

# QorIQ P1020 Multi-Service Business Gateway Appliance Solution

## Networking security solutions

### Overview

Freescale's multi-service business gateway (MSBG) solution, based on the QorIQ P1020 processor, integrates Freescale's VortiQa secure SMB software with D2 Technologies' industry-leading embedded vPort VoIP software to provide a production-ready solution in a single product.

The solutions are designed to help OEMs quickly and cost effectively create a range of business gateway applications, including unified threat management (UTM) appliances, secured routers, VoIP gateways, VPN routers and secured switches. Designed to deliver outstanding performance-to-price ratios and dramatically shorten development cycles, the solutions tightly integrate optimized low-level software and production-ready boards with Freescale's VortiQa application software and multicore PowerQUICC and QorIQ processors.

D2 Technologies' embedded vPort solutions deliver the high voice quality, efficiently tuned system implementation and broad OS support necessary for manufacturers to build winning VoIP solutions. With vPort, OEMs and ODMs can quickly and cost-effectively develop a broad range of VoIP-enabled devices without being distracted from product platform design and branding.

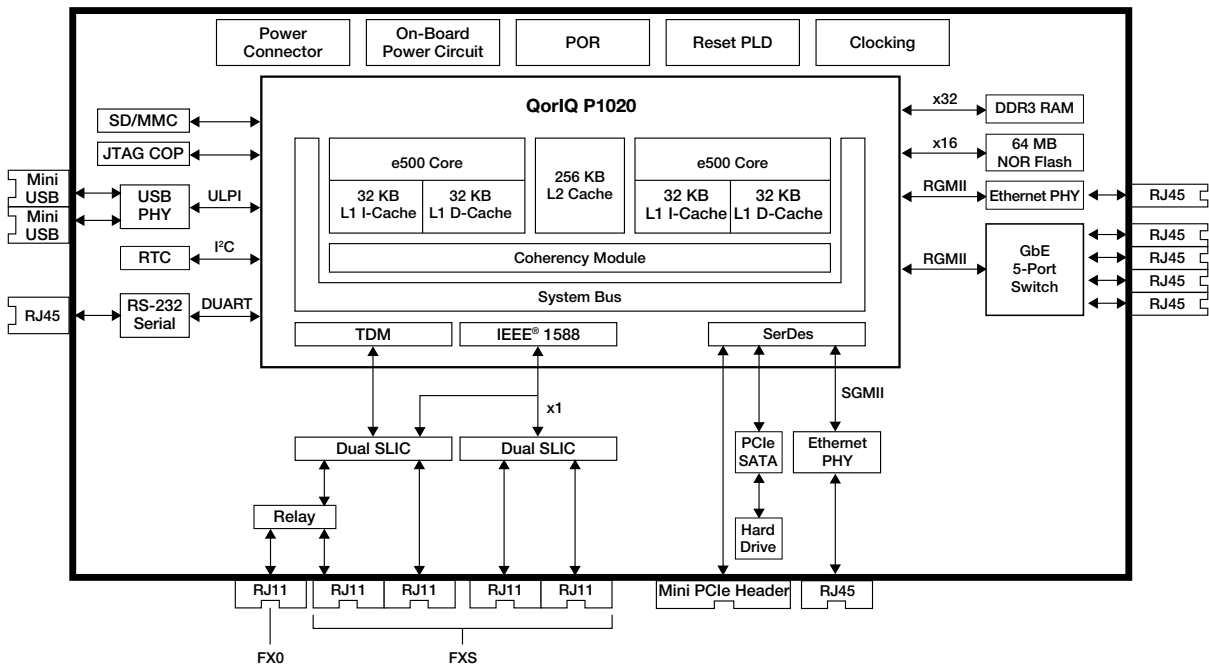
Freescale's QorIQ processors deliver ultra-high performance to enable the flexibility and scalability to run a large number of services simultaneously. Products based on the new MSBG solutions can run security applications on one core while running office applications on a second core, giving service providers the flexibility to easily add or subtract office features.

Enterprise branch offices and SMBs are turning to a managed services business model that allows them to rent a box and subscribe to managed services, versus the traditional and more expensive model that required them to purchase the box directly. In addition to saving on procurement costs, ODMs also have the ability to shift expenses from capital to operational expenditures.

### Create an Extensive Appliance Roadmap

Using our multicore QorIQ processors running VortiQa software, showcase scalable performance at industry-leading performance to power ratios.

QorIQ P1020 Multi-Service Business Gateway Appliance Block Diagram



## Target Applications

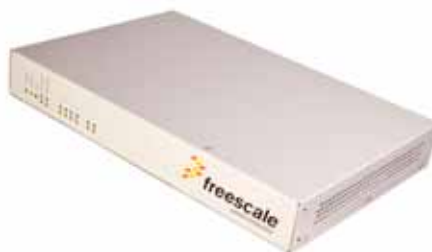
- Security appliances
- UTM appliances
- VPN routers
- Business gateways
- WLAN routers

## Features

- Freescale's high-performance QorIQ P1020 processor in 45 nm SOI technology
- VortiQa security software optimized for multicore processors
- Integrated security engine (SEC 3.1)
  - Crypto algorithm support includes 3DES, AES, RSA/ECC, MD5/SHA and FIPS deterministic RNG
  - Single pass encryption/message authentication for common security protocols (IPsec, SSL, SRTP, WiMAX) and XOR acceleration
- Cost optimized BOM by hardware ODMs
- CE and FCC Class A certified, RoHS compliant, ready to ship
- Complete appliance portfolio from low to high end

## QorIQ P1020 Multi-Service Business Gateway Appliance Specifications

Processor	<ul style="list-style-type: none"> <li>• QorIQ P1020 processor in 45 nm SOI</li> <li>• 533–800 MHz dual core e500 processor, built on Power Architecture® technology</li> <li>• 32 KB L1 instruction cache and 32 KB L1 data cache per core</li> <li>• 256 KB L2 cache with ECC</li> </ul>
Memory	<ul style="list-style-type: none"> <li>• 1 GB to 2 GB DDR3 SDRAM</li> <li>• 64 MB NOR flash memory</li> </ul>
Voice	<ul style="list-style-type: none"> <li>• 4 FXS ports</li> <li>• 1 FXO port</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>• 1 GbE RGMII port</li> <li>• 1 GbE SGMII port</li> <li>• 1 GbE port connected to RGMII 5-port switch</li> <li>• 2 mini-USB 2.0 ports</li> <li>• 1 mini-PCI Express® connector</li> </ul>
Certification	<ul style="list-style-type: none"> <li>• CE and FCC Class A certified</li> </ul>
OS/BSP	<ul style="list-style-type: none"> <li>• Linux® 2.6.xx or later with redundant boot process from flash</li> </ul>
VortiQa Software	<ul style="list-style-type: none"> <li>• VortiQa software with stateful packet inspection firewall and NAT</li> <li>• VortiQa performance optimized IPsec virtual private network (VPN) with quality of service (QoS) and Traffic Management™</li> </ul>
D2 Technologies Software	<ul style="list-style-type: none"> <li>• D2 Technologies optimized voice features such as G.711-Alaw, G.711-MuLaw, G.729AB, G.726 voice compression and G.168 echo cancellation</li> <li>• D2 Technologies advanced telephony features full distributed unicast conferencing, call forwarding, call waiting/caller ID</li> </ul>
System Configuration and Management	<ul style="list-style-type: none"> <li>• Web browser based, TFTP: FTP and Telnet, system configuration restore in flash memory (firmware update)</li> </ul>
ODM Ready	<ul style="list-style-type: none"> <li>• Complete turnkey solutions with proven ODMs enable quick to time to market with low investment cost</li> </ul>
Documentation	<ul style="list-style-type: none"> <li>• Hardware Quick Start Guide and Software Users Manual</li> </ul>
Hardware Deliverables	<ul style="list-style-type: none"> <li>• Schematics, Gerbers and complete BOM</li> </ul>
Software Deliverables	<ul style="list-style-type: none"> <li>• Linux OS binary, source, application binaries and release notes</li> </ul>



### Learn More:

For current information about Freescale products and documentation, please visit [freescale.com/QorIQ](http://freescale.com/QorIQ).



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