BYTTON LSCR/LSCR_5G

Secure Enterprise Voice and Data Routers

Product Brochure

ROHDE&SCHWARZ

AT A GLANCE

Bytton family is an intelligent services platform which provides high data transfer rates over 5GLTE/3G+ Networks.
Suitable for enterprise WAN and mission critical applications such as multi facility corporate connectivity, professional backup and M2M applications.

Bytton LTE Intelligent Services Gateway includes a large range of communication interfaces and protocols including backward capability 3G network coverage, WAN, WiFi and RS232/RS485.

Bytton LSCR VoIP is a 4G/5G VoIP Router which integrates VoIP telephony features over 5G/LTE/HSPA+ cellular network and wireless high speed data routing in a single unit.

Suitable solution for the broadband data connection and VoIP applications, Bytton LSCR VoIP provides the migration of customer legacy PBX to the mobile operator IMS or NGN network.
Bytton LSCR VoIP is a cost efficient solution gathering VoIP, T.38 fax and data applications from the same equipment.

KEY FACTS

▸ Enterprise WAN solution
▸ Branch Office main WAN connection for data and voice connectivity
▸ Extended temperature range options for deployments in harsh environments
▸ Multiple PDP context for traffic separation over Wireless(4G) WAN links
▸ Advanced Layer 2,3,4 data protocols stack

## BENEFITS and KEY FEATURES

▸ Advanced routing engine and backup between different WAN links
▸ Backward compatibility from 5G to LTE/HSPA+/GPRS
▸ Secure communications through embedded VPN tunnels: IPSec, PPTP, GRE, Open VPN
▸ Broadband and mobile
▸ Traffic marking and shaping: Layer 2, Layer 3 and Application Layer
▸ VoIP over LTE/HSPA+ network
▸ SIP & H.323 support
▸ Fax support – T.38
▸ Unrestricted mobility with high data rates
▸ Simultaneous voice and data on 4G/3G network

Cellular Network Specifications

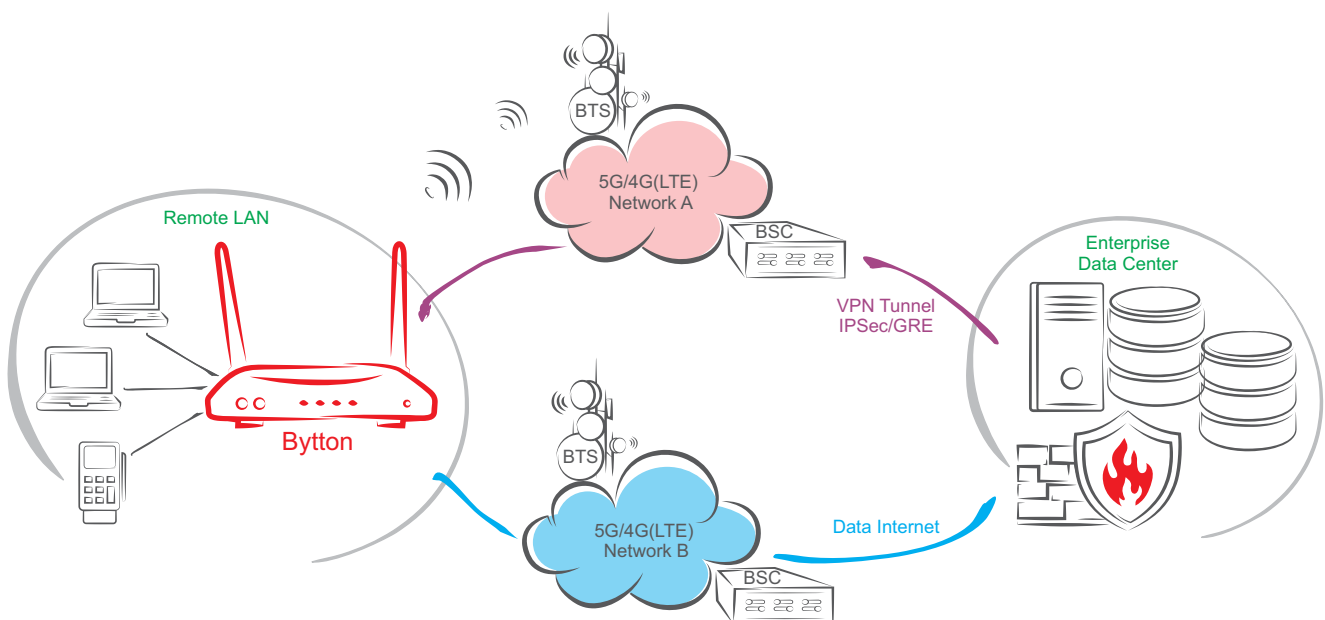|	
LTE	B1 (2100 MHz), B2 (1900MHz), B3 (1800 MHZ), B4 (1700 MHz), B5 (850MHz), B7 (2600MHz), B8 (900 MHZ), B12 (700 MHz), B13 (700 MHZ), B14 (700 MHZ), B18 (850 MHz), B19 (850 MHZ), B20 (800 MHz), B25 (1900 MHz), B26 (850 MHZ), B28 (700 MHz), B29 (700 MHZ), B32 (1500 MHz), B38 (2600 MHz), B39 (1900 MHZ), B40 (2300 MHZ), B41 (2500 MHz), B42 (3500 MHZ), B43 (3700 MHZ), B48 (3500 MHz), B66 (1700 MHZ), B71 (600 MHz)
	Downlink - max 400 Mbps Uplink - max 150 Mbps
HSPA+	B1 (2100 MHz), B2 (1900 MHz), B4 (1700 MHz), B5 (850 MHz), B6 (800 MHZ), B8 (900 MHZ), B9 (1700 MHz), B19 (800 MHZ)
	Downlink - max 42 Mbps (category 24) Uplink - max 5.76 Mbps (category 6)
5G (optional, for Bytton LSCR_5G only)	n1 (2100 MHz), n2 (1900 MHz), n3 (1800 MHz), n5 (850 MHz), n7 (2600 MHz), n8 (900 MHz), n12 (700 MHz), n13 (700 MHz), n14 (700 MHz), n18 (850 MHz), n20 (800 MHz), n25 (1900 MHz), n26 (850 MHz), n28 (700 MHz), n29 (700 MHz), n30 (2300 MHz), n38 (2600 MHz), n39 (1900 MHz), n40 (2300 MHz), n41 (2500 MHz), n46 (5200 MHz), n48 (3500 MHz), n66 (1700/2100 MHz), n70 (2000 MHz), n71 (600 MHz), n75 (1500 MHz), n76 (1500 MHz), n77 (3700 MHz), n78 (3500 MHz), n79 (4900 MHz)
	Downlink - max 4.9 Gbps Uplink- max 660 Mbps

Bytton Solutions - Oil & Gas use case
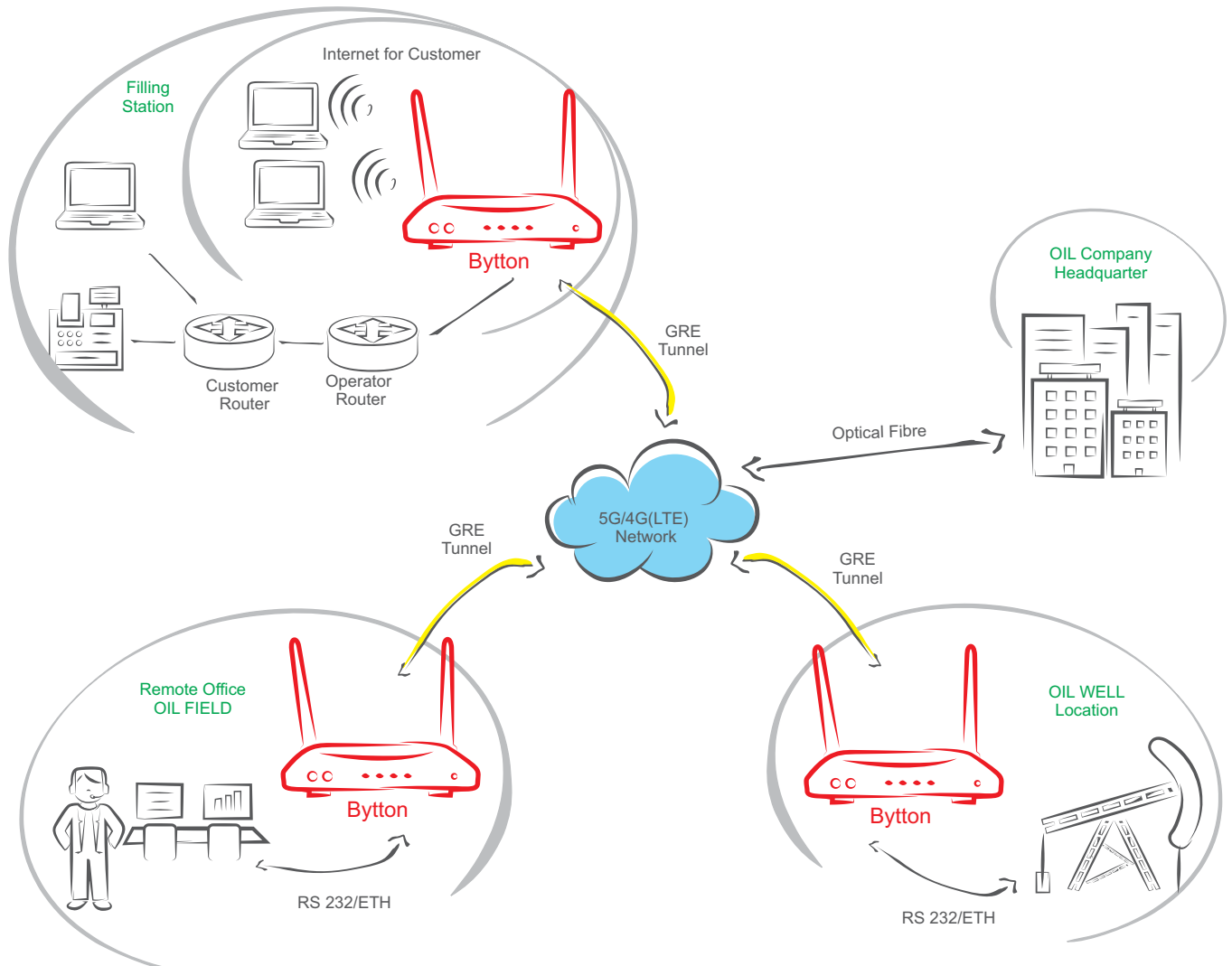
Bytton Solutions - Financial Services use case
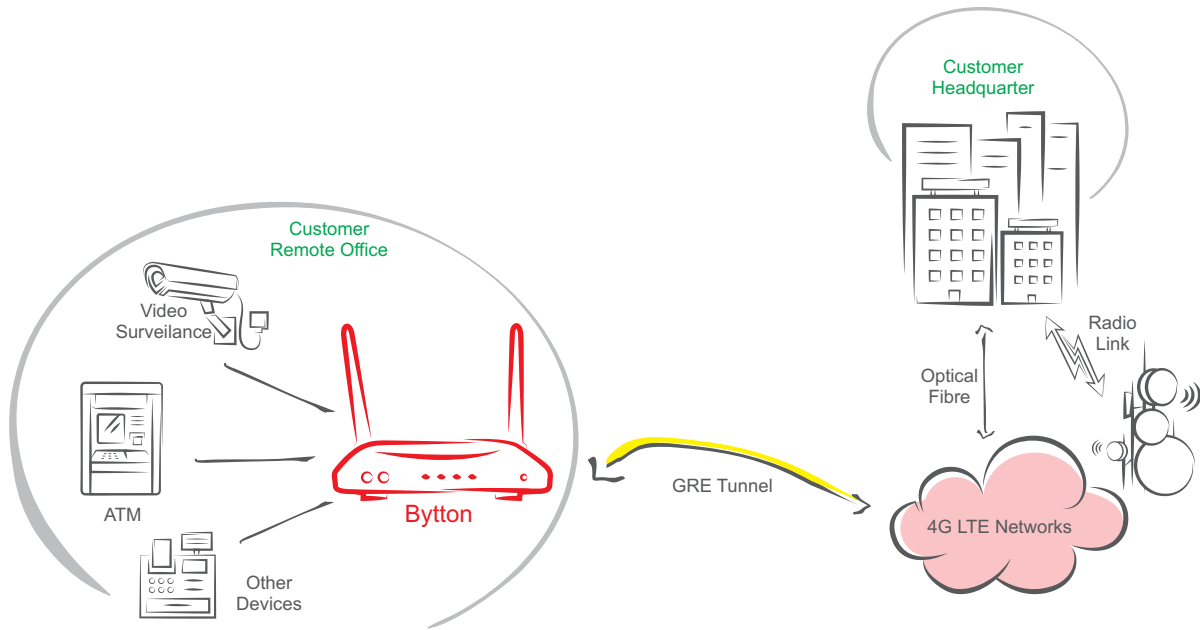
Hardware Interfaces Specifications

Gigabit Ethernet LAN/WAN	10/100/1000 Base-T ports (RJ45 connectors)
SIM	2 slots for the SIM cards
Serial (optional)	RS232/RS485 ports - RJ45 connectors
Reset	Reset button
USB 2.0	Type-C connecter
Antenna connectors	Cellular and WiFi connectors
Status indicator	LEDs for RF signal, data link, power supply, LAN and WAN Ethernet ports

Bytton LSCR Solutions - 5G/4G (LTE) Enterprise use case

Software Features and Protocols

IP Routing protocols	RIPv1/RIPv2 - IPv4, RIPng - IPv6, OSPF v2 and v3, BGPv4+, IS-IS, VRF
Security	OpenVPN, OpenSSL, IPSec (PSK, RSA, X.509, 3DES, AES, MD5, SHA1), PPTP, L2TP, GRE(RFC1701) with configurable MSS, DMVPN, Static and dynamic access lists and session-based Firewall; operating system with long-term-support cycle; TACACS authentication protocol
Layer 2 Features and Protocols	VLAN tagging/VLAN separation on Ethernet interfaces (WAN/LAN), Client MAC static allocation configuration allowed per Ethernet port, 802.1d, 802.1s, 802.1x, PPPoE (PAP, CHAP Auth)
WiFi	802.11b/g/n , WEP, WPA-PSK, WPA-PSK2, WPA2, MAC Security (only configured MAC addresses shall be authenticated), Op. modes: Access Point, Station, Bridge
Cellular	SIM Registration & Status, Radio quality parameters Signal Level and Cell details(CellID, LAC, RAC, SAC, TAC, RSCP, Ec/Io, RSRP, RSRQ, SINR) , Network selection, Multi-APN support, Frequency band locking, Channel locking, Operator locking
QoS, Clasification, Marking, Shaping and Policing	CoS, DSCP, Classification and marking of traffic - per-service/interface, Source/Destination Address, L4 Port/Protocol, BW anagement/prioritization/limitation
Management and Monitoring	Web based management and CLI (via SSH), SNMPv2v3, SMS, advanced logging, firmware update single unit or group of units, modular software upgrade through package management, SMS notification support on custom triggers
Misc	Failover between different WAN interfaces, DHCP – client/server & relay, DynamicDNS, NTP, FTP, VRRP, DNS, FTP, SFTP, SSH, ARP, ARP Proxy, MTU discovery, NAT, PAT, IGMP (v1,v2, v3), PIM-SM, IPSLA responder, iperf

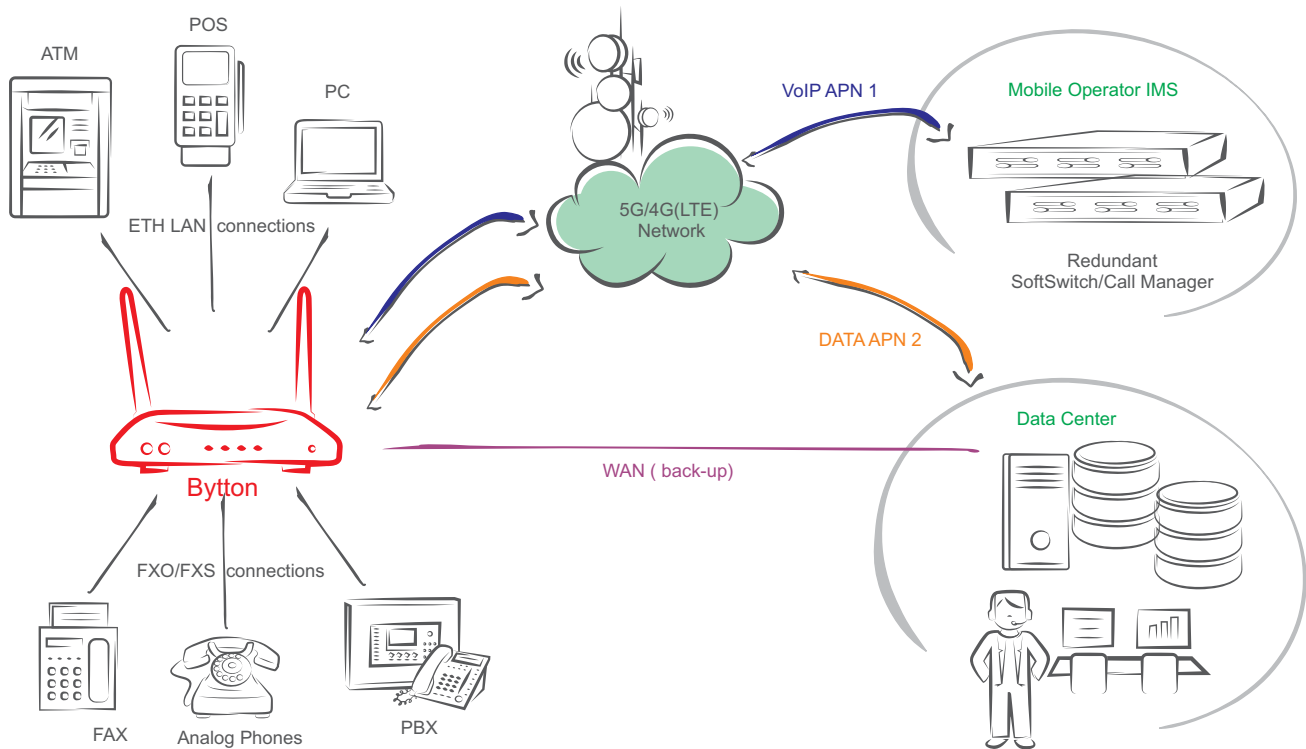*All above mentioned features depend on equipment hardware and firmware.

Power Supply Specifications

Input	100÷240 Vac, max 1A @ 50-60Hz
Output	+12Vdc @ 2A
Power Output	Max 24W
Power Supply Adapter	AC / DC standard adapter Optional: car kit adapter Optional : Terminal Block:10 V - 30VDC

Environment Conditions

Standard Operating Temperature	0 to 70 degrees Celsius
Optional Operating Temperature	-40 to 80 degrees Celsius
Humidity	0 to 95%, non - condensing

Bytton Solutions - Local Loop Replacement use case

ATM

POS

PC

ETH LAN connections

5G/4G(LTE) Network

VoIP APN 1

Mobile Operator IMS

Redundant SoftSwitch/Call Manager

DATA APN 2

Bytton

FXO/FXS connections

WAN (back-up)

Data Center

FAX

Analog Phones

PBX