bintec elmeg
Teldat Group Company

ALL-IP SOLUTIONS

THE Plus in Communication and Flexibility

be.IP plus

- PABX for up to 20 users (exp. up to 40)
- Supports analogue, ISDN and IP/IP DECT end devices
- 4 additional analogue interfaces
- Opt. enhancment of user, Voicemail, VPN and WLAN Management
- Integrated HotSpot Gateway (via license)
- Open system design: individual project and customer solution
- Smooth migration - operation mode as media gateway

be.IP plus

THE Plus in Communication and Flexibility

The be.IP plus is the ultimate ALL-IP communications solution for businesses. It combines a scalable business telephone system with powerful routing, VPN, and wireless networking features.

IP telephone system and media gateway with integrated VDSL VPN router and 11n wireless

Two devices in one system - the be.IP plus can be used just as the be.IP for easy migration of existing ISDN systems. The plus version allows for a subsequent upgrade to a full-scale communications hub via software activation.

Suitable for both point to multipoint and point to point connections at small and mid-sized businesses with multiple retail locations, home office workers, and branch offices.

Product description

The be.IP plus is no mere telephone system, but rather a convergent communications solution for ALL-IP services such as DeutschlandLAN IP Start and DeutschlandLAN IP Voice Data from Deutsche Telekom. These flexible systems unite all the convenient features of a telephone system with the benefits of a powerful VPN router, ensuring secure voice and data communications. The combined VDSL2 and ADSL2+ modem provides a reliable and future-proof internet connection with vectoring support for download speeds of up to 100 Mbps.

The professional wireless LAN implementation forms the basis of a number of applications such as integrating smartphones or wireless LAN telephones into the company network. The integrated access point operates on either the 2.4- or 5-GHz frequency band, enabling raw data rates of up to 300 Mbps.

The be.IP family of systems can be individually tailored to meet your communications needs. Whether you require a LAN, additional WAN interfaces, or a perimeter network for on-site servers (web, e-mail, etc.) - the five available Gigabit Ethernet ports offer maximum flexibility for company network design and implementation.

Two internal ISDN interfaces (S0) and four analog lines (a/b) also allow for the continued use of existing telephones, fax machines, or intercom devices over your VoIP telephone service.

Easy migration for ISDN telephone systems

When configured as a media gateway, the two integrated ISDN interfaces allow you to continue using your conventional ISDN systems and accompanying terminal devices such as phones and fax machines over your VOIP service. Business users can thus take advantage of all the benefits of IP telephony while continuing to use their existing telephone equipment. That's an unbeatable argument if you seek to maintain the value of your investments.

Airtight security

The integrated VPN business router in the be.IP plus provides impressive and comprehensive security features for voice and data communications. The five available VPN channels can be used concurrently to ensure reliable voice and data transmissions, making it easy to establish links to branch locations, home offices, and travelling employees. The integrated IPSec implementation lets you use pre-shared keys as well as digital certificates as recommended by Germany's Federal Office for Information Security. This allows you to take advantage of a public key infrastructure for maximum security. The flexible and customizable stateful inspection firewall uses dynamic packet filtering to provide additional protection for the network against attacks launched either over the internet or from internal networks.

Professional management

The be.IP plus is configured over a web-based graphical user interface. Integrated assistants and user profiles allow for flexible configurations that fulfill each customer's unique requirements. Administrators can also manage the devices locally or remotely using configurable telnet, SSH, or GSM dial-in connections.

The bintec DIME Manager gives administrators a free software tool that can manage up to 50 devices.

Convenient WLAN Controller

In addition, be.IP plus also offers the integrated WLAN Controller, which allows professional management of wireless infrastructures. The WLAN Controller lets you configure and monitor small WLAN networks, optionally with up to 5 additional access points. No matter whether you need frequency management with automatic channel selection, load balancing across several access points, support for virtual LANs, or virtual wireless network administration (multi-SSID) for easy configuration and secure separation of guest and company networks - you'll have all these advanced features at your fingertips with the WLAN Controller. The software continuously monitors the entire wireless network, notifying administrators of any malfunctions or security threats.

Sophisticated design

The fanless housing ensures long-term reliability for mission-critical applications. You can operate the be.IP plus on a desktop, mount it to a wall, or integrate it into a 19" server rack using the included 19" rackmount bracket. The system is able to adapt to the requirements of any application.

100% ready for the future

With its numerous setup assistants, the be.IP plus is easy to integrate into existing network infrastructures and enables migration to the ALL-IP network of the future. The integrated VDSL2 modem supports the standards used in Germany and most other European countries. This state-of-the-art hardware has been designed so that additional features can easily be added via future software updates. In addition, the be.IP plus also supports the next-generation network protocol IPv6. With its ability to easily migrate existing infrastructures to ALL-IP networks, its

suitability for use on the SIP trunk, and support for VDSL vectoring technology, the be.IP plus is a sound investment for sustainable professional IP and telecommunications applications.

Variants

be.IP plus (5510000388)	IP-TK-System; 2x ISDN-S0 int., integr. VDSL2/ADSL2+ Modem (Annex B,J,Vectoring, ALL-IP), 4xFXS, IP Router, 5x Gigabit Eth., 5x VPN, WLAN controller, VoIP with 5 DSP channels, Wall- Desktop- or 19"-Rack mounting

Features

VoIP Media Gateway	
SIP Clear Channel	Support of RFC 4040 – SIP Clear Channel for remote maintenance of ISDN TK Systems via ALL-IP
ISDN SIP gateway	Transparent conversion of ISDN PABX connections to single SIP provider, or to DDI SIP trunk access
CLID conversion	Manipulation of calling party numbers in incoming calls; add a prefix to incoming numbers, to route corresponding calls via a certain SIP account.
Call router	Flexible switching of all calls according rules; conditions for call forwarding (routing). List with rules or rule chains for manipulating the signalled target calling number
SIP link	Switching of incoming and outgoing calls like SIP trunks, though without DDI, but with single calling number blocks, with or without registerin
Number of simultaneous VoIP connections	No software limitation
SIP ISDN gateway	Transparent conversion of connections of a VoIP PABX to ISDN trunk
SIP user	No software limitation
Fax transmission	4 channels can be simultaneous converted from LAN fax T.38 to T.30, ISDN an analogue. No matter how high the system load, for each channel is supported by a DSP.
Backup routes	Unlimited number of backup routes for the automatic selection of outside lines
Calling number transformation	Conversion list of calling numbers; in this list are correlated external and internal numbers.
SIP proxy	Mapping of an unlimited number of SIP single or DDI provider accounts to SIP single user or to VoIP PABXs.
SIP registrar	SIP users are able to sign on at the media gateway with registration and authentication.
SIP protocols	UDP, TCP, TLS
Features hybrid connections	Echo cancellation according G.168, Comfort Noise Generation CNG
Early Media Connect	Early Media Connect vconnectsaudio or data stream before call complete.
Media protocols	RTP, SRTP
Audio codec support	G.711, G.726 (32 kbps), G.729, G.722, HQ Audio for VoIP-VoIP connections
DTMF Support	DTMF Inband and out of band RFC 2976 (SIP Info) and RFC 2833 (RTP Payload Type/outband) support.

VoIP Media Gateway	
SIP 2.0	RFC 3261 conform. 2327, 2976, 3261, 3262, 3263, 3264, 3311, 3323, 3325, 3428, 3515, 3581, 3608, 3891, 3966, 4028, 3555, 2833, 1035, 2782, 2915, 2617, ...SIP Connect 1.1
Debug Trace	Record of all data streams via console and WEB Configuration. Trace format text and PCAP
SIPS	SIP secure (TLS), establish secure calls
SIP properties	CLIP, CLIR. REFER, PRACK, SESSION Timers, HOLD, INFO, NAPTR, ...
Backup routes	Fallback routes, if a connection could not be established via the prior route

Interfaces	
VDSL2 / ADSL2+	VDSL2 nach ITU G993.2, ADSL2+ / ADSL2 / ADSL (compatibl to U-R2 & 1TR112 Deutschen Telekom), Annex B / J, G.Lite (ITU G.922.2), Vectoring support, VDSL Up- and Downstream up to 100 MBit/s
Ethernet WAN / DMZ	1x 10/100/1000 Mbps Ethernet Twisted Pair, autosensing, Auto MDI/MDI-X, up to 4 ports can be switches as additional WAN ports incl. load balancing, all Ethernet ports can be configured as LAN or WAN.
Ethernet	4x 10/100/1000 Mbps Ethernet Twisted Pair, autosensing, Auto MDI/MDI-X, up to 3 ports can be switches as additional WAN ports incl. load balancing, all Ethernet ports can be configured as LAN or WAN.
ISDN S0 ports	2x ports for internal operation: internal for connecting S0 standard or system telephones, (external: PtP, PtMP) / PABX in MGW mode
Analogue internal ports (FXS)	4x FXS interfaces for phone and faxcimile devices. 4 RJ12 plugs for direkt terminal connection
WLAN	1x radio module IEEE 802.11abgn Mimo 2x2 for 2.4 or 5 GHz
External WiFi Antenna	2x external antenna with Omni characteristic for each radio module, RSMA socket, approx. 1,5dBm gain
USB 2.0 host	1x USB 2.0 full speed host port for connecting LTE(4G) or UMTS(3G) USB sticks (supported sticks: see www.bintec-elmeg.com)
Serial console	Serial console interface / COM port (mini USB)

Max. system values	
Door terminals	Max. 4 door terminals
IP phones (IP systels)	Max. 20 IP system telephones (optional 40)
Terminals	Max. 20 (optional 40)
SIP providers (VoIP)	Max. 25 SIP providers
External SIP channels	No restrictions
Voice mailboxes	Max. 20 (optional 40)
Calendars/switching points	Max. 20 calendars can be set for all types per max. 10 switching points.
VPN / IPSec Tunnel	Max. 5 (optional 10)
WLAN Controller	For internal AP and additional 3 external AP via Default License, max. 6

Max. system values

Media interfaces (TDM / IP)	5 DSP channels (G.711) from which 5 DSP are with compression (G.729, G.726), +4 with no compression (SftCoder)

Options per license

VPN / IPSec Tunnel	5, max. 10
WLAN Controller	Default 3 Accesspoints + internal Acesspoints, max. 6 Accesspoints
Voicemail	20, max. 40
SIP clients	20, max. 40
Terminals	20, max. 40

IPv6

DHCPv6	DHCP Server and Client
IPv4/ IPv6 Dual Stack	Parallel mode IPv4/ IPv6 supported
NDP	Neighbor Discovery Protocol: Router Discovery, Prefix Discovery, Parameter Discovery, Address Resolution, Static configuration of neighbors, IPv6 Router AAdvertisment Option for DNS Configuration (trough ND)
ULA	Unique Local IPv6 Unicast Addresses
IPv6 Adressing	IPv6 Stateless address auto-configuration (SLAAC), Manual address configuration, General-prefix support for address configuraion (user and prefix delegation DHCPv6), Duplicate Address Detection
ICMPv6 (router & host)	Destination Unreachable, Packet too big, Time exceeded, Echo Request
Routing Protocols	Static Routes
Multicast	Multicast for IPv6
Firewall	Firewall via IPv6
IPSec	IPSec for IPv6

Security

WLAN Access Control List (ACL)	MAC address filter for WLAN clients (Whitelist)
Stateful inspection firewall	Directional packet filtering with monitoring and interpretation of the respective status of the individual connections.
Policy-based NAT/PAT	Network and port address translation using different criteria such as IP protocols, source/destination IP address, source/destination port.
NAT / PAT	Symmetrical network and port address translation (NAT / PAT) with randomly generated ports including multi-NAT (1:1 translation of the entire network)
Packet filter	Filtering of IP packets based on various criteria such as IP protocols, source/destination IP address, source/destination port, TOS/DSCP, layer-2 priority can be individually configured for each interface
Password Admin	Administrator system access for the Web configuration
Passwords for application portals	Access to the Web configuration of the integrated solutions: mini call center, phone book, call logs

Security	
Password for user portal	User access to the Web configuration of the custom settings
PIN protection for voicemail system	Access to the voicemail system is protected by the individual user PINs.
PIN protection for remote access	Remote access to the system is protected with a 6-digit, programmable PIN
Encryption WEP/WP	WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
Access Control List (ACL)	MAC address filter for WLAN clients (white list) and dynamic and static blacklist. Black list function requires WLAN Controller
IEEE802.11i authentication and encryption	802.1x/EAP-MD5, 802.1x/EAP-TLS, 802.1x/EAP-TTLS, 802.1x/EAP-PEAP, key management, PSK/TKIP encryption, AES encryption, 802.1x/EAP
Inter Cell Repeating	Inter traffic blocking for public hot spot (PHS) applications for preventing of communication radio client to radio client in a single radio cell.
VLAN	Network segments on layer2 possible. Per SSID one VLAN ID available. Static VLAN configuration according IEEE 802.1q; up to 256 VLANs supported.

Hardware	
Housing	Plastic housing, white with red frame
Dimensions	327 x 193 x 44 mm (B x H x T)
Protection Class	IP20
Wall mounting, Destkop, 19" -Rack	Wall mounting integrated in housing, Desktop, 19"-brackets (included in scope of delivery)
Power Supply	External power supply, Input: 100V - 240V AC, with high efficient switching power supply; follows EuP Directive 2008/28/EC
Power consumption	Idle: 14 W, maximum: 29 W
Fan	Fanless design therefor high MTBF
Status-LEDs	9 LEDs to display the operational states: Power, Status, Service, DSL, Phone, BRI1, BRI2, WiFi; Memory
Reset Taster / Factory Settings	Restart or reset to factory state possible
Function Button	Additional Trigger-Element for the Event Scheduler
Audio memory	Internal memory for voicemail system, announcement and onhold musik
Realtime clock	System time persists even at power failure for some hours.
Standards and certifications	R&TTE Directive 1999/5/EC (EN 55022; EN 555024); Low Voltage Directive 2006/95/EC (EN60950-1); Ecodesign/ERP Directive 2009/125/E
Environmental conditions	Desk, wall or rack mountable, operating temperature: : +5° C to +40° C, Stocking: -20°C to +70°C, air humidity: max. 85 % non condensing, dry and dust free rooms

Administration / Management

Administration / Management

Configuration Interface	Integrated web server for web-based configuration via HTTP or HTTPS (supporting self created certificates). This user interface is by most of bintec elmeg GmbH products identical.
SNMP Configuration	Complete Management according MIB-II, MIB 802.11, Enterprise-MIB
SNMP Management System	Support of Nagios, CACTI, MRTG etc.
SNMP	SNMP (v1, v2, v3), USM model, VACM views, SNMP traps (v1, v2, v3) configurable, SNMP IP access list configurable
Device discovery function	Device discovery via SNMP multicast.
SSH login	Supports SSH V1.5 and SSH V2.0 for secure connections of terminal applications
Remote maintenance	Remote maintenance via telnet, SSL, SSH, HTTP, HTTPS and SNMP (V1,V2,V3)
GSM remote maintenance	Remote maintenance via GSM login (external USB UMTS (3G)/ LTE (4G) modem required)
Software update	Software updates are free of charge; update via local files, HTTP, TFTP or via direct access to the bintec elmeg web server
Configuration export and import	Load and save configurations, optional encrypted; optional automatic control via scheduler
Configurable scheduler	Controlling actions using both scheduling and event-driven criteria, for instance Reboot Device, Activate/Deactivate Interface, Trigger Software Update, and Configuration Backup.
Management: Supported management systems	bintec WLAN Controller, DIME Manager
RADIUS	Central check of access authorization at one or several RADIUS server, RADIUS (PPP, IPSec inclusive X-Auth and login authentication, WPA Enterprise WLAN 802.1x)
RADIUS dialout	On a RADIUS server configured PPP und IPSec connection can be loaded into the gateway (RADIUS dialout).
Time synchronization	The device system time can be obtained via ISDN and from a SNTP server (up to 3 time server configurable). The obtained time can also be transmitted per SNTP to SNTP clients.
Automatic Time Settings	Time zone profiles are configurable. That enables an automatic change from summer to winter time.
On The Fly configuration	No reboot after reconfiguration required

Logging / Monitoring / Reporting

Interfaces Monitoring	Statistics on all physical and logical interfaces (ETH0, ETH1, ...), output over the Web-based configuration interface (http/https).
IPSec Monitoring	Display of IPSec tunnel and IPSec statistic; output via web-based configuration user interface (http/https)
IP Accounting	Detailed IP accounting, source, destination, port, interface and packet/bytes counter, transmission also via syslog protocol to syslog server
WLAN Monitoring	Display for each link: MAC address, IP address, TX packets, RX packets, signal strength for all receiver antennas, signal-to-noise ratio, data rate; output via web-based configuration user interface (http/https).
WLAN monitoring	Detailed display for radio, VSS, WDS links, bridge links, client links.

Logging / Monitoring / Reporting	
E-Mail alert	Automatic e-mail notification for specified actions or statuses.
External Systemlogging	Syslog, multiple syslog servers can each be configured with a separate syslog level.
SNMP traps	SNMP traps (v1, v2, v3) configurable

VPN	
IPSec	Internet Protocol Security for establishing VPN connections
IPSec Algorithms	DES (64 Bit), 3DES (192 Bit), AES (128,192,256 Bit), CAST (128 Bit), Blowfish (128-448 Bit), Twofish (256 Bit); MD-5, SHA-1,SHA-2 (256,384,512), RipeMD160, Tiger192 Hashes
IPSec hardware acceleration	Integrated hardware acceleration for IPSec encryption algorithms DES, 3DES, AES
Number of VPN Tunnel	5 simultaneous VPN connections. Expentable via license up to 10 simultaneous VPN connections
IPSec RADIUS	Authentication of IPSec connections at a RADIUS server. Additionally the IPSec peers, which were configured on a RADIUS server, can be loaded into the gateway (RADIUS dialout).
IPSec QoS	The possibility to operate Quality of Service (traffic shaping) inside of an IPSec tunnel
IPSec Dead Peer Detection (DPD)	Continuous control of IPSec connection
IPSec dynamic DNS	Enables the registering of dynamic IP addresses by a dynamic DNS provider for establishing a IPSec connection.
IPSec NAT	By activating of NAT on an IPSec connection it is possible, to implement several remote locations with identical local IP addess networks in different IP nets for the VPN connection
IPSec NAT-T	Support of NAT-Traversal (Nat-T) for the application at VPN lines with NAT
IPSec IKE	IKEv1 & IKEv2: IPSec key exchange via preshared keys or certificates
IPSec IKE Config Mode	IKE Config Mode server enables dynamic assignment of IP addresses from the address pool of the company. IKE Config Mode client enables the router, to get assigned dynamically an IP address.
IPSec IKE XAUTH (Client/Server)	Internet Key Exchange protocol Extended Authenticaion client for login to XAUTH server and XAUTH server for loging of XAUTH clients
IPSec IKE XAUTH (Client/Server)	Inclusive the forwarding to a RADIUS-OTP (One Time Password) server (supported OTP solutions see www.bintec-elmeg.com).
certificates (PKI)	Support of X.509 multi-level certificates compatible to Micrososft and Open SSL CA server; upload of PKCS#7/8/10/12 files via TFTP, HTTP, HTTP, LDAP, file upload and manual via Web Interface
Certificate Revocation Lists (CRL)	Support of remote CRLs on a server via LDAP or local CRLs
SCEP	Certificates management via SCEP (Simple Certificate Enrollment Protocol)
IPSec Multi User	Enables the Dial-in of several IPSec clients via a single IPSec peer configuration entry
IPSec IPComp	IPSec IPComp data compression for higher data throughput via LZS

DSL	
VDSL2-Vectoring	VDSL2-Vectoring (ITU G.993.5) kompatible to VDSL2-Vectoring connections

DSL

VDSL2	VDSL2 (ITU G.993.2) compatible to VDSL2 connection of Deutsche Telekom
VDSL Profile	VDSL Profile 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
VDSL	Compatible to ADSL/ADSL2/ADSL2+, Annex B / J
ADSL	ADSL1, ADSL2 or ADSL2+ with internal ADSL2+-Modem

Content of Delivery

Ethernet cable LAN	1x Ethernet cable, (RJ45-RJ45), 3m, yellow
Ethernet cable WAN	1x Ethernet cable WAN (RJ45-RJ45), 3m, blue
VDSL cable	1x VDSL cable (TAE-F-RJ45), gray
FXS cable	2x FXS cable (TAE-U-socket-RJ11)
19 " brackets	2x 19 " brackets and screws
WIFI Antennas	2x WIFI antennas (dual band, R-SMA), white
Power Supply	1x External power supply, Input: 100V - 240V AC, with high efficient switching power supply; follows EuP Directive 2008/28/EC
Documentation	Setup manual, safety instructions

Layer 2 Functionality

Bridging	Support of layer 2 bridging with the possibility of separation of network segment via the configuration of bridge groups
Proxy ARP	Enables the router to answer ARP requests for hosts, which are accessible via the router. That enables the remote clients to use an IP address from the local net.
VLAN	Support of up to 256 VLAN (Virtual LAN) for segmentation of the network in independent virtual segments (workgroups)

Redundancy / Loadbalancing

Load Balancing	Static and dynamic load balancing to several WAN connections on IP layer
BoD	Bandwidth on Demand: dynamic bandwidth to suit data traffic load

Protocols / Encapsulations

PPP/MLPPP	Support of Point to Point Protocol (PPP) for establishing of standard PPP connections, inclusive the Multilink extension MLPPP for the bundeling of several connections
IPoA	Enables the easy routing of IP via ATM
Packet size controling	Adaption of PMTU or automatic packet size controling via fragmentation
DHCP	DHCP client / server / proxy for simplified TCP/IP configuration
DNS	DNS client, DNS server, DNS relay and DNS proxy

Protocols / Encapsulations

DNS forwarding	Makes it possible to forward DNS queries from any specified domain for resolution by certain DNS servers.
DynDNS	Makes it possible to assign dynamic IP addresses through a dynamic DNS provider, for instance when setting up VPN connections.
PPPoE (client)	Point-to-Point Protocol over Ethernet for creating PPP connections over Ethernet/DSL (RFC2516).

IP Routing

Multicast inside IPSec tunnel	Enables the transmission of multicast packets via an IPSec tunnel
VLAN Tagging	VLAN tagging on IP interfaces can be configured (value range up to 4096 VLANs)
Multicast IGMP	Support for Internet Group Management Protocol (IGMP V1, V2, V3) for simultaneous distribution of IP packets to multiple stations.
Multicast IGMP proxy	For simple forwarding of multicast packets to dedicated interfaces.
Policy-based routing	Advanced routing (policy-based routing) depending on various criteria such as IP protocols (layer 4), source/destination IP address, source/destination port, TOS/DSCP, source/destination interface and destination interface status.
Switch/Port Separation	Logical separation of ports at the Ethernet switch to connect a system behind a VDSL modem.

WLAN Electric Characteristics

TX power @ 2,4 GHz	Max. 20dBm
TX power @ 5 GHz	Max. 17dBm
Receiver Sensitivity @ 2.4 GHz 802.11n 20 MHz	MCS0 -95 dBm; MCS1 -94 dBm; MCS2 -92 dBm; MCS3 -88 dBm; MCS4 -85 dBm; MCS5 -81 dBm; MCS6 -80 dBm; MCS7 -78dBm; MCS8 -95 dBm; MCS9 -94 dBm; MCS10 -91 dBm; MCS11 -87 dBm; MCS12 -84 dBm; MCS13 -81 dBm; MCS14 -79 dBm; MCS15 -77 dBm
Receiver Sensitivity @ 5 GHz 802.11n 20 MHz	MCS0 -96 dBm; MCS1 -93 dBm; MCS2 -91 dBm; MCS3 -88 dBm; MCS4 -85 dBm; MCS5 -81 dBm; MCS6 -79 dBm; MCS7 -77 dBm; MCS8 -94 dBm; MCS9 -92 dBm; MCS10 -90 dBm; MCS11 -87 dBm; MCS12 -84 dBm; MCS13 -80 dBm; MCS14 -78 dBm; MCS15 -76 dBm
Receiver Sensitivity @ 5 GHz 802.11n 40 MHz	MCS0 -91 dBm; MCS1 -89 dBm; MCS2 -87 dBm; MCS3 -84 dBm; MCS4 -81 dBm; MCS5 -78 dBm; MCS6 -76 dBm; MCS7 -74 dBm; MCS8 -90 dBm; MCS9 -89 dBm; MCS10 -87 dBm; MCS11 -83 dBm; MCS12 -80 dBm; MCS13 -77 dBm; MCS14 -75 dBm; MCS15 -73 dBm
TX power @ 2,4 GHz 802.11n 20 MHz	MCS0/8 19 dBm; MCS1/9 19 dBm; MCS2/10 19 dBm; MCS3/11 19 dBm; MCS4/12 19 dBm; MCS5/13 19 dBm; MCS6/14 19 dBm; MCS7/15 19 dBm
TX power @ 5 GHz 802.11n 20 MHz	MCS0/8 23 dBm; MCS1/9 23 dBm; MCS2/10 22 dBm; MCS3/11 21 dBm; MCS4/12 20 dBm; MCS5/13 19 dBm; MCS6/14 18 dBm; MCS7/15 18 dBm
TX power @ 5 GHz 802.11n 40 MHz	MCS0/8 19 dBm; MCS1/9 19 dBm; MCS2/10 19 dBm; MCS3/11 19 dBm; MCS4/12 19 dBm; MCS5/13 18 dBm; MCS6/14 17 dBm; MCS7/15 17 dBm
Receiver Sensitivity @ 2.4 GHz 802.11b/g	1 Mbps -91 dBm; 2 Mbps -90 dBm; 5.5 Mbps -89 dBm; 11 Mbps -88 dBm; 6 Mbps -90 dBm;9 Mbps -89 dBm; 12 Mbps -88 dBm; 18 Mbps -86 dBm; 24 Mbps -83 dBm; 36 Mbps -80 dBm; 48 Mbps -76 dBm; 54 Mbps -74 dBm

WLAN Electric Characteristics

TX power @ 2,4 GHz 801.11b/g	1 Mbps 19 dBm; 2 Mbps 19 dBm; 5,5 Mbps 19 dBm; 11 Mbps 19 dBm; 6 Mbps 19 dBm;9 Mbps 19 dBm; 12 Mbps 19 dBm; 18 Mbps 19 dBm; 24 Mbps 19 dBm; 36 Mbps 19 dBm; 48 Mbps 19 dBm; 54 Mbps 19 dBm
Receiver Sensitivity @ 5 GHz 802.11a/h	6 Mbps -95 dBm;9 Mbps -94 dBm; 12 Mbps -93 dBm; 18 Mbps -90 dBm; 24 Mbps -88 dBm; 36 Mbps -84 dBm; 48 Mbps -82 dBm; 54 Mbps -81 dBm
Tx Power @ 5 GHz 802.11a/h	6 Mbps -94 dBm;9 Mbps -93 dBm; 12 Mbps -92 dBm; 18 Mbps -90 dBm; 24 Mbps -88 dBm; 36 Mbps -85 dBm; 48 Mbps -82 dBm; 54 Mbps -80 dBm
Receiver Sensitivity @ 5 GHz	<95dBm

Wireless LAN

WLAN standards	802.11n (Mimo 2x2); 802.11b; 802.11g; 802.11a; 802.11h
WLAN	1Modes 2,4 GHz Operation: 802.11b only; 802.11g only, 802.11b/g/n mixed; 802.11b/g/n mixed long; 802.11b/g/b mixed short; 802.11b/g/n ; 802.11g/n; 802.11n only; 5 GHz Operation: 802.11a only; 802.11a/n; 802.11n
Data rates for 802.11a,h (5 GHz)	54, 48, 36, 24, 18, 12, 9 and 6 Mbps (OFDM modulation)
Data rate for 802.11n (2,4 / 5GHz)	MCS0-15 enables physical rates up to 150 Mbps at 20 MHz channels bandwidth, 2 streams, short guard interval; MCS0-15 enables physical data rates up to 300 Mbps at 40 MHz channels bandwidth, 2 streams, short guard interval
Bandwidth (802.11n)	20/40 MHz (bundling of two adjoining 20 MHz channels to one 40 MHz channel)
Data rates for 802.11b,g (2.4 GHz)	11, 5.5, 2 und 1 Mbps (DSSS modulation); 54, 48, 36, 24, 18, 12, 9 and 6 Mbps (OFDM modulation)
Frequency bands 2.4 GHz indoor/outdoor (EU)	2.4 GHz Indoor/Outdoor (2412-2472 MHz) max. 100 mW EiRP. The permitted transmission power may vary in countries outside the EC.
Frequency bands 5 GHz indoor (EU)	5 GHz indoor (5150-5350 MHz) max. 200 mW EiRP allowed (Germany). The permitted transmission power may vary in other countries.
Frequency bands 5 GHz outdoor (EU)	5 GHz outdoor (5470-5725 MHz) max. 200 mW EiRP allowed (Germany). The permitted transmission power may vary in other countries.
Multi-SSID	Depending on the complexity of configuration up to 16 service sets per radio module, with virtual access points and own MAC address per SSID
Broadcast SSID	On/off switchable
Automatic Rate Selection (ARS)	Automatic usage of the optimized data rate
WLAN operation	WLAN Accesspoint operation
RTS/CTS	RTS/CTS threshold adjustable
Short guard interval (802.11n)	On/off switchable; increase of throughput by reduction of the guard intervals from 800ns to 400ns
Number of spatial streams (802.11n)	1 or 2
Extended Performance Feature	Beamforming, MRC (Maximum Ratio Combining), Block-Acknowlegde

Technical data

Technical data

Standards and certifications	R&TTE Directive 1999/5/EC (EN 55022; EN 555024); Low Voltage Directive 2006/95/EC (EN 60950-1); Ecodesign/ERP Directive 2009/125/E

IP Telephony

SIPS	SIP secure (TLS), establish secure calls (in preparation)
Media protocols	RTP, SRTP (in preparation)
Debug trace	Recording of all data streams via console and web configuration. Selectable trace formats: text PCAP
Number of paralell connectins	9 x BRI/analogue <-> SIP hybrid connections, independent of codec type
SIP properties	CLIP, CLIR. REFER, PRACK, SESSION Timers, HOLD, MOH, INFO, NAPTR, ...
SIP 2.0	RFC 3261 conform. 2327, 2976, 3261, 3262, 3263, 3264, 3311, 3323, 3325, 3428, 3515, 3581, 3608, 3891, 3966, 4028, 3555, 2833, 1035, 2782, 2915, 2617, ...SIP Connect 1.1
Features hybrid connections	Echo cancellation according G.168, Comfort Noise Generation CNG
SIP protocols	UDP, TCP, TLS* (under preparation)
Dialling end identifier/shortening via #	The time after which the system begins to dial externally; i.e. after dialling the last digit of a call number. The time can be shortened by entering #.
NTP Client/Server	Automatic update of date/time from time server. Internal time server for connected IP terminals.
System interface, sub-system operation via IP	For the system interface, 2 systems are interconnected via a bidirectional connection - without global performance feature. The sub-system operation represents a single connection from the main system to the sub-system.
Connection to SIP provider	A connection to an SIP provider can be configured by using an individual telephone number or extension.
Connecting standard SIP terminal devices / IP system telephones (1)	Standard SIP telephony over the LAN Telephony over (WAN) SIP provider; general SIP and router settings: SIP RTP port, DSCP value (SIP packets), DSCP value (RTP packets)
Number of simultaneous SIP connections per provider	The number of simultaneous SIP connections to the provider can be configured. System side not limited
Offsite extensions	Offsite extensions can be set up with IP system telephones or SIP telephones.
Bandwidth management with support for multiple locations (1)	Locations can be set up in order to use the bandwidth management. A location is identified with the aid of its fixed IP address or DynDNS address, or by using the interface to which the device is connected.
Bandwidth management with support for multiple locations (2)	The available VoIP bandwidth (upstream and downstream) can then be set up for each location.
Codecs	Codecs G.711, G.726, G.729, DTMF inband, DTMF outband, SIP INFO,
Codec for, SIP providers, or IP terminals	Various codecs can be defined to influence voice quality and meet the specific requirements of individual providers. Codecs can be sorted according to various criteria and presented according to quality or bandwidth, for instance.
Early media connect	Early media connect connects voice or audio data (e.g.: announcements) before the call was accepted.
Quality of Service	DSCP header / ToS bits configurable

IP Telephony

STUN	A STUN server is required to provide VoIP devices behind an active NAT with access to the internet. In such cases, the current, public IP address of the connection is determined and utilized to ensure a precise address is available from the outside.

Quality of Service (QoS)

Bandwidth reservation	Dynamic bandwidth reservation, assigning guaranteed and maximum bandwidths
DiffServ	Priority queuing of packets using the DSCP/TOS field.
Layer2/3 tagging	Mapping 802.1p layer 2 priority information to layer 3 Diffserv attributes.
Policy-based traffic shaping	Dynamic bandwidth management using IP traffic shaping
TCP download rate control	Reserves bandwidth for TCP connections.

Configuration access

General configuration	The be.IP plus is configured using a Web browser to access the Configuration Interface . Supported browsers: Internet Explorer, vers. 7 or later, Firefox 2 or later, Safari, Chrome
Management	Management via SNMP, SSH
SNMP browser	Integrated in Graphical User Interface
Web configuration	Configuration access is performed locally and remotely over IP: HTTP / HTTPS without a signed certificate.
Telnet access	Telnet (console) login for access to diagnostics results, traces, etc.
DIME Manager support	The be.IP can also be configured via the DIME Manager.
Device Discovery Function	Device discovery via SNMP Multicast (DIME Manager)
Remote maintenance over IP	Remote maintenance via Telnet, SSH, HTTP
Export and import configuration	Load and save the configuration; Optionally save encrypted configuration; Optionally runs automatically from the scheduler.
Firmware download	Via IP
Event scheduler	Controlling actions using both scheduling and event-driven criteria, for instance Reboot Device, Activate/Deactivate Interface, Trigger Software Update, and Configuration Backup.

DECT connection

Singlecell/multicell via LAN	As DECToIP system used with existing Ethernet interfaces via SIP protocol

Mini call centre

Mini call centre - General	Integrated solutions for up to 16 agents ffor small groups that need to communicate both frequently and in a dynamic manner. The administration is done via a separate portal.
Functions	Flexible assignment of agents and lines, dynamic customisation depending on call volume, call assignment with idle periods for agents, statistical information on agents and lines

Mini call centre

Status information (1)	Different status information is displayed, e.g.: lines and assigned agents, number of agents logged on per line.
Status information (2)	Agents in post-processing, active calls (active connections), calls on hold, number of calls accepted today, number of missed calls today.

User/User Portal Access

Application portals - General	For the integrated solutions, i.e. phone book, mini call centre, etc, the individual application portals are available. Each user in the system has access to their telephones and settings. Individual user names/PIN are accessed via the user portal.

TAPI

TAPI - General	TAPI is supported for: TDM and IP system telephones. MS Windows XP, Vista, Win7. Support for 32 bit/64 bit, 1st and 3rd parties via LAN, TAPI authorisation for each extension can be adjusted via Class of Service
TAPI functions (1)	Automatic call acceptance via elmeg system telephones, incoming and outgoing calls, call forwarding, hold for enquiry, brokering, call transfer, three-party conference call, call waiting, charge information, call deflection, pickup of calls
TAPI functions (2)	Signalling of call forwarding number(s), MSN/DDI signalling, cause signalling, specified pickup, park/unpark

Mobile extensions

Mobile extensions - General (1)	Integrated application: parallel signalling of incoming calls to an internal terminal and an external call number (e.g. mobile phone). The assignment can be switched on or off via a code.
Mobile extensions - General (2)	The parallel call is initiated by directly dialling the internal extension. During the external connection, hold for enquiry and call transfer to be.IP plus extensions are both possible via DTMF code procedures.

Compilation of call data

General compilation of call data (1)	Compilation of records in FLASH with: iinternal extension no., external call number suppressed/shortened/not shortened), date/time, call duration, currency amount, project number, connector type, exchange line no./MSN/DDI index;
General compilation of call data (2)	can be configured for each extension; storage of incoming calls either generally or only by entering a project number.
Output of records	Available
Storage of records per user can be configured (1)	Possible output of call records on V.24 printer. Output of records in currencies standardised by a ratio of 1/1000; the factor and currency text can be configured.
Storage of records per user can be configured (2)	Shortened numbers are indicated with # character. Printout via V.24 can be switched via PABX menu
Call records in memory	2000 records are held in the memory.

Compilation of call data

Shortened storage of external call numbers.	The storage of shortened call numbers (privacy) is possible.

VoiceMail

E-mail messaging	The owner of the voice mailbox can receive new voice messages in an e-mail attachment.
Listen to messages remotely	The administration of the voicebox and listening to messages is possible both from internal and external telephones.
Message waiting indication	The owner of a voicebox is informed of new messages by a MWI, an e-mail, or special ringtones.
PIN protection & configuration	Subscriber access to the voicebox for use and configuration is protected with an individual user PIN. The configuration can also be performed over the user portal.
Storing announcements and messages on the internal USB Flash	Announcements and messages from the voicemail system are stored on the internal USB Flash.
Voice-driven menus	While navigating through the menus of the voicemail system, the user will hear announcements and information about how to use the system.

Voice applications

General voice applications	Voice applications are based on WAV files with music, announcements etc. Max. 8 voice applications can be configured as: announcement before query, infobox, wake-up message or MOH; WAV files are stored on the memory card (SD).
Announcement/infotext	A WAV file can inform the caller of any changes to opening hours in the form of an announcement/infotext.
Volume control of files	The WAV files can be adjusted by a volume control.
Music on hold	Music on hold (MoH) can be configured based on WAV files.

Call transfer

Hold for enquiry	Can be freely executed on all internal or external extensions. Possible functions: Disconnect active connection, disconnect connection on hold, redial. The extension on hold shall hear MoH.
Hold for enquiry	Hold for enquiry from an active connection to an internal/external extension. The other extension is held in the system.
Transfer to busy extension	A call can be transferred to a busy extension. At the end of the call the connection is made. Automatic return to the original extension after time has expired.
Exchange to exchange transfer	Following the return of an existing exchange connection to the exchange, both external channels can then be interconnected. Not available for FXO
Transfer without advance notice (blind transfer)	Transfer a call by replacing the receiver from the hold for enquiry.
Transfer with advance notice	Transfer a call by replacing the receiver from the hold for enquiry after notifying the extension
Transfer (ECT)	Transfer of calls in exchange (if LM available). Can be reached via GUI, although external-external ECT is allowed.

Call transfer

Transfer of active call through call waiting	Analogue terminals can transfer the incoming call with R5 etc whilst on the call via the code procedure.

Door terminals

Door terminals - General (1)	Door terminals can be switched on on internal FXS ports. For each door terminal, 8 internal extensions or 1 external call nr. (chemist"s circuit) are included in the call signalling each time it is rung. Refer to call signalling in the day/night ser
Door terminals - General (2)	Door terminal authorisations (call door terminal/open door) are done via the CoS. The door terminal switching authorisation (day/night) can be configured for each extension via CoS; door intercom calls can be picked up.
Doorbell signalling	The signalling time can be programmed for both internal and external use. The monitoring can be switched on or off.
Door terminal external call monitoring	A timer limits the call duration. Can be configured for each door terminal and doorbell
Door terminal call signalling	The call signalling duration can be adjusted.

Team functions

Team function - General (2)	16 extensions can be put into one team. Divisible call signalling can be configured for each team. Team call assignments are allocated to each team. The switching on of call assignments can either be done manually or automatically.
Release	For a particular team, a release to another team can be configured.
Call assignments	4 call assignments are allocated to each team, these can be switched on either manually or via calendars.
Call forwarding (2)	It can also be set up whether a call forwarding should be done externally in the VST via call deflection/partial rerouting and should be cancelled if the entire team call is successful.
Call list control (SysTels)	If an answering machine within the team accepts the call, the call will remain in the call lists for all telephones.
Automatic call acceptance (with parallel signalling within the team)	Team calls can be accepted with MOH; the team extensions are then called in parallel. Once a team extension accepts the call, the connection is made.
Call signalling	Call signalling can be individually configured for each team: simultaneous, linear, rotating, constructing, parallel after a period of time, uniform call assignment according to average talk time.
Team call signalling to internal/external terminals	The team call signalling can be done to internal team extensions or to external call numbers. The allocation is done in the call assignments, which can be controlled via the calendars.
Team log in/log off	Team extensions can log themselves in and out of the team. This is possible for both individual as well as all teams; if all extensions are logged out then a call is released to the default destination.
Transfer functions	Transfer functions can be configured for each team: busy options, release options, transfer to busy extensions, automatic release immediately/if busy/if no reply.

PABX functions

PABX functions	
PABX menu	Access to system functions of system telephone: phone book, follow me, direct call, editing of public holidays in calendars
Alphanumeric central phonebook	1000 entries in phonebook, individual authorisation for phonebook access, import/export possibility, name display on phonebook
Analogue ports - internal	To connect analogue terminals: MFC dialling method, adjustable flash times, setting as: phone/fax/modem/answ.machine/combination device, name display on phonebook for (CNIP/CNIR), transfer of phone numbers to internal analogue ports (CLIP, CLIP off Hook)
Internal call waiting	Call waiting is signalled by a call waiting tone on FXS ports. Possible procedures: ignore call waiting (timeout after 30 secs), accept directly, accept through hold for enquiry, reject
Call waiting protection	The call waiting protection is configurable per FXS extension (Ext.) as well as via Class of Service (CoS); the ext. is implemented in the terminal for ISDN extensions.
Do not disturb feature for internal ports (1)	The do not disturb feature (at rest) for FXS ports is configurable for a) just internal calls, b) just external calls, or c) internal and external calls;
Do not disturb feature for internal ports (2)	A special dial tone signals that the do not disturb feature is active; it shall however be possible to accept calls whilst in do not disturb mode.
Call assignments	Team and door terminal lists can be automatically switched on via programmable weekly calendars. It shall be possible for an authorised extension to manually switch on
Set up call forwarding remotely	Call forwarding can be remotely carried out in the system.
Call forwarding (CF) immediately/after a period of time/when busy (2)	Set up of call forwarding for internal extensions via user portal as well. The call forwarding set up is also possible with standard telephones via the telephone code procedure; this can also be done externally via the 2nd B channel.
Call forwarding during a call (CD - call deflection)	Automatic call deflection to PtMP connector if an incoming external call is to be forwarded externally.
Call forwarding during a call (partial rerouting) for PtP	Automatic execution if a internal extension has set up an external call forwarding. In the event of failure the call forwarding is done via the 2nd B channel.
Release (if dialled incorrectly, or if no answer)	Release to a configurable destination in the event of: incomplete DDI (after a period of time); if dialled incorrectly and if all team extensions are logged out etc.
Call assignment	External calls can be flexibly assigned to extensions, teams or to voice applications as well.
Exchange access right	The exchange access right can be set at different levels per user: internal, incoming, local, national, unlimited.
Switchable exchange access right	The exchange access right can be controlled via the calendars through appropriate authorisation in the CoS
Automatic outside line	The automatic outside line is configurable per user; an internal number can therefore be dialled by pressing *
Global exchange access	The dialling code (typically 0) can be programmed freely.
ARS	Automatic route selection (LCR) is a dial control with a telephone number-dependent bundle selection. ARS is configurable per extension via the CoS.
Authority matrix (Class of Service)	The CoS contains a list of functions for the user; the CoS can be switched via the calendars/manually.
Bundle formation/division	Authorisation to assign a bundle is done via the CoS.

PABX functions	
Specified bundle assignment	The bundle assignment can be done via the code on standard terminals or via the bundle key on SysTel.
Call Through (2)	Cheap tariffs, e.g. when dialling abroad, can therefore be used. When the ARS is switched on, routing is also possible via internal analogue GSM gateways.
Boss/secretary function	Functional linking of 2 system telephones - routing of calls via call function
CLIP no screening for point-to-points	Sending of call number that does not belong to connector, e.g.: as central call number for call centre. Application to the provider necessary
CLIPO (Calling Line Identification Presentation Override)	Transmission of suppressed numbers to special connectors (e.g. police)
Data protection for analogue extensions	The data protection option prevents call waiting for analogue faxes, modems and door intercoms.
Date/time	Implemented through clock component, clock software, time servers etc. The clock can be adjusted via GUI, synchronisation with ISDN network time is possible. Automatic changeover to summer/winter time
Diagnostic function	Fault logbook and diagnostic history memory in the system
Direct call	Automatic call setup after x secs to a preset destination after the receiver is lifted without dialling; can be programmed per user, special dialling tone for active direct calls; adjustable reaction time of 0 - 39 secs can be adjusted centrally
Announcement/announcement block	Announcement to system telephone with notification tone for both the calling party and the called party; can be set per extension
Advanced call assignment for point-to-points	Additional MSNs (exceptional call numbers) that can be configured centrally for all point-to-points. For non-configured call numbers, the call is released to a configurable global default destination.
Fax connection possibility	Connection possibility of a fax to analogue or ISDN internal connectors:
Follow me (1)	Tracing of call diversion of internal extensions via the code procedure; configuration of follow me function externally possible by dialling externally in the PABX (service call number) - protected by PIN2
Follow me (2)	The remote switching authorisation is set centrally.
Charges (1)	Transmission both during (AOC-D) and at the end (AOC-E) of the call in units or currency amounts; operation of pay phones at the internal So bus possible
Charges (2)	Forwarding of charges to internal analogue/digital connectors, charge pulses 12 kHz/16 kHz, charge meter per extension
GSM gateway	GSM gateways can be switched on be.IP plus external ISDN ports. The automatic routing via ARS can be adjusted. The post-dial delay on analogue GSM gateway ports can be configured centrally, the ISDN clock synchronisation can be switched.
Pickup	Pickup of calls to other extensions: Pickup within a group; group assignment can be programmed per extension.
Pickup specified	Specified pickup by entering the extension call number; this covers all groups
Pickup of answering machine	Pickup of a call that has already been answered from an answering machine
Calendars (PBX Day/Night, CoS, door terminal, teams) (2)	Several different switching times can be selected for each weekday. Exceptions for public holidays can be configured

PABX functions	
Changeable codes for important functions	Programmable telephone codes: exchange access, pickup, specified pickup, speeddial number, project number, bundle assignment, open hold for enquiry
Keypad procedures in exchange	Control of performance features in the exchange, authorisation per extension in the CoS
Speeddial number	Access to entries in the phone book via a code combined with the respective entry index (000-999)
Brokering	Any change between internal and external connections; the respective caller on hold hears MoH.
Save message on SysTel	Signalling via UUS 1
Name display in the call and in the connection	During the call as well as during the connection, the caller"s number is displayed (CLIP). If the call number is entered in the phone book, the corresponding name is displayed.
Name assignment for connectors, terminals and teams	In the configuration, names can be assigned to the individual ports. For internal calls the name is displayed on the terminal. In addition the name is also visible in the PABX menu and in FCI, as well as on the terminal for team calls.
Emergency number storage/emergency telephone/alarm point-to-point (1)	In the be.IP plus, 10 emergency numbers (up to 20 digits) can be set up. The occupied ISDN exchange is then subject to a blockade break if one of the saved emergency numbers is dialled.
Emergency number storage/emergency telephone/alarm point-to-point (2)	The emergency number dial is, provided that all exchange lines (incl. SIP provider) are occupied, always routed via ISDN (VoIP blocked).
Open hold for enquiry - park in system	By using the open hold for enquiry function, the caller is held in the system queue. The call can be transferred to any telephone via the code procedure or with SysTel park keys.
Internal and external room monitoring	Room monitoring via a telephone that has been approved for this and whose receiver has been lifted or whose hands free has been switched on. Room monitoring can also be remotely activated.
Separation of direction	A fixed exchange/bundle assignment can be configured for each user.
Call number plan	Flexible internal call number plan can be programmed in a variable manner from 1 to 4 digits
Call number prefix	The national/international dialling code can be set up centrally.
Call number transmission/suppression	The transmission and suppression of call numbers is implemented in the be.IP plus via (CLIP/CLIR/COLP/COLR)
Ringing AC voltage (frequency)	For all FXS ports, the frequency of the ringing AC voltage can be adjusted centrally between 25/50 Hz.
Day/night operation	Switching to the respective operating status for the enitre system
Display extension status data	The current settings for a particular user can be displayed. Call number (MSN), name, current authorisation class, assigned interfaces, costs
On-hold queue	Callers can be switched to on-hold queues and then retrieved by pressing the correct code.
Music on hold	The MOH to be used for each extension can be configured via Class of Service. Options: no MOH, internal melody 1, internal melody 2, external connector, voice application MOH (external source via jack or WAV file)
Queue	The number of calls on-hold for the team can be individually set.
Return call (1)	A return call shall occur: when put on hold for enquiry, when dialling, when busy, if transferred incorrectly; after a period of time (30 secs). Return call from open hold for enquiry
Return call (2)	The time for the return call can be adjusted separately for iUbA, busy and open hold for enquiry.

PABX functions	
Dial control (blacklist/whitelist)	Up to 30 16-digit blacklist numbers and up to 60 16-digit whitelist numbers can be set up in the system. Assignment to the various extensions is done via the CoS.
Simplex operation/simplex operation block	Simplex operation is typically only possible with SysTels. By using this function, the called device is switched immediately to hands free mode and the call is accepted. A simplex operation is ended after 2 minutes for security reasons.
Central configuration of (system) telephones via PABX	Installation and administration of important system telephone parameters in the be.IP plus

Maintenance	
Web browser access	Configuration, SW update, system status, readout of important system data, tracing, fault diagnosis

Accessoires

Access Points and Bridges	
bintec W1001n (5530000173)	W1001n, Economic WLAN Access Point with 1 single radio acc. 802.11abgn (2.4/5 GHz) Mimo 2x2, 1 Gigabit ETH, PoE, integr. antennas, integrated wall mounting, incl. WLAN Contr. license for Master AP, shipment without power supply, without ceiling mounting
bintec W1003n (5510000321)	W1003n, WLAN Access Point with a single radio module according 802.11abgn (2.4/5 GHz) Mimo 2x2, one Gigabit ETH, PoE, integrated antennas, incl. wall and ceiling mounting, incl. WLAN Controller license for Master AP, shipment without 100-240V wall adapter
bintec W2003n (5510000324)	W2003n, WLAN Access Point with a dual concurrent radio module according 802.11abgn (2.4/5 GHz) Mimo 2x2, 2 Gigabit ETH, PoE, integr. Antennas, incl. wall/ceiling mounting, incl. WLAN Controller license for Master AP, shipment without 100-240V wall adapter
bintec W2003n-ext (5510000325)	W2003-ext, WLAN Access Point with a dual concurrent radio module according 802.11abgn (2.4/5 GHz) Mimo 2x2, two Gigabit ETH, PoE, 4 ext. antennas, incl. wall/ceiling mounting, incl. WLAN Controller lic. for Master AP, shipm. Without 100-240V wall adapter
bintec W2004n (5510000320)	W2004n, WLAN Access Point with a dual concurrent radio module according 802.11abgn (2.4/5 GHz) Mimo 3x3, 2 Gigabit ETH, PoE, integr. antennas, incl. wall/ceiling mounting, incl. WLAN Controller license for Master AP, shipment without 100-240V wall adapter

Software Licenses	
be.IP plus Lizenz package (5500001872)	Extension license for be.IP plus. For additional 5 VPN tunnel, 2 Accesspoints (WLAN controller), 20 SIP Clients, 20 Terminals, 20 VoiceMail boxes

Pick-up Service / Warranty Extension

Pick-up Service / Warranty Extension

Service Package 'small' (5500000810)	Warranty extension of 3 years to a total of 5 years, including advanced replacement for bintec elmeg products of the category 'small'. Please find a detailed description as well as an overview of the categories on www.bintec-elmeg.com/servicepackages.

Product Services

HotSpotHosting 2yr 1 location (5500000861)	HotSpot solution hosting fee for 2 year and 1 location
HotSpotHosting 1yr 1 location (5510000198)	HotSpot solution hosting fee for 1 year and 1 location
Additional HotSpot location (5510000199)	Additional location for the HotSpot solution (551000198, 5500000861) valid for one year

Add-ons

ANT-RSMA-Omni Set (5510000397)	Antenna Set (2,4GHz) with two onmi antennas for devices with RSMA socket
bintec 4GE-LE (5530000119)	LTE (4G)/UMTS (3G) extension device for router; 1x Gbit Eth; Simcard slot; Wallmounting; PoE Injector inclusive

DECT150 (5530000087)	DECT over IP singlecell base station for 6 handsets / 4 voice channel (elmeg D130, elmeg D140); powerded by PoE; power supply
DECT200M (5530000088)	DECT over IP multicell manager for 100 handsets / 30 voice channel (elmeg D130, elmeg D140; elmeg DECT200 basestations neccessary); seamless roaming & handover; powerded by PoE; power supply not included
DECT200 (5530000089)	DECT over IP multicell base station for 100 handsets / 30 voice channel (elmeg D130, elmeg D140); seamless roaming & handover; powerded by PoE; power supply not included
D130 (5530000090)	DECT handset, brilliant, 1.8 TFT colour display with 7 lines, intuitive, icon-based user interface; Headset connection via Bluetooth® or 2.5 mm jack, integration of hybird phone book and voicemail, incl. charging tray
D140 (5530000091)	Slim line DECT handset, brilliant, 1.8 TFT colour display with 8 lines, intuitive, icon-based user interface; vibration function, headset connection via Bluetooth® or 2.5 mm jack, integration of hybird phone book and voicemail, incl. charging tray
D150R (5530000181)	DECT handset, IP65 standards (dust, waterproof, shock resistance), functionality and equipment like D130, no Bluetooth, additional vibration alert and LED torch, Rubber surface for perfect grip, incl. Charging tray