OpFlex Proposal

Name

This is code for the OpFlex project.

Repo Name

opflex

Description

The OpFlex project consists of 3 things: The OpFlex Protocol, the OpFlex SB plugin, and the OpFlex Policy Agent. All three pieces make up the entire OpFlex project. OpFlex is described in an IETF draft available at the end of this document. The OpFlex SB plugin is responsible for sending OpFlex policy messages SB into the OpFlex Policy Agent. The OpFlex Policy Agent is responsible for rendering OpFlex messages into a device specific representation. The diagram below shows how the system operates:

blocked URL

The diagram above shows the OpFlex Policy Agent working in conjunction with other elements of an OpFlex Policy Fabric. Note the ODL Controller running with the OpFlex SB plugin, which is a critical piece of the OpFlex Policy Fabric. The OpFlex Policy Agent is what is capable of providing policy resolution for an policies provided by the ODL Controller with the OpFlex SB plugin.

The OpFlex Policy Agent is an agent which is responsible for exchanging and enforcing policy. In essence, the agent is meant to be a Policy Element in an OpFlex Policy Fabric. The agent is meant to run on a system or device and handle resolving policies asynchronously from the Policy Authority.

The OpFlex SB plugin will be written in Java.

The intent of the Policy Agent is that is capable of running on not only host systems such as servers, but also as an embedded device. The broad amount of runtime locations has dictated the language choice, which will be C.

Scope

The scope of this project is 3 things:

- The OpFlex protocol library.
- The OpFlex SB plugin.
- The OpFlex Policy Agent

The scope of the OpFlex Policy Agent is the code comprising the agent itself, which is the agent framework; the OpFlex protocol code; and the plugin architecture for policy enforcement. The initial plugin for policy enforcement will be an Open vSwitch plugin. This allows rendering to happen to OpenFlow constructs on the host or device.

Resources Committed (developers committed to working)

- Alessandro Salvatori <salvatori@noironetworks.com>
- Chris Wright <chrisw@redhat.com>
- Rob Adams <adams@noironetworks.com>
- Satyendra Tiwari <Satyendra.Tiwari@Citrix.com>
- Scott Mann <smann@noironetworks.com>
- Stephen Wong <stephen.kf.wong@gmail.com>
- Youcef Laribi <Youcef.Laribi@citrix.com>

Initial Committers

Alessandro Salvatori <salvatori@noironetworks.com>
Chris Wright <chrisw@redhat.com>
Rob Adams <adams@noironetworks.com>
Satyendra Tiwari <Satyendra.Tiwari@Citrix.com>
Scott Mann <smann@noironetworks.com>
Stephen Wong <stephen.kf.wong@gmail.com>
Youcef Laribi <Youcef.Laribi@citrix.com>

Vendor Neutral

The OpFlex Policy Agent code is following an IETF draft [1]. The IETF draft has a large swath of industry companies as participants. The goal is to ensure the code backing the draft is vendor agnostic as well.

[1] http://tools.ietf.org/html/draft-smith-opflex-00

Meets Board Policy (including IPR)

Yes