain and one computing sub-domain.

3.22 Application Working Domain

The subset of devices (and the calls and connections associated with those devices) inside a switching sub-domain that are controllable and/or monitorable over a Service Boundary.

3.23 ASE

Application Service Element.

3.24 ASN

Abstract Syntax Notation.

3.25 Asynchronous

A method of invoking a function such that the process which is doing the invoking continues in parallel with the invoked function. See *Synchronous*.

3.26 ATM

Asynchronous Transfer Mode.

3.27 Atomic Acknowledgement Model

An acknowledgement model supported by a service in which the positive acknowledgement of a request is accomplished in a single step. Receipt of an acknowledgement from such a service guarantees that all parameters supplied in the request are correct and that the service was successfully completed. See *Acknowledgement Model* and *Multi-Step Acknowledgement Model*.

3.28 Auditory Apparatus

A component used to convert electronic signals into voice/speech and/or vice/versa.

3.29 Auditory Apparatus Identifier

An identifier by which an auditory apparatus in a physical element (in a device) can be observed and/or controlled.

3.30 Auditory Apparatus Type

An attribute subcategorizing the *auditory apparatus* physical component. Possible values include *handset*, *headset*, *speakerphone*, *speaker-only phone*, *microphone-only*, and *other*.

3.31 Automatic Number Identification

A service provided by the telephone network that provides the billing directory number associated with a calling device. The number provided by ANI will not always be the same as the number of the calling device. Outside of North America, this service is called *Calling Line Identity* (CLID).

3.32 B Channel

A 56 or 64 Kbps channel on an ISDN or proprietary PBX line that can carry voice or data.

3.33 Bandwidth

The information carrying potential of a physical or logical connection. For analogue connections it is the range of frequencies that a circuit can handle. With POTS, for example, the bandwidth is very narrow. The broader the range of frequencies, the more information the line can handle. The typical POTS circuit has a bandwidth of 3100 Hz centered between 300 Hz and 3400 Hz. For digital connections, the bandwidth is the data rate of the circuit or channel.

3.34 Bearer Mode

The type of coding, or compression that the telephone network is permitted to perform on the bit stream carried on the bearer channel. In POTS, the bearer mode will always be 3.1 kHz voice. The "speech" bearer mode is the most compressible, "voice" less so, and so on. A data bearer mode implies that the data stream will not be compressed by the network (the connection is "clear channel").

3.35 Bearer Services

Telephone Network Services designed to transfer information from point A to point B.

3.36 Bit Rate

A media call characteristic, indicating whether the media stream of the call has a constant data rate (i.e., is isochronous) or a variable bit rate.

3.37 BRI

Basic Rate Interface.

3.38 Bridging

A directory number is assigned to more than one device such that when an incoming call is targeted for the directory number, all devices are prompted for the call. The devices in question are said to have *bridged device configurations* of various kinds. See *Device Configuration.*

3.39 BRI-ISDN

An ITU-T-defined "Basic-Rate Interface" ISDN connection consisting of two B channels of 64 Kbps each for voice or data, and one D channel of 16 Kbps for control (2B+D). See *PRI-ISDN*.

3.40 Button

A button is a physical (i.e., represented by hardware) or logical (i.e., represented by switching function software) component of a device that controls a certain function or action assigned to the button.

3.41 Button Associated Number

A device identifier in diallable digits format associated with the feature or service assigned to a button.

3.42 Button Association

An attribute of a lamp that identifies a button to which the lamp is associated.

3.43 Button Function

The feature or service that is performed in response to activating (e.g., pressing) a button. The button function may be assigned to the button by the switching function.

3.44 Button Identifier

An identifier associated with a button used to observe and control it through the Service Boundary. It is used in combination with the Device Identifier of the device of which it is a component.

3.45 Button Label

A character string representing the label by which a user refers to a button.

3.46 Call

A switching function communications relationship (generally) between two or more devices. During some circumstances, including set-up and release, there may be only one device.

3.47 Call Appearance

See *Appearance*.

3.48 Call Associated Event

Events related to the Call Associated Features Services.

3.49 Call Associated Feature

A collection of features (including DTMF digit generation and collection, telephony tone generation and collection, and user information transmission) controlled by the Call Associated Feature Services.

3.50 Call Control Event

An event that reports changes to information related to calls.

3.51 Call Control Information Element

An information type that denotes the type of call control information available in a sub- domain. Possible values include ISDN, ATM (B-ISDN), ISO-Ethernet, RSVP, Other (switching sub-domain specific).

3.52 Call Detail Record

An information element describing information about a call relevant to charging for the call or tracking its progress through a call center. Call Detail Records are transmitted from a switching function to a computing function via an event report.

3.53 Call Event Report

Messages that indicate a change in state of one or more connections in the switching sub-domain.

3.54 Call Identifier

A Call Identifier is a reference associated with a call whereby the call can be known to, and identified by, the switching, computing and special resource functions through the call's life.

3.55 Call Related Information

Additional information associated with a call, including account information and authorisation codes.

3.56 Call State

A list of the connection states of all of the devices involved in a call (also called the *Compound Call State*). See also *Simple Call State*.

3.57 Callback

This telephony feature allows a device to request that the originally called (e.g., busy) device return the call when the originally called device becomes available.

3.58 CallBack Call

A call that is automatically established by the switching function in response to a prior service request or feature when the target device is in an appropriate state to accept the call.

3.59 Called Line Identity

A service supplied by the public telephone network to identify a logical called device. For example, two 1-800 numbers might both be translated to a single real number. the Called Line Identity information distinguishes which of the two numbers was originally dialled.

In North America this service is called *Dialled Number Identification Service* (DNIS).

3.60 CallID Only Connection ID

A connectionID format in which only a call identifier appears. ConnectionID parameters of this type can be used only with certain services.

3.61 Calling Line Identity

A service provided by the telephone network that provides the billing directory number associated with a calling device. The number provided by CLID will not always be the same as the number of the calling device.

In North America this service is called *Automatic Number Identification*.

3.62 Call-Type Monitor

A monitor that tracks behaviour of a call, providing notifications of events for the call and for all devices associated with the call.

3.63 Capabilities Exchange

A set of services by which a computing function discovers the devices, elements, and associated attributes, features, or services of a switching sub-domain.

3.64 CCIE

Call Control Information Element. See *Call Control Information Element*.

3.65 CDR

Call Detail Record. See *Call Detail Record*.

3.66 Central Office (CO) Line

A network interface device in a central office (CO) switch to a subscriber station (e.g., a telephone).

3.67 Central Office (CO) Switch

A telephone switching system that resides in the telephone service provider's network. There are different types of central office switches, depending upon the role of the switch within the telephone network. Commonly, a central office switch connects customer lines to other customer lines, customer lines to trunks, or customer PBXs to trunks, and is the point at which local subscriber lines terminate for switching to other lines or trunks.

3.68 Channel

A logical communications path between devices in a network. A channel is associated with a connection, and transmits or receives media streams between devices related by the connection.

3.69 Character Set

For a display, an attribute denoting the character set used to represent characters in the display.

3.70 CODEC

COder/DECoder.

3.71 Complete Connection ID

A connection ID format which contains both the call ID and the device ID of the call and device associated by the connection.

3.72 Compound Call State

See *Call State*.

3.73 Computing Domain

The set of computers and their objects that may be reached directly or indirectly by a CSTA application from a switching domain.

3.74 Computing Function

The part of the domain needed to support CSTA applications that is also within a Computing or Special Resource sub-domain.

3.75 Computing Sub-Domain

Any configuration of inter-connected computers that presents the appearance and functionality of a single computer to the switching and special resource domains.

3.76 Conference Call

A telephone call consisting of three or more connected devices.

3.77 Connected State

A connection state in which a device is actively participating in a call. This state includes logical participation in a call as well as physical participation (i.e., a Connected device cannot be on Hold).

3.78 Connection

A relationship between a call participant (device) and a call. A device's connection represents that device's participation in a telephone call. A connection can also be thought of as a "leg" of a particular call that connects a device with a specific call within the switching sub-domain.

3.79 Connection Identifier

An identifier used to identify a relationship between a specific call and a specific device. The Connection Identifier comprises a Call Identifier and a Device Identifier. Together, these identifiers specify a unique CSTAObject in the context of a CSTA Association.

3.80 Connection Rate

A media call characteristic, indicating whether the media stream of a call is digital, and if so, indicating its bit rate.

3.81 Connection State

One attribute of a connection with respect to the existence and operation of a call to which the connection connects a device. The possible values of a connection state are represented in a connection state transition graph, which defines the permissible transitions between connection states. See also *State*.

3.82 Connection State Transition

The process by which the value of a connection state changes, either in response to an external occurrence or because of a request sent to the switching function. The connection states to which a given connection state may transition are specified by the CSTA standard, and represented by a *connection state transition graph*.

3.83 Connection State Transition Graph

A representation of the permissible transitions from one connection state to another, as defined by the CSTA Standard.

3.84 Consultation Call

The compound action of placing an active call on hold at a device and issuing a second call from the same device.

3.85 Correlator Data

Computing domain-specific data associated with a call and used to track a call as it is controlled and monitored by the computing function. See also *Null Correlator Data*.

3.86 CSTA

Computer Supported Telecommunications Applications.

3.87 CSTA Application

A cooperative process between a Switching Function performed within a switching network and a Computing Function performed within a computing network.

3.88 CSTA Client

In CSTA, a client is a local communication component of the Switching, Computing, or Special Resource Functions that requests a particular service of another function through a service boundary.

3.89 CSTA Device

A device that is visable and/or controllable via CSTA. See also *Device*.

3.90 CSTA Domain

The set of accessible Computing, Switching and Special Resource Functions from which an application might receive service.

3.91 CSTA Object

A conceptual entity in the CSTA model. Calls, connections, devices, elements, appearances are all CSTA objects.

3.92 CTI

Computer Telephony Integration.

3.93 D Channel

A channel on an ISDN line that can carry signalling information and low-speed packet data.

3.94 Data Call

A call on which the media type of the media stream transmitted between devices is other than voice (e.g., fax, data).

3.95 Data Connection

A connection whose capabilities support data channels, i.e., channels that carry media stream types other than voice.

3.96 Data Rate

The capacity of a channel to carry data, measured in bits per second. The rate at which data is transmitted on a channel, measured in bits per second.

3.97 DD

Diallable Digits.

3.98 Default Value

A value that is automatically supplied or assumed by the server when no value is supplied by the client.

3.99 Defined Parameter Type

A parameter type describing information elements specific to CSTA, e.g., auditory device lists, correlator lists. The parameter type describes the meaning, format, and interpretation rules of the information elements.

3.100 Delay Tolerance

A media call characteristic, indicating the maximum tolerable variability of the bit rate of a media call.

3.101 Device

A physical (e.g., buttons, lines, trunks, stations) or logical (e.g., groups of physical devices, pilot numbers, ACD groups) entity that is used to access telecommunications services. See also *CSTA Device*.

3.102 Device Capabilities

Information elements describing the services, features, and attributes of a device.

3.103 Device Category

A device attribute that provides a generic indication of the device's behaviour and configuration. Possible values include *Station Device Category*, *Network Interface Device Category*, *ACD Device Category*, *ACD Group Device Category*, *Hunt Group Device Category*, *Park Device Category*, *Pick Group Device Category*.

3.104 Device Configuration

A device attribute describing the arrangement of the various elements and appearances associated with the device. Multiple device configurations may be formed from different combinations of physical elements, logical elements, and appearance types.

3.105 Device Element

The attributes, features and services that determine the device's physical interface and the control and observation of calls. Device elements are subcategorized into *physical elements* and *logical elements*.

3.106 Device Element Combination

A categorization of device in terms of the combination of physical and logical elements comprising it. Possible values include *Logical Element Only*, *Physical Element Only*, *Logical and Physical Element*.

3.107 Device Feature

A service provided by a device that can be invoked by a computing function or by a manual activity. Raising or lowering the speaker volume is an example of a device feature, as is activating call forwarding on the device.

3.108 Device Identifier

An identifier by which a CSTA device is referenced across a Service Boundary. A Device Identifier may be static or dynamic. A Device Identifier may refer to multiple devices distinguished by their MediaCallCharacteristics.

3.109 Device Identifier Format

A format by which a device identifier may be expressed in an information element. Possible values include *diallable digit format*, *switching function representation format*, *device number format*.

3.110 Device Identifier Status

An attribute of a parameter representing a device identifier, indicating if the device identifier is present in the parameter, or the reason why the device identifier is not provided in the parameter.

3.111 Device Media Characteristics

A collection of device attributes that specify its media features, including *media class*, *media stream information*, and protocol information. These are used in Call Control Services to select devices for a call, and in Call Control Events to report media characteristics associated with devices.

3.112 Device Only Connection ID

A connection ID format in which only a device ID appears.

3.113 Device State

The collection of states of the elements, components, and calls associated with a device. These include the *connection state*, the physical device features, and the logical device features.

3.114 Device Type

A device attribute denoting a generic indication of the device's behaviour and configuration. Possible values of this attribute include *station device*, *network interface device*, *ACD device*, *Button*, *Button Group*, *Conference Bridge*, *Line*, *Line Group*, *Operator*, *Operator Group*, *Parking Device*, *Station*, *Station Group*, *Trunk*, *Trunk Group*, *Other*, *Other Group*.

3.115 Device-Type Monitor

A monitor that tracks behaviour of a device, providing notifications of events for the device and for all calls associated with the device.

3.116 Dialled Number Identification Service

A service supplied by the public telephone network to identify a logical called device. For example, two 1-800 numbers might both be translated to a single real number. The DNIS information distinguishes which of the two 1- 800 numbers was originally dialled.

3.117 Digital Line

A digital station line on a PBX or digital-key system. Signalling on a digital line usually uses a vendor-specific (proprietary) protocol or ISDN protocol to exchange messages between the switch and the telephone. A digital line typically requires a "matched" telephone set.

3.118 Directory Number

A logical concept that translates to a device. It is typically associated with a line (extension) circuit.

3.119 Display

A physical or virtual component which presents a two dimensional array of characters associated with the physical element.

3.120 Display ID

An identifier associated with a display used to observe and control it through the Service Boundary. It is used in combination with the Device Identifier of the device of which it is a component.

3.121 DND

Do Not Disturb. See *Do Not Disturb*.

3.122 DNIS

Dialled Number Identification Service.

3.123 Do Not Disturb

A switch feature that temporarily blocks incoming calls to a telephone. The incoming calls are routed to another (typically switch-defined) destination or, if no alternate destination is defined, may be related as if the called line were busy or ringing. The target telephone is not alerted.

3.124 Domain

The union of the switching domain, computing domain, and special resource domain.

3.125 DTMF

Dual Tone Multiple Frequency. See *Dual Tone Multiple Frequency*.

3.126 Dual Tone Multiple Frequency

Pressing a button on the keypad of a Touch tone telephone generates a pair of tones of specified frequency. The network or the equipment at the end of the connection (such as remote control for a telephone answering machine) detects and interprets these tones.

3.127 Dynamic Device Identifier

A device ID created by the switching function for a device when it enters into a call. A dynamic device identifier remains constant for the life of the device's participation in the call.

3.128 Dynamic Feature Availability

A capability that can be supported by a switching function whereby the switching function returns an enumeration of the services available at a connection at a given instant. The enumeration is returned in appropriate events as the value of a special ServicesPermitted parameter.

3.129 Entering Distribution

In this mode of the Alerting connection state, a call is being presented to a distribution device in order to be distributed. This mode is indicated by a Delivered event with a cause code of Entering Distribution.

3.130 Error Value

An enumerated value describing an error and returned with a negative acknowledgement. Error values form a hierarchy, with the root of the hierarchy representing a generic error, and a child node representing an elaboration of the error condition described by its parent.

3.131 Event

A message provided by the switching function to the computing function to indicate a change of the state of a CSTA object. Events are subcategorized into *Call Control*, *Call Associated*, *Media Stream*, *Physical Device*, *Logical Device*, *Voice Unit*, *Maintenance*, and *Private* events.

3.132 Event Cause

An enumerated value describing the cause of an event.

3.133 Event Report

Synonymous with *Event*.

3.134 Event Template

A convention for the documentation of an CSTA event report, consisting of a textual description, a table documenting the parameters in the event, the cause codes associated with the event, and additional functional requirements associated with the event.

3.135 Extension

A telephone number that is local to the switch; a telephone station served by a PBX (Private Branch Exchange).

3.136 Flow Direction

A ConnectionInformation information element indicating the direction in which a media stream flows. Possible values are Transmit, Receive, and Unknown.

3.137 Forwarding

A switch feature that temporarily redirects incoming calls. The incoming calls are redirected from the forwarding telephone to another destination by the party associated with the telephone or by the computing function. The other destination has previously been defined to the switch by the device associated with the telephone.

3.138 Forwarding Condition

A specification of the behaviour that should occur with respect to call redirection when a call arrives at a device. Possible forwarding conditions include *Immediate*, *Busy*, *No Answer*, *Do Not Disturb*, *Type of Call Origination*, and user-specified conditions.

3.139 Gain

A microphone attribute, indicating the level at which the microphone is generating its output electronic signal.

3.140 Held Call

A call for which the subject Connection is in the Hold state. When a call is in the Hold connection state at a specific device, communication between that device and other devices on the call is temporarily suspended.

3.141 Hold

A situation in which a call, consisting of two or more devices, is temporarily suspended by one of the devices in the call (that is, by the holding device). The held call and the holding device continue to have a logical, but not a physical association during the suspension of the call.

3.142 Hold Connection State

A state in which a device is inactively participating in a call. This state includes logical participation in a call while physical participation is suspended.

3.143 Holding Device

The device for which its connection to the call is placed on hold.

3.144 Hookswitch

The component that connects or disconnects the device from the telephone line. On a telephone station, for example, this is the component that is automatically activated when a user lifts the handset from the cradle to receive dial tone (alternatively it can be activated by selecting a hands-free mode on the telephone). It can also be an integrated microphone and speaker or headset. When a hookswitch is off-hook, it enables an auditory apparatus to transmit and receive electronic signals associated with sound, and when it is on-hook, this capability is disabled. Synonymous with *Switchhook*.

3.145 Hookswitch Association

An auditory apparatus attribute identifying the hookswitch used to activate it, and indicating whether the hookswitch can be controlled and observed.

3.146 Hunt Group

A series of telephone lines organized in such a way that if the first line is busy the next line is hunted and so on until a free line is found.

3.147 ID

Identifier.

3.148 Identifier Parameter Type

A parameter type whose data describes a particular switching sub-domain object, together with its role. Possible parameter types include AssociatedCalledDeviceID, AssociatedCallingDeviceID, CallingDeviceID, CalledDeviceID, DeviceID, RedirectionDeviceID, SubjectDeviceID.

3.149 Inband

Transmitted within the channel. Examples are POTS uses DTMF for inband dialling instructions and tones for inband notification that the remote device is busy or alerting.

3.150 Inbound Call

Synonymous with *Incoming Call.*

3.151 Incoming Call

A telephone call that is directed toward a device in the switching sub-domain, from the point of view of that device. Synonymous with *Inbound Call*. Contrast with *Outgoing Call* or *Outbound Call.*

3.152 Integrated Services Digital Network

A set of standards that govern access to digital transmission networks. Two standard interfaces have been defined. One is called the *Basic Rate Interface (*BRI-ISDN), and provides for two 64 Kbps channels ("B" channels) that can carry either data or digital voice, and a 16 Kbps "D" channel for signalling and management. The other interface is called the *Primary Rate Interface (*PRI-ISDN), and consists of twenty-three 64 Kbps "B" channels (30 in Europe) that can carry either data or digital voice plus a 64 Kbps "D" Channel for signalling and management.

3.153 Intrude

A service/feature which allows a device to either add itself to an existing call (i.e., conference) or place an existing call on hold and create a new call with a device in the existing call (i.e., alternate) after the device has unsuccessfully tried to initiate a call to a device in the existing call. See *Join.*

3.154 I/O Services

Services that allows a computing function to send a data stream to or receive a data stream from a device in a switching sub-domain.

3.155 ISDN

Integrated Services Digital Network. See *Integrated Services Digital Network.*

3.156 ISO

International Organization for Standardization.

3.157 ITU-T

International Telecommunications Union – Telecommunications (formerly CCITT).

3.158 Join

A service/feature which allows a computing function to request, on behalf of a device, that the device be added into an existing call.

3.159 KBPS

Kilo Bits Per Second.

3.160 Lamp

A physical component that represents by means of a physically-observable attribute (e.g., light emitted by a piece of hardware) the status of a feature or service, another physical component, logical device element, or other CSTA device.

3.161 Lamp Colour

An attribute denoting the colour of a lamp. The values of this attribute are enumerated in the specification of the *LampColor* parameter.

3.162 Lamp Identifier

An identifier by which a lamp can be observed and/or controlled within the switching function.

3.163 Lamp Label

A character string representing the label by which a user refers to a lamp.

3.164 Lamp Mode

The output of a lamp that indicates the status of a feature, service, etc. The output values denote the various ways that light can be produced by a lamp, and are enumerated in the specification of the *LampMode* parameter.

3.165 LAN

Local Area Network.

3.166 Last Redirection Device

The last device from which a call was routed, as known by the switching function.

3.167 Line

A an interface to a station set from the switching function. The exact definition of line is switching function specific.

3.168 Logical Device Event

An event that reports changes to feature settings associated with a device's logical element(s).

3.169 Logical Device Features

A collection of features and associated services and events supported by logical devices. These include *callback*, *agent status*, *auto answer*, *caller ID status*, *do not disturb*, *forwarding status, routeing mode*.

3.170 Logical Display

For a display, the two-dimensional array of characters into which characters can be deposited.

3.171 Logical Element

The set of attributes, features, and services associated with the control and observation of a call at a CSTA device.

3.172 Maintenance Event

An event that reports changes regarding maintenance.

3.173 Manual Mode

Refers to manual telephone activity at the device (such as button pressing) to provide call control.

3.174 Media

The media is whatever takes place on a line, usually on a 3.1 kHz audio bearer channel.

3.175 Media Call Characteristics

See *Device Media Characteristics*.

3.176 Media Class

A CSTA device attribute whose value is a set of categories representing media features. Possible category values include *audio*, *data*, *image*, *voice, other*.

3.177 Media Service Instance

A logical server providing access to media services (e.g., Accessing a DataStream, Sending & Receiving Faxes, Playing & Recording Sounds, Engaging other VRU services) that can be associated with a call through a Media Access Device.

3.178 Media Stream

An object associated with a call that transmits data between devices on the call.

3.179 Media Stream Event

An event that reports changes associated with the attachment of a call to a media device.

3.180 Media Stream Information

A collection of CSTA device attributes denoting characteristics of the media stream associated with the device. Possible values include *connection rate*, *bit rate*, and *delay tolerance*.

3.181 Media Type

A call's media type describes what type of information the call is carrying, such as data or voice.

3.182 Meta Parameter Type

A parameter type that contains a composition of other parameter types. Meta parameter types include bitmaps, enumerations, structures, and lists.

3.183 Microphone

An auditory apparatus that converts speech into an electronic signal.

3.184 Monitor Type

An indication of the operational behaviour of a monitor. Possible values are *Call-type Monitor* and *Device-Type Monitor*.

3.185 Monitoring Services

The services provided by the switching function by which the computing function may receive notification of changes in the switching function. The computing function indicates interest in certain switching function changes, and thereafter receives notifications of those changes via events.

3.186 Multi-Stage Dialling

"multi-stage" or "incremental" dialling occurs when the device needs to break the dialling sequence up into a number of stages in order to complete dialling. This type of dialling is needed in cases where the switching function prompts the device for more digits (by sending dialtone again or some other tone).

3.187 Multi-Step Acknowledgement Model

An acknowledgement model supported by a service in which the positive acknowledgement of a request is accomplished in multiple steps. Receipt of an acknowledgement from such a service guarantees only that all parameters supplied in the request are correct, not necessarily that the service has completed or will complete successfully. See *Acknowledgement Model* and *Atomic Acknowledgement Model*.

3.188 Mute

A microphone and speaker capability, allowing its operation to be temporarily disabled.

3.189 Network Interface Device

A type of device which is both part of a switching sub-domain and is connected to an external telephone network. A given switching sub-domain is therefore interconnected to external telephone network(s) through one or more network interface devices. A network interface device is typically referred to as a "trunk". Note that trunks may exist within the switching sub-domain but in this case they will not be visible to CSTA.

3.190 NID

Network Interface Device. See *Network Interface Device*.

3.191 Null Connection State

A connectionstate in which there is no relationship between a call and device.

3.192 Null Correlator Data

A string of zero length provided as the value of Correlator Data. This is different than the *absence* of correlator data.

3.193 ODP

Open Distributed Processing.

3.194 Offered Mode

A mode of the Alerting connection state that applies for a call offered to a device with no ringing or ringback. In this state and mode, the call can be accepted, deflected, rejected (cleared) or manipulated with other services (e.g., Answer Call).This mode is indicated through an Offered event.

3.195 Off-Hook

Activated (in regard to a telephone set). A telephone in use is said to be off-hook when its bearer is connected to the switching function. Contrast with *On-Hook*.

3.196 On-Hook

Deactivated (in regard to a telephone set). A telephone that is not in use is said to be On-hook and its bearer is not connected to the switching function. Contrast with *Off-Hook*.

3.197 OSI

Open Systems Interconnection.

3.198 Outband (Out of Band)

Transmitted over a separate signaling channel. For example, with the media stream on the B channel, ISDN uses protocol messages on the D channel to indicate call states such as dialtone, ringback, and busy, and for signaling dialling instructions to the switch. See *Inband.*

3.199 Outbound Call

Synonymous with *Outgoing Call.*

3.200 Outgoing Call

A telephone call that has been originated by a device, from the point of view of that device. See *Outbound Call.* Contrast with *Incoming Call.*

3.201 PAC

Privilege Attribute Certificate.

3.202 Parameter Type

A categorization of parameters by function and the type of information they describe. There are five parameter types defined in CSTA: *basic*, *meta*, *defined*, *identifier*, and *capability bitmap*.

3.203 Parameter Type Template

A convention for the documentation of the parameters occurring in a service request or event, consisting of the parameter name, its type, its format, and various additional functional requirements governing its use.

3.204 Park

The act of parking is moving a call away from a specific device and queueing the call at another device.

3.205 Party

An entity (typically a person) outside the Switching Function that has the ability to use the Switching Function.

3.206 PBX

Private Branch Exchange.

3.207 PDU

Protocol Data Unit.

3.208 Physical Base

For a display, the location of the first character of the physical display represented as the tuple (LogicalRowNumber.LogicalColumnNumber).

3.209 Physical Component

A microphone, speaker, (physical) button, switchhook, or other mechanical/electrical part that can be manipulated by a user.

3.210 Physical Device Event

An event that reports changes to the components of a device's physical elements.

3.211 Physical Device Features

A collection of features, along with associated services and events, associated with the physical element of a device. These features include button information, hookswitch status, lamp information, microphone information, ringer status.

3.212 Physical Display

For a display, the two-dimensional array of characters (a subset of the *logical display*) that can be observed by a user at one time (without manipulating the relative positions of the physical and logical displays).

3.213 Physical Element

The set of attributes, features, and services associated with a physical component of a device, which make up its physical interface.

3.214 Pick

A situation where one of the following occurs: An incoming call may be answered by a device that is different from the device being alerted; A held call may be retrieved from hold by a device that is different from the device at which the call is being held; A parked call may be retrieved from a device that is different from the one that it is parked at. This term is also commonly referred to as "pickup".

3.215 PISN

Private Integrated Services Network.

3.216 Plain Old Telephone Service

Basic single-line telephone service for the general switched telephone network (GSTN). With some exceptions, POTS only supports making and receiving calls, and POTS lines can handle only one conversation at a time. POTS is based on analog lines.

3.217 POTS

Plain Old Telephone Service. See *Plain Old Telephone Service*.

3.218 Predictive Dial Call

A call made in the course of *predictive dialling*.

3.219 Pre-Delivery

State of a call at a device prior to a ringing indication or delivering ringback.

3.220 Predictive Dialling

A process in which a switching function establishes a call to a called party, and subsequently connects the calling party to the call when certain conditions are met. Those conditions can include reaching a certain connection state on the connection to the called party, or detecting a certain media type. CSTA supports this process via the Make Predictive Call service.

3.221 PRI-ISDN

A Primary Rate Interface ISDN connection, which in the U.S., Canada, and Japan consists of 23 64 Kbps B channels and one 64 Kbps D channel (23B+D). In Europe, PRI provides for 30 B channels and two D channels (30B+2D). See *BRI-ISDN*.

3.222 Primary Call

The primary call is the first call at a device (for a two step transfer or conference, it is the active call placed on hold at the time of the consultation).

3.223 Private Event

An event that carries implementation-specific information.

3.224 Profile

A specification of CSTA services and events. A CSTA implementation may conform to a profile by supporting the services and events specified in the profile.

3.225 Prompting

Informing the user of a device that it is to be placed in an off-hook condition.

3.226 Protocol Specific Information

A collection of CSTA device attributes whose values denote device features and behaviour not standardised by CSTA, but which CSTA allows an application to access. These attributes include various call control information elements (e.g., ISDN), protocol specific information elements (e.g., ISDN Bearer Capability, Subaddress).

3.227 PSTN

Public Switched Telephone Network.

3.228 PTN

Private Telecommunications Network.

3.229 Queue

A mechanism in which telephone calls wait to be serviced by a system resource.

3.230 Queued Call

A call that is waiting in a queue of telephone calls to be serviced.

3.231 Recall

A feature that is automatically associated with a call after a call control feature has been executed. When the recall feature is triggered, it redirects or presents the call either back to the device on whose behalf the call control feature was executed, or to a switching function administrated destination associated with the specific call control feature.

3.232 Redirection Device

See *Last Redirection Device*.

3.233 Reorder Condition

An indication (via an inband signal, such as a reorder tone, or an outband message) that all trunks of a trunk group are busy.

3.234 Request

See *Service Request*.

3.235 Response

See *Acknowledgement*.

3.236 Ring Count

A ringer attribute denoting the number of ring cycles that the ringer has completed.

3.237 Ring Cycle

One unit of a ring pattern. Also called ringing cycle.

3.238 Ring Mode

A ringer attribute indicating whether the ringer is engaged in a ringing cycle.

3.239 Ring Pattern

A ringer attribute associating one of an enumerated set of user-observable ringing patterns with the ringer. It is an instance of a ring cycle

3.240 Ringback Tone

The tone heard by a calling device when, at the called-device's end, the telephone is ringing, being offered or the system is otherwise being alerted of the incoming call.

3.241 Ringer

A physical component that indicates, via a mechanism providing perceptible output (e.g., sound, light, vibration), that a device is ringing.

3.242 Ringer Identifier

An identifier through which a ringer is observed and/or controlled within the switching function.

3.243 Ringing Mode

In this mode of the Alerting connection state, the call is being presented for the purpose of having the device connect to the call. This mode is indicated through a Delivered event (with a cause code other than Entering Distribution. The device may provide ringing (this is indicated separately through Physical Device Feature events.)

3.244 ROSE

Remote Operation Service Element.

3.245 Routeing Cross Reference Identifier

An identifier used to uniquely identify the requests and responses of a routeing dialogue.

3.246 Routeing Device

A device from which calls are routed, and for which a computing function may register to be a routeing server.

3.247 Routeing Dialogue

An interaction between the switching function and computing function through which the computing function provides one or more destination devices to the switching function.

3.248 Routeing Registration Identifier

An identifier denoting a unique registration of a routeing server (in the computing function) with the switching function. Routeing requests of the routeing server will be identified via this identifier.

3.249 Routeing Server

An object in the computing domain that processes routeing requests from the switching function.

3.250 RSVP

ReSerVation Protocol.

3.251 Secondary Call

The secondary call is the second call at the device (for a two step transfer or conference, it is the consultation call).

3.252 Service

A benefit provided by one CSTA application process to another.

3.253 Service Boundary

The abstract Service Boundary within a system which separates the various components (Switching Function, Computing Function, Special Resource Function) of CSTA. The interface operates across the Service Boundary to allow one component to act as a CSTA server to another component.

3.254 Service Request

The formatted information that is sent to the switching function as a result of a computing function issuing a service across the service boundary.

3.255 Service Response

See *Acknowledgement*.

3.256 Service Template

A convention for the documentation of a CSTA service, consisting of a textual description, an optional figure depicting starting and ending conditions, tables documenting the parameters in the service request and response, and an operational model of the service.

3.257 Signalling Capability

The signalling capabilities (e.g., analogue, ISDN) available on a connection. The signalling capabilities of a connection typically change when a network boundary has been reached.

3.258 Silent Intrusion

Synonymous with *Silent Participation*.

3.259 Silent Monitoring

Synonymous with *Silent Participation*.

3.260 Silent Participation

A feature of services such as Join Call, Call Intrude and other services that allows a device to participate in a call "silently" – without the awareness of other participants.

3.261 Simple Call State

A simplified encoding of the state of a call, derived from the composition of connection states of all of the connections associated with a call. Possible values include *callNull, callPending, callOriginated, callDelivered, callDeliveredHeld, callReceived, callEstablished, callEstablishedHeld, callReceivedOnHold, callEstablishedOnHold, callQueued, callQueuedHeld, callFailed, callFailedHeld, callBlocked*. See also *Call State*.

3.262 Snapshot Services

A collection of services used by the computing function to determine information about a call or device.

3.263 Speaker

An auditory apparatus that converts an electronic signal into an acoustic signal.

3.264 Special Resource

A device that is a member of a special resources sub-domain and supports any of the special resources services or events (e.g., play message, record message).

3.265 Special Resource Domain

The set of special resources and their objects that may be reached directly or indirectly by a CSTA application from a computing or switching domain.

3.266 Special Resource Function

That part of the domain needed to support CSTA applications implemented within a special resource sub-domain.

3.267 Special Resource Sub-Domain

Any configuration of inter-connected special resources that presents the external appearance and functionality of a single special resource to the computing or switching domain.

3.268 Speech

A media type for which human speech coding and compression algorithms are valid.

3.269 SRF

Special Resource Function. See *Special Resource Function*.

3.270 State

See *Call State*, *Connection State*.

3.271 Static Device Identifier

A Device ID created by the switching function that remains stable over time, and constant and unique between calls.

3.272 Station

A peripheral device of the switch, a station is any piece of equipment connected to a switch over a telephone line. Examples are telephone sets, fax machines, computers with add-in telephony cards, and answering machines.

3.273 Status Filter

A mechanism provided by Status Reporting Services by which an application can specify status information to be passed to the application.

3.274 Status Reporting Services

Services through which system and other status information is passed between the Switching Function and the Computing Function.

3.275 Switching Domain

The set of switches and their objects that may be reached directly or indirectly by a CSTA application from a computing or special resource sub- domain.

3.276 Switching Function

The part of the domain needed to support CSTA applications that is implemented within a switching sub-domain.

3.277 Switching Function Capabilities

Properties of the switching function that elaborate behavioural details of the switching function or of switching sub-domain devices. These properties can be accessed via the Capabilities Exchange services.

3.278 Switching Function Service

A service provided by the switch that can be invoked by a computing function or by manual telephone activity.

3.279 Switching Sub-Domain

Any configuration of inter-connected switches that presents the functionality of a single switch to the computing or special resource sub-domain.

3.280 Switching Sub-Domain Name

A string that uniquely identifies a switching sub-domain for all of the CSTA applications to which it is associated.

3.281 System Status Registration Identifier

An identifier that uniquely identifies a system status registration of the computing function with the switching function. After registration has occurred, system status requests sent to the computing function will contain this identifier as a parameter.

3.282 System Status Services

A set of services through which the overall status of a switching, computing, or special resource function can be set or queried.

3.283 TE

Terminal Equipment.

3.284 Telephony Service

A service provided by a switching function.

3.285 Telephony Tone

Audible tone generated by the network that provides call progress indications to the user.

3.286 Template

See *Service Template*, *Event Template*.

3.287 TON

Type of Number.

3.288 Trunk

A type of network interface device which is used to link a switching sub-domain to a telephone network. See *Network Interface Device*.

3.289 User

A person, process, or piece of equipment that receives direct benefit (e.g., added functionality, improved performance) from the Services provided by a CSTA application.

3.290 User Data

Data passed between objects in the computing function through messages sent to and from the switching domain. The interpretation of user data is application-specific.

3.291 User-User Information Element

An information element defined by ISDN and available through an ISDN network connection, through which CSTA defines a method of encoding correlator data, user data, or both.

3.292 UUIE

User-User Information Element. See *User-User Information Element*.

3.293 Voice

A media type in which the media stream is a signal that can be carried on a 3.1 kHz bandwidth channel with no information loss. Examples of such media streams are voiceband-modulated data or facsimile signals or human speech. See *Speech*.

3.294 Voice Call

A call for which the media type is voice. See *Voice*.

3.295 Voice Response Unit

Hardware or software, or both, that responds to incoming calls by playing one or more pre-recorded messages. The messages may require the caller to provide additional information by pressing buttons on a touch-tone telephone keypad. The sequence of messages played may be determined dynamically by this additional input.

3.296 VRU

Voice Response Unit. See *Voice Response Unit*.

4 Terms defined elsewhere

The following terms, defined in other publications, are used in CSTA Phase III:

ISO 7498	Application-Entity
	Application-Entity-Title
	Application Layer
	Application Process
	Application-Service-Element
ISO 8649	Application Association
	Application Context
	Application Control Service Element
ISO/IEC 9072	Remote Operations
ISO/IEC 10031-1	Client
	Server
ISO/IEC 11572	Bearer Capability
	High Layer Compatibility
	Information Element
	Low Layer Compatibility
	SetUp
	SubAddress

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