

The Network Visibility challenge

Monitoring tools depend on network visibility infrastructure to receive replicated and correct packet flows from the Telecom Networks. The explosive growth of mobile subscription are driving data traffic explosion, and InternetOfThings applications are coming, so bringing the network hard to manage and to monitor. Telecom Operators are facing this challenge, on one side to grant the QoE (Quality Of Experience) service level, on the other to couple with the increasing data traffic, in the same time staying inside the budget constraints.

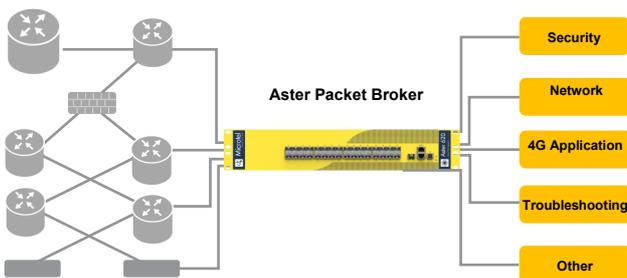
Aster Packet Broker is the solution to this, by providing real time network visibility for fast, reliable, and accurate analysis of network performances. Thanks to its aggregation and filtering capabilities, Aster Packet Broker can manipulate the traffic to allow more efficient use of the network monitoring tools.

Aster Main Features

- Hw based Filtering
- Selective Aggregation
- Input traffic replication
- IP Load Balancing
- Embedde GUI for WEB management
- Real Time and Daily Statistics
- SNMP Alarms

Aster Product Family

| | |
|-------------------|--|
| Aster 618 | Up to 16 IN/OUT ports 1/10GE |
| Aster 620 | Up to 32 IN/OUT ports 1/10GE |
| Aster 618T | Up to 16 IN/OUT ports 1/10GE + 2 single optical TAP links |



Aster Packet Broker to consistently reduce VoIP traffic towards the monitoring probes

A major European Fixed and Mobile Operator, due to the increased VOIP traffic, was looking for a solution to use the existing VoIP monitoring system to couple with the growing traffic volume.

The existing VoIP Monitoring System consists of one probe in three different sites, each probe being able to manage up to 1 GE, while the traffic is forecasted to grow up to 4GE for each site in the next months. The probe, by elaborating SIP signaling and RTCP information, is able to measure several quality indicator, like packet-loss, jitter, round-trip time, and to calculate the R-Factor (QoE score according to ITU-T G.107)

The natural choice should have been to upgrade the existing system with new probes, but this was not possible due to budget constraints. Therefore, the costumer was looking for a different strategy, which could allow doing VoIP traffic monitoring with the current tools, without buying additional probes.

THE SOLUTION

The solution came with Microtel Aster packet brokers.

One Microtel Aster has been used for each of the three site, in front of the monitoring probe. The Microtel Aster has been configured to forward only SIP and RTCP traffic to the monitoring probe, so keeping the same Monitoring System capabilities and in the same time reducing the input traffic: for example, this reduction is more than 90% for a 60 seconds call data.

The solution proposed can totally solve the customer problem, moreover being a future proof solution: the VoIP traffic can grow up to more than 10GE before creating overloading problems to the current chain Aster+Probe.



Aster Packet Broker to aggregate several links towards a few probes for VoLTE monitoring purposes

A major European Mobile Operator recently started the deployment of VoLTE technology; consequently, he needed to invest in the VoLTE monitoring system. He decided to deploy four different monitoring probes in two different Core Network locations, to be fed with the same traffic flows, for different data analysis purposes.

The need was to monitor several links, both copper links and optical links, for a total of 60 links:

- 44X1GE Copper links
- 16X10GE Optical links

The forecasted traffic was up to 20GE for all the interested links, very low but not surprising because the VoLTE technology was just starting. Of course, mandatory requirement was not to lose any data packet.

Due to the low traffic volume and to the high cost of probes, the decision was to look for solutions to aggregate all links and to feed each monitoring probe with the total traffic coming from the 60 links.

THE SOLUTION



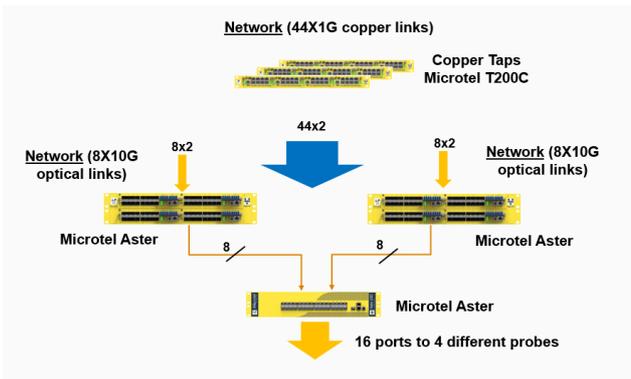
Aster A-620 model

The Aster packet broker and the Microtel T200C were selected to build the Network Visibility chain. For this project, the A-618T-T8 has been used too, capable to tap 8 Optical links and having 64 IN/OUT ports.

For each site, the following configuration has been deployed:

- 6XT200C copper taps, each one tapping 8 links, for a total of 44 links.
- 2XA618T-T8. Each A618T-T8 taps 8 optical links (10GE), and receive 44 links (1GE) in input, coming from the copper taps. The input ports and the tapped links are aggregated and sent to the Aster 620, using 8X10GE links.
- 1XAster 620 finally aggregates the links coming from the 2XA618T-T8 and deliver 4X10G links to each of the 4 monitoring probes that are connected. Each monitoring probe receive the same traffic, which is the result of the aggregation of the original 60 links.

In addition to aggregation and filtering capabilities, the Microtel Aster provides also Real Time statistics and SNMP alarms. One important feature is the capability to alarm in case a link is unplugged from the Aster device, to prevent any not authorized access to the data flows, so improving the security of the whole system.



| Management | Operating | Power | Dimensions (A-620) | Dimensions (A-618/A-618T) |
|--|--|--|--|---|
| <ul style="list-style-type: none"> • WEB based GUI • Management interface <ul style="list-style-type: none"> - 1 USB - 1 Ethernet LAN ports | <ul style="list-style-type: none"> • Operating temperature: 0°C to 45°C • Storage temperature: -10°C to 70 °C • Relative humidity: min 10% max 95% not condensing | <ul style="list-style-type: none"> • 220-110 Vac 50-60 Hz hot swap power module • 48 Vdc hot swap power module • Default redundancy • Max consumption: (fully equipped) 350 W (A-620); 150 W (A-618) | <ul style="list-style-type: none"> • Chassis 2U surface or 19" rack mount 483 mm W, 453 mm D, 88 mm H • Weight: (fully equipped) 7.5 kg (16.5 lbs) | <ul style="list-style-type: none"> • Chassis 1U surface or 19" rack mount 483 mm W, 440 mm D, 44 mm H • Weight: (fully equipped) 4 kg (8.8 lbs) |

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