

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1370

DATE: JANUARY 1, 2023

PROJECT DP11905

The following classification changes will be effected by this Notice of Changes:

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
DEFINITIONS:		
Definitions New:	H04L	2101/00
Definitions Modified:	H04L	41/00
		43/00
		45/00
		47/00, 47/265, 47/782, 47/82
		49/00
		51/00
		61/00
		65/00
		67/00
		69/00

This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES

- A. New, Modified or Deleted Group(s)
- B. New, Modified or Deleted Warning(s)
- C. New, Modified or Deleted Note(s)
- D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

- A. New or Modified Definitions (Full definition template)
- B. Modified or Deleted Definitions (Definitions Quick Fix)

3. REVISION CONCORDANCE LIST (RCL)

4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5. CHANGES TO THE CROSS-REFERENCE LIST (CRL)

2. A. DEFINITIONS (new)

Insert: The following new Definition.

H04L 2101/00

Definition statement

This place covers:

Details of addressing and naming in data networks, such as aspects relating to different types or formats of addresses and names.

Special rules of classification

H04L 2101/00 is an indexing scheme associated with main group H04L 61/00. Accordingly, documents classified in H04L 61/00 should also have the relevant indexing codes of H04L 2101/00 applied to identify the types of network names or network addresses disclosed.

2. A. DEFINITIONS (modified)

H04L 41/00

Definition statement

Replace: The entire existing Definition statement text with the following new text.

Arrangements for the operation, administration, maintenance, provisioning [OAMP] or troubleshooting [OAMPT] of heterogeneous data packet networks, e.g. IP, Ethernet, Next Generation Network or Home Networks, using proprietary or standardised network management architectures (e.g. SDN, NFV) or protocols (e.g. TMN, SNMP, OMA-DM), irrespective of the physical transport medium, the type of service carried or the type of virtualisation (e.g. VNFs, cloud).

Relationships with other classification places

Replace: The existing Relationships text with the following revised text.

Aspects related to the management of the fulfilment of an agreement between two different parties (usually not within the same network/domain), typically known as Service Level Agreement [SLA], are classified in group [H04L 41/50](#).

Aspects related to the monitoring of the performance of network communications are classified in main group [H04L 43/00](#) (e.g. monitoring of QoS parameters).

Aspects related to the testing of a network or a network element are classified in group [H04L 43/50](#).

Aspects relating to specific functions of data storage and retrieval, e.g. in a database, are classified in main group [G06F 16/00](#).

References

Informative references

Replace: The Informative references table with the following revised table.

Information retrieval; Database structures therefor; File system structures therefor	G06F 16/00
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Arrangements for detecting or preventing errors in the information received	H04L 1/00
Network security protocols	H04L 9/40
Charging arrangements in data switching networks	H04L 12/14
Operation and Maintenance of homogeneous ATM networks	H04L 2012/5625
Arrangements for monitoring or testing data switching networks	H04L 43/00
Network architectures or network communication protocols for network security	H04L 63/00
Protocols specially adapted for proprietary or special-purpose networking environments involving control of end-device applications over a network	H04L 67/125
Arrangements for supervision, monitoring or testing for automatic or semi-automatic exchanges	H04M 3/22
Interconnection arrangements between voice switching centres; Network operation, administration, maintenance or provisioning	H04M 7/0081
Arrangements providing connection between exchanges	H04Q 3/0016
Selecting arrangements for multiplex systems using optical techniques	H04Q 11/0001
Supervisory, monitoring or testing arrangements for wireless communication networks	H04W 24/00
Network traffic or resource management for wireless communication networks	H04W 28/00

Delete: The entire Special rules of classification section.

Glossary of terms

Replace: The existing Glossary of terms table with the following revised table.

Administration	Keeping track of resources in the network and how they are assigned. It includes all the "housekeeping" that is necessary to keep the network under control.
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Agent	A software module that performs management functions requested by a manager.
Maintenance	Performing repairs and upgrades—for example, when equipment must be replaced, when a router needs a patch for an operating system image, when a new switch is added to a network. Maintenance also involves corrective and preventive measures to make the managed network run "better", such as adjusting device configuration parameters.
Network element	Manageable logical entity uniting one or more physical devices which are networked. Network elements usually have management agents responsible for interfacing with the network manager. They can be any type of device, including, but not limited to: nodes, routers, switches, bridges, hubs, network interface controller [NIC] hosts, gateways, servers, modem, IP telephones, IP video cameras, data-centres, computer hosts and printers. A network element can also comprise virtual components and can be partially or completely virtualised.
Network function, NF; Virtual NF, VNF; Physical NF, PNF	Functional blocks within a network infrastructure with external interfaces which can be implemented as a virtual network function, VNF or a physical network function, PNF.
Network management, NM	Methods, systems, procedures, and tools that pertain to the operation, administration, maintenance, provisioning, analysis and troubleshooting of networked systems.
Network management functions	Functions that are performed as part of network management including fault management, configuration, accounting, performance, security management [FCAPS]. For virtualised network functions in networked systems NM functions comprise management and orchestration functions for these virtualised network functions.
Network management system, Orchestrator	Entity that acts in a network manager role for performing network management functions.
Operation	Keeping the network up and running smoothly.

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Provisioning	Configuring resources in the network to support a given service. For example, this might include setting up the network so that a new customer can receive the requested service.
Quality of service	Quality measurement or description of the performance of a service, the quality measurement relating to specific network parameters of the network packets related to the service which describe the treatment experienced by the packets while passing through the network, e.g. packet loss, bit errors, bit rate, throughput, goodput, delay, availability or jitter.
Service level agreement	Part of a service contract where the level of service between a service provider and a service user is formally defined.
Troubleshooting	Maintenance carried out as a result of fault or failure determination, and may result in emergency workarounds until a permanent fix can be carried out.

Synonyms and Keywords

Replace: The existing Synonyms and Keywords section with the following revised tables and text.

In patent documents, the following abbreviations are often used:

MANO	Management and orchestration
MIB	Management information base
NM	Network management
NE	Network element
NFV	Network function virtualisation
NMS	Network management system
OA&M, OAM	Operation, administration and management
OAM&P, OAMP	Operation, administration, management and provisioning
OSS	Operations support systems
PNF	Physical network function
QoS	Quality of service
SDN	Software defined networks
SLA	Service level agreement
SNMP	Simple network management protocol
SOAP	Simple object access protocol

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TMN	Telecommunications management network
VNF	Virtualised (virtual) network function

In patent documents, the following words/expressions are often used with the meaning indicated:

Configured to	Adapted to or suitable for defining functional features of structural elements.
Managed device or managed node	Network element [NE]
Managed object	An abstract representation of network resources of the network element that is managed
Management	Controlling, commanding or operating
Network manager	Network Management System

H04L 43/00

Definition statement

Replace: The existing Definition statement text with the following new text.

Network monitoring or telemetry or testing of heterogeneous data packet networks, such as IP, Ethernet, Next Generation Network or Home Networks, irrespective of the physical transport medium, the type of service carried or the type/grade of virtualisation (e.g. SDN, NFV).

Relationships with other classification places

Replace: The first and third paragraphs of text so that the entire Relationships section text reads as follows.

Traffic and packet monitoring techniques in main group [H04L 43/00](#) are irrespective of the use which is done of the result and focuses on the monitoring techniques as such, not on the application which may be of different nature.

The group [H04L 43/50](#) focuses on the testing platform, routine, apparatus and configuration.

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Aspects related to the generation or insertion of specific type of packets (e.g. ICMP, ping, traceroute) are classified in group [H04L 43/10](#) whereas (test) traffic injection of data according to a pattern and characterisation is classified in group [H04L 43/50](#).

References

Informative references

Replace: The existing Informative references table with the following revised table.

Monitoring of computing systems	G06F 11/30
Recording or statistical evaluation of computer activity	G06F 11/34
Monitoring users, programs or devices to maintain the integrity of platforms, e.g. of processors, firmware or operating systems	G06F 21/50
Network service management, e.g. ensuring proper service fulfilment according to agreements	H04L 41/50
Filtering policies for separating internal from external traffic for security	H04L 63/0227
Monitoring for detecting or protecting against malicious traffic	H04L 63/1408
Protocols specially adapted for monitoring users' activity	H04L 67/1396
Supervisory, monitoring or testing arrangements for wireless communication networks	H04W 24/00

Insert: The following new Glossary of terms section.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Active monitoring	Observing the network by actively, adding, marking or injecting data into the network to provide monitoring results with very limited or negligible impact on the monitored network or traffic.
Monitoring	Monitoring comprising passive and active monitoring.
Passive monitoring	Observing the network by measuring passing traffic or

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	setting counters, probes or analysers at different points in the network without impacting the network traffic, e.g. traffic mirroring to a sniffer.
Quality of service	Quality measurement or description of the performance of a service, the quality measurement relating to specific network parameters of the network packets related to the service which describe the treatment experienced by the packets while passing through the network, e.g. packet loss, bit errors, bit rate, throughput, goodput, delay, availability or jitter.
Testing	Observing the network by adding or injecting data into the network to provide test results with considerable impact on the network or traffic.

Synonyms and Keywords

Insert: A second table within the Synonyms and Keywords section so that the entire section appears as follows.

In patent documents, the following words/expressions are often used with the meaning indicated:

"testing"	"monitoring" or "active monitoring".
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In patent documents, the following abbreviations are often used:

NFV	Network function virtualisation
QoS	Quality of service
SDN	Software defined networks

H04L 45/00

Insert: The following new Definition statement.

Definition statement

This place covers:

Techniques or arrangements for selectively establishing and maintaining one or a plurality of non-wireless communication paths, from information sources to information sinks, over which information is communicated.

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Techniques or arrangements for discovering, establishing or maintaining connectivity information among affiliated equipments, e.g. routing lists.
Techniques and arrangements for path selection or path optimisation in the network, be it physical or virtualised, e.g. SDN or NFV.

References

Limiting references

Replace: The text in the Limiting references table so that the table reads as follows.

Communication routing or communication path finding in wireless communication networks	H04W 40/00
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Insert: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Arrangements for detecting or preventing errors in the information received by using return channel that carries supervisory signals	H04L 1/16
Arrangements for maintenance, administration or management of data switching networks, e.g. of packet switching networks	H04L 41/00
Arrangements for monitoring or testing data switching networks	H04L 43/00
Flow control or congestion control in data switching networks	H04L 47/10
Packet switching elements characterised by the switching fabric construction	H04L 49/10
Buffering arrangements in packet switching elements	H04L 49/90
Network arrangements, protocols or services for supporting real-time applications in data packet communication	H04L 65/00
Network arrangements, protocols or services independent of the application payload	H04L 69/00
Selective content distribution, e.g. interactive television or video on demand [VOD]	H04N 21/00

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Supervisory, monitoring or testing arrangements for wireless communication networks	H04W 24/00
Load balancing or load distribution in wireless communication networks	H04W 28/08
Flow control in wireless communication networks	H04W 28/10

H04L 47/00

Insert: The following new Definition statement.

Definition statement

This place covers:

Traffic control in data switching networks such as traffic regulation, flow or congestion control.

References**Limiting references**

Replace: The text in the Limiting references table so that the table reads as follows.

Arrangements for detecting or correcting errors in the information received	H04L 1/00
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Insert: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Software simulation, e.g. virtualisation or emulation of application or operating system execution engines	G06F 9/455
Allocation of resources in multiprogramming arrangements	G06F 9/50
Computing arrangements using neural network models	G06N 3/02
Learning methods for neural networks	G06N 3/08
Machine learning	G06N 20/00

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Arrangements for connecting between networks having differing types of switching systems, e.g. gateways	H04L 12/66
Arrangements for maintenance, administration or management of data switching networks, e.g. of packet switching networks	H04L 41/00
Arrangements for monitoring or testing data switching networks	H04L 43/00
Routing or path finding of packets in data switching networks	H04L 45/00
Packet switching elements characterised by the switching fabric construction; Buffering arrangements in packet switching elements	H04L 49/10, H04L 49/90
Network arrangements, protocols or services for supporting real-time applications in data packet communication	H04L 65/00
Network arrangements or protocols for supporting network services or applications	H04L 67/00
Network arrangements, protocols or services independent of the application payload	H04L 69/00
In-band adaptation of TCP data exchange; In-band control procedures	H04L 69/163
Parsing or analysis of headers independent of the application payload	H04L 69/22
Selective content distribution, e.g. interactive television or video on demand [VOD]	H04N 21/00
Supervisory, monitoring or testing arrangements for wireless communication networks	H04W 24/00
Load balancing or load distribution in wireless communications networks	H04W 28/08
Flow control in wireless communications networks	H04W 28/10
Communication routing or communication path finding in wireless communication networks	H04W 40/00
Wireless resource allocation	H04W 72/04

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Insert: The following new Glossary of terms section.

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Congestion control	Preventing a sender from overwhelming the network, wherein the network is prevented from becoming congested.
Flow control	Preventing a sender from overwhelming a receiver wherein traffic is controlled between a sender and receiver such that only the receiver controls the transmission rate.
Policing	Performing an action (typically transmit/pass) to packets that conform to a specified rate and performing another action (typically drop) to packets that violate that rate.
Quality of Service, QoS	Description or measurement of the overall performance of a service, typically represented by packet loss, bit errors, bit rate, throughput, goodput, delay, availability or jitter.
Queuing and scheduling	Splitting traffic into a plurality of queues or buffers based on various criteria (such as type of packet, QoS requirements or user) so that a scheduler can decide which packet to service next based on a service discipline e.g. longest queue first, round robin.
Traffic shaping	A bandwidth management technique to make traffic conform to a certain rate by delaying the transmission of packets in a buffer. Delayed packets may be subsequently transmitted/released as bandwidth becomes available.

Insert: The following new Synonyms and Keywords section.

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

ACK / NAK / NACK	Acknowledgement / Negative acknowledgement
DSCP	Differentiated service code point

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FIFO / LIFO	First / Last in first out
HOL	Head of line
MTU	Maximum transmission unit
QoS	Quality of service
RED	Random early discard
RR / WRR	Round robin / Weighted round robin
RSVP	Resource reservation protocol
RTCP	Real-time transport control protocol
RTP	Real-time transport protocol
RTT	Round trip time
SLA	Service level agreement
TCP	Transmission control protocol
ToS / CoS	Type of service / Class of service
TTL	Time to live
UDP	User datagram protocol
VC	Virtual channel
VQ	Virtual queue
WFQ	Weighted fair queuing

H04L 47/265**Definition statement**

Replace: The existing Definition statement text with the following revised text.

Rate modification at intermediate network nodes on behalf of the source node.

H04L 47/782**Definition statement**

Replace: The existing Definition statement text with the following revised text.

Hierarchical allocation of resource, e.g., involving entities which are related in a hierarchical configuration.

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H04L 47/82

Definition statement

Replace: The existing Definition statement text with the following revised text.

Prioritizing or aggregating resource reservation/allocation based on availability, prediction or applicability.

H04L 49/00

Insert: The following new Definition statement.

Definition statement

This place covers:

Systems and elements for switching of packets or cells, e.g. virtual switches or asynchronous transfer mode [ATM].

References

Informative references

Replace: The existing Informative references table with the following revised table.

Selecting arrangements for multiplex systems	H04Q 11/00
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H04L 51/00

Definition statement

Replace: The entire Definition statement text with the following revised text.

User-to-user messaging in packet-switching networks, transmitted according to store-and-forward or real-time protocols, e.g. E-mail, or real-time protocols, e.g. Instant Messaging. A message switching system is a system that switches messages on the application layer in the user plane. The messages have one or more individually identified recipients, although a user may have defined them to be part of a distribution list.

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Informative referencesReplace: The existing Informative references table with the following revised table.

Interprogram communication	G06F 9/54
Computer-aided management of electronic mailing [e-mailing]	G06Q 10/107
User interfaces with interactive means for internal management of messages specially adapted for cordless or mobile telephones	H04M 1/7243
Voice mail systems in automatic or semi-automatic exchanges for telephonic communication	H04M 3/533
Interactive television system client devices with supplemental end-user services for emailing	H04N 21/4786
Selecting arrangements for multiplex systems using optical switching	H04Q 11/0001
Messaging arrangements specially adapted for wireless communication networks	H04W 4/12
Messaging devices for wireless communication networks, e.g. message centre	H04W 88/184

Insert: The following new Glossary of terms section.**Glossary of terms***In this place, the following terms or expressions are used with the meaning indicated:*

Social network	Websites and applications for the informal communication and sharing of information with other users.
Store and forward	A telecommunications technique in which information is sent to an intermediate station where it is kept and sent at a later time to the final destination or to another intermediate station
Instant messaging [IM]	Real-time transmission and exchange of short messages between two parties

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Insert: The following new Synonyms and Keywords section.

Synonyms and Keywords

In patent documents, the following words/expressions are often used with the meaning indicated:

Message switching system	A system that switches messages on the application layer in the user plane. The messages have one or more individually identified recipients, although a user may have defined them to be part of a distribution list.
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H04L 61/00

Definition statement

Replace: The entire existing Definition statement with the following revised text.

Addressing and naming in data networks:

- Conversion and mapping of addresses, which includes mapping between different types of addresses, e.g. ARP or mapping between telephone numbers and IP addresses and mapping between the same type of addresses, e.g. NAT
- Directories and name-to-address resolution, e.g. DNS, LDAP, X.500, address books
- Allocation of addresses, e.g. DHCP
- Logical names, in particular aspects relating to the registration, conversion and structure of e.g. domain names, e-mail addresses or SIP-URIs
- Implementation of special functionalities, e.g. QoS

References

Informative references

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Accessing, addressing or allocating within memory systems or architectures	G06F 12/00
Bus transfer protocol, e.g. handshake; Synchronisation	G06F 13/42
Information retrieval using distributed data base systems	G06F 16/27
Retrieval of information from the web using information identifiers, e.g. uniform resource locators [URL]	G06F 16/955
Administration, e.g. office automation or reservations	G06Q 10/00
Commerce, e.g. shopping or e-commerce	G06Q 30/00
Network security protocols	H04L 9/40
Data switching networks; Arrangements for providing special services to substations for broadcast or conference	H04L 12/18
Data switching networks characterised by a path configuration; Home automation networks	H04L 12/2803
Exchanging configuration information on appliance services in a home automation network	H04L 12/2807
Data switching networks configured as bus networks	H04L 12/40
High-speed IEEE 1394 serial bus	H04L 12/40052
Data switching networks characterised by a path configuration; Interconnection of networks using encapsulation techniques, e.g. tunnelling	H04L 12/4633
Arrangements for maintenance, administration or management of data switching networks, e.g. of packet switching networks	H04L 41/00
Arrangements for maintenance or administration or management of packet switching networks using standardised network management protocols	H04L 41/0213
Arrangements for maintenance or administration or management of packet switching networks; Configuration management of network or network elements	H04L 41/08
Routing or path finding of packets in data switching networks	H04L 45/00
User-to-user messaging in packet-switching networks, transmitted according to store-and-forward or real-time protocols, e.g. e-mail	H04L 51/00

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Network architectures or network communication protocols for network security for separating internal from external traffic, e.g. firewalls	H04L 63/02
Network architectures or network communication protocols for network security for separating internal from external traffic; Firewall traversal, e.g. tunnelling or creating pinholes	H04L 63/029
Network architectures or network communication protocols for network security for providing a confidential data exchange among entities communicating through data packet networks	H04L 63/04
Network architectures or network communication protocols for network security for supporting authentication of entities communicating through a packet data network	H04L 63/08
Network arrangements, protocols or services for supporting real-time applications in data packet communications	H04L 65/00
Network arrangements or protocols for real-time communications; Signalling, control or architecture; Session control; Registration	H04L 65/1073
Network arrangements or protocols for supporting network services or applications	H04L 67/00
Network-specific arrangements or communication protocols supporting networked applications in which an application is distributed across nodes in the network for accessing one among a plurality of replicated servers, e.g. load balancing	H04L 67/1001
Network-specific arrangements or communication protocols supporting networked applications adapted for proprietary or special purpose networking environments	H04L 67/12
Network-specific arrangements or communication protocols supporting networked applications involving the movement of software and/or configuration parameters	H04L 67/34
Network-specific arrangements or communication protocols supporting networked applications; Service discovery or service management	H04L 67/51
Network-specific arrangements or communication protocols supporting networked applications; Presence management	H04L 67/54

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Network-specific arrangements or communication protocols supporting networked applications for the provision of proxy services, e.g. intermediate processing or storage in the network	H04L 67/56
Protocols for interworking or protocol conversion	H04L 69/08
Telephone directories in user terminals	H04M 1/27
Telephone user terminals with static electronic memories for the storage of multiple subscriber numbers	H04M 1/2745
Arrangements for providing interactive information services to subscribers, e.g. directory enquiries	H04M 3/493
Directory assistance systems	H04M 3/4931
Arrangements for interconnection between switching centres	H04M 7/00
Details of addressing, directories or routing tables of networks other than PSTN/ISDN providing telephone service, e.g. Voice over Internet Protocol	H04M 7/0075
Details of addressing, directories or routing tables for working between exchanges having different types of switching equipment, where the types of switching equipment comprises PSTN/ISDN equipment and switching equipment of networks other than PSTN/ISDN	H04M 7/128
Processing of mobility data, Registration at HLR or HSS	H04W 8/04
Network data management; Mobility data transfer	H04W 8/08
Network addressing or numbering for mobility support in wireless communication networks	H04W 8/26
Registration; Multiple registrations, e.g. multihoming	H04W 60/005
Network layer protocols in wireless communication networks, e.g. mobile IP	H04W 80/04
Network topologies; Self-organizing networks, e.g. ad-hoc networks or sensor networks	H04W 84/18
Devices specially adapted for wireless communication networks	H04W 88/00
Devices specially adapted for wireless communication networks adapted for operation in multiple networks	H04W 88/06

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Special rules of classification

Replace: The text of the first bullet point and insert a comma after “Therefore” in the fourth bullet point so that the Special rules section text reads as follows.

- Address resolution is classified in group [H04L 61/10](#), whereas name-to-address-resolution is classified in group [H04L 61/50](#).
- ENUM is based on DNS and should therefore be classified under Directories in [H04L 61/4557](#) and not in [H04L 61/106](#).
- The Address Allocation subgroup [H04L 61/5084](#) covers "portability" aspects not covered in [H04W 8/26](#) or [H04W 80/04](#), e.g. nomadic users in a hotel.
- IPv4 and IPv6 addresses are considered to be of the same type. Therefore, a mapping between these address types should be classified in [H04L 61/251](#) and not in [H04L 61/10](#).
- The Details subgroup ([H04L 2101/60](#)) should be used as an additional classification in [H04L 61/00](#), i.e. if other [H04L 61/00](#) subgroups in the range [H04L 61/10](#) - [H04L 61/35](#) have already been assigned.

Synonyms and Keywords

Replace: The entire Synonyms and Keywords table with the following revised table.

ARP	Address resolution protocol
DAD	Duplicate address detection
DHCP	Dynamic host configuration protocol
DNS	Domain name system
EPP	Extensible provisioning protocol
GRUU	Globally routable User Agent URI
IP	Internet protocol
IPv4, IPv6	Internet protocol addresses version 4 and 6
LDAP	Lightweight directory access protocol
M2M	Machine-to-machine communication
MAC address	Media access control address
NAT	Network address translation
NAPT	Network address port translation
PAT	Port and address translation
RARP	Reverse address resolution protocol
RRP	Registry registrar protocol
SLAAC	Stateless address autoconfiguration (IPv6)

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STUN	Session traversal utilities for NAT
TURN	Traversal using relay NAT
UPnP	Universal plug and play
URI	Uniform resource identifier

H04L 65/00

Definition statement

Replace: The entire Definition statement text with the following revised text.

Communication arrangements or protocols which fulfil the following two conditions:

- They are based on packet data
- There is real-time or pseudo-real-time temporal association between source and destination, or source and network, or destination and network

Provided that the above two conditions are met, this group covers arrangements relating to:

- Transmission of the multimedia data itself
- User-to-user, user-to-network, inter-network or intra-network signalling support
- Establishment of a session for the subsequent transmission of the multimedia data
- Maintenance of the session
- Application services available to the user during the session

Relationships with other classification places

Replace: The entire Relationships with other classification places text with the following revised text.

Generally, H04L 65/00 has relationships with the following general areas: H04L 67/00, H04L 69/00, H04N 21/00, H04N 7/00, H04N 5/00, H04L 12/18, H04L 51/00, H04L 41/00, H04L 41/06, H04M, H04Q 11/00.

As already mentioned, Real Time Multimedia Communications within the context of main group H04L 65/00 cover communications which have the following two characteristics:

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- Data Packet based;
- Real-time or pseudo-real-time temporal association between source and destination, or source and network or destination and network.

The above definition covers both the arrangements or protocols related to the transmission of the multimedia data itself, as well as the user-to-user or user-to-network signalling supporting the establishment of a session for the subsequent transmission of the multimedia data, the maintenance of the session and the application services available to the user during the session (unless explicitly excluded in certain cases). The above definition/limitation of the scope of main group [H04L 65/00](#) must always be borne in mind in interpreting the relationship of main group [H04L 65/00](#) with all other fields.

Excluded from the scope of main group [H04L 65/00](#) are arrangements for multimodal data communications which do not have the above two characteristics.

Examples of what is excluded are (if not in combination with a communication arrangement covered by the above definition, as in e.g. combinational or collaboration systems):

- Non-real-time multimedia file transfer (group [H04L 67/06](#));
- Multimedia Store and Forward Messaging as in e-mail, MMS, etc. (main group [H04L 51/00](#));
- Analogue multimedia streaming, e.g. in analogue television (main groups [H04N 5/00](#), [H04N 7/00](#), [H04N 21/00](#)).

Relationship between main group [H04L 65/00](#) and legacy telephony (subclass [H04M](#)):

- Legacy telephonic communication is classified in subclass [H04M](#), whilst real-time packet-based multimedia telephony (i.e. interactive voice and video communications over a network) is classified in main group [H04L 65/00](#). Specifically: Systems and arrangements in which the legacy non-packet-based core telephony network (circuit switched PSTN or ISDN) represents a major part, are classified in subclass [H04M](#).
- Systems and arrangements in which the legacy non-packet-based core telephony network (circuit switched PSTN or ISDN) represents a trivial or insignificant part or is totally absent, and the packet-based network (e.g. Internet, IMS) represents the only or the major and the most significant part are classified in main group [H04L 65/00](#);

- Signalling adaptation-interworking between SIP and SS7 is classified in main group [H04M 7/00](#).

Examples of the [H04L 65/00](#) - [H04M](#) interface are:

- A CPE gateway or Terminal Adapter allowing a legacy user telephone device to connect to the packet-based network is classified in main group [H04L 65/00](#);
- A signalling gateway interfacing two core networks, one legacy and one packet-based (e.g. SIP-SS7 gateway) is classified in subclass [H04M](#);
- A transparent IP pipe interconnecting two legacy circuit switched networks, with no details on the IP pipe itself, is normally classified in subclass [H04M](#);
- A transparent dial-up or leased circuit-switched line interconnecting two packet-based networks, with no details on the dial-up circuit-switched line itself, is normally classified in main group [H04L 65/00](#);
- An IP-gateway allowing a call to be selectively branched off to either a legacy network or a packet-based network is normally classified in subclass [H04M](#). However, if no significant details of the legacy network aspects are discussed apart from it being mentioned as an alternative, the IP-gateway may be classified in main group [H04L 65/00](#).

Further comments and explanations regarding main group [H04L 65/00](#) and its relationships with other related fields:

In order to avoid confusion with groups of other neighbouring fields, whose definitions use wording similar to that used in this main group, references to these fields will be mentioned with specific disclaimers if possible. In case a reference is unintentionally omitted, the above defined limitations in the scope of [H04L 65/00](#) subgroup entries must always be borne in mind.

References

Limiting references

Replace: The text within both existing Limiting references table rows so that the table appears as follows.

Real-time or near real-time messaging, e.g. instant messaging [IM]	H04L 51/04
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Selective content distribution, e.g. interactive television or video on demand [VOD]	H04N 21/00
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Informative references

Replace: The existing Informative references table with the following revised table.

Arrangements for broadcast or distribution combined with broadcast	H04H 20/00
Arrangements for broadcast applications with a direct linkage of broadcast information	H04H 60/00
Network security protocols	H04L 9/40
Data switching systems for broadcast or conference	H04L 12/18
Arrangements for connecting between networks having differing types of switching systems	H04L 12/66
Arrangements for maintenance, administration or management of data switching networks, e.g. of packet switching networks	H04L 41/00
Data network testing or monitoring	H04L 41/06
Arrangements for monitoring or testing data switching networks	H04L 43/00
Flow control or congestion control in data switching networks	H04L 47/10
User-to-user messaging in packet-switching networks, transmitted according to store-and-forward or real-time protocols, e.g. e-mail	H04L 51/00
Instant messaging	H04L 51/04
Network arrangements, protocols or services for addressing or naming in data networks	H04L 61/00
Arrangements for network security	H04L 63/00
Network arrangements or protocols for supporting network services or applications	H04L 67/00
WEB based applications	H04L 67/02
Adaptation for terminals and/or networks with limited resources or for terminal portability	H04L 67/04
Non-real-time multimedia file transfer	H04L 67/06

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Terminal emulation	H04L 67/08
Arrangements to access one among a plurality of replicated servers, e.g. load balancing	H04L 67/1001
Arrangements for peer-to-peer networking in network applications	H04L 67/104
Telewriting, virtual reality or network gaming	H04L 67/131
Non-real-time session management in network applications	H04L 67/14
Terminal profiles	H04L 67/303
Network application being adapted for the location of the user terminal	H04L 67/52
Arrangements for push based network services	H04L 67/55
Intermediate processing in the network with arrangements for data reduction or adaptation	H04L 67/5651
Arrangements for scheduling or organising the servicing of requests whereby quality of service or priority requirements are taken into account	H04L 67/61
Network protocols for data compression	H04L 69/04
Protocols for interworking or protocol conversion	H04L 69/08
Multichannel or multilink protocols independent of the application payload	H04L 69/14
Header parsing or analysis independent of the application payload	H04L 69/22
Negotiation of communication capabilities independent of the application payload	H04L 69/24
Telephonic substation equipment, e.g. for use by subscribers	H04M 1/00
Automatic or semi-automatic telephonic exchanges	H04M 3/00
Systems providing special services to telephonic subscribers	H04M 3/42
Circuit switched PBXs	H04M 3/42314
Arrangements for screening incoming telephone calls	H04M 3/436
Information services comprising voice	H04M 3/487
Contact centre services	H04M 3/51

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Telephonic conference systems	H04M 3/56
Services and arrangements where telephone services are combined with data services	H04M 7/0024
PBX networks	H04M 7/009
Interconnection arrangements between switching centres for working between exchanges having different types of switching equipment where the types of switching equipment comprise PSTN/ISDN equipment and equipment of networks other than PSTN/ISDN	H04M 7/1205
Decomposed PSTN/ISDN-IP gateways	H04M 7/1255
Television systems in general	H04N 5/00, H04N 7/00, H04N 21/00
Television conferencing systems	H04N 7/15
Television systems using two way working	H04N 7/173
Transmission of television signals using pulse code modulation	H04N 7/24
Selecting arrangements in telephonic networks	H04Q 3/00
Selecting arrangements for time-division multiplexing	H04Q 11/04
Wireless communication networks	H04W
Wireless location based services	H04W 4/02
Push-to-Talk services in wireless networks	H04W 4/025

Delete: The entire Special rules of classification section.

Delete: The entire Glossary of terms section.

Insert: The following new Synonyms and Keywords section.

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

AS	Application server
ATA	Analog telephone adapter

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BW	Bandwidth
FTP	File transfer protocol
H.323	International telecommunication union recommendation no. 323, series H, entitled "Packet-based multimedia communications systems"
IP	Internet protocol
IMS	IP multimedia subsystem
ISDN	Integrated services digital network
MEGACO	Protocol used between elements of a physically decomposed multimedia gateway (i.e. Media Gateway and media Gateway Controller) as defined in RFC3525 (MEdia GAteway COntrol)
MGC	Media gateway control/controller
MGCP	Media gateway control protocol
MMS	Multimedia messaging service
PBX	Private branch exchange
PSTN	Public switched telephone network
QoS	Quality of service
RTP	Real time protocol
RTCP	Real time control protocol
RTSP	Real time streaming protocol
SIP	Session initiation protocol

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H04L 67/00

Insert: The following new Definition statement.

Definition statement

This place covers:

- User-applications and protocols facilitating their access to the underlying network. Networking involves delays in the transmission of information between a sender and a receiver, which are normally physically/geographically at a distance from each other.
- Data presentation, preparation and transfer (e.g. via established sessions or transactions).

References**Limiting references**

Replace: The text within both existing Limiting references table rows so that the table appears as follows.

User-to-user messaging in packet-switching networks, transmitted according to store-and-forward or real-time protocols, e.g. e-mail	H04L 51/00
Network arrangements, protocols or services for supporting real-time applications in data packet communications networks	H04L 65/00

Informative references

Replace: The Informative references table with the following revised table.

Interprocessor communication	G06F 15/163
Information retrieval; Database structures therefor; File system structures therefor	G06F 16/00
Data switching networks	H04L 12/00
Arrangements for maintenance, administration or management of data switching networks, e.g. of packet switching networks	H04L 41/00

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Routing or path finding of packets in data switching networks	H04L 45/00
Automatic or semi-automatic exchanges for telephonic communication providing special services or facilities to subscribers	H04M 3/42
Network structure or processes for video distribution between server and client or between remote clients	H04N 21/60
Services or facilities specially adapted for wireless communication networks	H04W 4/00

H04L 69/00**Definition statement**

Replace: The existing Definition statement text with the following revised text.

Application independent communication protocols and their mechanisms, which are designed to operate over various link technologies with different characteristics.

Relationships with other classification places

Insert: The phrase "...are classified in main group ..." so that the text reads as follows.

Interconnection arrangements between CPUs, memories or peripherals within a single computer are classified in main group [G06F 13/00](#).

References**Limiting references**

Replace: The text in the second Limiting references table row so that the table appears as follows.

Network security protocols	H04L 9/40
Wireless communication networks	H04W

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Informative referencesReplace: The existing Informative references table with the following revised table.

Interprocessor communication	G06F 15/163
Information retrieval; Database structures therefor; File system structures therefor	G06F 16/00
Transmission systems	H04B
Data switching networks	H04L 12/00
Broadcast or multicast	H04L 12/18
Network topologies, i.e. networks characterized by the path configuration, Media Access Control [MAC]	H04L 12/28
Hybrid switching systems	H04L 12/64
Gateways	H04L 12/66
Arrangements for maintenance, administration or management of data switching networks, e.g. of packet switching networks	H04L 41/00
Network monitoring or testing	H04L 41/06
Routing or path finding of packets in data switching networks	H04L 45/00
Flow control	H04L 47/10
Packet switches and switching fabrics	H04L 49/00
Intermediate storing or scheduling	H04L 49/90
User-to-user messaging in packet-switching networks, transmitted according to store-and-forward or real time protocols, e.g. e-mail	H04L 51/00
Automatic or semi-automatic exchanges for telephonic communication providing special services or facilities to subscribers	H04M 3/42
Services or facilities specially adapted for wireless communication networks	H04W 4/00