

## Service Management Node

CSP ecosystem is a telecommunication solution designed to provide professional users with integrated network and services across heterogeneous technologies and to bring in professional broadband environment the same level of functionalities, services and reliability supplied by narrowband technologies.

The **Service Management Node (CSP-SMN)** implements the subscribers database of the profiles of all subscribers and groups for the entire CSP network. In the subscriber database (Home Location Register - HLR) the subscriber authentication keys are securely stored (ciphered) together with organization and sub-organization information (i.e. VPN).

### MAIN FEATURES

CSP-SMN main functions are:

- › Storing the subscribers database (HLR) for the CSP ecosystem network
- › Subscriber database based on Oracle RDBMS
- › Provisioning a customizable subscriber management GUI that can be used standalone or integrated with the CSP-NMS systems
- › Accounting of logged operators.
- › Providing configurable operations based on the privileges assigned to each operator role (e.g. subscriber manager, subscriber administrator, etc.)
- › Hierarchical structure of resources and partitioning of subscriber database to accommodate different Public Safety organizations (e.g. Virtual Private Network VPN), sub-organizations, etc.)
- › Secure (ciphered) storage of “authentication keys” in the HLR profile of each individual subscriber and group
- › Deploying a distributed database architecture for satisfying disaster recovery scenarios
- › Local and remote database backup file creation via automatic procedure. Restoration of a saved database can be performed from a backup file
- › Exposing open interfaces for third-party subscriber management clients and applications.

## HIGH AVAILABILITY

The CSP-SMN can be installed with high availability enabled where an active instance is backed up by another stand-by instance (1:1 HA).

The stand-by instance becomes active only after the failover procedures are initiated. Both instances are reachable using a virtual IP address.

A RAID1 hard disk configuration is also provided to guarantee reliability of information. For deployments where HA is not required, only one CSP-SMN is used for the whole CSP network.

## PHYSICAL STRUCTURE

The CSP platform is a SW-based architecture that can be delivered on COTS HW.

Typically, the CSP platform is deployed on a HW adaptable to 19" standard cabinets and 2U rack-mountable able to host different SW configurations and Linux OS.

## MAIN FUNCTIONS

- › HLR database for the entire CSP network.
- › Area Name Service functions to support NMS connectivity.
- › Network Time Protocol (NTP) Server to distribute time stamp to the overall network.

## TECHNICAL DATA

### GENERAL

Dimensions (HxWxD)	88 mm (2U) x 483 mm (standard 19" rack) x 450 mm [3,46x19,02x17,72 in]
Weight	About 10 kg (fully equipped) [22,05 lb]
Cooling system	Air forced cooling system front to rear
Power input	<ul style="list-style-type: none"><li>› <b>Single VAC:</b> PS2 ATX12V PSU, 400W, AC input (90–240 VAC), PFC w/metal clip and powercord</li><li>› <b>Redundant VAC:</b> Industrial redundant PSU 420W ATX w/PFC dual AC input (90–264 VAC)</li><li>› <b>VDC:</b> PS2 ATX PSU, 400W, input -48 VDC (range -36 to -72 VDC)</li></ul>
Power consumption	Max. 160 W (fully equipped)
SBC Processor Unit	<ul style="list-style-type: none"><li>› SBC full size over PCI -X - FSB 1333/1066 MH</li><li>› Intel Quad Core Xeon, with 2,33 GHz clock each and 12 MB cache</li><li>› Dual GigaBit Ethernet Intel 82575</li><li>› 2 x USB 2.0 port</li></ul>
Backplane	PICMG 1.3 passive backplane 4 slot x PCI-X 64bit@100MHz (6.4Gbit)
RS 232	2x serial port RS-232
LAN4 GigaBitEth	Intel QUAD LAN 10/100/1000 BASE-T

### ENVIRONMENTAL CONDITIONS

Operation	Compliant to ETSI ETS 300 019-1-3 class 3.1 standard (+5° to +40°C) [41°F to 104°F], (5% to 85% relative humidity)
Storage	Compliant to ETSI ETS 300 019-1-1 class 1.2 standard
Protection degree	IP 20
EC marking	CSP is compliant to the essential requirements of the directives 2014/30/EU, 2014/35/EU and 2011/65/EU
EMC	Compliant to CENELEC EN 55022 and CENELEC EN 55024 standard. Emission limits class A.
Safety	Compliant to CENELEC EN 60950-1 standard.

### PERFORMANCE

Registered subscribers	500,000
Groups	16,000
Virtual Private Networks (VPN)	Up to 20



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