Topology Tab

Topology defines how Qosium Probes are located concerning the target network traffic. In Scope, this means defining network capture interfaces and Probe placement. Depending on the settings, it may also be necessary to define senders and receivers manually.

Table of Contents

1. Overview

This tab consists of the following settings groups. Detailed information on each group can be found in the following sections.

- **Primary Probe**
- **Secondary Probe** - Visible when a two-point measurement is selected
- **Primary Probe Senders** - Visible when manual senders definition is required
- **Secondary Probe Senders** - Visible when a two-point measurement is selected, and manual senders definition is required
- **NAT Settings** - Visible when a two-point measurement is selected
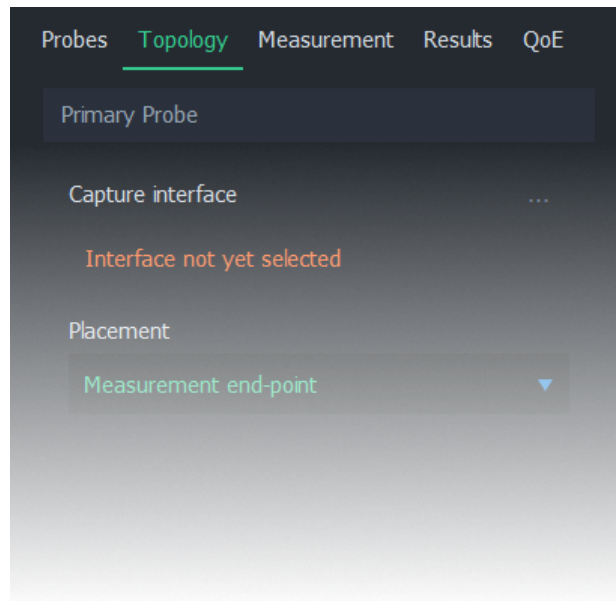
Before proceeding, it is recommended to complete the Probes tab, connect to Probes(s), and then edit this tab. A connection must be made in any case for Scope to receive the list of available capture interfaces.

For more information on topology, see Understanding Measurement Topology.

2. Primary Probe

In this group, capture interface and placement can be selected for the primary Probe.
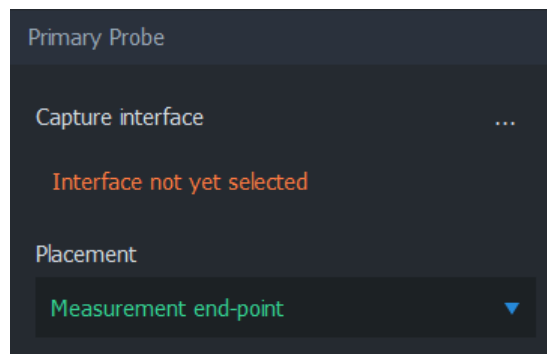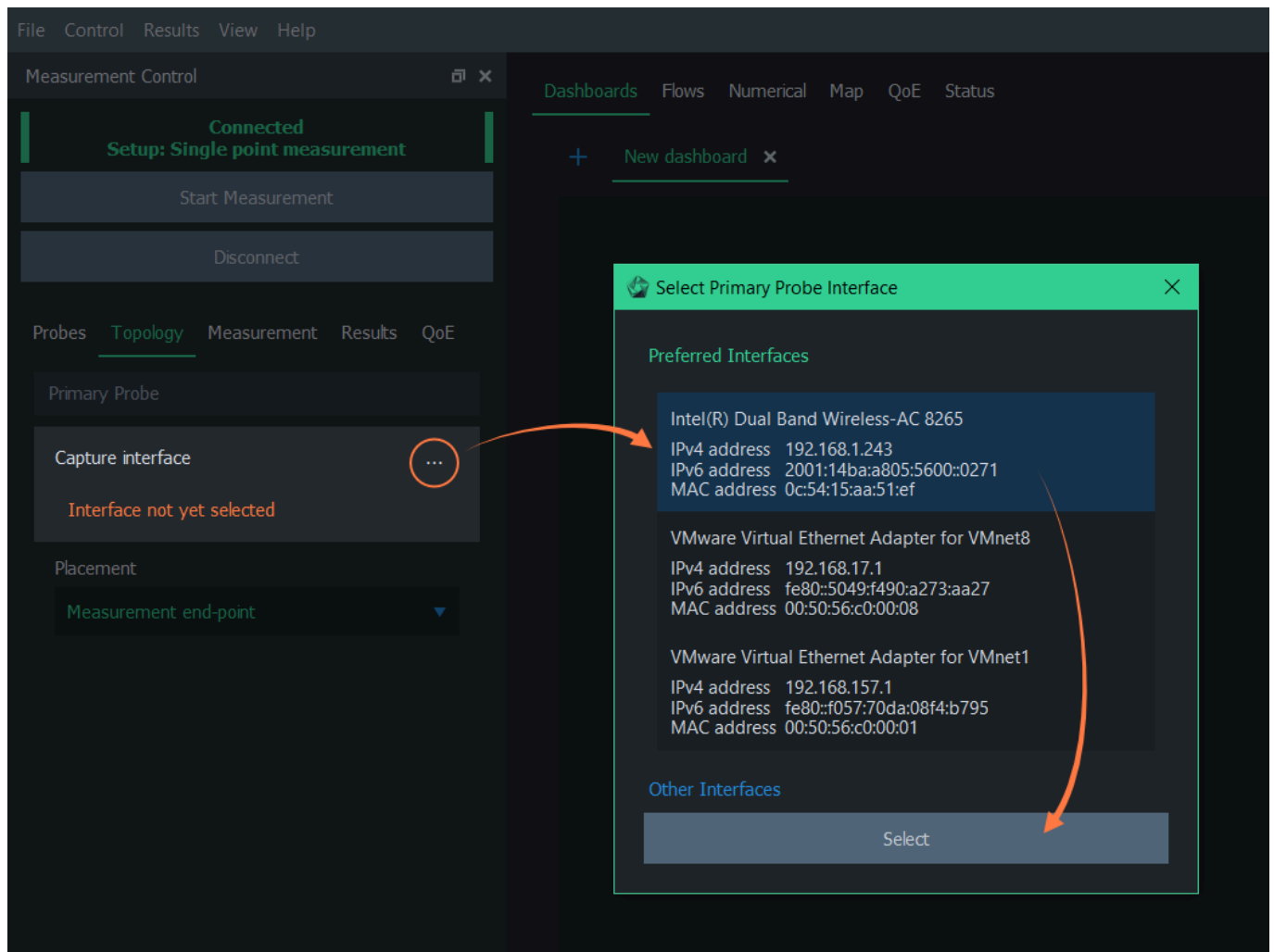
2.1. Capture Interface

⚠ Interface can be selected only while connected to Probes

This field displays the selected interface, which the primary Probe uses for capturing network traffic. An interface can be selected by clicking the "…" icon on the right side. This opens up an interface selection dialog, which lists interfaces available for this Probe.

The interface selection dialog is split into two views:

- **Preferred Interfaces** - Interfaces that have valid addresses
- **Other Interfaces** - Other available interfaces

Locate the desired interface. Double-click on the interface, or click once and then press *Select*. It appears on the topology tab as the selected interface.

2.2. Placement

Placement indicates the location of the Probe concerning the measured network traffic. The options are:

- **Measurement end-point** - The Probe is in either one of the measured traffic endpoints. In other words, the device Probe is installed to is either sending or receiving the measured network traffic.

- **Within measured path** - The Probe is not located at either one of the end-points but instead resides somewhere along the path where the measured traffic traverses. Note: This option uses MAC addresses in flow direction analysis. Thus, if your measured interface does not have a MAC address (e.g., a cellular modem), select the **Off-path** option instead.
- **Off-path (e.g., mirrored traffic)** - The Probe is not located within the measurement path at all. This is the case, for example, when using mirror ports in switches. Also, if you wish to define *Senders* (see below) manually, select this option.

> ⚠️ Only end-point placements allow the Packet filter to be calculated automatically.

For more information on placement, see Understanding Measurement Topology.

3. Secondary Probe

> 📝 Visible only when a two-point measurement is selected

This group contains topology settings for the secondary Probe. These settings are identical to the Primary Probe group, but they consider the secondary Probe instead.

4. Primary Probe Senders

> 📝 Visible only when manual senders definition is required

If Qosium is unable to determine the senders and receivers for the primary Probe automatically, the Primary Probe Senders group appears, allowing defining senders manually instead.
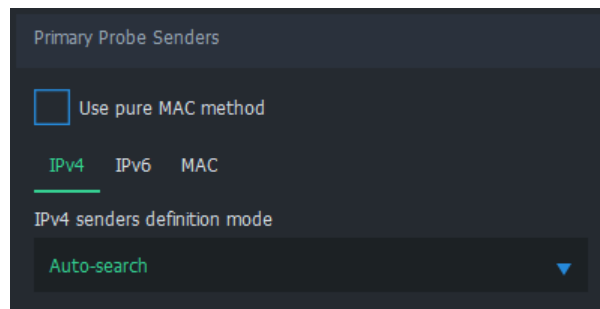
For more information on manual senders definition, see Understanding Measurement Topology.

4.1. Pure MAC

First, senders definition has one top-level option: **Use pure MAC method**. If this method is desired, select it. Nothing more is required for senders definition for this measurement point.

When this mode is active, traffic direction is checked from the MAC-addresses. If the interfaces and the traffic is such that there are MAC-addresses, e.g., Ethernet NIC, then this setting works very well. However, in some interfaces, like Linux *any* interface, the MAC header is not visible, causing this mode to fail.

4.2. Manual Senders Definition

There are multiple methods of defining which addresses are considered senders. Any address that does

not meet the given criteria is deemed to be a *receiver*.

The available options depend on the protocol. These options are covered in the following sections.

4.2.1. IPv4

The following options are available:

- **Auto-search** - Look up known addresses in interfaces and declare these as senders
- **According to secondary Probe** - Take the definition of the secondary Probe and reverse it
- **Mask** - Define a network address (e.g., 192.168.1.0) and a mask (e.g., 255.255.255.0)
- **Manual select** - Define a list of sender addresses

4.2.2. IPv6

The following options are available:

- **Auto-search** - Look up known addresses in interfaces and declare these as senders
- **According to secondary Probe** - Take the definition of the secondary Probe and reverse it
- **Mask** - Define a network address (e.g., fe80:1ab3:8f01:12df::0 and a mask (e.g., ffff:ffff:ffff:ffff::0)
- **Manual select** - Define a list of sender addresses

4.2.3. MAC

The following options are available:

- **Auto-search** - Look up known addresses in interfaces and declare these as senders
- **According to secondary Probe** - Take the definition of the secondary Probe and reverse it
- **Manual select** - Define a list of sender addresses

> ⚠️ When using the Pure MAC method or when sender addresses are defined inversely in one of the ends (According to primary/secondary Probe), the Packet filter cannot be calculated automatically.

5. Secondary Probe Senders

> 📋 Visible only when a two-point measurement is selected and manual senders definition is required

This group contains sender settings for the secondary Probe. These settings are identical to the [Primary Probe Senders](#) group, but they consider secondary Probe senders instead.

6. NAT Settings

> 📋 Visible only when a two-point measurement is selected

Qosium needs to be aware if a Network Address Translation (NAT) occurs between Probes. If this is the case, check the option **NAT between Probes**. For more information, see [How to Measure over NAT](#).