ONF Liaison Notification

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Subject   Information modeling work in progress

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Dear colleagues,

A critical aspect in the successful realization of the SDN vision is a comprehensive modeling description of network resources (functionality, capabilities, flexibility) that enables the necessary level of control/network programmability. This is essential, given the need to enable provision of new services and applications that may rely upon support from a wide range of networking domains involving heterogeneous technologies. Further, the boundaries of networking domains are tending to blur, in terms of definition of access, metro, core and what technologies are deployed in which networking domain. Without such an underlying common information model, it is anticipated that SDN deployments will encounter the same issues that have previously been faced by management system deployments in attempting to achieve global information networking.

Thus, a key enabler to successful worldwide adoption and deployment of SDN is, in fact, a common information model of network resources. However, as in software development everywhere, in order to assure successful execution in a distributed world, a common information model cannot be a monolithic entity. Rather, it must be structured in a modular way, so as to allow for independent specification development efforts, while providing a framework that assures a coherent whole. Recognizing this, the ONF is developing a supporting process for Common Information Model development, described in onf2014.431 (attached in Annex 1).

The Common Information Model is structured in terms of a core model fragment, forwarding technology specific model fragments, and application specific model fragments (not precluding other types of fragments). Artefacts in the core model fragment are usable by groups/organizations working on forwarding technology or application specific modeling activities. It is recognized that the core model fragment itself may evolve; e.g., due to discovery of additional common artefacts from evolving work across domain specific modeling activities. Currently, there are activities ongoing in ONF on the core model (Architecture WG), L0-L2 transport (Optical transport WG), mobility (Wireless & Mobile WG), and NorthBound Interface applications (NBI WG). One of the major strengths of the adopted process is that there is no need for all domain specific modeling activities to reside in a single group within a given organization, or for that matter, in any single organization.

In addition to information about ONF's Common Information Model development, we also enclose draft document onf2014.491, containing the UML modeling guidelines that are used by the modeling teams in the ONF. The conventions ensure consistency across all model development, including but not limited to naming, data types, graphic representation and UML artefacts.

We also enclose draft document onf2014.505 containing the guidelines for using the open source tool Papyrus for development of UML information models. These guidelines have been adopted by all of ONF; i.e., they are not specific to any working group, technology or management protocol.

Finally, we also enclose a snapshot of the information model, as it stands today.

All of these documents represent work in progress, to which the usual disclaimers apply. Given the intention that the core information model be valuable across the industry, not just locally within ONF, we encourage IETF to adopt any of the tools, concepts, or ways of working in this work. We also invite feedback on any of these documents, and we welcome opportunities for collaboration.

Sincerely,

Fabian Schneider, Chair ONF Architecture WG
Dave Hood, Vice-Chair ONF Architecture WG
Kam Lam, Vice-Chair ONF Architecture WG

Annex 1: Work in progress

(separate attachment)