NeoTec: Network Operation for Telecom Clouds

IETF 122 Bankok Side Meeting

19 March 2025

Making the Internet work better

Note Well

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Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
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Agenda

8:00 Opening 5 mins

8:05 MEC Use Case(Final title TBD) 10 mins

Nabeel Cocker (RedHat)/Luay Jalil (Verizon)

8:15 DC-aware TE topology model 10 mins

Luis M. Contreras (Telefonica)

8:25 Information Exposure for Service Deployment at the Edge 10 mins

Jordi Ros-Giralt (Qualcomm)

8:35 Zero Trust Network Access DM for Network Cloud Interface 10 mins

Houda Chihi (InnovCOM Sup'COM, Tunisia)

8:45 Cloud-aware Network Operation for AI Algorithm Deployment 10 mins

Qiong Sun (China Telecom)

8:50 Potential scope and work item discussion 35 mins

9:25 Summary 5 mins

Proposed scope of Neotec (Open for future discussion)

Existing network operation solutions in IETF do not integrate real-time cloud telemetry into network decision-making, leading to suboptimal routing, inefficient load balancing and UCMP policies, and SLA performance guarantee for latency-sensitive services such as AI/ML workloads and video streaming. Neotec seeks to bridge this gap by defining standardized interfaces that allow network operation system to consume cloud telemetry and vice versa.

Neotec focuses on addressing the network operation issues, not cloud scheduling or management issues. It does not aim to develop an orchestrator production system either.

Proposed deliverables(Open for future discussion)

Neotec will initially focus on the following deliverables:

- Develop an interface to expose cloud-related information to the network service orchestrator, enabling network operation system to be cloud-aware
- Develop a joint network-cloud information exposure model to support service deployment and assurance
- Develop YANG models to provide network controllers with dynamic service instance status, ensuring dynamic network adjustments in response to cloud service scaling
- Develop an interface to expose network information to the cloud manager, enforcing connectivity services and providing guarantees
- Develop YANG data model implementing ZTNA principles at the network-cloud interface to ensure that only authorized entities have access to specific network and cloud telemetry

It will also aim to serve as a platform for the community to exchange requirements, challenges, and experiences related to network management and operation for cloud-based services.

Thank you!