Multi-access Edge Computing

Solution Accelerator

As technologies continue to shift shape and evolve to suit market needs, you might have noticed MEC (Mobile Edge Computing) metamorphosing into Multi-access Edge Computing (MEC) while still retaining its moniker. This change was necessitated as the latent benefits of edge technology extended beyond mobile to Wi-Fi and fixed access technologies.

ETSI defines Multi-access Edge Computing as a cloud based IT services environment at the edge of the network. It checks all the right boxes by providing ultra-low latency and high-bandwidth while enabling applications to benefit from real-time radio network information.

The end goal of MEC is to provide an optimized and low latency computing infrastructure with deployment agility that can scale horizontally or vertically based on requirements. With MEC we can move services and content closer to end-users and get more QoE, QoS while reducing backhaul congestion and optimizing gateway interconnectivity costs.

Some of the prominent use cases of edge services are Firewall, WAF (Web Application Firewall), Antivirus, DHCP, vRouter, DNS and Bandwidth Optimizer deployed closer to the edge based on end-user preferences or as a strategic deployment by the service provider.

Our MEC demonstration focuses on the aspect of flexible services deployment and configuration and provides a solution acceleration which can be easily customized to develop a complete end-to-end MEC infrastructure or develop individual components.

Happiest Minds MEC Accelerator – a framework
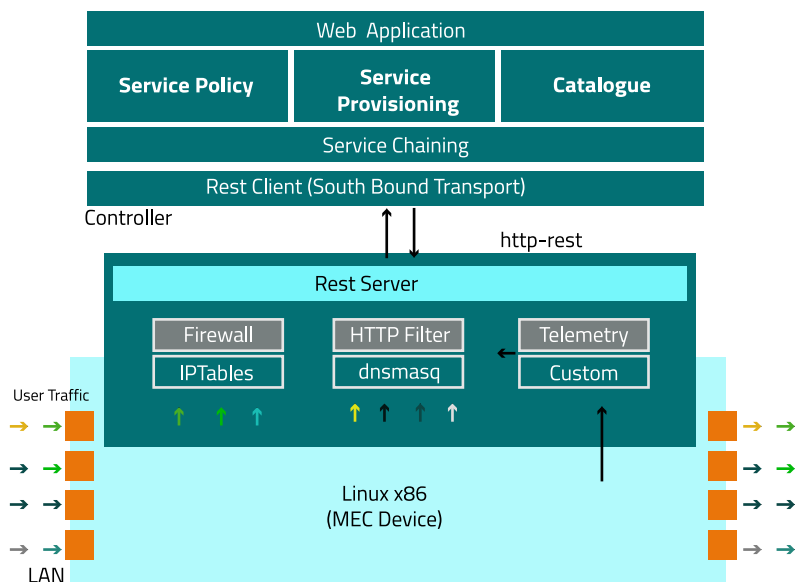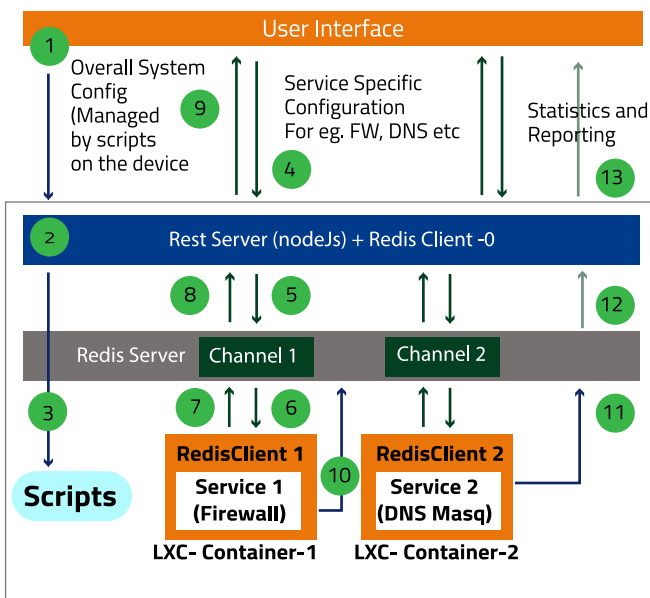
The demonstration on the previous page has two components:
- MEC Orchestrator
- MEC platform running Ubuntu

The orchestrator provides functionality for provisioning of deployment and the chaining of services based on a service catalogue and user preference. The service catalogue contains software application information for multiple types of applications. Here we have an option for the user to select a particular software of a kind. e.g., one can choose Firewall Application implementation based on IP-tables, OVS, Fortinet etc. Additional provisioning includes the configuration of individual services. E.g., five-tuple rules for Firewall, Blacklisted URL for an HTTP filter etc.

The MEC devices a contains a modular software architecture which can be easily upgraded to support additional VNFs and enhance the overall telemetry by including statistics and reports from the newly added VNF. The VNF runs in a containerized environment using LXC maintaining isolation for its lifecycle management.

The above framework paves the way for realizing more complex solutions with multiple use cases containing many more services . Equipment vendors and ISV can look forward to benefit from the following areas of collaboration :

MEC Device engineering: Hardware and Network Software to manage service deployment, configuration and telemetry

Middleware & User Interface development: MEC Controller containing databases and workflow to handle configuration, security, management and telemetry functionalities

About Happiest Minds Technologies

Happiest Minds enables digital transformation for enterprises and technology providers by delivering seamless customer experience, business efficiency and actionable insights through an integrated set of disruptive technologies: big data analytics, internet of things, mobility, cloud, security, unified communications, SDN-NFV, etc. Happiest Minds offers domain-centric solutions applying skills, IPs and functional expertise in IT services, product engineering, infrastructure management and security. These services have applicability across industry sectors such as retail, consumer packaged goods, e-commerce, banking, insurance, hi-tech, engineering R&D, manufacturing, automotive and travel/transportation/hospitality.

Headquartered in Bangalore, India; Happiest Minds has operations in the US, UK, The Netherlands, Australia and Middle East.

For more information, write to us at:
sdnnfv@happiestminds.com
www.happiestminds.com