

# x86 Multiservice Edge Gateway Platform

**Integrated software and hardware solution for Benu Networks' virtualized IP services and networking applications. Certified and engineered to provide predictable scalability and performance in an x86 compute platform.**

**Benu Networks' x86 Multiservice Edge Gateway (xMEG) Platform is a versatile network gateway for fixed and mobile broadband service providers deploying next generation IP services to the edge and core of their networks. The xMEG provides new scale and economics for Benu Networks' virtualized IP service and network applications. The platform can scale to small distributed applications with the xMEG-10, or large centralized applications with the xMEG-100. These platforms offer customers an alternative to a fully virtualized deployment for the most demanding networking and IP service applications.**

## xMEG

The xMEG platform provides an integrated hardware and software solution that leverages innovations in fast path processing, high-capacity x86 processing, Carrier-Grade Linux and Benu Networks' IP services and networking software. The platform has been optimized to address low latency and bandwidth intensive IP services that require high performance packet performance, intelligent service control and policy enforcement. Network functions such as Wi-Fi Access Gateway, virtual CPE/Router and Service Edge Routing require predictable, reliable performance and scalability. IP service functions such as usage based monitoring, Carrier-Grade NAT, Service Function Chaining, and hierarchical QoS require both packet processing and service intelligence. Benu's virtualized IP service and networking solutions are integrated with high performance compute to provide an integrated solution for service providers to deploy in their infrastructure.

The xMEG platform comes in two flexible form factors with different interface, compute and storage configurations. The xMEG-10 is a 1RU compute node and the xMEG-100 is a 2RU compute node to meet a range of network deployment requirements for Benu Networks' virtual network functions.

The xMEG is designed to support the following applications:

- Wi-Fi Access Gateway (WAG): Homespot, HotSpot 2.0, and Roaming
- Trusted Wi-Fi Access Gateway (TWAG): Mobile Data Offload and 3GPP Interworking
- Virtual CPE (vCPE): Residential, SoHo/SMB, Multi-Dwelling Unit, Campus
- Dual-Stack Lite (DS-Lite) Address Family Transition Router (AFTR)
- B2B Static IP and IP VPN Router
- Provider Edge Router (6PE/PE)
- Carrier-Grade NAT (CGN)

**xMEG MODEL NUMBERS**

MODEL NUMBER	DESCRIPTION
980-0007-00	xMEG-10-AC 4 x 1GE RJ-45 plus 2x10GE SFP+
980-0008-00	xMEG-10-DC 4 x 1GE RJ-45 plus 2x10GE SFP+
980-0009-00	xMEG-100-AC 8 x 10GE SFP+
980-0010-00	xMEG-100-DC 8 x 10GE SFP+
921-0023	10GBASE-SR 300 m SFP+ OPTICAL TRANSCEIVER
921-0024	10GBASE-LR 10 km SFP+ OPTICAL TRANSCEIVER
921-0009	100GBASE-SR4: 100M QSFP28 OPTICAL TRANSCEIVER
921-0017	Spare - xMEG-10, HOT-PLUG, 1U, 750W, AC POWER SUPPLY
921-0018	Spare - xMEG-10, HOT-PLUG, 2.5 INCH, 120GB SOLID STATE SATA DRIVE
921-0019	Spare - xMEG-10, HOT-PLUG, 1U, 1100W, DC POWER SUPPLY
921-0020	Spare - xMEG-100, HOT-PLUG, 1U, 1100W, AC POWER SUPPLY
921-0021	Spare - xMEG-100, HOT-PLUG, 1U, 1100W, DC POWER SUPPLY
921-0022	Spare - xMEG-100, HOT-PLUG, 2.5 INCH, 480GB SOLID STATE SATA DRIVE

**xMEG SPECIFICATIONS**

SYSTEM SPECIFICATIONS	xMEG-100	xMEG-10
Operating System	BenuOS 5.0 (or greater)	BenuOS 5.0 (or greater)
Processor/Cores	Dual Intel E5-2699 v4, 22 cores per CPU	Intel E5-2650 v4, 12 cores per CPU
Memory Capacity	512GB Memory	128GB Memory
Storage	Dual 480GB SSD, Raid 1	Dual 120GB SSD, Raid 1
Management Interfaces	DB-9 RS-232 (DTE) Console DB-15 VGA USB 3.0/2.0 RJ-45 IPMI Dedicated LAN RJ-45 Ethernet Management 4 x 1GE and SFP+ Fiber 2x 10	DB-9 RS-232 (DTE) Console DB-15 VGA USB 3.0/2.0 RJ-45 IPMI Dedicated LAN RJ-45 Ethernet Management 4 x 1GE
Network Interfaces	SFP+ Fiber 8 x 10GE • 10GBASE-SR • 10GBASE-LR OR QSFP28 Fiber 2 x 100 GE • 100GBASE-SR4	SFP+ Fiber 2 x 10GE • 10GBASE-SR • 10GBASE-LR RJ-45 Ethernet 4x 1GE
Rack Units	2RU (19" Rack)	1RU (19" Rack)
CHASSIS DIMENSIONS	xMEG-100	xMEG-10
Height (H) / Width (W) / Depth (D)	H: 3.44 inches (87.3mm), W: 17.49 inches (444.25mm), D: 26.92 inches (683.77mm)	H: 1.68 inches (42.67mm), W: 18.98 inches (482.9mm), D: 27.57 inches (700.28mm)
Weight	69.23 lbs. (31.4 kg) shipping weight	37.26 lbs. (16.9 kg) shipping weight

**xMEG SPECIFICATIONS**

<b>SYSTEM POWER REQUIREMENTS</b>		
<b>AC POWER: DUAL, HOTPLUG, REDUNDANT (1+1)</b>	<b>xMEG-100</b>	<b>xMEG-10</b>
AC Input Voltage	100 - 240V AC auto-range	100 - 240V AC auto-range
Rated Input Current	12A – 6.7A max	10.0A – 5.0A max
Rated Input Frequency	50 to 60 Hz	50 to 60 Hz
<b>POWER SUPPLY</b>	<b>XMEG-100</b>	<b>XMEG-10</b>
Rated Output Power	1100W	750W
Heat Dissipation Max	4100 BTU/hr.	2981 BTU/hr.
Rated Output Voltages	+12.2V @ 91.6A, +12Vsb @ 3.0A	+12.2V @ 61.47A, +12Vsb @ 3A
<b>DC POWER: DUAL, HOTPLUG, REDUNDANT (1+1)</b>	<b>xMEG-100</b>	<b>xMEG-10</b>
DC Input Voltage	-40VDC to -60VDC	-40VDC to -60VDC
Max DC Current	32.0A	32.0A
<b>POWER SUPPLY</b>	<b>xMEG-100</b>	<b>xMEG-10</b>
Rated Output Power	1100W	1100W
Heat Dissipation Max	4416 BTU/hr.	4416 BTU/hr.
Rated Output Voltages	+12.2V @ 91.6A, +12Vsb @ 3.0A	+12.2V @ 91.6A, +12Vsb @ 3.0A
<b>REGULATORY COMPLIANCE</b>	<b>xMEG-100</b>	<b>xMEG-10</b>
Electromagnetic Emissions	FCC Class A, EN 55022 Class A, EN 61000-3-2/-3-3, CISPR 22 Class A	FCC Class A, EN 55022 Class A, EN 61000-3-2/-3-3, CISPR 22 Class A
Electromagnetic Immunity	EN 55024/CISPR 24, (EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11)	EN 55024/CISPR 24, (EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11)
Safety	CSA/EN/IEC/UL 60950-1 Compliant, UL or CSA Listed (USA and Canada), CE Marking (Europe)	CSA/EN/IEC/UL 60950-1 Compliant, UL or CSA Listed (USA and Canada), CE Marking (Europe)
RoHS	RoHS 6 Compliant R	RoHS 6 Compliant
<b>ENVIRONMENTAL SPECIFICATIONS</b>	<b>xMEG-100</b>	<b>xMEG-10</b>
Operating Temperature	10°C to 35°C (50°F to 95°F)	10°C to 35°C (50°F to 95°F)
Expanded Operating Temperature	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)
Non-Operating Temperature	-40°C to 65°C (-40°F to 149°F)	-40°C to 65°C (-40°F to 149°F)
Operating Relative Humidity	8% to 90% (non-condensing)	8% to 90% (non-condensing)
Non-Operating Relative Humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)

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