



VoIP Correlation Cubro Session Master

APPLICATION NOTE

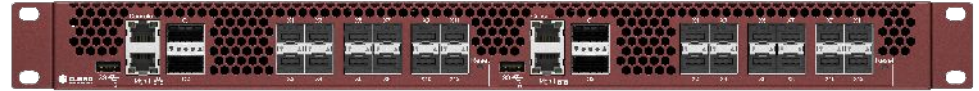
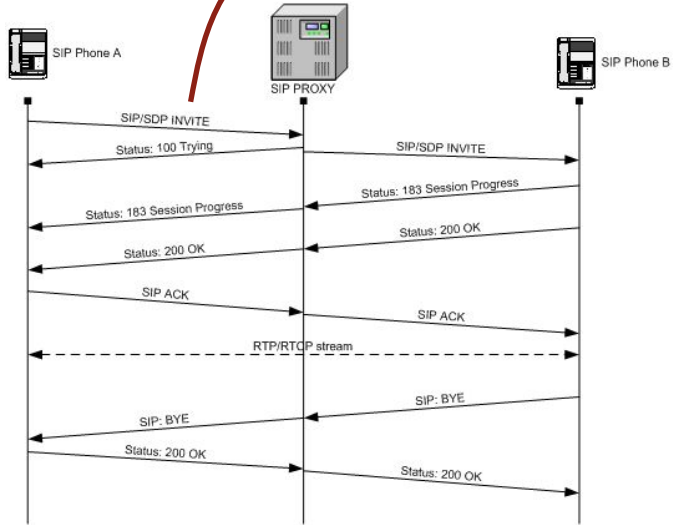
Purpose of this presentation



- This presentation will introduce the SIP and RTP features that are available on Cubro Session Masters.
- EXA40(D) & EXA2160 are CPU based solutions that give the maximum performance and flexibility to analyse protocols like SIP.

- The two major protocols behind VoIP are
 - SIP ... Session Initiation Protocol
 - RTP ... Real Time Protocol
- **SIP** is the signalling part of VoIP, responsible for call setup. Usually SIP runs on port 5060. **Every Cubro Packetmaster can be used as layer 4 Port filter to filter out SIP traffic.**
- RTP is the user-plane which is usually voice. RTP is characterized as UDP service running on layer 4 Port numbers that have been agreed during call setup using SIP.
- In order to allow for full call correlation, **SIP messages need to be analysed in real-time** and the relevant RTP of a call needs to be found.

Working principle



Cubro Session Master analyses the SIP Invite message.
Uses this information to find RTP traffic.

Options of using Cubro Session Master



- Three options on where we can help
 - Session Master analyses all SIP and will forward all Sessions including the RTP.
 - Forward only SIP traffic / forward only RTP traffic
 - Forward only calls from or to a specific user

EXA40(D) & EXA24160 Filtering



- Cubro Session Master allows to filter for specific user traffic
 - It is possible to filter for calls from or to a user
 - Also possible to filter for a range of users with the help of wildcards

```
> Frame 2497: 1364 bytes on wire (10912 bits), 1364 bytes captured (10912 bits) on 0
> Ethernet II, Src: Brocade_Ce:87:00 (cc:4e:24:1e:87:00), Dst: ZyxelCom_33:8f:44 (b0:b2:dc:33:8f:44)
> Internet Protocol Version 4, Src: 193.32.51.186, Dst: 213.143.110.250
> User Datagram Protocol, Src Port: 5060, Dst Port: 5060
< Session Initiation Protocol (INVITE)
  < Request-Line: INVITE sip:+4312982666309@192.168.0.10:5060 SIP/2.0
    Method: INVITE
  < Request-URI: sip:+4312982666309@192.168.0.10:5060
    [Resent Packet: false]
  < Message Header
    < Record-Route: < sip:193.32.51.186;r2=on;r1=on;ftag=vtSS28jaFjavj;nat=yes>
    < Record-Route: < sip:10.23.101.32;r2=on;r1=on;ftag=vtSS28jaFjavj;nat=yes>
    < Via: SIP/2.0/UDP 193.32.51.186;branch=z9hG4bkb729.33e2014c64a9f372d60af33B40e9c999.0
    < Via: SIP/2.0/UDP 10.23.101.11:5080;received=10.23.101.11;rport=5080;branch=z9hG4bkc62gDK4NSUjFK
    Max-Forwards: 15
    < From: < sip:+436642666309@10.23.101.11>;tag=vtSS28jaFjavj
    < To: < sip:+4312982666309@10.23.101.32>
    Call-ID: 7d873383-f94c-1236-53a5-005056b8b43e
    CSeq: 124970322 INVITE
    Contact: < sip:3512L91542@10.23.101.11:5080;alias=10.23.101.11-5080~1>
    User-Agent: U-Com Cloud Service
    Allow: INVITE, ACK, BYE, CANCEL, OPTIONS, MESSAGE, INFO, UPDATE, REGISTER, REFER, NOTIFY
    Supported: path, replaces
    Allow-Events: talk, hold, conference, refer
    Privacy: none
    Content-Type: application/sdp
    Content-Disposition: session
    Content-Length: 292
  < ...
```

Performance



- EXA40(D) and EXA24160 can handle up to **100,000 rules in parallel** □ filtering up to 100,000 users at the same time!

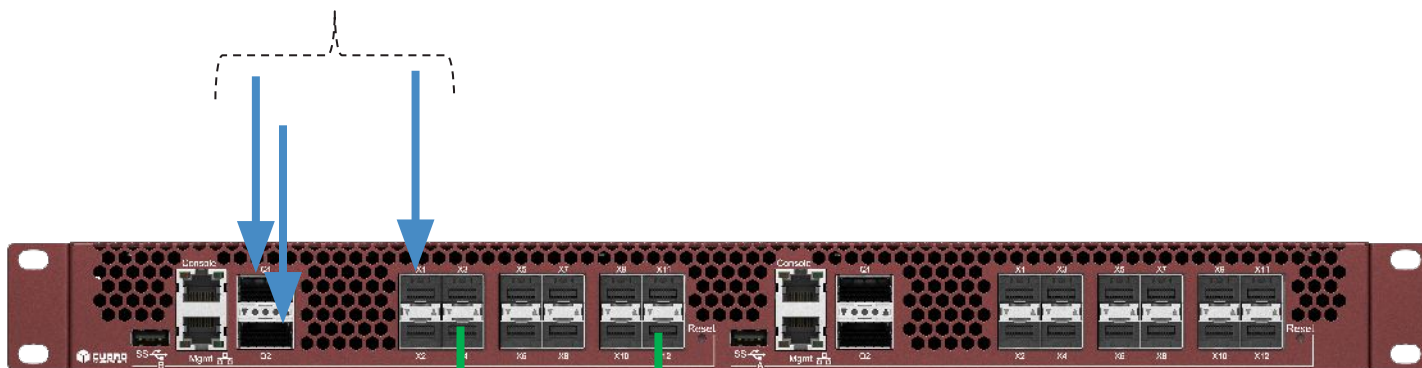
- Correlation Performance
 - EXA40 – 20Gbps
 - EXA40D – 40Gbps
 - EXA24160 – 80Gbps

Typical Application Scenario



Incoming traffic
(from span ports or TAPs)

EXA40 with 40 x 1G/10G ports



All SIP traffic
for long term analysis

SIP & RTP traffic of a
specific call
for on demand trouble-shooting &
detailed analysis

Features & Benefits



- Release existing monitoring tools from traffic that is not needed.
 - Capture/Analyze only the relevant data
 - Lower cost of monitoring tools
- 1G, 10G and 40G connectivity.
 - Stay with existing 1G tools for traffic analysis
- Combine with any other Cubro network visibility solution to cover all monitoring aspects of a full network infrastructure.
 - Single point of contact for a full visibility solution



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THANK YOU



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