MACH7-iHRR

"Next Generation Home Register Router"

Overview

Mobile telecommunication is experiencing enormous growth fueled by growth in new subscribers. And along with proliferation of new smart devices like SmartPhones, tablets etc. it stretches the demand for voice and data services to both post-paid and growing pre-paid customers world-wide.

Roaming agreements, mergers / acquisitions along with network features like mobile number portability and fast technology evolution towards 4G/LTE networks introducing complexities in routing, service migrations and security. All these complications seriously impacts service providers operational expenses to manage services cost-effectively.

Benefits

Following are the intelligent features of teleSys' Home Register Router solution, which mitigates challenges of mobile operators in a cost-effective way.

- **Maximized capacity usage of Home Registers (HLRs and HSSs)**

Subscriber migrations, due to change in technology (like 2G to 4G) or Number Portability can result in gaps within the subscription databases hosted on HLRs/HSSs, provisioned by range based data blocks. This results in capital expenses to procure new network nodes for additional subscriber capacity, although existing resources are not fully utilized.

MACH7 Home Register router allows operator to route signaling traffic to the subscription databases (HLRs/HSSs) intelligently based on analysis of complete subscriber MSISDN or IMSI received. Every subscriber can be assigned to any network subscription database independent of its MSISDN or IMSI. Thus it facilitates addition of new subscribers to those gaps in existing databases, eliminating any need for capital expenses till 100% capacity is utilized on these resources. This feature is also known as Flexible Numbering.

- **OpEx Savings with Efficient Network Routing**

For the mobile networks with subscription databases separated in a discrete way across the network, routing of mobility management related signaling traffic to these subscription databases (HLRs/HSSs) is a major challenge as the routing information needs to be provisioned at multiple network elements. Addition of new elements for network evolution or capacity expansion increases this operational expenses.

With Flexible Numbering based routing, this intelligence can be maintained at a centralized place, to perform intelligent routing based on subscriber MSISDN / IMSI without any needs to provisioning at other network elements. All traffic can be routed via teleSys' Home Register Router, eliminating huge savings in operational expenses.

- **Enhanced SIM Card Management**

Management problems caused by provisioning large blocks of yet-to-be-used numbers of new Subscriber identity module (SIM)-cards to existing HLRs can be resolved by maintaining those numbers at HLR Router node, while adding those subscribers as getting activated at any concerned (service specific) Home Registers with available database.

- **Securing network with optimal usage of resources**

teleSys' HLR Router service can also provide security to home network in addition to forwarding validated subscriber traffic only to the network HLRs.

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Any incoming call to the HLRs can be screened for blocked MSISDN / IMSI or ported-out / unknown subscribers or fraudulent (fake/spoofed) MAP messages, prior forwarding those to Home Registers.

- **Facilitates Seamless Network Upgrades & Managed Growth**

HLR Router can routes signaling traffic intelligently for all network upgrades scenarios, which includes:

- Hardware / Software Upgrade of HLR nodes
- Evolution of networks (like from 2G to 4G)

Advantages

- **High Performance**

Utilizes parallel processing in multi-core environment with memory resident database to ensure high performance service handling

- **Seamless Scalability**

Service processing capacity can be expanded smoothly by run-time addition of computing elements for application controllers.

- **High Reliability**

State-of-the-art high-available distributed architecture keeps all components synchronized across the solution, ensuring no Single-Point-of-Failure for service outages.

- **Geographical Redundancy**

Allows network level redundancy by deploying solution across different geographical sites.

- **Centralized OAM&P**

The solution offers a comprehensive provisioning, fault and performance management interface using a centralized view of the distributed solution.

- **Multi-network Interface Support**

Solution supports standard protocol interfaces which includes SS7, SIGTRAN, Diameter to provide easy network specific service adaptability.

- **Cloud-Ready Software Solution**

Operating on Linux environment, software based MACH7 enhanced services facilitates seamless deployment on both vritual and physical environments on industry standard vitual environments and COTS hardwares.

teleSys Software, Inc.

teleSys is the premier provider of advanced Telecommunications solutions for the next generation LTE Signaling Networks, providing open systems hardware and software.

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