

Network Measurement Intent

draft-yang-nmrg-network-measurement-intent-02

<https://datatracker.ietf.org/doc/draft-yang-nmrg-network-measurement-intent/>

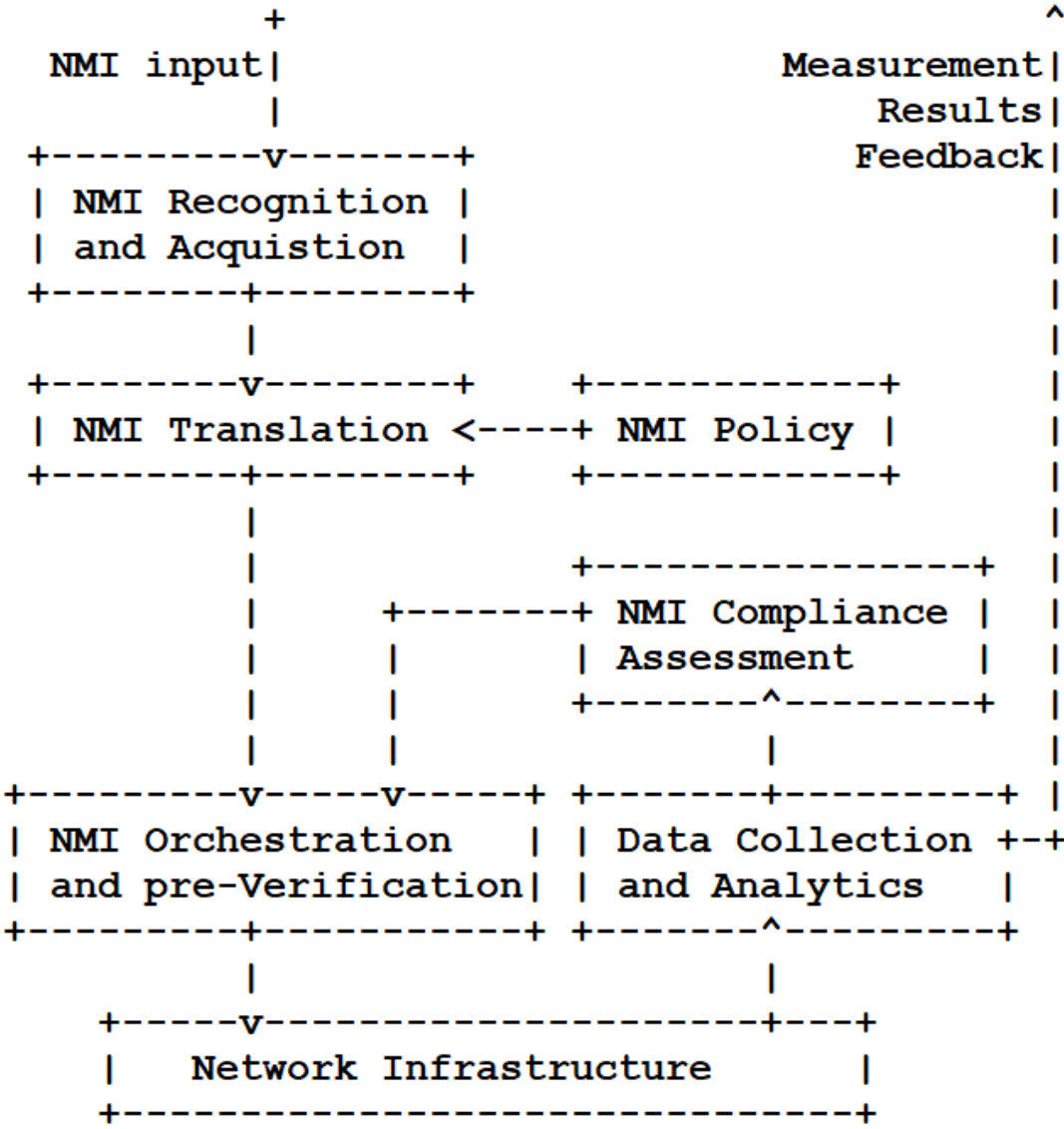
Recap

◆ NMI (Network Measurement Intent)

➤ the on-demand measurement of the network state based on the user/network operators' perceived intent of the network state .

The major components

- NMI Recognition and Acquisition
- NMI Translation
- NMI Orchestration and pre-Verification
- Data Collection and Analytics
- NMI Compliance Assessment



Major Updates from Version-01

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Add clustered performance measurement intent as an example

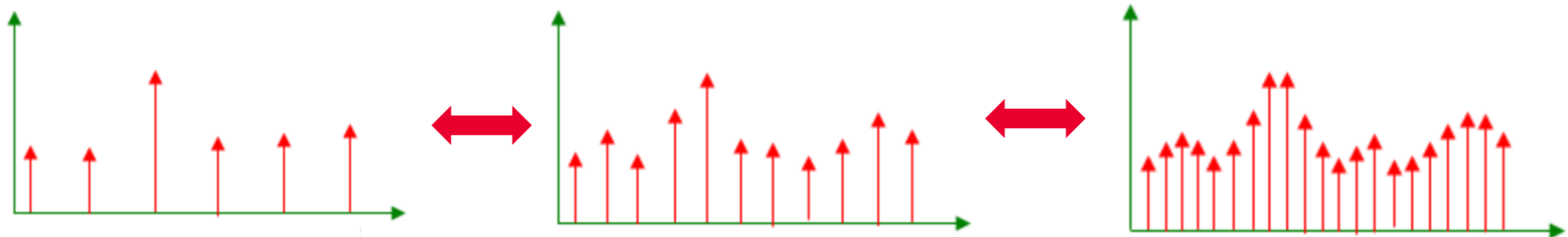
Make a classification of NMI

NMI Use case 1: Timing accuracy

Different thresholds, warning value and alert value should be set for network delay in advance:

- When the delay value is below warning, the network is normal and the business is normal.
- When the delay is between warning value and alert value, the network fluctuation is abnormal, but the business is normal.
- When the delay exceeds the alert value, both the network and business are abnormal.

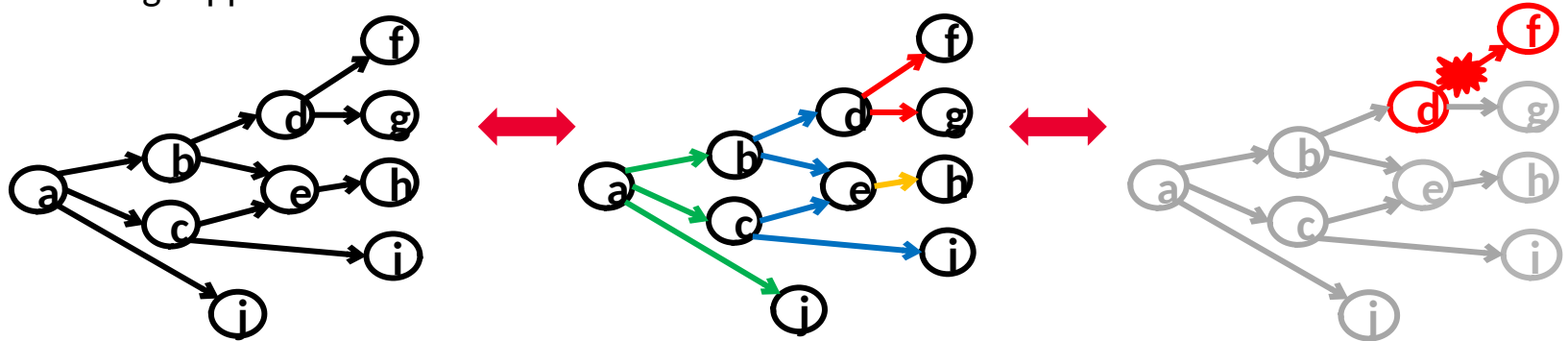
The active measurement message frequency or passive measurement sampling rate can be adjusted accordingly at different values.



According to the change of delay data, the **NMI Compliance Assessment module** notifies the **NMI Orchestration and pre-Verification module** to modify the execution time and to update the measured results.

NMI Use Case 2: Spatial accuracy

- The **Clustered performance measurement intent** represents the spatial accuracy, that is the size of the subnetworks to consider for the monitoring.
- It is possible to start without examining in depth and, in case of necessity, the "network zooming" approach can be used.



- The **NMI Compliance Assessment module**, in case a cluster is experiencing performance issues, notifies the **NMI Orchestration and pre-Verification module** to change the cluster partition for further investigation.
 - The network configuration can be modified accordingly to perform a new partition of the network only for the cluster with bad performance.
 - The problem can be localized with successive approximation up to a flow detailed analysis.

Classification of NMI

Static NMI

◆ Characteristic

- Measurement purposes remain unchanged
- Independent of the network state/external environment

◆ Examples

- I want to know when the network bandwidth usage is higher than 60%.
 - I want to filter out links with a delay of more than 50ms
- ◆ Static NMI can be translated into determined network performance indicator values, such as concrete delay values, network bandwidth occupancy, throughput and so on.

Classification of NMI

Dynamic NMI

◆ Characteristic

- Measurement purpose remain unchanged but the measurement process changes dynamically according to the network state/external environment
- The values of network performance parameters that need to be measured will change with the changes of network states and external environment

◆ Examples

- I want to know when the network is busy.
 - I want to collect data packets at 60% sampling rate When the network is busy
- ◆ It is not only necessary to verify the accuracy of demand analysis, but also to verify whether the final measurement results meet the requirements.

Next Steps

- To incorporate this case into the IBN use case or add to the intent classification.
- To discover more concrete examples of network measurement intent
- **Looking forward to the comments, suggestions and questions.**

Thanks!