

Policy Manager

VoLTE

High-quality voice services in LTE with Policy Manager
Giving operators a reliable edge in next-generation mobile networks



LTE is taking off both in terms of capable devices and coverage. The higher bandwidths available and the lower latency is driving customer interest. Given the great number of devices designed for LTE and the high level of coverage, the time has come to offer voice services on LTE networks. Circuit Switched Fallback has proven useful in initial rollouts and for early adopters to make available voice services even in areas where LTE coverage is still evolving.

By offering a packet-based option for voice, operators now are in a position to provide users with an experience consistent with that of data access over LTE. Operators will benefit from reduced costs, while end-users will enjoy a number of advantages, such as battery lifetime improvements.

Voice over LTE (VoLTE) is the standardized solution offering all these advantages. If operators fail to provide an attractive solution, they will risk that third-party providers make up for this negligence. They may offer their own voice services and, as a consequence, operators may risk losing market shares.

However, operators also have another ace up their sleeves:

The Atos Policy Manager is the policy controller that enables operators to ensure that data flows that are part of voice communications are treated appropriately in the network. They will be able to provide better quality. And, what's more, they can be sure to always meet regulatory requirements, such as offering emergency and priority calls. This is a clear edge over 3rd-party voice-over-IP services.

When an operator opens the policy controller to application-layer services like VoLTE, new challenges arise. Up to that point the sole purpose of the PCRF (Policy and Charging Rule Function) was resource control, and interaction was possible only with network gateways.

With VoLTE, the PCRF facilitates cross-layer communication between application and network systems so that mutual information sharing becomes possible.

New PCRF solutions offer all the capacities and features to cope with large signaling volumes and to meet VoLTE requirements.

Atos Policy Manager - fast, efficient and proven policy control

- Scale up to hundreds of millions of concurrent Subscribers
- Support hundreds of thousands of transactions per second
- Full geo-redundancy with up to three sites and real-time data synchronization

Most operators are faced with the question of whether to continue using the existing policy solution and enhance it with the features and the capacity required to accommodate VoLTE, to upgrade or swap it with a newer PCRF that supports all VoLTE requirements or whether to implement two different PCRFs: the existing one for data and a new one exclusively for VoLTE.

Smooth system expansion - scales easily with growth

VoLTE-based signaling volumes are expected to quadruple. This means that during peak times a subscriber will generate a traffic load at the PCRF that is four times higher with VoLTE than with mere data connections. Therefore the VoLTE PCRF is required to be able to scale up in order to deal with large transactions volumes and many concurrent sessions.

VoLTE will become more prevalent as users exchange their devices for new ones. A PCRF which can gradually scale up both in terms of licensing and hardware will be better fitted to fulfill the requirements of VoLTE as traffic grows.

Atos Policy Manager scales easily with hardware, accommodates cloud solutions and fully supports pay-as-you-grow schemes and hundreds of thousands of transactions per second.

Full resiliency and redundancy - up and running at all times

Users expect voice services to be available at all times. Since operators always have to provide carrier-grade reliability and cannot afford voice outages, full resilience with multi-site geo-redundant deployments is the appropriate solution. Deployments consisting of two or three sites are most common and provide support even in disaster situations. If data between sites is synchronized in real-time, any PCRF site can handle any request, independently of whether or not the session originally started at another site. This ensures a smooth failover.

Atos Policy Manager supports geo-redundant deployments with 2 or 3 sites offering real-time data synchronization.

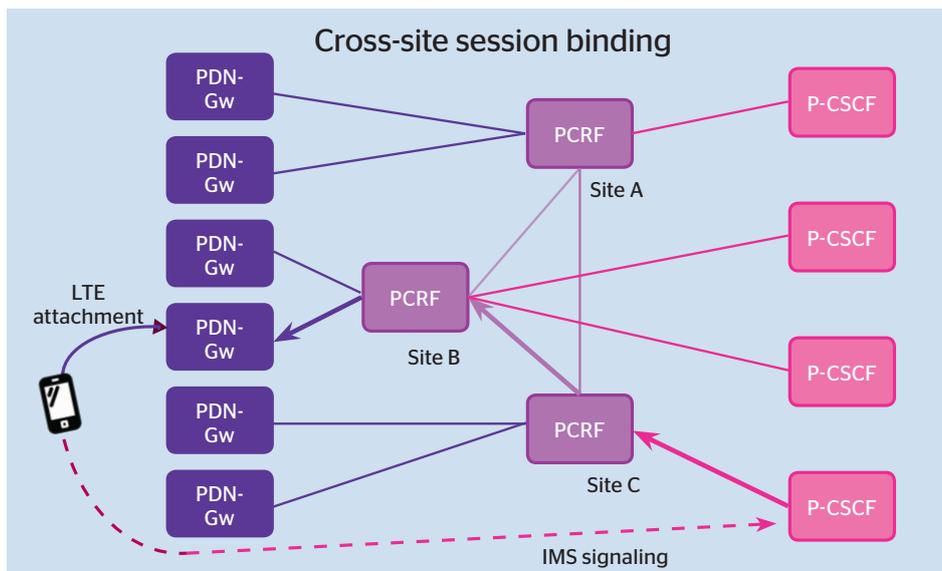
Cross-site session binding - simplify VoLTE deployments

For economical reasons it is rather unlikely that in a multi-site VoLTE PCRF all sites will be connected with all gateways of VoLTE applications.

Another challenge is that a VoLTE application may indicate a voice-call establishment to the PCRF on site C while the IP session in which that call has to be carried out has been set up in the PCRF at site B. For session-binding, data synchronization across sites is required. In some configurations, however, the gateway to be addressed only has a connection to the PCRF at site B. In such cases the PCRF at site C must be able to instruct the PCRF at site B about the voice call establishment. This is called "cross-site session binding" and is supported only by very few PCRFs on the market. For PCRFs that do not support cross-site session binding the only option is to use an expensive Diameter Routing Agent (DRA) that adds additional complexity.

The Atos Policy Manager with cross-site session binding makes multi-site VoLTE deployments simpler and much more economical.

Atos Policy Manager is the highly scalable and reliable PCRF that provides all features required for VoLTE and data transmission, including 3 site-geo-redundancy with real-time data synchronization and cross-site session binding.



For more information: [+40 268 409 400](tel:+40268409400) / info-cc@atos.net / atos.net/convergence-creators

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