PUBLIC SAFETY LTE

SUBSCRIBER AND POLICY MANAGER (SPM)

Managing a lifesaving communications system is often challenging. And the responsibility of ensuring that first responders and other public safety users have the access they need, while keeping unauthorized users off the network, can be daunting. Public safety agencies know the level of performance required for their mission critical voice systems and expect the same performance from their new private broadband LTE systems.

The Motorola Subscriber and Policy Manager (SPM) provides LTE standards-defined subscriber management and policy control, along with the enhanced level of control necessary for acceptable public safety operations.

STANDARDS COMPLIANT
The SPM integrates the Home Subscriber Server (HSS) and the Policy and Charging Rules Function (PCRF) on a single hardware platform. The HSS and PCRF are fully compliant to 3GPP defined

standards. The HSS is the master repository for the subscriber/device profile and state information. It supports authentication, authorization and mobility management functions within the LTE network. The PCRF determines policy for IP data flows in the LTE network and applies QoS management.

BUILT FOR PUBLIC SAFETY
Designed with public safety operations in mind, the SPM provides an enhanced level of control, a common data management system and a consolidated hardware platform.

Since public safety networks need a greater level of control than traditional commercial networks, SPM allows agencies to define and dynamically control custom QoS policies to match their specific operating requirements. Considering factors like jurisdiction, role, incident and other parameters, agencies can apply real-time QoS policies to the IP data flows throughout the LTE network. This enables them to prioritize network bandwidth and ensure that the most important data has the resources it needs to reach its destination without delay.

Combining two LTE functions into a single hardware platform offers a cost-efficient solution and provides a common database for both the HSS and PCRF.

SPM SPECIFICATIONS

The Motorola SPM is deployed in active-active pairs, with each pair sharing a replicated in-memory state store. Traffic in the segment can be load balanced across the pair. Each active-active pair shares a state database, which allows either node in the pair to process a request for a given session.

CAPACITY

Subscribers	Up to 100,000
Band Class	700 MHz Band Class 14 700 MHz Band Class 13*
Output Power	19 dBm effective radiated power (ERP)
Bandwidth	5 MHz, 10 MHz
Modulation	QPSK, 16QAM uplink QPSK, 16QAM and 64QAM downlink

PHYSICAL CHARACTERISTICS

Platform	HP DL380 server
Architecture Processor	Intel Xeon x5670
Main Memory	32 GB
Hard Drive Storage	4 @ 300 Gb
Operating System	Red Hat Enterprise 5.0
Size (H x W x D)	3.38 x 17.54 x 26.01 in (85.9 x 445.4 x 660.7 mm)
Weight	20 kg (47 lbs)
Power Supplies	Two hot swappable 750 W PSUs

ENVIRONMENTAL

Input Voltage Range	100 – 240 VAC (50/60Hz)
Acoustic Noise	6.1 Wad (BELS), 44 pAM (dBA)
Operating Conditions	Temperature: 100C to 350C (500F to 950F)
	Absolute humidity range: 1 to 25 g/m³
	Relative humidity: 10 to 90%
	Altitude: 3048 m (10,000 ft)

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