

CONVERGENCE Glossary (version of 30/10/2012)

Term	Definition
Access Rights	Criteria defining who can access a VDI or its components under what conditions.
Advertise	Procedure used by a CoNet user to make a resource accessible to other CoNet users.
Application	Software, designed for a specific purpose that exploits the capabilities of the CONVERGENCE System.
Business Scenario	A scenario describing a way in which the CONVERGENCE System may be used by specific users in a specific context or, more narrowly, a scenario describing the products and services bought and sold, the actors concerned and, possibly, the associated flows of revenue in such a context.
CA	Central Authority
CCN	Content Centric Network
Cl_Auth_SC	Client Authentication with Smart Card (Challenge Response)
Cl_Auth_User_Pw	Client Authentication with Username and Password
Clean-slate architecture	The CONVERGENCE implementation of the Network Level, totally replacing existing IP functionality. See “Integration Architecture” and ”“Overlay Architecture” and “Parallel Architecture”.
CoApp	The CONVERGENCE Application Level.
CoApp Provider	A user providing Applications running on the CONVERGENCE Middleware Level (CoMid).
CoMid	The CONVERGENCE Middleware Level.
CoMid Provider	A user providing access to a single or an aggregation of CoMid services.
CoMid Resource	A virtual or physical object or service referenced by a VDI, e.g. media, Real World Objects, persons, internet services. It has the same meaning of “Resource” and it is used only to better specify the term “Resource” when there is a risk of a misunderstanding with the term “CoNet Resource”.
Community Dictionary Service (CDS)	A CoMid Technology Engine that provides all the matching concepts in a user’s subscription, search request and publication.
CoNet Provider	A user providing access to CoNet services, i.e. the equivalent of an Internet Service Provider.
CoNet Resource	A resource of the CoNet that can be identified by means of a name; resources may be either Named-data or a Named service access point.
Content-based resource discovery	A user request for resources, either through a subscription or a search request to the CONVERGENCE system (from literature). See “subscription” and “search”.
Content-based Subscription	A subscription based on a specification of user’s preferences or interests, (rather than a specific event or topic). The subscription is based on the actual content, which is not classified according to some predefined external criterion (e.g., topic name), but according to the

	properties of the content itself. See “Subscription” and “Publish-subscribe model”.
Content-centric	A network paradigm in which the network directly provides users with content, and is aware of the content it transports, (unlike networks that limit themselves to providing communication channels between hosts).
CONVERGENCE Applications level (CoApp)	The level of the CONVERGENCE architecture that establishes the interaction with CONVERGENCE users. The Applications Level interacts with the other CONVERGENCE levels on behalf of the user.
CONVERGENCE Computing Platform level (CoComp)	The Computing Platform level provides content-centric networking (CoNet), secure handling (CoSec) of resources within CONVERGENCE and computing resources of peers and nodes.
CONVERGENCE Core Ontology (CCO)	A semantic representation of the CoReST taxonomy. See “CONVERGENCE Resource Semantic Type (CoReST)”
CONVERGENCE Device	A combination of hardware and software or a software instance that allows a user to access Convergence functionalities
CONVERGENCE Engine	A collection of technologies assembled to deliver specific functionality and made available to Applications and to other Engines via an API
CONVERGENCE Middleware level (CoMid)	The level of the CONVERGENCE architecture that provides the means to handle VDIs and their components.
CONVERGENCE Network (CoNet)	The Content Centric component of the CONVERGENCE Computing Platform level. The CoNet provides access to named-resources on a public or private network infrastructure.
CONVERGENCE node	A CONVERGENCE device that implements CoNet functionality and/or CoSec functionality.
CONVERGENCE peer	A CONVERGENCE device that implements CoApp, CoMid, and CoComp (CoNet and CoSec) functionality.
CONVERGENCE Resource Semantic Type (CoReST)	A list of concepts or terms that makes it possible to categorize a resource, establishing a connection with the resource’s semantic metadata.
CONVERGENCE Security element (CoSec)	A component of the CONVERGENCE Computing Platform level implementing basic security functionality such as storage of private keys, basic cryptography, etc.
CONVERGENCE System	A system consisting of a set of interconnected devices - peers and nodes - connected to each other built by using the technologies specified or adopted by the CONVERGENCE specification. See “Node” and “Peer”.
Dec_Key_Unwrap	Key Unwrapping and Content Decryption
DIDL	Digital Item Description Language
Digital forgetting	A CONVERGENCE system functionality ensuring that VDIs do not remain accessible for indefinite periods of time, when this is not the intention of the user.
Digital Item (DI)	A structured digital object with a standard representation, identification and metadata. A DI consists of resource, resource and context related metadata, and structure. The structure is given by a Digital Item Declaration (DID) that links resource and metadata.
Domain ontology	An ontology, dedicated to a specific domain of knowledge or application, e.g. the W3C Time Ontology and the GeoNames ontology.
Elementary Service (ES)	The most basic service functionality offered by the CoMid.
Enc_Key_Wrap	Encryption and Key Wrapping

Entity	An object, e.g. VDIs, resources, devices, events, group, licenses/contracts, services and users, that an Elementary Service can act upon or with which it can interact.
Expiry date	The last date on which a VDI is accessible by a user of the CONVERGENCE System.
Fractal	A semantically defined virtual cluster of CONVERGENCE peers.
Group_Sig	Group Signature
ICN	Information Centric Network
Identifier	A unique signifier assigned to a VDI or components of a VDI.
Integration Architecture	An implementation of CoNet designed to integrate CoNet functionality in the IP protocol by means of a novel IPv4 option or by means of an IPv6 extension header, making IP content-aware. See “Clean-state Architecture”, “Overlay Architecture”, “Parallel Architecture”
IP	Identity Provider
License	A machine-readable expression of Operations that may be executed by a Principal.
Local named resource	A named-resource made available to CONVERGENCE users through a local device, permanently connected to the network. Users have two options to make named-resources available to other users: 1) store the resource in a device, with a permanent connection to the network; 2) use a hosting service. In the event she chooses the former option, the resource is referred to as a local named-resource.
Metadata	Data describing a resource, including but not limited to provenance, classification, expiry date etc.
MPEG eXtensible Middleware (MXM)	A standard Middleware specifying a set of Application Programming Interfaces (APIs) so that MXM Applications executing on an MXM Device can access the standard multimedia technologies contained in the Middleware as MXM Engines.
MPEG-M	An emerging ISO/IEC standard that includes the previous MXM standard.
Multi-homing	In the context of IP networks, the configuration of multiple network interfaces or IP addresses on a single computer.
Named resource	A CoNet resource that can be identified by means of a name. Named-resources may be either data (in the following referred to as “named-data”) or service-access-points (“named-service-access-points”).
Named service access point	A kind of named-resource, consisting of a service access point identified by a name. A named-service-access-point is a network endpoint identified by its name rather than by the Internet port numbering mechanism.
Named-data	A named-resource consisting of data.
Network Identifier (NID)	An identifier identifying a named resource in the CONVERGENCE Network. If the named resource is a VDI or an identified VDI component, its NID may be derived from the Identifier (see “Identifier”).
Overlay architecture	An implementation of CoNet as an overlay over IP. See “Clean-state Architecture” and “Integration Architecture” and “Parallel Architecture”
Parallel architecture	An implementation of CoNet as a new networking layer that can be used in parallel to IP.

	See “Clean-state Architecture” and “Integration Architecture” and ““Overlay Architecture”
PKI	Public Key Infrastructure
Policy routing	In the context of IP networks, a collection of tools for forwarding and routing data packets based on policies defined by network administrators.
Principal (CoNet)	The user who is granted the right to use a <i>CoNet Principal Identifier</i> for naming its named resources. For example, the principal could be the provider of a service, the publisher or the author of a book, the controller of a traffic lights infrastructure, or, in general, the publisher of a VDI. A Principal may have several Principal Identifiers in the CoNet.
Principal (Rights Expression Language)	The User to whom Permissions are Granted in a License.
Principal Identifier (CoNet)	The Principal identifier is a string that is used in the Network Identifiers (NID) of a CoNet resource, when the NID has the form: NID = <namespace ID, hash (Principal Identifier), hash (Label)> In this approach, hash (Principal Identifier) must be unique in the namespace ID, and Label is a string chosen by the principal in such a way that hash(Label) is unique for in the context of the Principal Identifier.
Publish	The act of informing an identified subset of users of the CONVERGENCE System that a VDI is available.
Publisher	A user of CONVERGENCE who performs the act of publishing.
Publish-subscribe model	CONVERGENCE uses a content-based approach for the publish-subscribe model, in which notifications about VDIs are delivered to a subscriber only if the metadata / content of those VDIs match constraints defined by the subscriber in his Subscription VDI.
Real World Object	A physical object that may be referenced by a VDI.
REL	Rights Expression Language
Resource	A virtual or physical object or service referenced by a VDI, e.g. media, Real World Objects, persons, internet services.
Scope (in the context of routing)	In the context of advertising and routing, the geographical or administrative domain on which a network function operates (e.g. a well-defined section of the network - a campus, a shopping mall, an airport -, or to a subset of nodes that receives advertisements from a service provider).
Search	The act through which a user requests a list of VDIs meeting a set of search criteria (e.g. specific key value pairs in the metadata, key words, free text etc.).
Serv_Auth	Server Authentication without Smart Card
Service Level Agreement (SLA)	An agreement between a service provider and another user or another service provider of CONVERGENCE to provide the latter with a service whose quality matches parameters defined in the agreement.
Sig	Signature
Smart_Card Role_Auth_SC	Role Authentication towards Smart Card
SP	Service Provider
Subscribe	The act whereby a user requests notification every time another user publishes or updates a VDI that satisfies the subscription criteria

	defined by the former user (key value pairs in the metadata, free text, key words etc.).
Subscriber	A user of CONVERGENCE who performs the act of subscribing.
Timestamp	A machine-readable representation of a date and time.
Tool	Software providing a specific functionality that can be re-used in several applications.
Trials	Organized tests of the CONVERGENCE System in specific business scenarios.
Un-named-data	A data resource with no NID.
Us_Reg_IP	User Registration to Identity Provider
Us_Reg_SP	User Registration to Service Provider
User	Any person or legal entity in a Value-Chain connecting (and including) Creator and End-User possibly via other Users.
User (in OSI sense)	In a layered architecture, the term is used to identify an entity exploiting the service provided by a layer (e.g. CoNet user).
User ontology	An ontology created by CONVERGENCE users when publishing or subscribing to a VDI.
User Profile	A description of the attributes and credentials of a user of the CONVERGENCE System.
Versatile Digital Item (VDI)	A structured, hierarchically organized, digital object containing one or more resources and metadata, including a declaration of the parts that make up the VDI and the links between them.