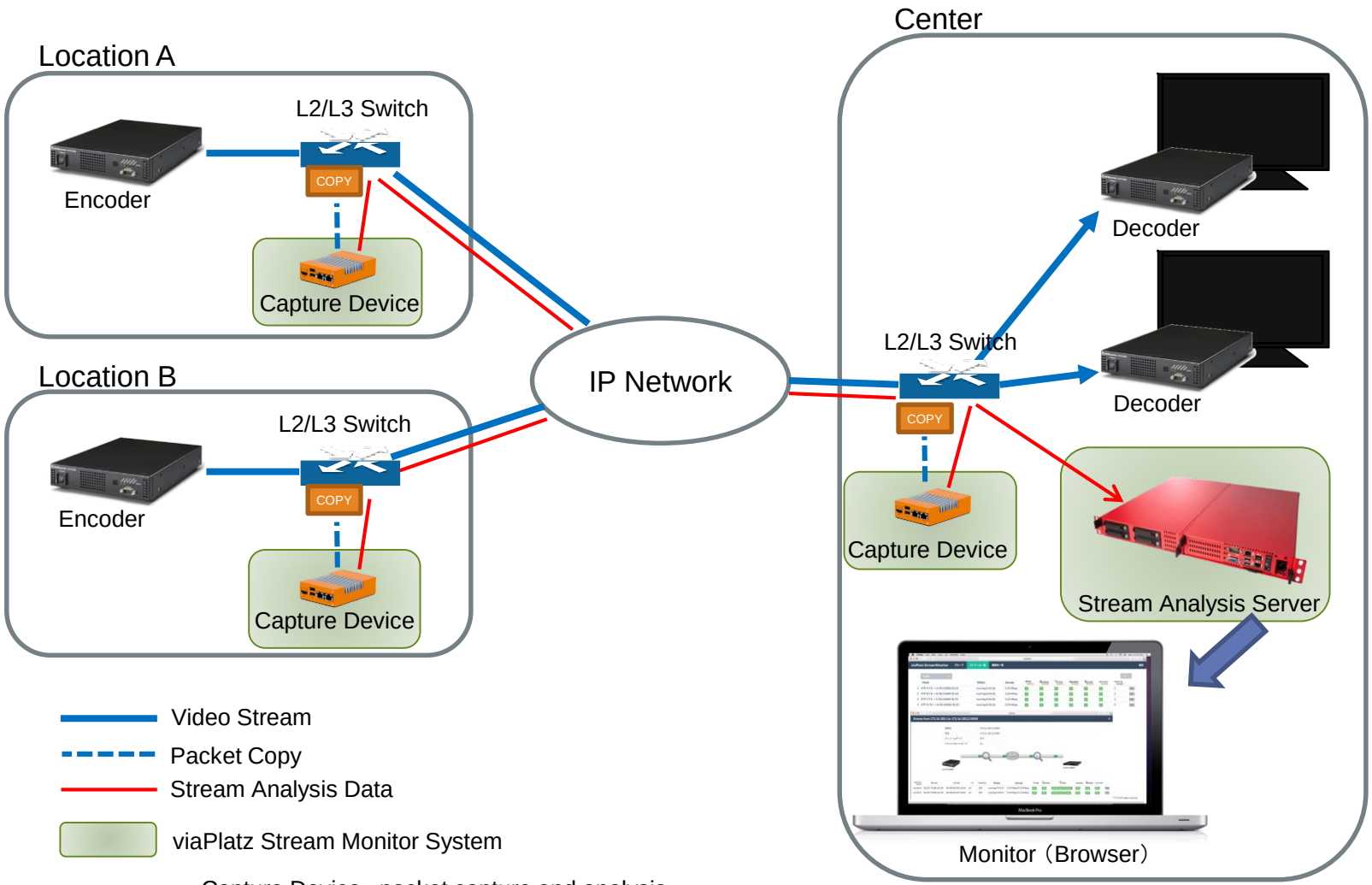
viaPlatz® StreamMonitor

NTT-TX

Overview



Capture Device：packet capture and analysis

Stream Analysis Server：processes “Stream Analysis Data”
outputs various video stream status

Main Features

Visualizing Video Streams on the network

- viaPlatz Stream Monitor(VSM) identifies video streams automatically by analyzing packets on the network in real-time.
- Video stream monitoring and visualization for video stream existence, packet drops, reorders, duplications and jitters.

Multi-point Monitoring

- VSM consists of distributed packet monitoring points and a stream analysis server.
- Multi-point monitoring identifies the point of problems instantly.

Support many network interfaces, many video protocols

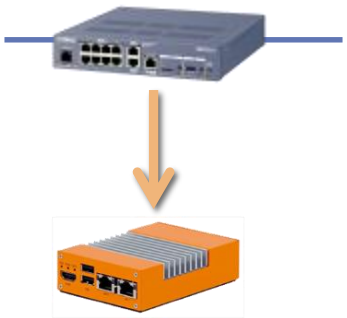
- Supported Network I/F: 1Gbps, 10Gbps, 40Gbps and 100Gbps.
- Supported video streams: Compressed streams (H.264, HEVC,MPTG-TS) and uncompressed streams (HD, UHD, 4K and 8K).
- Supported transport protocols: RTP and MMT.

Super High Speed Network Monitoring with Very Accurate Time Stamp

- VSM also supports general purpose network monitoring up to 100Gbps.
- Very high packet time stamp accuracy using high-end NIC.

Options of Packet Copying Method

Port Mirroring

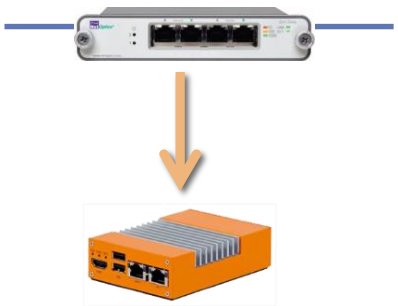


- Configure router/switch to mirror packets to a specific port.
- Connect a Capture Device to the port.

❑ No network down upon Capture Device installation.
❑ No additional device in the network.

❑ The load of router/switch may increase.
❑ There may be packet drop in packet mirroring if the total amount of packets exceeds a capacity of a port.

TAP



- Insert a TAP between codec and router/switch.
- Connect a Capture Device to the mirror port on the TAP.
- Device Examples: NetOptics TP-CU3-ZD, TP-LRx-LCSLM

❑ Some TAP devices don't induce delay or packet loss even if the power supply is lost.

❑ To install a TAP, you need to stop the network.
❑ Additional device in the network.

Options of Packet Copying Method -continued

Bridge Connection

- Use a Capture Device with at least two ports and configure it in bridge mode.
- Insert the Capture Device between codec and router/switch.

❑ No impact for existing network components.

❑ To install a Capture Device, you need to stop the network.
❑ Packet delay and loss may be induced if the performance of the device is low.
❑ If the capture device fails, the video stream stops.

Comparison of the Packet Copying Method

Packet Copying Method	Expected Reliability	Cost
Port Mirroring	High	No additional cost
TAP	High	USD 1,000 - 2,000
Bridge Connection	Low	No additional cost

Recommendation: Port Mirroring ~ TAP > Bridge Connection

Capture Device Options

- Criteria to choose capture devices
  - Network speed and physical interface
    - 1G, 10G, 40G and 100G
    - UTP, Fiber (SFP+, QSFP+, CFP4)
  - Time accuracy for measuring the time of packet capture
  - Performance (CPU and Memory)
  - Storage Capacity
  - Reliability/Cost

- Capture Device Options
  - Small PC
  - PC Server
  - PC Server with additional high-speed network card
  - PC Server with additional high-speed/high accuracy network card
    - Example: Napatech NT100E3-1-PTP, NT20E3-2-PTP




Use Cases

Live Broadcasting Productions

- Monitoring video streams from locations to the broadcasting center.

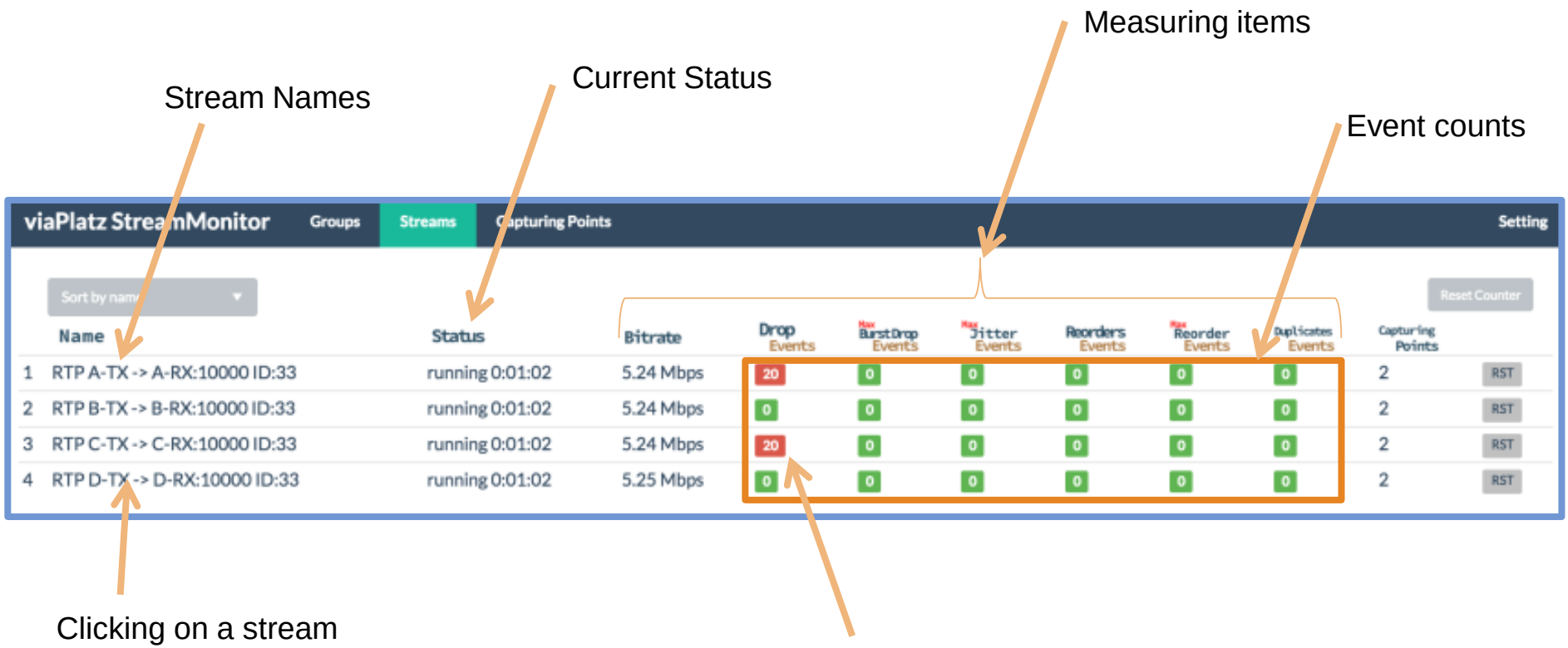
Video Distribution

- Monitoring video streams from the main station to local stations.

General purpose high speed network monitoring

- Utilizing VSM's high accuracy and packet analyzing performance up to 100Gbps, network administrators can identify network problems easily.

Display Example: Stream List



Clicking on a stream name brings up a window to show the status details.

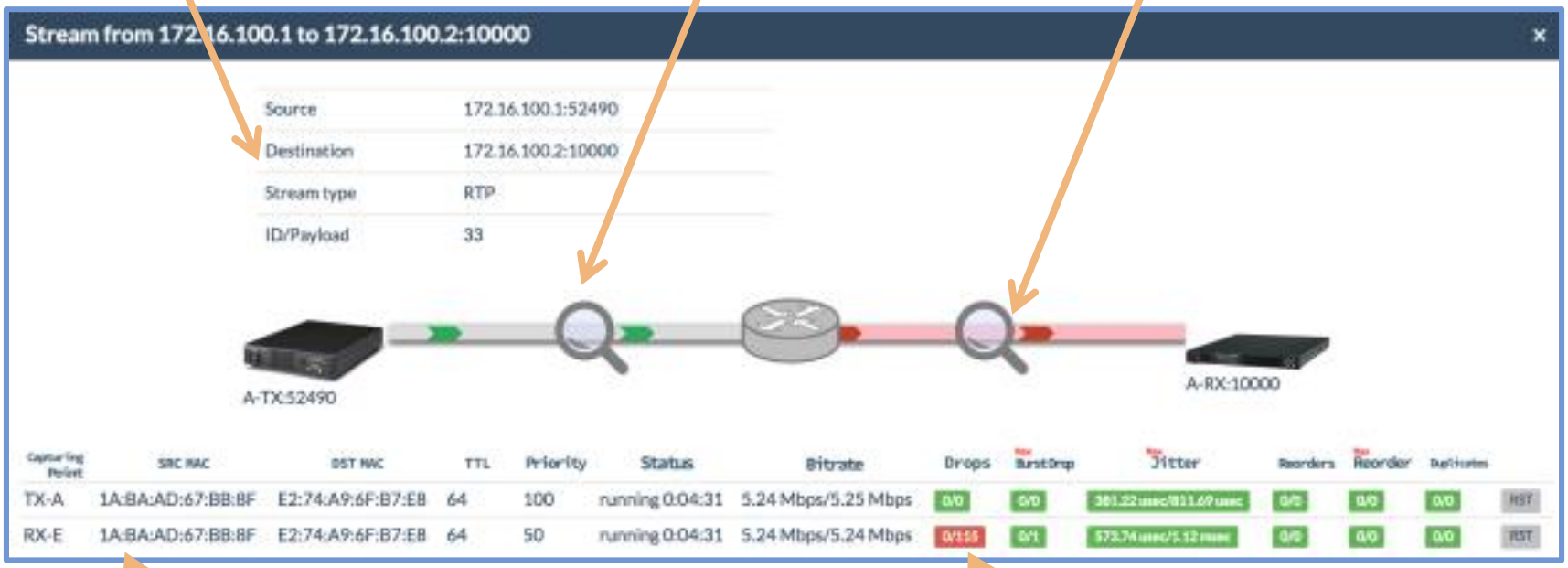
Event Count in red indicates there is a problem in the stream

Display Example: Stream Detail

Stream Information

Packet Monitoring Point

Network path in red means VSM detects a problem there.



Each line shows a detail information on a packet monitoring point.

In this example, cause of the problem is packet drops.

Display Example: Chart

Bitrate

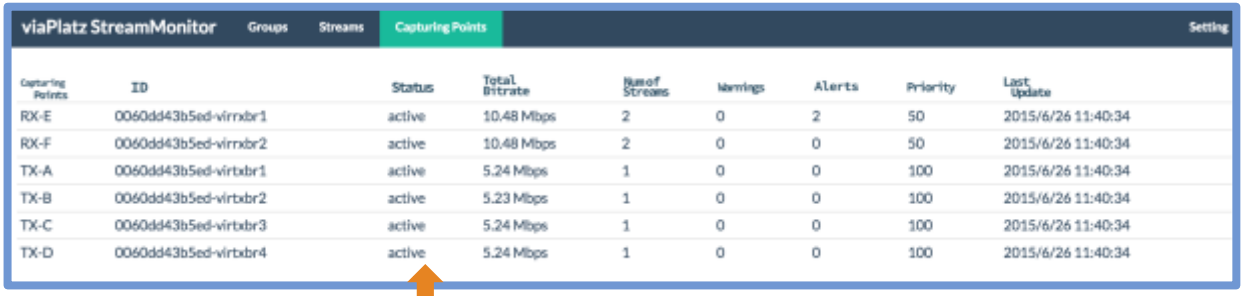
Max burst drops

Packet Drops

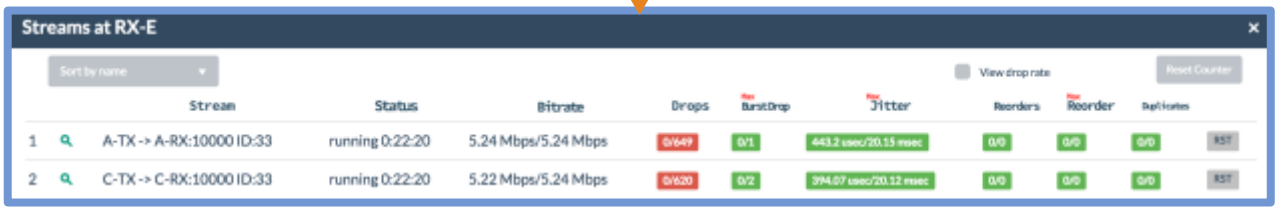
Jitter

Display Example: Capture Device List

Display the summary of Capture Device info.



Video stream List on the Capture Device
View pops up by clicking each device line.



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viaPlatz® StreamMonitor