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Framework of signalling for software-defined networking

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Supplement 67 to ITU-T Q-series Recommendations

Framework of signalling for software-defined networking

Summary

Supplement 67 to ITU-T Q-series Recommendations provides the framework of signalling for software-defined networking (SDN) by specifying the signalling requirements and architecture for SDN, as well as the interfaces and signalling protocol procedures. This Supplement should also be helpful in enabling the development of a signalling protocol(s) capable of supporting traffic flows.

History

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Supplement 67 to ITU-T Q-series Recommendations

Framework of signalling for software-defined networking

1 Scope

This Supplement provides the framework of signalling for software-defined networking (SDN) by specifying the signalling requirements and architecture for SDN, as well as the interfaces and signalling protocol procedures. These requirements and the signalling information elements identified will enable the development of a signalling protocol(s) capable of supporting traffic flows.

2 References

- [ITU-T M.3400] Recommendation ITU-T M.3400 (2000), *TMN management functions*.
- [ITU-T Y.3300] Recommendation ITU-T Y.3300 (2014), *Framework of Software-Defined Networking*.
- [ITU-T Y.3500] Recommendation ITU-T Y.3500 (2014), *Information technology – Cloud Computing – Overview and Vocabulary*.
- [ITU-T Y.3501] Recommendation ITU-T Y.3501 (2013), *Cloud computing framework and high-level requirements*.
- [ITU-T Y.3512] Recommendation ITU-T Y.3512 (2014), *Cloud computing – Functional requirements of Network as a Service*.

3 Definitions

3.1 Terms defined elsewhere

This Supplement uses the following terms defined elsewhere:

3.1.1 Communication as a Service (CaaS) [ITU-T Y.3500]: Cloud service category in which the capability provided to the cloud service customer is real time interaction and collaboration.

NOTE – CaaS can provide both application capabilities type and platform capabilities type.

3.1.2 Network as a Service (NaaS) [ITU-T Y.3500]: Cloud service category in which the capability provided to the cloud service customer is transport connectivity and related network capabilities.

NOTE – NaaS can provide any of the three cloud capabilities types.

3.1.3 service chain [ITU-T Y.3512]: An ordered set of functions that is used to enforce differentiated traffic handling policies for a traffic flow.

3.1.4 software-defined networking (SDN) [ITU-T Y.3300]: A set of techniques that enables to directly program, orchestrate, control and manage network resources, which facilitates the design, delivery and operation of network services in a dynamic and scalable manner.

3.2 Terms defined in this Supplement

This Supplement defines the following terms:

3.2.1 middlebox: A computer networking device that caches, transforms, inspects, filters, or otherwise manipulates traffic for purposes other than packet forwarding.

3.2.2 orchestration: Functionality that provides the automated management and coordination of network resources and services.