MCX application server

nemergent® solutions

Benefits

MCX Future-proof technology for all use cases

Standardized by 3GPP it is here to replace proprietary networks that lock organizations into a single vendor. Despite being designed with Public Safety and Public Transport requirements in mind, it is now being applied to many more markets including enterprise, closed group communications etc.

Fully featured and fully 3GPP standard compliant

Nemergent MCX AS support all functions defined by 3GPP and is constantly evolving. Nemergent solution complies with the 3GPP proposed split into components, and has been used in all ETSI plugtest participating in all categories which guarantee the compliance to standards and interoperability.

Scale to all needs

With Nemergent solution no deployment is too large or too small. From a minimal 2 VMs all-included setup to a multi-site geo-redundant solution, each of the Nemergent components can be scaled separately depending on the deployment.

Adapted to all environments

Nemergent solution can be deployed with mobile core integration or without it, with support of eMBMS or without it, in networks where an IMS is already there or with an embedded one; in isolated private networks or large public ones. Nemergent MCX solution adapts to any situation.

Provisioning and operation made easy

Provisioning devices, users and groups data is fundamental in an MCX network. Nemergent provides APIs and GUIs that make it straightforward.
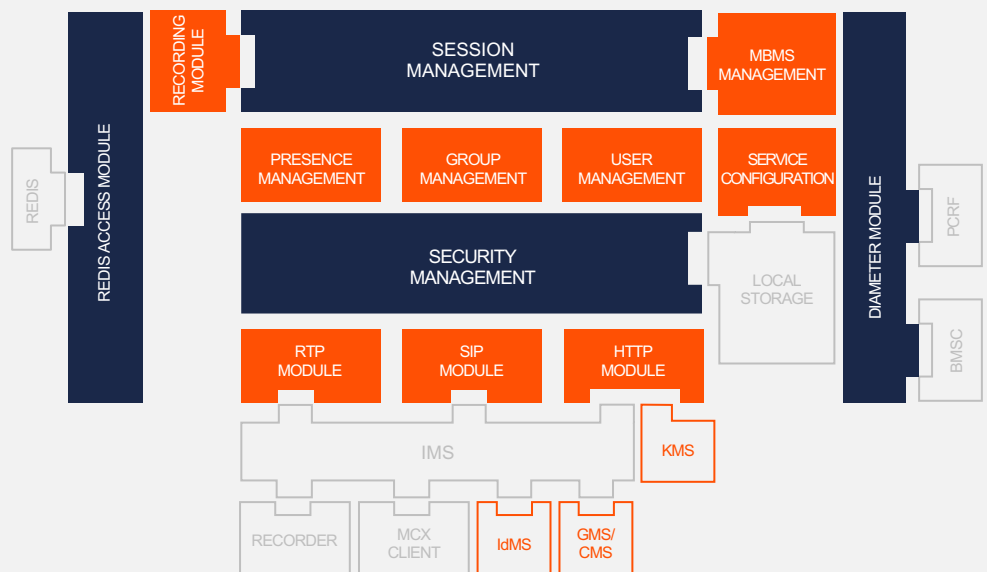
Nemergent MCX application server builds the most complete and standard aligned MCX server solution in the market. Including the participating and controlling application servers, which can be deployed collocated or separately, and the ancillary servers for identity management, group and configuration management and key management. Compliance with 3GPP standards has been part of the design of Nemergent solution which evolves with each release to include the latest innovations standardized by the industry.

The focus of Nemergent solution is its applicability to all use cases, sizes and deployment scenarios. Having each function as a separate server permits both to exclude certain features in some deployment (e.g. KMS and end-to-end ciphering in fully private networks) and also scaling specific functions to meet the exact the needs of the customer (e.g. scaling up the controlling application server when groups are large but keeping the participating the same if the number of users doesn't change).

Deployment of all functions can still be done for small systems in a single VM or physical server or in datacenters with multiple instances of each service. Nemergent

includes in its architecture all the load-sharing and high availability features required for large multi-site mission critical deployments. The configurability of Nemergent servers permit to deploy over the top or fully integrated with a core network for fine-grained QoS and achieving efficient use of resources using multicast, when supported by the underlying mobile network.

Nemergent solves two of the main obstacles for deploying an MCX solution: the need of an IMS, by providing a lightweight single-purpose IMS implementation for its customers when they don't have one and supporting an intuitive integrated management interface that permits to provision subscribers, groups, devices and settings of all the elements of the solution. This interface is accessible via a web UI and via an API for automation.

All Nemergent application servers can be deployed in the cloud and integrated with the industry standard operational tools and platforms achieving zero-touch operations and enabling adding PTT to private networks and enterprise deployments.

3GPP Standards	• MCPTT: TS 24.379, TS 24.380 • MCVideo: TS 24.281, TS 24.581 • MCData: TS 24.282, TS 24.582 • Interfaces: TS 29.214 (Rx), TS 24.468 (MBMS).	• xMS: TS 24.482 (IdMS), TS 24.484 (CMS), TS 24.481 (GMS). • Security: TS 33.179, TS 33.180. • Fully IMS compliant client.
IETF Standards	• RFC 2543 (SIP), RFC 3550 (RTP /RTCP), RFC 7651 (IMS auth).	
Management Servers	• IdMS, GMS, CMS, KMS.	
Mission Critical Services	• MCPTT, MCVideo, MCData (SDS).	
MCPTT Call Types	• Private Call with Floor Control. • Private Full-Duplex. • Local Ambient Call. • Remote Ambient call.	• Emergency call. • Group calls with floor control. • Broadcast calls.
Additional features	• Priority queueing for floor access. • Late-entry. • Functional Alias.	• Group call monitoring. • Display group members. • Manual, remote and implicit affiliation.
SDS	• Private and groups messaging.	• Predefined messages.
MCVideo	• Private video calls.	• Group video calls (with transmission control).
Location	• Area definition for location based implicit affiliation.	• Location processing and display.
Access technologies	• 4G, 5G, WiFi, OTT.	
Deployment model	• With / without IMS , with/without EPC, w/wo eMBMS, w/wo ciphering.	
Networks	• Private and public network.	
Virtualisation	• KVM, Open Stack, VMWare…	
Scalabilty	• Horizontal and Vertical.	• From small enterprise to big scale deployments.
LTE integrations	• Rx, MB2.	
Management	• OAM (GUI and REST API), User & Group templates, Role access management.	
Redundancy	• High Availability.	• Single site and geo redundant.
Security	• Ciphering of signaling and media. • Key management.	• Encryption.
FCAPS	• Integration with standard tools and protocols.	