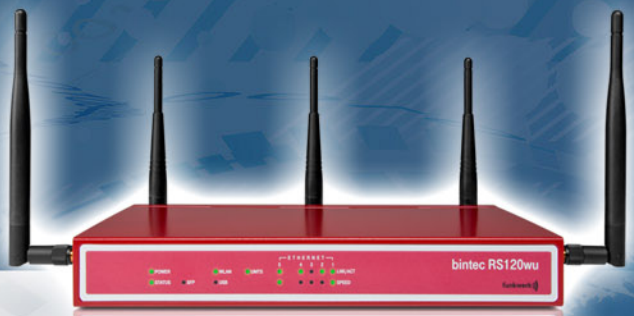
funkwerk
enterprise communications

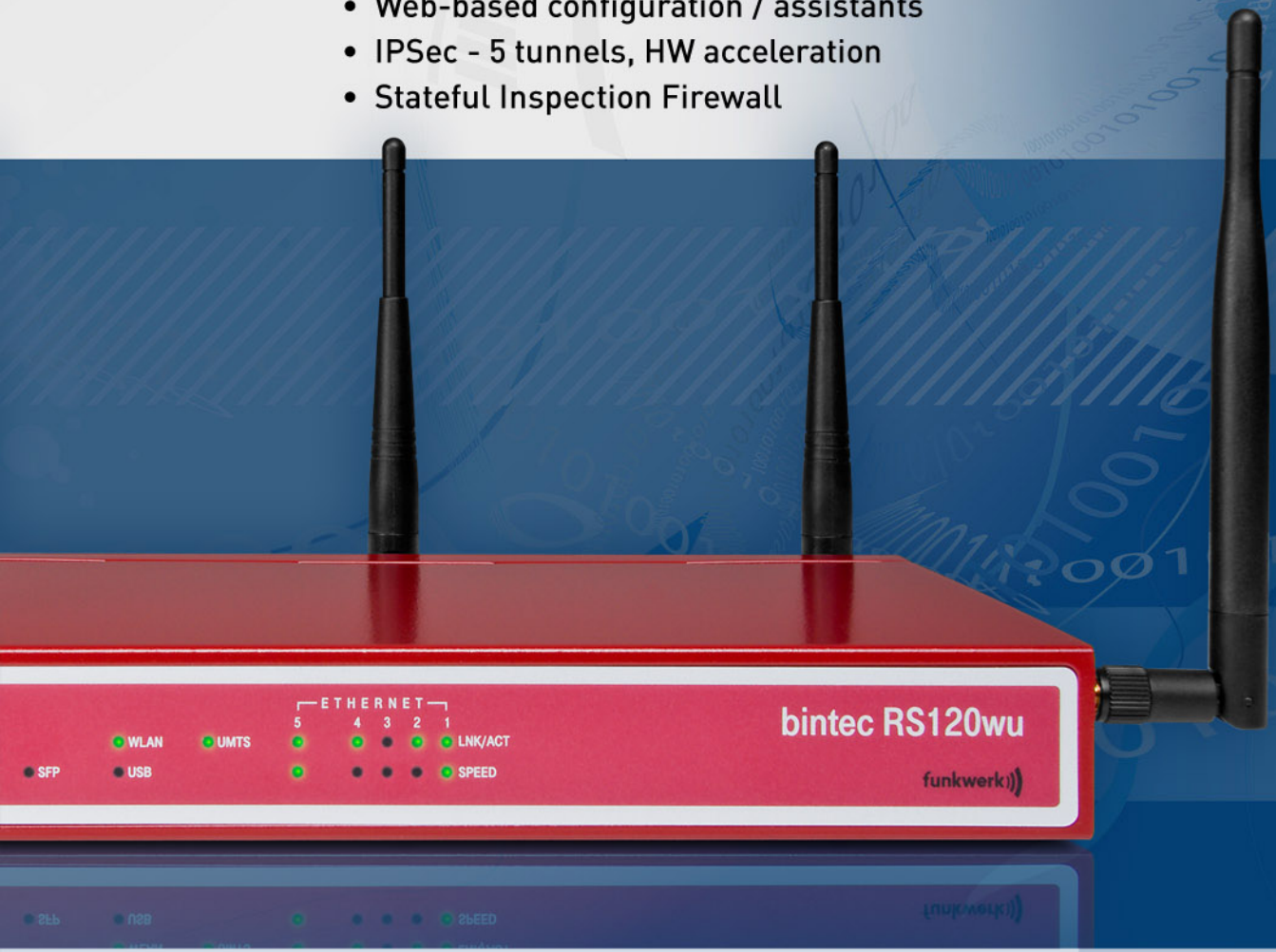
IP ACCESS ROUTER



The all-round talent with UMTS modem and 11n WLAN

bintec RS120wu

- Integrated UMTS modem - HSxPA
- 5 x Gigabit Ethernet
- WLAN - 802.11n, 2.4 und 5 GHz
- Web-based configuration / assistants
- IPSec - 5 tunnels, HW acceleration
- Stateful Inspection Firewall



bintec RS120wu

Disponibilité : 01/03/2010

Routeur avec modem intégré UMTS et 11n WLAN

RS120wu

Le produit bintec RS120wu est un routeur puissant, et flexible car il est équipé de nombreux ports. Le modem intégré UMTS supportant HSxPA, EDGE, GPRS et GSM peut être utilisé comme liaison Internet ou comme secours (backup). Conçu dans un boîtier métallique robuste, il convient parfaitement aux PME/PMIs, agences ainsi qu'aux travailleurs à domicile. En plus du modem intégré UMTS, cet équipement possède 5 ports Ethernet Gigabit, qui peuvent être configurés en LAN, WAN ou DMZ. Le routeur RS120wu possède également un slot SFP pour gérer un module destiné à la fibre optique. Grâce à la variété des technologies utilisées, ce routeur s'adapte à de nouvelles normes, le rendant ainsi très flexible : par exemple, en utilisant une antenne externe ou externe UMTS, la réception peut être considérablement améliorée.
Funkwerk a choisi le module Sierra Wireless AirPrime (TM) MC8790 HSPA Embedded pour son RS120wu.

Le routeur bintec RS120wu possède un module "dual band" 2.4 et 5 GHz pour un accès conforme à la norme IEEE 802.11n. Cette nouvelle technologie permet d'atteindre des vitesses jusqu'à 300 Mbps et offre ainsi une meilleure portée que la technlologie 802.11g. Grâce à la compatibilité IEEE 802.11n, cet équipement peut également travailler en mode IEEE 802.11g et IEEE 802.11abgh et supporter le mixage des clients IEEE 802.11n et IEEE 802.11b/g ou IEEE 802.11a/h. Ce principe permet de changer de manière transparente des routeurs existants via le produit bintec RS120wu sans modification au niveau de l'infrastructure. Les clients qui supportent déjà la norme 802.11n bénéficient automatiquement d'un débit de données plus élevé.

L'équipement est livré en sortie d'usine avec une licence supportant 5 tunnels IPSec avec accélérateur matériel.

Utilisation des fonctionnalités en souplesse

Seules quelques fonctions sont nécessaires pour transmettre les paquets de données entre deux réseaux. Le routeur bintec RS120wu possède les caractéristiques qui vont bien au-delà du routage et peut s'intégrer dans des infrastructures IT complexes. Les fonctionnalités telles que le Routage Etendu et le NAT permettent de gérer les paquets entrants et sortants en fonction de critères pré-définis : protocole IP (Couche 4), adresse IP source ou destination, port source ou destination, TOS / DSCP, interface source ou destination et état de l'interface source ou destination. En outre, il est possible d'utiliser le NAT pour transférer le trafic des données en appel entrant et sortant et pour chaque interface, suivant de nombreux critères.
Grâce au support "multicast", le produit bintec RS120wu est idéal pour les applications qui utilisent les techniques de multimédia ou de streaming.
La fonctionnalité Stateful Inspection Firewall (SIF) offre une protection efficace contre les attaques en provenance d'Internet en filtrant dynamiquement les paquets.La gestion du pare-feu est facilitée grâce à de nombreux services pré-configurés. Le filtrage d'URL est une option* payante. Dans ce cas, toutes les requêtes sortantes Internet sont classées, et permettent que les contenus non souhaités soient filtrés de manière fiable.
L'équipement de base de la Série RS fournit également un niveau SIP Gateway (ALG) pour la connexion directe des téléphones IP au sein du réseau ou l'enregistrement auprès d'un fournisseur de VoIP, sans que la connexion WAN soit affectée au niveau de la sécurité. Les correspondances NAT et le Stateful Inspection Firewall interne sont contrôlés automatiquement par ALG durant la communication.
La QoS (qualité de service) est plus qu'un slogan dans les équipements FEC. Grâce à la convergence croissante entre voix et données, la classification des flux de données gagne en importance. Nos routeurs fournissent les mécanismes QoS pour hiérarchiser le trafic VoIP par rapport au trafic Internet normal, par exemple, et garantissent ainsi une une bande passante suffisante.
Vous pouvez de ce fait décider de donner la priorité à votre trafic de données plutôt qu'au trafic lié à la messagerie (e-mail). La mise en oeuvre de la QoS bintec, permet de laisser passer en priorité la voix, par rapport au flux de messagerie dans le tunnel VPN
La fonction DNS proxy prend en charge le réseau local pour la mise en oeuvre d'adresses et la configuration automatique des adresses Ip est réalisée via le serveur intégré DHCP.

Implémentation IPSec

IPSec, intégré au routeur bintec RS120wu travaille soit avec des clés pré-partagées soit avec des certificats, ce qui assure un maximum de sécurité. L'Office Fédéral de la Sécurité de l'Information recommande l'utilisatiobn de certificats.
La mise en oeuvre d'IPSec procure une aide réelle lors de la création des connexions VPN avec des adresses IP dynamiques : même si les deux terminaux distants VPN ont une connexion Internet avec des adresses IP dynamiques.

Si les deux noeuds VPN possèdent des adresses dynamiques, les informations confidentielles sont assurées. L'échange d'adresses IP est effectué par le fournisseur DNS.

Répartition de charge/secours

Les équipements offrent un niveau unique de flexibilité car ils sont pourvu d'un large panel d'interfaces. Le routeur bintec peut être configuré avec deux interfaces WAN. En conséquence, il y a non seulement davantage de bande passante, mais également possibilité de véhiculer le trafic sur des connexions WAN personnalisées, en fonction de la charge ou du type de données. De même, vous pouvez utiliser une liaison (ex. SDSL) pour la connexion VPN du siège et un port WAN en second pour une connexion ADSL à moindre coût garantissant le flux des autres données de l'entreprise. Si une liaison tombe en panne, l'autre prend immédiatement en charge la totalité des données. Dans le cas où les deux lignes ne fonctionneraient plus, le trafic peut être automatiquement dirigé via un modem UMTS connecté sur le port USB.

Configuration et maintenance aisées

Le routeur est configuré via l'interface FCI, qui utilise l'assistant de configuration intégré. Ce configurateur FCI est basé sur le web graphique, et accessible à partir de n'importe quel micro-ordinateur dôté d'un navigateur, soit via HTTP, soit via un cryptage en HTTPS. Il offre également la possibilité de gérer, en local ou à distance,les équipements via Telnet, SSH et GSM dialin (seulement dans le cas où un modem USB UMTS est connecté).

DIME Manager de Funkwerk Enterprise Communications (FEC) est un outil gratuit de gestion d'équipements FEC. Il est destiné aux administrateurs qui gèrent des réseaux comportant jusqu'à 50 appareils. Ce logiciel simplifie la gestion et la configuration de routeurs et des points d'accès, soit individuellement, soit par groupe. Lors de sa conception, l'objectif premier de cet outil, était sa simplicité. En effet, il autorise les mises à jour logicielles ou les configurations par simple "drag and drop". Il reconnaît et gère les nouveaux dispositifs du réseau grâce à la multidiffusion utilisée par le SNMP : en d'autres termes, indépendemment de leur adresse actuelle.

* Le Filtrage d'URL est un service payant. Il existe une version test de 30 jours.

LAN sans fil

Feature	Description
WLAN Mode	Access Point
WLAN standards	802.11n (Mimo 2x3); 802.11b; 802.11g; 802.11a; 802.11h
Frequency bands 2.4 GHz indoor/outdoor (EU)	2.4 GHz Indoor/Outdoor (2412-2472 MHz) max. 100 mW EiRP. This information is related to the permitted transmission power in Germany. The permitted transmission power may vary in other countries.
Frequency bands 5 GHz indoor (EU)	5 GHz indoor (5150-5350 MHz) max. 200 mW EiRP allowed. This information is related to the permitted transmission power in 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. This information is related to the permitted transmission power in Germany. The permitted transmission power may vary in other countries.
WLAN modes	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 only
Automatic Rate Selection (ARS)	Available
Transmission rate	Automatic fallback or fixed transmission rate selectable
Data rates for 802.11a,h (5 GHz)	54, 48, 36, 24, 18, 12, 9 and 6 Mbps (OFDM modulation)
Data rates for 802.11n (2.4 / 5 GHz)	MSC0-15 enables physical rates up to 150 Mbps at 20 MHz channels bandwidth, 2 streams, short guard interval; MSC0-15 enables physical data rates up to 300 Mbps at 40 MHz channels bandwidth, 2 streams, short guard interval
Roaming (access point mode)	Seamless roaming with IAPP (artem Inter Access Point Protocol)
Number of spatial streams (802.11n)	1 or 2
Broadcast SSID	On/off switchable
Broadcast SSID	Data prioritization for TOS data, 802.11e/WMM
WMM 802.11e Power Save	Support of active WLAN clients, which support 802.11e power save
Country-specific settings	Channel settings according regulatory domain (802.11d) permitted.
WDS	Wireless Distribution System: Include high security TKIP and AES, interoperable with other devices from the Funkwerk-EC portfolio (not bintec W500)
TPC	TPC (transmission power control): For 5 GHz, automatic reduction of transmission power according EN301893
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)
Fast roaming 802.1x (access point	Pre authentication and PMK caching allows fast roaming by 802.1x encryption
Power Managment for Clients	Registering of up to 250 clients simultaneously in access point mode.
Buffer pool	For cushioning of peaks
Bandwidth (802.11n)	20/40 MHz (bundling of two adjoining 20 MHz channels to one 40 MHz channel)
Short guard interval (802.11n)	On/off switchable; increase of throughput by reduction of the guard intervals from 800ns to 400ns
RTS/CTS	RTS/CTS threshold adjustable
DTIM Period	Adjustable
VLAN	Network segments on layer2 possible. Per SSID one VLAN ID available. Static VLAN configuration according IEEE 802.1q; up to 32 VLANs supported.
Multi SSID	Depending on the complexity of configuration up to 8 service sets per radio module, with virtual access points and own MAC address per SSID.
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.

LAN sans fil Electric Characteristics

Feature	Description
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
Receiver Sensitivity @ 2.4 GHz 802.11n 20 MHz	MSC0 -89 dBm; MSC1 -87 dBm; MCS2 -85 dBm; MCS3 -82 dBm; MCS4 -79 dBm; MSC5 -75 dBm; MCS6 -73 dBm; MCS7 -70 dBm; MCS8 -83 dBm; MCS9 -84 dBm; MCS10 -81 dBm; MCS11 -79 dBm; MCS12 -80 dBm; MCS13 -72 dBm; MCS14 -68 dBm; MCS15 -67 dBm
Receiver Sensitivity @ 2.4 GHz 802.11n 40 MHz	MSC0 -87 dBm; MSC1 -84 dBm; MCS2 -82 dBm; MCS3 -79 dBm; MCS4 -75 dBm; MSC5 -71 dBm; MCS6 -69 dBm; MCS7 -67 dBm; MCS8 -86 dBm; MCS9 -83 dBm; MCS10 -79 dBm; MCS11 -77 dBm; MCS12 -74 dBm; MCS13 -69 dBm; MCS14 -67 dBm; MCS15 -65 dBm
Receiver Sensitivity @ 5 GHz 802.11n 20 MHz	MSC0 -88 dBm; MSC1 -85 dBm; MCS2 -83 dBm; MCS3 -81 dBm; MCS4 -78 dBm; MSC5 -74 dBm; MCS6 -72 dBm; MCS7 -70 dBm; MCS8 -88 dBm; MCS9 -85 dBm; MCS10 -83 dBm; MCS11 -80 dBm; MCS12 -77 dBm; MCS13 -72 dBm; MCS14 -70 dBm; MCS15 -68 dBm
Receiver Sensitivity @ 5 GHz 802.11a/h	6 Mbps -88 dBm; 9 Mbps -87 dBm; 12 Mbps -86 dBm; 18 Mbps -84 dBm; 24 Mbps -82 dBm; 36 Mbps -78 dBm; 48 Mbps -74 dBm; 54 Mbps -73 dBm
Output power (without antenna gain)	Adjustable in following steps: 5, 8,11,14,16 und 17.5 dBm. Maximal power varies depending on data rate and frequency band.
Tx Power @ 2.4 GHz 802.11b/g	1 Mbps 16 dBm; 2 Mbps 16 dBm; 5.5 Mbps 16 dBm; 11 Mbps 16 dBm; 6 Mbps 17,5 dBm; 9 Mbps 17,5 dBm; 12 Mbps 17 dBm; 18 Mbps 17 dBm; 24 Mbps 15 dBm; 36 Mbps 15 dBm; 48 Mbps 13 dBm; 54 Mbps 13 dBm
Tx Power @ 2.4 GHz 802.11n 20 MHz/40 MHz	MSC0 17.5 dBm; MSC1 17,5 dBm; MCS2 17 dBm; MCS3 17 dBm; MCS4 15 dBm; MSC5 15 dBm; MCS6 13 dBm; MCS7 13 dBm; MCS8 17.5 dBm; MCS9 17.5 dBm; MCS10 17 dBm; MCS11 17 dBm; MCS12 15 dBm; MCS13 15 dBm; MCS14 13 dBm; MCS15 13 dBm
Tx Power @ 5 GHz 802.11b/g	1 Mbps 16 dBm; 2 Mbps 16 dBm; 5.5 Mbps 16 dBm; 11 Mbps 16 dBm; 6 Mbps 17.5 dBm; 9 Mbps 17.5 dBm; 12 Mbps 17 dBm; 18 Mbps 17 dBm; 24 Mbps 15 dBm; 36 Mbps 15 dBm; 48 Mbps 13 dBm; 54 Mbps 13 dBm
Tx Power @ 5 GHz 802.11n 20 MHz/40 MHz	MSC0 17.5 dBm; MSC1 17.5 dBm; MCS2 17 dBm; MCS3 17 dBm; MCS4 15 dBm; MSC5 15 dBm; MCS6 13 dBm; MCS7 13 dBm; MCS8 17.5 dBm; MCS9 17.5 dBm; MCS10 17 dBm; MCS11 17 dBm; MCS12 15 dBm; MCS13 15 dBm; MCS14 13 dBm; MCS15 13 dBm

GSM / UMTS

Feature	Description
Supported standards	Support of UMTS (3G), HSxPA (3G+; HSDPA with up to 7.2 Mbps, HSUPA with up to 2.0 Mbps), GPRS, Edge and GSM
UMTS (3G) / WCDMS bands	900/1900/2100 MHz
GSM/GPRS/EDGE bands	850/900/1800/1900 MHz
Diversity	Receive diversity on AUX antenna for 900/1900/2100 MHZ
Maximum transmission power	+24 dBm

VPN

Feature	Description
PPTP (PAC/PNS)	Point to Point Tunneling Protocol for establishing fo Virtual Privat Networks, inclusive strong encryption methods with 128 Bit (MPPE) up to 168 Bit (DES/3DES, Blowfish)
GRE v.0	Generic Routing Encapsulation V.0 according RFC 2784 for common encapsulation
L2TP	Layer 2 tunnelling protocol inclusive PPP user authentication
Number of VPN tunnels	Inclusive 5 active VPN tunnels with the protocols IPSec, PPTP, L2TP and GRE v.0 (also in combination possible)
IPSec	Internet Protocol Security establishing of VPN connections
Number of IPSec tunnels	Inclusive 5 active IPSec tunnels
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, RipeMD160, Tiger192 Hashes
IPSec hardware acceleration	Integrated hardware acceleration for IPSec encryption algorithms DES, 3DES, AES
IPSec IKE	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.funkwerk-ec.com).
IPSec NAT-T	Support of NAT-Traversal (Nat-T) for the application at VPN lines with NAT
IPSec IPComp	IPSec IPComp data compression for higher data throughput via LZS
IPSec 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 FCI
IPSec SCEP	Certificates management via SCEP (Simple Certificate Enrollment Protocol)
IPSec Certificate Revocation Lists	Support of remote CRLs on a server via LDAP or local CRLs
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 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 Multi User	Enables the Dial-in of several IPSec clients via a single IPSec peer configuration entry
IPSec QoS	The possibility to operate Quality of Service (traffic shaping) inside of an IPSec tunnel
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

Sécurité

Feature	Description
Encryption WEP/WPA	WEP64 (40 Bit key), WEP128 (104 Bit key), WPA Personal, WPA Enterprise, WPA2 Personal, WPA2 Enterprise
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.
IEEE802.11i Authentisierung und Verschlüsselung	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
Access Control List (ACL)	MAC address filter for WLAN clients
VLAN	Network segmentation on layer 2 possible, one VLAN ID per SSID. Static VLAN configuration according to IEEE 802.1q; supports up to 32 VLANs.
NAT/PAT	Symmetric Network and Port Address Translation (NAT/PAT) with random generated ports inclusive Multi NAT (1:1 translation of whole networks)
Policy based NAT/PAT	Network and Port Address Translation via different criteria like IP protocols, source/destination IP Address, source/destination port
Policy based NAT/PAT	For incoming and outgoing connections and for each interface variable configurable
Content Filtering	Optional ISS/Cobion Content filter (30 day test license inclusive)
Stateful Inspection Firewall	Packet filtering depending on the direction with controling and interpretation of each single connection status
Packet Filter	Filtering of IP packets according to different criteria like IP protocols, source/destination IP address, source/destination port, TOS/DSCP, layer 2 priority for each interface variable configurable

Routage

Feature	Description
Policy based Routing	Extended routing (Policy Based Routing) depending of diffent criteria like IP protocols (Layer4), source/destination IP address, source/destination port, TOS/DSCP, source/destination interface and destination interface status
Multicast IGMP	Support of Internet Group Management Protocol (IGMP v1, v2, v3) for the simulaneous distribution of IP packets to several stations
Multicast IGMP Proxy	For easy forwarding of multicast packets via dedicated interfaces
Multicast inside IPSec tunnel	Enables the transmission of multicast packets via an IPSec tunnel
RIP	Support of RIPv1 and RIPv2, separated configurable for each interface
Extended RIP	Triggerd RIP updates according RFC 2091 and 2453, Poisened Rerverse for a better distribution of the routes; furthermore the possibility to define RIP filters for each interface.

Protocoles/Encapsulation

Feature	Description
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
PPPoE (Server/Client)	Point-to-Point Protocol over Ethernet (Client and Server) for establisching of PPP connections via Ethernet/DSL (RFC 2516)
MLPPPoE (Server/Client)	Multilink extension MLPPPoE for bundeling several PPPoE connections (only if both sides support MLPPPoE)
DNS	DNS client, DSN server, DNS relay and DNS proxy
DYN DNS	Enables the registering of dynamic assigned IP addresses at adynamic DNS provider, e.g. for establishing of VPN connections
DNS Forwarding	Enables the forwarding of DNS requests of free configurable domains to assigned DNS server.
DHCP	DHCP Client, Server, Proxy and Relay for siplified TCP/IP configuration
Packet size controling	Adaption of PMTU or automatic packet size controling via fragmentation

Qualité de Service (QoS)

Feature	Description
Policy based Traffic Shapping	Dynamic bandwidth management via IP traffic shaping
Bandwidth rfeservation	Dynamic reservation of bandwidth, allocation of guaranteed and maximum bandwidths
DiffServ	Priority Queuing of packets on the basis of the DiffServ/TOS field
Layer2/3 tagging	Conversion of 802.1p layer 2 priorisation information to layer 3 diffserv attributes
TCP Download Rate Control	For reservation of bandwidth for VoIP connections

Répartition de charge

Feature	Description
BoD	Bandwidth on Demand: dynamic bandwidth to suit data traffic load
Load Balancing	Static and dynamic load balancing to several WAN connections on IP layer
VPN backup	Simple VPN backup via different media. Additional enables the Funkwerk interface based VPN concept the application of routing protocols for VPN connections.

Fonctionnalité Couche 2

Feature	Description
Bridging	Support of layer 2 bridging with the possibility of separation of network segment via the configuration of bridge groups
VLAN	Support of up to 32 VLAN (Virtual LAN) for segmentation of the network in independent virtual segments (workgroups)
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.

Logging / Monitoring / Reporting

Feature	Description
Internal system logging	Syslog storage in RAM, display via web-based configuration user interface (http/https), filter for subsystem, level, message
External system logging	Syslog, several syslog server with different syslog level configurable
E-Mail alert	Automatic E-Mail alert by definable events
SNMP traps	SNMP traps (v1, v2, v3) configurable
Activity Monitor	Sending of information to a PC on which Brickware is installed
IPSec monitoring	Display of IPSec tunnel and IPSec statistic; output via web-based configuration user interface (http/https)
Interfaces monitoring	Statistic information of all pysical and logical interfaces (ETH0, ETH1, SSIDx, ...), output via web-based configuration user interface (http/https)
WLAN monitoring	Detailed display for radio, VSS, WDS links, bridge links, client links.
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)
IP accounting	Detailed IP accounting, source, destination, port, interface and packet/bytes counter, transmission also via syslog protocol to syslog server
RADIUS accounting	RADIUS accounting for PPP, PPTP, PPPoE and ISDN dialup connections
Keep Alive Monitoring	Control of hosts/connections via ICMP polling
Tracing	Detailed traces can be done for different protocols e.g. ISDN, PPPoE, ... generation local on the device and remote via DIME manager
Tracing	Traces can be stored in PCAP format, so that import to different open source trace tools (e.g. wireshark) is possible.

Interfaces

Feature	Description
Ethernet	5 x 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.
SFP slot	SFP slot for conventional optical 10/100/1000 Mbps Ethernet SFP module
WLAN	IEEE 802.11a/b/g/n; 1 radio module, 2.4 und 5 GHz band, 3 external antennas
USB 2.0 host	USB 2.0 full speed host port for connecting UMTS (3G) USB modem sticks (supported sticks: see www.funkwerk-ec.com)
Serial console	Serial console interface / COM port (mini USB)
GSM/UMTS (3G)	UMTS (3G), HSxPA (3G+), GPRS, Edge or GSM with intergrated GSM/UMTS (3G) modem
External UMTS antenna connectors	Two SMA antenna connectors for external UMTS antennas
External WLAN antenna connectors	Three reverse SMA antenna connectors for external WLAN antennas

Administration/Gestion

Feature	Description
RADIUS	Central check of access authorization at one or several RADIUS server, RADIUS (PPP, IPSec inclusive X-Auth and login authentication)
RADIUS dialout	On a RADIUS server configured PPP und IPSec connection can be loaded into the gateway (RADIUS dialout).
TACACS+	Support of TACACS+ server for login authentication and for shell comando authorization
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.
Supported management systems	DIME Manager, XAdmin
Configurable scheduler	Configuring of time and event controlled tasks, e.g. reboot device, activate/deactivate interface, activate/deactivate WLAN, trigger SW update and configuration backup
Funkwerk Configuration Interface (FCI)	Integrated web server for web-based configuration via HTTP or HTTPS. This user interface is by most of Funkwerk EC products identical.
Software update	Software updates are free of charge; update via local files, HTTP, TFTP or via direct access to the FEC web server
Remote maintenance	Remote maintenance via telnet, SSL, SSH, HTTP, HTTPS and SNMP (V1,V2,V3)
Configuration via serial interface	Serial configuariton interface is available
GSM remote maintenance	Remote maintenance via GSM login (V110/V120)
Device discovery function	Device discovery via SNMP multicast.
On The Fly configuration	No reboot after reconfiguration required
SNMP	SNMP (v1, v2, v3), USM model, VACM views, SNMP traps (v1, v2, v3) configurable, SNMP IP access list configuriable
SNMP configuration	Complete management with MIB-II, MIB 802.11, Enterprise MIB
Configuration export and import	Load and save configurations, optional encrypted; optional automatic control via scheduler
SSH login	Supports SSH V1.5 and SSH V2.0 for secure connections of terminal applications
HP OpenView	Integration into Network Node Manager
XAdmin	Support of XAdmin roll out and configuration managemant tool for larger router installations (IP+GSM)

Caractéristiques matérielles

Feature	Description
Realtime clock	System time persists even at power failure for some hours.
Wall mounting	Integrated in housing
Environment	Temperature range: Operational 0°C to 40°C; storage -10°C to 70°C; Max. rel. humidity 10 - 95% (non condensing)
Power supply	External wall power supply 110-240V / 12 V DC, 1.5 A, with energy efficient switching controler; complies with EuP directive 2008/28/EC
Power consumption	Less than 5 Watt
housing	Metal case, opening for Kensington lock, connectors at back side, prepared for wall mounting
Dimension	Ca. 235 mm x 31.5 mm x 146,5 mm (W x H x D)
Weight	Ca. 1100g
Fan	Fanless design therefor high MTBF
Reset button	Restart or reset to manufacturing preset possible
Status LEDs	Power, Status, 10 * Ethernet, SFP, WLAN, UMTS (3G), USB
Certification	Wi-Fi Certified according 802.11abgn (Rel.7.9.4)
Standards and certifications	R&TTE Directive 1999/5/EG; EN 55022; EN 55024 + EN 55024/A1; EN61000-3-2; EN 61000-3-3; EN 61000-4-4; EN 60950-1; EN 300 328; EN 301 489-17; EN 301 489-1; EN 301 893; EN 301 489-7; EN 301 489-24; EN 301 908-1; EN 301 908-2; EN 301 511

Pack de livraison

Feature	Description
Manual	Quick Installation Guide in German and English
DVD	DVD with system software, management software and documentation
Ethernet cable	1 Ethernet cable, 3m
Power supply	Wall power supply 110-240V / 12 V DC, 1.5 A, with high efficient switching controler
WLAN antenna	Three external 3 dBi dipol dualband antennas
UMTS (3G) antenna	Two external 2 dBi dipol quadband antennas

Service

Feature	Description
Warranty	2 year manufacturer warranty inclusive 24h advanced replacement
Software Update	Free-of-charge software updates (system software (BOSS) and management software (DIME manager)

N° article

Feature	Description
bintec RS120wu; art. no. 5510000220	IP Access Router; incl. UMTS (3G) modem; .11n WLAN; incl. IPSec (5 tunnels), certificates, HW encryption; 4+1 Gigabit Eth. switch; USB port; SFP module slot; german and intern. version.
bintec RS120wu - UK; art. no. 5510000257	IP Access Router; incl. UMTS (3G) modem; .11n WLAN; incl. IPSec (5 tunnels), certificates, HW encryption; 4+1 Gigabit Eth. switch; USB port; SFP module slot; UK version.

Options

Feature	Description
Cobion Content Filter Small	License for one year Cobion content filter (small); art. no. 80551
MPPC and Stac compression	Free-of-charge license for Stac and MPPC compression; registration under www.funkwerk-ec.com required
Service package 'medium'	Warranty extension of 3 years to a total of 5 years, including advanced replacement for FEC products of the category "medium". (Please find a) detailed description as well as an overview of the categories on www.funkwerk-ec.com/servicepackages.
Advanced Replacement	Optional (with costs) advanced replacement outside of warranty time