

# Fault YANG Model

NETMOD WG, IETF96, Berlin, Germany  
draft-sharma-netmod-fault-model-00

Anurag Sharma ([ansharma@infinera.com](mailto:ansharma@infinera.com))

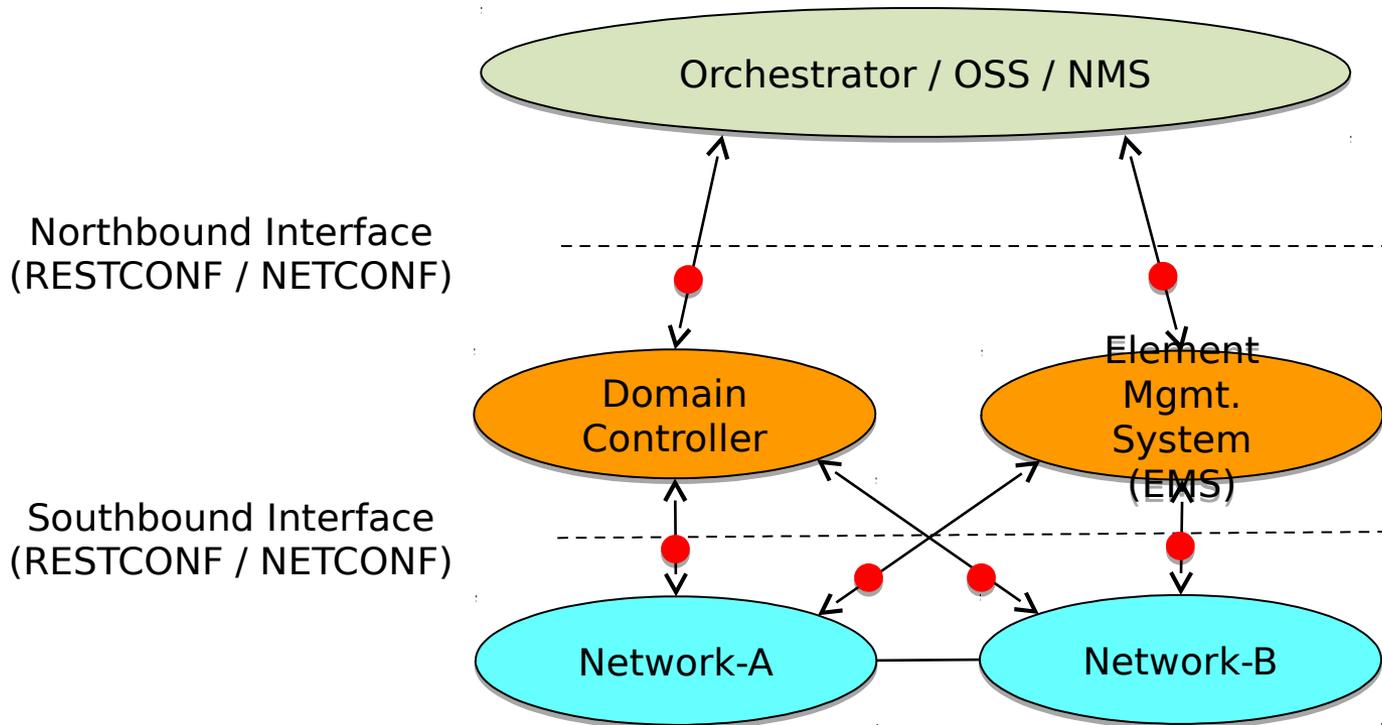
Rajan Rao ([rrao@infinera.com](mailto:rrao@infinera.com))

Xian Zhang ([zhang.xian@huawei.com](mailto:zhang.xian@huawei.com))

# Motivation

- Create a common base Fault YANG model based on:
  - ITU Recommendation X.733: Alarm Reporting Function
  - RFC3877: Alarm Management Information Base (MIB)
- Create a model that can be extended by vendors using YANG augmentations.

# Fault Reference Points



- Fault Model is exposed by all network devices, controllers, orchestrators, application, etc. that expose a YANG based model.

# YANG Tree Overview

```
module: ietf-fault
```

```
+--ro faults
  +--ro fault* [fault-id]
    +--ro fault-id          inet:uri
    +--ro (entity-type)?
      | +--:(id)
      | | +--ro entity-id      inet:uri
      | | +--:(name)
      | | +--ro entity-name    string
    +--ro fault-type        identityref
    +--ro probable-cause    identityref
    +--ro fault-time        yang:date-and-time
    +--ro fault-severity    enumeration
    +--ro service-affecting? boolean
    +--ro additional-text?  string
```

List of  
fault conditions

```
notifications:
```

```
+---n fault-event
  +--ro fault-id          inet:uri
  +--ro (entity-type)?
    | +--:(id)
    | | +--ro entity-id      inet:uri
    | | +--:(name)
    | | +--ro entity-name    string
  +--ro fault-type        identityref
  +--ro probable-cause    identityref
  +--ro fault-time        yang:date-and-time
  +--ro fault-severity    enumeration
  +--ro service-affecting? boolean
  +--ro additional-text?  string
```

New faults reported using  
Fault Notification

# Fault Entry

- The Fault YANG Data Model currently models the most widely used attributes.
  - Fault Entity
  - Fault Severity
  - Fault Type
  - Probable Cause
  - Service Affecting
  - Fault Time
  - Additional Text
- Fault Entry also reported as part of Fault Notification.

# Probable Cause & Fault Type

- New networking architectures can pose a need for additional fault types and probable causes
  - E.g. Discrepancy between config and operational datastores.
- Probable Cause & Fault Type fields have been modeled using identity instead of enumeration.
  - Use of identity in model will allow vendors to augment new probable cause and fault type values.

# Next Steps

- Get feedback on the current model.
- Add the following in the next version of the model:
  - Model all attributes in Fault Entry as per RFC3877 and RFC3877.
  - Model all probable cause as per X.733 and RFC3877.