

# Brochure for Portabella 8000i

## 3G/4G/LTE/5G Broadband Bonding Appliance



The Portabella 8000i series Broadband Bonding Appliance, enables cost-effective and self-healing Internet access for mobile or remote setups. Aggregation and intelligent WAN orchestration of eight 3G/4G/LTE/5G cellular wireless lines boosts Internet performance and reliability. The Portabella 8000i aggregates and intelligently orchestrates up to eight embedded 3G/4G/LTE/5G cellular modems to increase performance and up-time of applications and services that run over the Internet. Eight 3G/4G/LTE/5G cellular modems from the same or different carriers can be aggregated to provide increased bandwidth. The Portabella is ideal to boost the performance and reliability of real-time and non-real-time applications running over IP networks for vehicle and rail-road scenarios.

### Features

#### Downlink/Uplink Bonding in Peered Mode

Portabella bonds Internet access lines for all types of traffic (including encrypted traffic such as VPN) for aggregated downlink and uplink capacity when peered over the Internet with the optional Broadband Bonding Service. Bonding services are available for data, live video streaming, VoIP and other applications classes.

#### Elastic Static IP

A static IP in the cloud is provided as part of the optional Broadband Bonding Service and is mapped onto the Portabella. This means that static IP is available for services and inbound network access even during WAN outages, as long as at least one of the WAN links is up.

#### Aggregated Downlink Capacity in Standalone Mode

When not peered with another Portabella device, all HTTP downlink sessions can be configured to use the aggregated bandwidth of the combined Internet access links, even in the case of a single HTTP session. For non-HTTP downlink sessions and all uplink sessions, Portabella provides session-based intelligent load balancing across the access links if not peered with another Mushroom device or service.

#### Self-healing WAN with Armor Tunnels

In peered mode, in case of Internet access line failures, the Portabella keeps the ongoing sessions alive by making real-time per-packet routing decisions, even for the sessions in progress, without loss of data integrity. Additionally automatic failover protects against failures of one or more WAN link outages.

#### Software Defined WAN Orchestration

Portabella's Software Defined Networking architecture enables quick and easy implementation of sophisticated WAN orchestration algorithms that are application specific. Portabella provides real-time traffic & bandwidth management features based on traffic type and various network metrics, including latency, jitter, packet-loss and many other custom parameters.

#### Strong AES Encryption

Portabella bonding tunnels have built-in security option with AES 256 encryption.

#### Traffic Shaping, Monitoring & Alerts

Traffic can be monitored via performance graphs over seconds/minutes/hours/days/months. Various realtime and non-realtime traffic types can be filtered and shaped. SNMP or non-SNMP alerts provide in depth network visibility and intelligence.

#### Advanced QoS Algorithms & Armor Tunnels

All traffic routed through the PortaBella is intelligently managed to prioritize real-time traffic. Additionally a unique set of proprietary algorithms are implemented to improve real-time traffic latency metrics. For low latency/jitter video applications, subscription to the video optimization module is required.

#### Dynamic DNS Load Balancing

Portabella can be configured to provide Dynamic DNS load-balancing for inbound requests for internally hosted servers such as web-server, ftp-server, mail-server etc.

#### Website Blocking and DNS Redirection

Portabella can be configured to provide Dynamic DNS load-balancing for inbound requests for internally hosted servers such as web-server, ftp-server, mail-server etc.

#### Transparent Zero-touch Installation

The existing Local Area Network does not require any changes. No coordination, new equipment or software is needed from the Internet Service Provider(s). A remotely accessible browser-based interface provides quick and easy management and system monitoring.

#### Built-in Firewall & Router

Portabella can be configured either in pass-through to function inline with the existing legacy firewalls/routers or, if preferred, can be installed as the primary firewall/router.

#### Virtual Interfaces with WAN & Traffic Management

Portabella supports virtual interfaces that have load-balancing and failover logic layered on top of the real physical WAN interfaces. Specific type of traffic can then be selectively filtered onto the virtual interface to take advantage of the load-balancing and failover capabilities of the virtual interface.

### Specifications

#### Portabella 8000i Hardware Specifications

- Construction:** Aluminum extrusion and heavy-duty steel
- Mechanical dimensions:** 244(W) x 180.5(D) x 65.1(H) mm, 9.6"(W) x 7.1"(D) x 2.56"(H)
- Input power requirement:** 12-36 VDC (typical 24VDC)
- Modem slots:** 8 embedded mPCIe modem ports + 1 WiFi
- 3G/4G/LTE antenna connectors:** SMA-Female
- LAN ports (GbE, auto-sensed):** 1 GbE Ethernet with M12 lock connector
- Wired WAN ports (GbE, auto-sensed):** 1 GbE Ethernet with M12 lock connector
- WiFi Access Point / WiFi WAN:** Built-in 802.11 a/g/n
- Sim slot size:** eight 2FF mini sim slots
- Certifications / Compliances:** CE, EN50155, EN50121 certified, FCC compliance, EN45545-2 compliance
- Vibration Endurance:** 3 Grms (5-500Hz, X, Y, Z directional Random) (IEC60068-2-34), MIL-STD-810G, Method 514.6, Category 4 and 11 and 20
- Shock:** 50G, MIL-STD-810G Method 516.6, procedure 1, peak 20g 11ms
- Operating Temperature:** -40 – 70 Celsius (-40 to 158 Fahrenheit)
- Storage Temperature Range:** -40 – 80 Celsius (-40 to 176 Fahrenheit)
- Storage Humidity Range:** 5%-95%, non-condensing
- Cooling:** Fanless passive cooling

#### Portabella 8000i Software Specifications

- Max throughput:** 1 Gbps (load balancing), 100 Mbps (peered)
- Max number of concurrent IP sessions:** 150,000
- Device management:** Cloud based, SNMP, Remote Syslog, Email alerts.
- DHCP and DNS servers:** DNS relay, Parallel DNS optimization, DHCP server.
- DDNS:** Support for dynamic DNS for multiple interfaces
- WAN Configuration:** Static IP, PPPoE, HDCP or passthrough. Failover-only or aggregate modes for cellular and other WAN ports. Interface binding.
- Routing:** NAT and IP forwarding, QoS and inbound/outbound VOIP quality management

### Portabella 8000i Add-on Options

- Streamer add-on:** Software module add-on for live video streaming applications
- App Armor add-on:** Software module add-on for PTZ video surveillance applications

Authorized Distributor :



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