

# Glossary

## A

### ADSL

Asymmetric Digital Subscriber Line is a type of technology that enables fast data transmission over telephone lines from the telephone exchange (the last mile). The latest version is ADSL2+ that allows the transfer rates up to 28Mbit/s downstream and up to 3,5Mbit/s upstream.

### Antenna Combiner

Combines antenna outputs from several (particularly GSM) devices into one antenna for the purpose of reducing the total number of antennas necessary.

### Autoclip Routing

Is a feature that allows GSM gateways or PBX to automatically store the outgoing call information so that when a person calls back to the gateway, this returned call is transferred directly to the line that originated the previous call.

### ASR

Answer Seizure Ratio (ASR) is a measurement of network quality and call success rate in telecommunications. It is the percentage of answered telephone calls with respect to the total call volume.

### Antivandal

Antivandal system is characterized as a high mechanical resistance device and is especially designed for installations where you can face the intentional or unintentional damage of the device.

## B

### B-channel

Is a basic element of an ISDN circuit, that transfers voice or data with a guaranteed transfer rate 64 kbps in either direction.

### Baby Call

After the phone is picked up it is automatically (with configurable delay) calling to predefined number in GSM network. This feature is intended particularly for children, older people or the disabled in case of emergency.

### Bit

A basic unit of digital information, that can have the value of either 1 or 0. To describe a larger volume of bits, the terminology uses multiples such as kilo [kbit], mega [Mbit], giga [Gbit] and so on.

## BRI

An ISDN interface with 2 bearer channels (B-channels) at 64kbit/s each and 1 data channel (D-channel) at 16kbit/s. The B-channel is used for voice or user data and the D-channel is used for control and signalling data. BRI can carry up to 2 simultaneous phone calls. It is often referred to as 2B+D.

## Bridge

A network bridge is software or hardware that connects two or more networks in a way that allows them to communicate between one another. It is L2 device - it is working on layer 2 of ISO/OSI model.

## C

### CallBack

A feature that cuts down calling costs (particularly the cost of roaming). Once the PBX number is dialled, the PBX rejects the call. The PBX then returns the call immediately back to the user who was calling, and upon receiving this return call, the client can dial any other number he or she wishes to be connected to.

### CDR

Call Data Record - records of the call duration, dialled number, caller, the time of the call.

### Channel

Is one way logical communication connection of two locations. Channel routes the signal of a specific bandwidth for the transfer of information, such as voice, data or video.

### CLIP

A telephone service of phone systems that transmits a caller's number to the called party's telephone equipment.

### CLIR

A telephone service that enables blocking of the caller's number (hidden identity).

## D

### D-channel

Data-signalling channel of an ISDN line. This channel is used for the transfer of reports on call management between an ISDN terminal and a public telecommunication switch. D-channel of the BRI connection is using data transfer rate 16kbit/s and of the PRI 64kbit/s.

### DECT

Digital Enhanced Cordless Telecommunications is a digital wireless telephone standard, mainly used for landline terminals.

## DialThru

If a GSM gateway supports the DialThru feature, it can be connected between an existing PBX and the line of the voice telephony provider (most frequently an ISDN line). The gateway analyses the number dialled and determines whether this number is on the mobile network or the fixed one. The GSM gateway then initiates the call either through one of its SIM cards, or it passes the call further on to the ISDN network.

## DTMF

Dual Tone Multi-Frequency - also referred to as tone dialling. These are the tones you can hear when pressing the buttons on your phone. DTMF assigns a specific frequency (composed of two individual tones) to each button. These frequencies are then analysed by the switch.

## DDI

Direct Dialling In (DDI) is a PBX feature for direct call routing to the desired telephone extension without the need for an operator, in case that the calling party knows the extension number of called party. In other cases the call is forwarded to the operator.

## E

### E1

The basic European line rate of digital systems that combines 32 channels (time slots) with a total bandwidth of 2.048 Mbps.

## EnergyBank

2N® EnergyBank is a back-up power supply that provides back-up for random power outages for devices working on 12V DC voltage with 1A peak power.

## EDGE

Enhanced Data for GSM Evolution is a digital mobile phone technology that allows improved data transmission rates up to 238kbit/s in the GSM networks.

## Ethernet

Ethernet is the major technology for local area networks (LAN), which also has a large representation in large networks. Network technology refers to the first (physical) and second (connection) layer of the ISO-OSI model. There is defined the number of parameters in terms of the transmission medium and signal, as well as description of access to the network and addressing format of the frame. Ethernet is a standard specified by the IEEE 802.3.

## EN 81-28, 70

This is a standard (Safety rules) for the construction and installation of lifts for the transport of persons and goods. Part 28 specifies remote alarm on passenger and goods passenger lifts. The alarm equipment shall be able to operate at all times (even in cases of power failure) and at least every 3 days the alarm equipment shall automatically simulate the input signal of an alarm. 2N® LiftNet, 2N® SingleTalk and 2N® Lift8 devices meet this standard. 2N® Lift8 will be sold since October 2013.

## F

### FXO

Foreign Exchange Office - the FXO port denotes a telecommunication interface that receives an analogue phone line (for example: an analogue phone port).

### FXS

Foreign Exchange Subscriber - the FXS port provides an analogue line to the subscriber (for example: a socket on the wall that an analogue phone is plugged into).

### FTP

File Transfer Protocol is a standard network protocol used to transfer files from one host to another host over an IP-based network, such as the Internet. FTP is built on a client-server architecture and uses separate control and data connections between the client and the server.

## G

### Gateway

A device that converts between various coding, transfer formats and protocols. Gateway can for example convert between IP and GSM networks. We have several different types of gateways - GSM, UMTS, ISDN or VoIP. The most commonly used gateways are GSM gateways which could save you a cost of calls for calling from fixed lines to GSM network - you will dial GSM number from your fixed line and because of routing this call via GSM gateway, the call is charged as a call from GSM network to GSM network.

### GPRS

General Packet Radio Service is a packet oriented mobile data service on the GSM system. Its maximum speed is up to 115kbit/s.

### GSM

Global System for Mobile Communication is the most widely used wireless digital cellular communication standard operating in the 850, 900, 1800 and 1900 MHz bands. The network consists of BTSs (cells) covering an average area of 1-3 km. The basic features of GSM standard are voice calls, SMS, data transfers at the rate of 9,6kbit/s and roaming.

### G.711

G.711 is the most common and the simplest standard used in telecommunications. For its simplicity, it requires the highest transmission rate - the sampling rate in this format is 8 kHz and each sample has 8 bits, it means that the bit rate is 64 kbps. Quality of the voice is the same as the voice quality during normal telephone call. There are two slightly different versions:  $\mu$ -law which is used primarily in North America, and A-law which is in use in most other countries in the world.

### G.729

G.729 is an audio data compression algorithm for voice. Because of its low bandwidth requirements, G.729 is

mostly used in Voice over Internet Protocol (VoIP) applications where bandwidth must be conserved, such as conference calls. Standard G.729 operates at a bit rate of 8 kbps.

H

## H.323

Is a recommendation from the ITU-T that defines the protocols to provide audio-visual communication sessions in the real time over IP based networks. The H.323 standard addresses call signaling, multimedia transport and bandwidth control for point-to-point and point-to-multipoint conferences.

## HDLC

High-Level Data Link Control - it is a bit-oriented synchronous data link layer protocol for data transfer through synchronous networks.

## HTTP

Hypertext Transfer Protocol is an Internet protocol for exchange of hypertext documents in HTML format. HTTP functions as a request-response protocol, when user sends a request in clear text (usually in web browser) and the server then responds with a few lines of text describing the result of the request.

## HSDPA

High-Speed Downlink Packet Access is mobile telephony communications protocol which is also known as 3.5G technology. It increases bit rates up to 14.4 Mbit/s (Release 5), respectively up to 48 Mbit/s (Release 7) in downlink.

## Handsfree

Handsfree is designation for such device or for the feature of device which allows the caller to use the mobile phone in such way that he has free hands and may engage in other activities (eg. driving a car).

I

## IVR

Interactive Voice Response - an automatic voice system that makes it possible to direct a call to the desired department using assigned codes (this is often used in banks or contact centres). Calling party hears recorded voices and he dials digits to go to required departments, respectively to a specific person.

## Intercom

An intercom (also known as a door phone, door access, access system, door opener) is an electronic communication system within a building, or a building complex.

## IP

Internet Protocol - the set of rules for delivering data through Internet networks.

## IP Address

The unique address of any device that is connected into a data network.

## IP PBX

An IP PBX is a PBX that uses the data network (based on the IP protocol) in order to operate terminals (end-user equipment).

## IP Telephony

Internet Protocol Telephony, also known as Voice over IP Telephony. A general term denoting technologies that use packet switching of the Internet Protocol to exchange voice, faxes and other forms of information which were traditionally transferred through allocated circuit-switched connections of publicly switched telephone networks (PSTNs).

## ISDN

Integrated Services Digital Network - a digital network of integrated services that provides the digital transfer of voice, video and data all the way to the subscriber.

## IMEI

International Mobile Equipment Identity is a unique international identifier of a mobile terminal (mobile phone) and consists of 15 digits.

## IP69K

IP69K is described in the IEC 60529 rating system for high-pressure, high-temperature wash down applications. Such enclosures must not only be dust tight (IP6X), but also able to withstand high-pressure and steam cleaning.

## IPX

Sometimes also interpreted as International Protection Rating, classifies and rates the degree of protection provided against the intrusion of solid objects and water in electrical enclosures. It is expressed in the IP code defined by the international standard IEC 60529. The code is made up from 2 digits: the first one indicates the level of protection that the enclosure provides against access to hazardous parts and the ingress of solid foreign objects. The second digit indicates the level of protection that the enclosure provides against harmful ingress of water.

## IP65

IP classifies and rates the degree of protection provided against the intrusion of solid objects and water in electrical enclosures. IP65 relates to the ingress protection against dust and against water. 6 means dust tight and 5 means protected against water jets.

## IP Public Address Systems

IP public address systems enable sound to be broadcasted via IP protocol. Devices from this 2N IP Audio

portfolio ensure the broadcasting of public announcement, playing atmospheric music, internet radio or other audio streams in a certain area. There is also an option of playing various messages in different zones.

## IP paging

IP paging ensures the broadcasting of voice messages across your entire organization. It enables announcements to be sent to all devices in the system, to select individual zones or call a specific device.

J

K

L

## LAN

Local Area Network - a network of computers and other network devices in a closed environment, for example in a room or a building.

## LCD

Liquid Crystal Display - a technology used for the displays and screens of mobile phones, computers and other devices.

## LCR

Least Cost Routing is a gateway/PBX feature that selects the cheapest possible routing of an outgoing call. For example, a fixed-to-mobile call is routed through the GSM network and becomes a mobile-to-mobile call. With the help of this service you can reduce calling costs by up to 80%.

## LTE

LTE is the most common standard for the 4th generation networks. It is primarily deployed for the high speed internet access with transfer rates up to 300Mbit/s.

M

## Mobility Extension

Is a service which migrates an office extension onto a mobile phone, thereby providing maximum flexibility to the user. In practice this means that the user does not have to be in the office if he or she expects an important phone call. The user's mobile phone fully replaces the fixed line in the office and rings simultaneously with the fixed line phone whenever there is an incoming call. It is up to the user which phone he or she uses to answer the call.

## Modularity

A product property that allows the addition of features (or system capacity) in line with the company's growth

(number of users, functional requirements, etc.).

## M-Bus

The M-Bus protocol is a standard protocol for reading of devices like Heating Energy meter, Water Volume counters or Electricity Energy meters. The data exchange follows a Master-Slave structure and there can be up to 250 devices on a bus. Maximal baud rate is 9600 bauds.

## M2M

Machine to machine solution refers to technologies that allow both wireless and wired systems to communicate with other devices of the same ability without any human intervention. M2M device captures an event (such as temperature, inventory level, etc.) and saves it to special application that translates this event into meaningful information.

## MSC Booster

MSC Booster is a solution for increasing the number of services in the GSM network without the need of upgrading the current MSC (mobile switching centre). You can use our 2N® NetStar PBX for this purpose.

## N

### NT port

Network Termination port is a port on the device (BRI gateway) that is usually connected to your own device (e.g. ISDN phone).

### NTP

Network Time Protocol is a networking protocol for clock synchronization of computers or other network devices over packet-switched network with variable latency. This protocol ensures that all such devices in the network will have the same and exact time. A simpler form of NTP protocol is called Simple Network Time Protocol (SNTP). This SNTP protocol does not consider packet delay in the network.

## O

### OEM

Original Equipment Manufacturer is a manufacturer of products or components that are purchased by another company and retailed under that purchasing company's brand name. OEM refers to the company that originally manufactured the product.

## P

### Packet

A chunk of data used for the transfer of packet-switched systems.

### PBX

Private Branch Exchange - is a telephone exchange which makes connections among the internal telephones

of a private organization and also connects them to the public switched telephone network (PSTN) via trunk lines. The primary advantage of PBXs is cost savings on internal and external phone calls.

## Point to Multipoint

A relay between one spot and many points. Example: the communication between a mobile operator's base station and a number of phones assigned to this base station.

## Point to Point

A relay between two points. Example: a long-distance communication link.

## PRI

Primary Rate Interface - a subscriber ISDN line that contains 30 user channels (B-channels, 64kbit/s per each) for transmission of user information, one D-channel (64kbit/s) used for signalization and one channel used for synchronization. PRI can carry up to 30 simultaneous phone calls.

## PSTN

Public Switched Telephone Network - the worldwide voice telephony network that consists of telephone lines, cables, cellular networks, etc., all interconnected by switching centres, thus allowing any telephone in the world to communicate with any other.

## PBX Booster

A PBX Booster is a device that can be connected to any existing private branch exchange via VoIP, ISDN or analogue interface. The PBX Booster can then fulfil not only a gateway function, but can bring you many other useful features such as 2N® Mobility Extension, IVR, VoiceMail, Email to SMS, SMS to Email, virtual conference rooms, etc.

## PoE

Power over Ethernet describes a standardized system to pass electrical power along with data on Ethernet cabling. This allows a single cable to provide both data connection and electrical power to devices.

## PPPoE

The Point-to-Point Protocol over Ethernet is a network protocol for encapsulating PPP frames inside Ethernet frames. Each client has its own PPP connection to an access point and the control of logging, billing, access to services is then implemented on the basis of a valid user login, not on the basis of his IP address.

## Plug and play

Plug and play is a term for technology that allows you to connect hardware peripherals to the computer or other network devices, which simply recognize this hardware and automatically install all necessary drivers.

Q

R

## Roaming

The ability for a cellular customer to automatically send and receive calls, SMSs and data when travelling outside the coverage area of the home network, by means of using a visited network.

## Router

Is a device that routes data packets between computer networks. It reads the source IP address information in the packet to determine its ultimate destination.

## Remote control

Allows you to monitor and control the operation of some device over the Internet from anywhere in the world.

## RTP

The Real-time Transport Protocol defines a standardized packet format for delivering audio and video over IP networks. RTP is one of the technical foundations of Voice over IP and in this context is often used for IP telephony, video teleconference applications and web-based push-to-talk applications. RTP data are usually transmitted in UDP protocol.

## Relay

Relay is dedicated equipment designed for switching of signal. In our 2N® Helios IP intercoms are used electromagnetic relays.

## RTSP

The Real Time Streaming Protocol is a network control protocol designed for use in communications systems to control streaming media servers. The protocol is used for establishing and controlling real-time media sessions (audio and video) between end points.

S

## SNR

Signal to Noise Ratio - is the ratio between the strength of the signal and the strength of the noise in a specific bandwidth.

## SIP

Session Initiation Protocol is the signalling protocol of IP telephony. SIP is a text-based protocol suitable for integrated voice and data applications.

## SMS

Short Message Service - the transfer of short text messages into a mobile phone.

## SNMP

The Simple Network Management Protocol (SNMP) forms a part of the Internet protocol suite as defined by IETF. The SNMP is used in network management systems for data acquisition and network monitoring for administration purposes. This international standard protocol ensures that you will have real time control over the entire communications system. You will immediately be informed of individual faults and will be able to respond to them before the user even notices them.

## Softswitch

Also known as a media gateway controller or a call agent. An encompassing term for the new approach to telephony switching, developed to make voice traffic possible on packet-switched networks. On the most basic level, a softswitch is defined as the software for the media gateway controller which provides call management and source management for a media gateway. Call management relates to call settings and call termination, including call routing. A softswitch also provides the verification of calls, authorisation, and accounting services by providing access to information available in the existing network.

## STUN

Session Traversal Utilities for NAT (network address translators) - STUN services help a VoIP device determine a public IP address of a router that connects the VoIP device to the Internet.

## Switch

A mechanical or electronic device that opens and closes circuits, alters operating parameters, or selects routings for circuits on the basis of a space and time division.

## Smart Energy

Is an ecological solution that can be interesting for distributors of energy as well as for energy consumers. Based on this solution, you can get a complete overview of the energy consumption in a building or in any premises and then you can make cost-saving measures to reduce energy costs.

## SMA

SMA connectors are coaxial RF connectors developed as a minimal connector interface for coaxial cable with a screw type coupling mechanism. The connector has a 50  $\Omega$  impedance and offers excellent electrical performance from DC to 17 GHz.

## SIM hunting

This feature allows the customer to use a multichannel GSM/UMTS gateway for outbound calls from his PBX and identify all calls under one unique number (CLIP). Similarly, inbound calls to this number are routed to a free SIM card in the gateway.

## SIM Management

Central SIM card administration. By managing SIM cards from a single point you can significantly reduce costs and increase their protection against potential damage or theft. As we can integrate 2 - 32 channels, we can satisfy a wide range of customers. The solution is also intended for operators, who can use it as an extremely efficient means of testing their own network.

## T

### T1

A digital transmission line that combines 24 channels with a total bandwidth of 1,544Mbit/s. It is mainly used in the USA and Japan.

### TE port

Terminal Equipment port is a port on the device (BRI gateway) that is usually connected to the ISDN network (line to PSTN network).

### TCP

Transmission Control Protocol provides reliable and error-checked delivery of a stream of octets on the transport layer (4th layer of ISO-OSI model). Data are delivered in the correct order.

### TELNET

Telnet is a client-server protocol, based on a reliable connection-oriented transport. Typically this protocol is used to establish a connection to TCP port number 23, where a Telnet server application (telnetd) is listening.

### T.38

T.38 is an ITU recommendation for allowing transmission of fax over IP networks in real time. T.38 is not a call setup protocol, thus the T.38 devices need to use standard call setup protocols to negotiate the T.38 call, e.g. H.323, SIP and MGCP.

## U

### UMTS

Universal Mobile Telecommunications System is a technology that supports high-speed data transfers and is primarily suited to mobile Internet access. Data transmission rate is up to 7,2Mbps for downlink and 5,76Mbps for uplink.

### USSD

Unstructured Supplementary Service Data is a method based on the sending of USSD code into the network and readout from the USSD reply. This method is used for recharging the SIM cards, credit checking and for SIM cards activation.

### UDP

User Datagram Protocol is a Transport Layer protocol that doesn't guarantee delivery of the datagram to the user - datagram can be lost. UDP protocol is not able to guarantee, that the data will be delivered in correct order or that there will be no duplication of delivered data. However, this protocol is faster and consumes less overhead in comparison with TCP. It is used for example for the following applications: DNS, DHCP and SNMP.

## V

## Voicemail

The forwarding of calls to VoiceMail is a service that you can use when you are out of the office and don't want to be disturbed on your mobile phone with 2N® Mobility Extension, but at the same time you don't want to risk losing a customer by not taking a call. In such case any user of the 2N® NetStar communications system can activate call forwarding to VoiceMail.

## VoIP

Voice over IP - a technology that transmits voice over IP networks.

## VRRP

Virtual Router Redundancy Protocol - VRRP is there to turn on a back-up router in the event of a breakdown. If the primary router breaks down, a connection to the back-up router is activated automatically, and there is no impact on the network users.

## Virtual PBX

The virtual PBX brings you a market-proven solution enabling you to address a multitude of companies and corporate customers. The user is provided with all telephone and fax services of classic in-house PBX systems. Besides this, you can offer up to 80 other advanced features and services - e.g. the 2N® Mobility Extension allowing you to switch over from VoiceMail to Email, IVR or conference calls.

W

## WAN

Wide Area Network - a data network that usually expands a LAN outside the building or company's premises.

## Wi-Fi

Wireless Fidelity - Wi-Fi is a general term for a high-frequency wireless local area network (WLAN).

## Wi-Fi HotSpot

A hotspot is a site that offers Internet access over a wireless local area network through the use of a router connected to the Internet service provider. Hotspots typically use Wi-Fi technology and may be found in coffee shops and various other public establishments.

X

Y

Z

## Zigbee

ZigBee is a specification for a suite of high level communication protocols using small, low-power digital radios based on an IEEE 802.15.4 standard for personal area networks. ZigBee has a defined rate of 250 kbps.

0-9

## 3G

A term used to represent the 3rd generation of mobile telecommunications technology and typically represented by the UMTS. It's able to transfer simultaneously the voice and data traffic with the transfer rates up to 28Mbit/s.

## 4G

4G is a term used to represent the 4th generation of mobile telecommunications technology and is typically represented by LTE. Transmission rate of this system is up to 100 Mb/s for mobile users and up to 1Gb/s for stationary users.

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