

SIP3: New generation of VoIP monitoring

SIP3

COMMCON
VIRTUAL 2021



SIP3 Platfrom is built to help Mobile Operators / CPaaS / UCaaS / CCaaS / Business Communications

- resolve customers issues
- keep service uptime
- measure service degradation
- monitor business metrics

Features overview and usage guide

MONITORING

TROUBLESHOOTING

TRACING

Enterprise Edition features further are marked by 

SIP3 experts have been working through all existing RFCs and ITUs to find a perfect combination of 25+ SIP and 15+ RTP/RTCP QoS metrics.

RFC 6076

sip_call_trying_delay

sip_call_setup_time

sip_call_attempts

sip_call_disconnect_time

sip_call_establish_time

sip_call_duration

and 20+ more!

PESQ and POLQA (ITU-T P.862)

rtp_rtpr_one_way

rtp_rtpr_lost_packets

rtp_rtpr_r_factor

rtp_rtpr_expected_packets

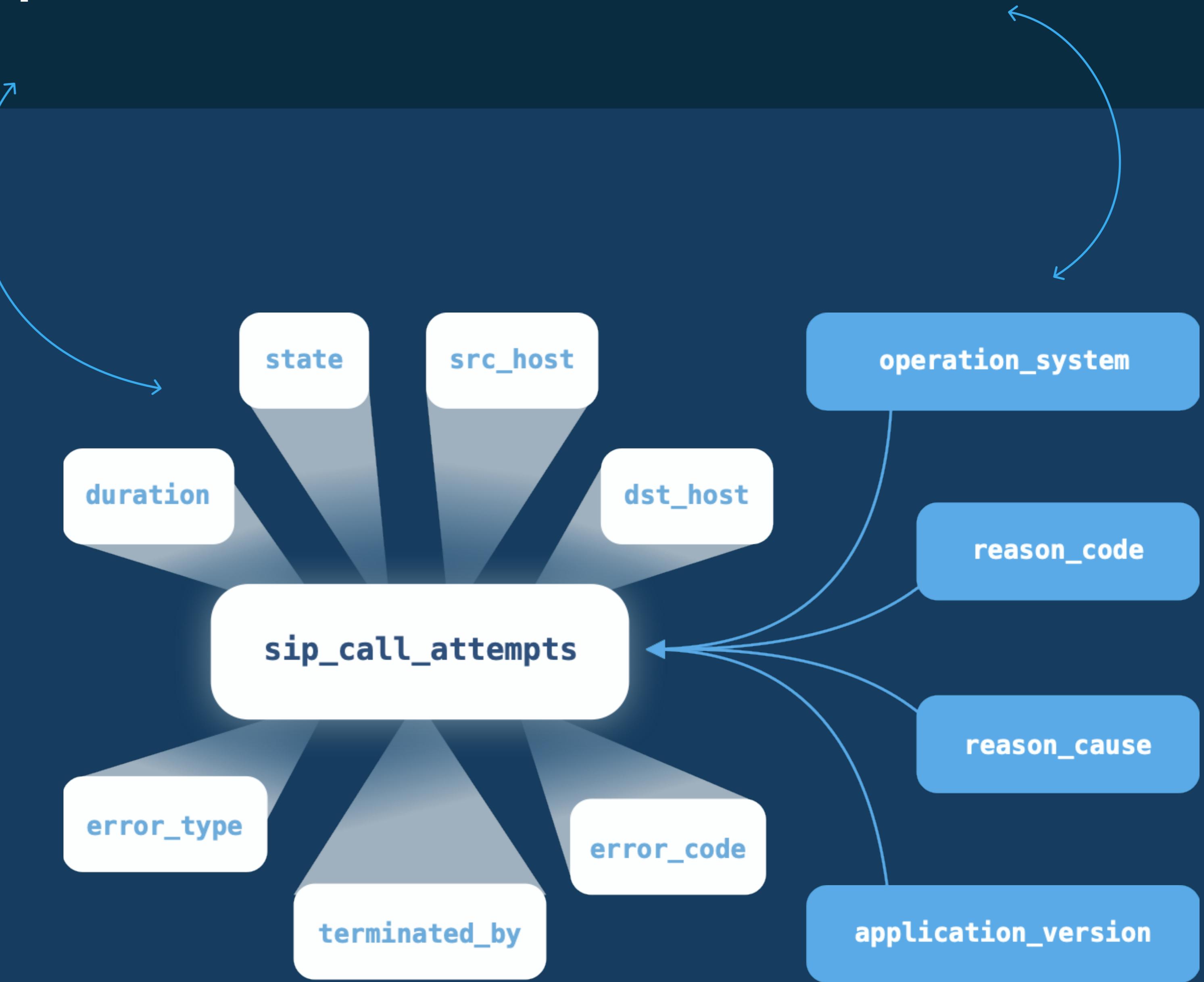
rtp_rtpr_rejected_packets

rtp_rtpr_mos

and 10+ more!

Explore each of SIP3 multi-dimensional metrics from different perspectives

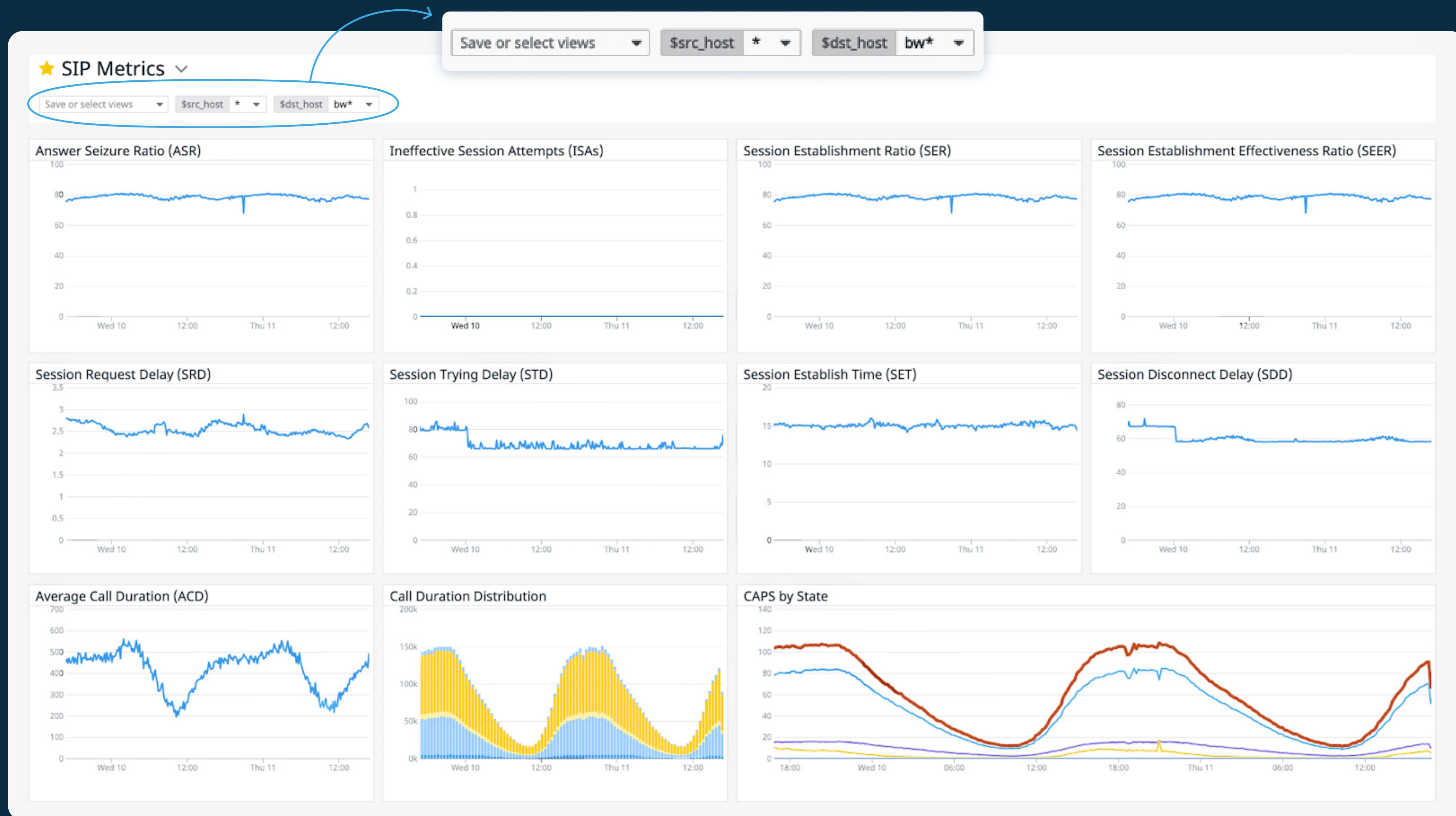
Add user-defined tags and dimensions



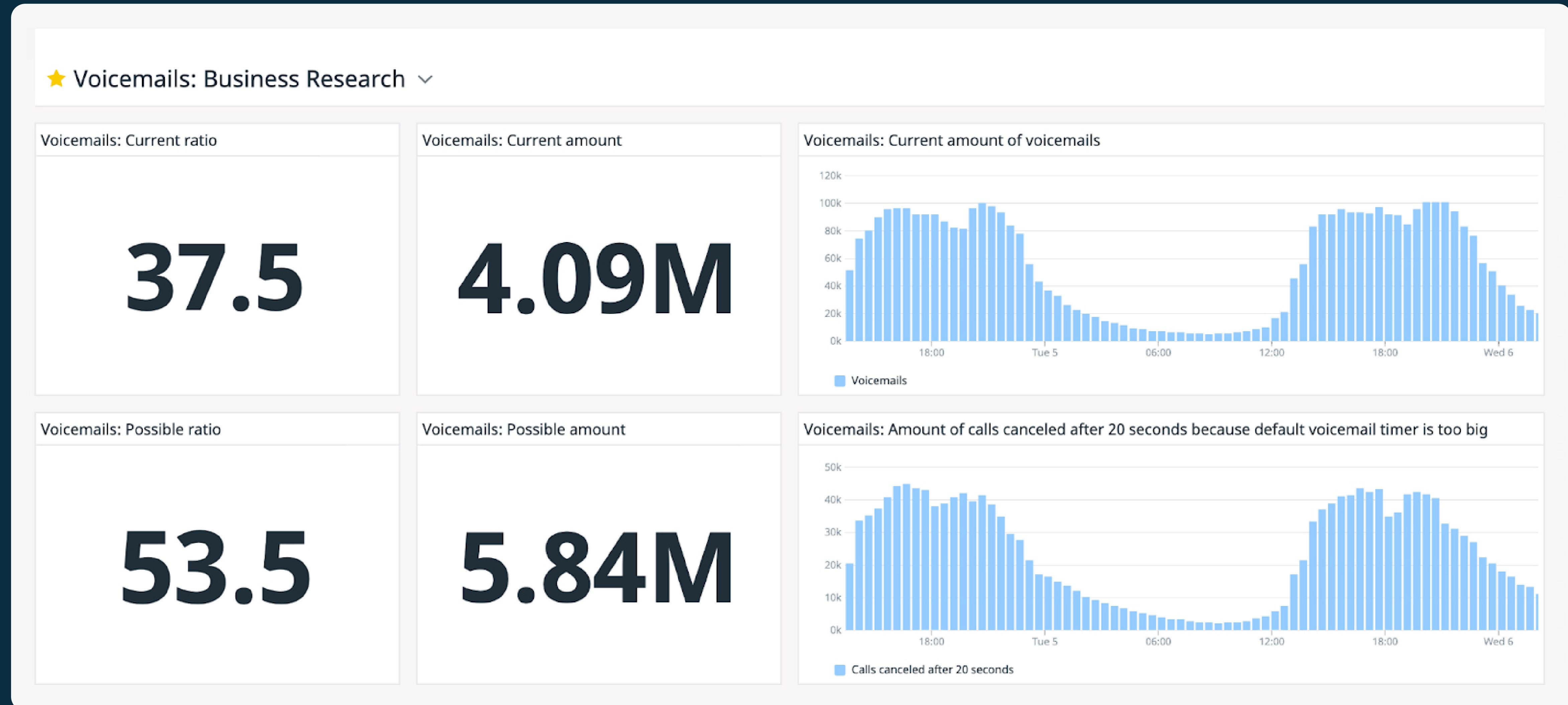
Integrate SIP3 metrics into your company's monitoring platform



Start using default QoS dashboards designed by the SIP3 team



Build custom dashboards to perfectly suit your business needs



Configure meaningful monitoring alerts

Trunk {{dst_host.name}} has lots of calls with setup time more than {{eval "int(threshold)"} seconds}

Go to SIP3 UI and check what's happening:

```
https://demo.sip3.io/advanced?created_at={{eval  
"last_triggered_at_epoch-15*60*1000"}}&terminated_at={{eval  
"last_triggered_at_epoch+15*60*1000"}  
&query=sip.setup_time%3E{{eval  
"int(threshold*1000)}}%20sip.dst_host={{dst_host.name}}}
```

Responsible team members:

@agafox@sip3.io



[Triggered] Trunk [REDACTED] has lots of calls with setup time more than 15 seconds.

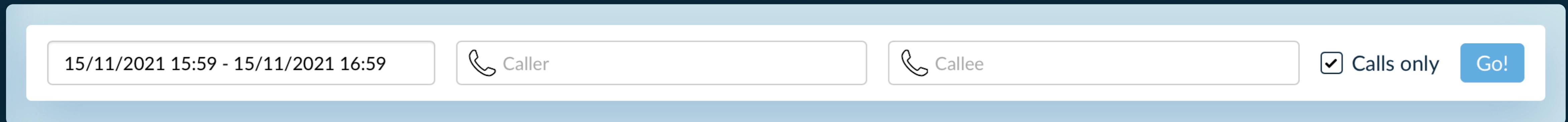
Go to the SIP3 UI and check what's happening:

```
https://demo.sip3.io/advanced?created\_at=1632420772000&terminated\_at=1632422572000&query=sip.setup\_time%3E15000%20sip.dst\_host=\[REDACTED\]
```

Responsible team members: [@agafox@sip3.io](#)

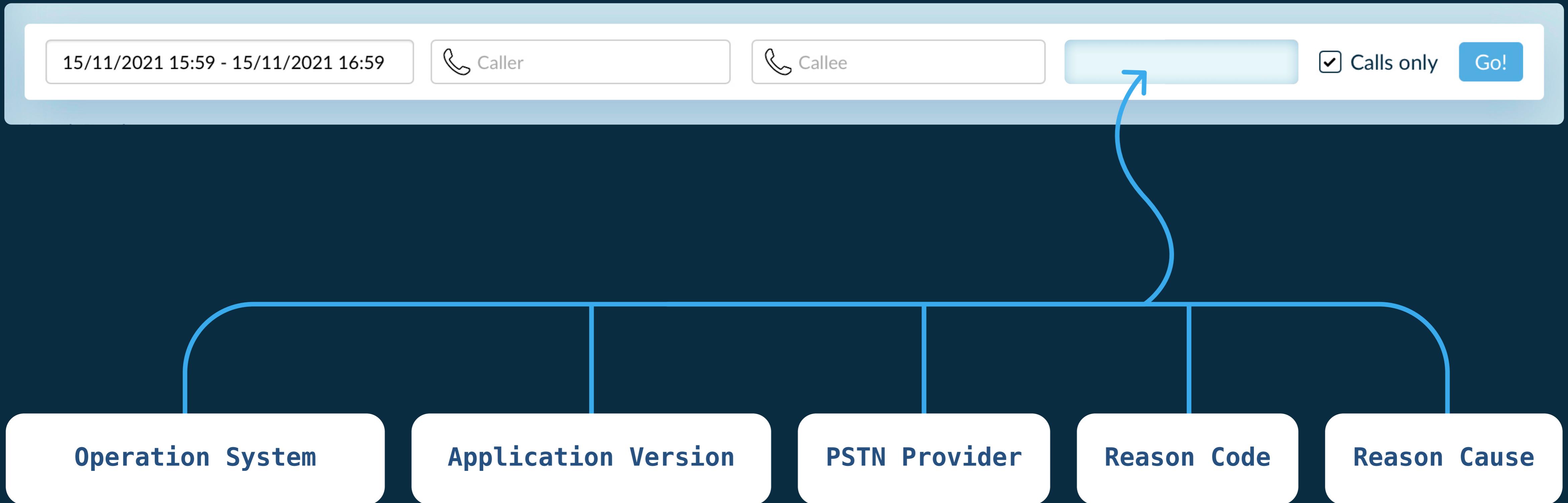
Use Simple Search: troubleshoot customers tickets

Perfect for L1/L2 support teams

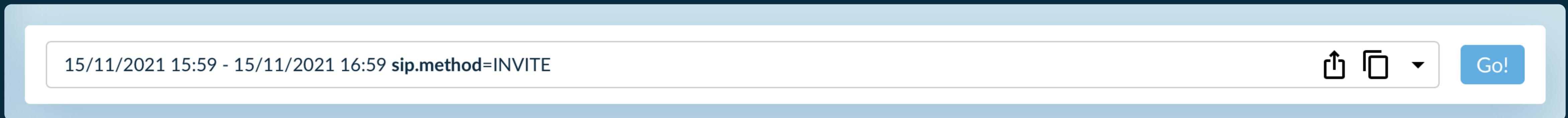


- Decrease average resolution time
- Educate L1/L2 support teams
- Resolve 95% of all problems

Configure Simple Search for any L1/L2 search scenario



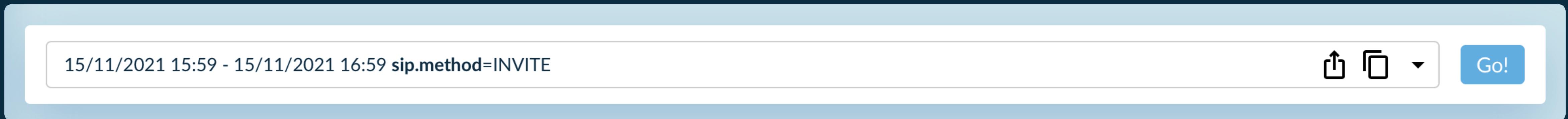
Use Advanced Search to troubleshoot monitoring alerts or just explore your VoIP network



Rich syntax:

- 3 main search groupings: sip, rtcp and rtp
- 5 main operators: =, !=, =~, <, >
- 40+ default search attributes

**Advanced Search provides incredibly detailed search filtering
in minimalistic interface inspired by Wireshark**



Just a few examples of what you can put as a search query:

- `sip.caller=plami rtp.r_factor<30`
- `sip.trying_delay>150`
- `sip.retransmits>5`

Extend Advanced Search and introduce search attributes important for your business

15/11/2021 15:59 - 15/11/2021 16:59 sip.robocall=true| ↑ ↻ ▾ Go!

```
package udf

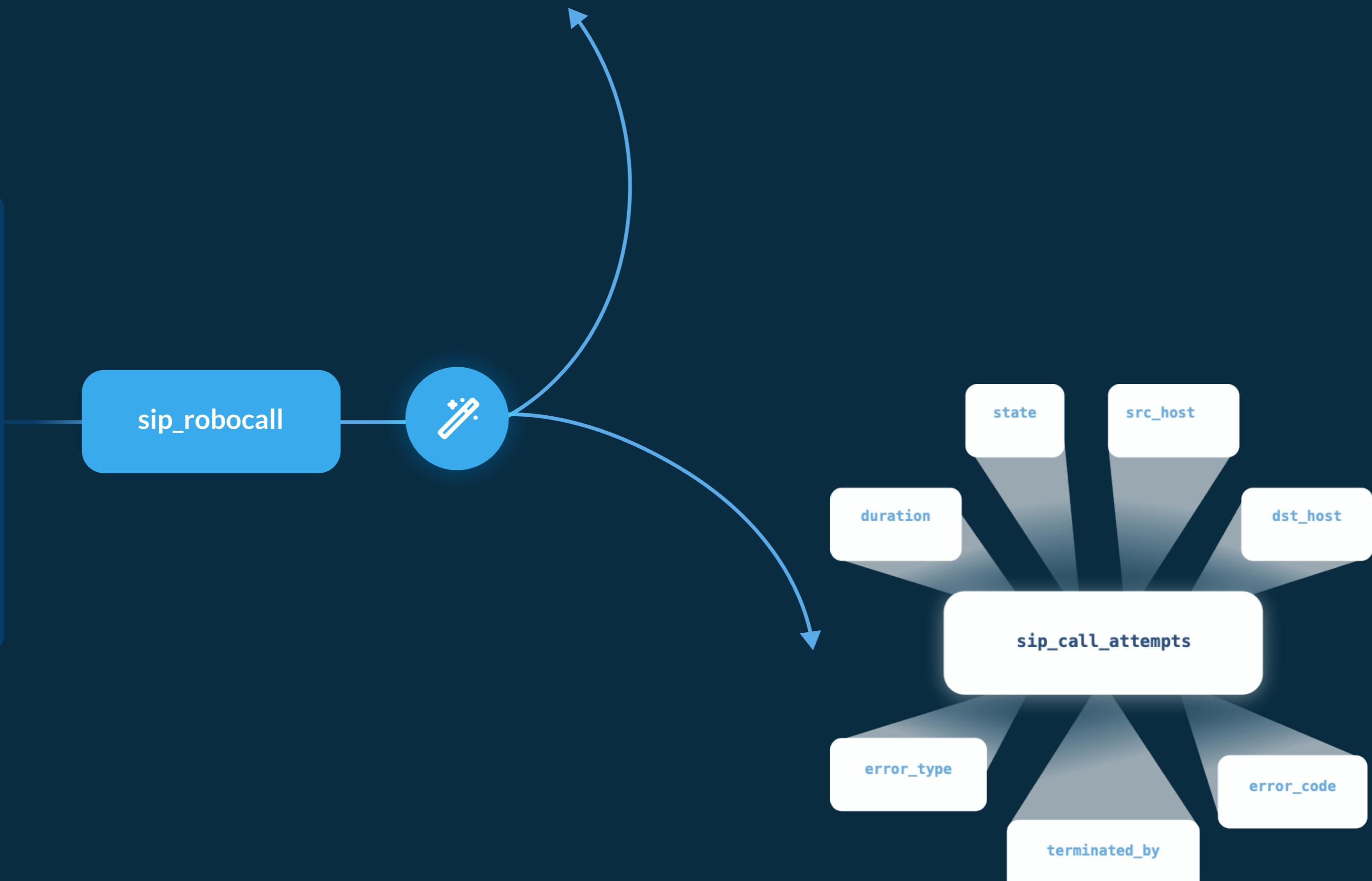
def eventBus = vertx.eventBus()
eventBus.localConsumer("sip_message_udf", { event ->
    def packet = event.body()

    def sip_message = packet['payload']
    if (sip_message['from'].matches('<sip:100@.*')) {
        packet['attributes']['robocall'] = true
    }

    event.reply(true)
})
```

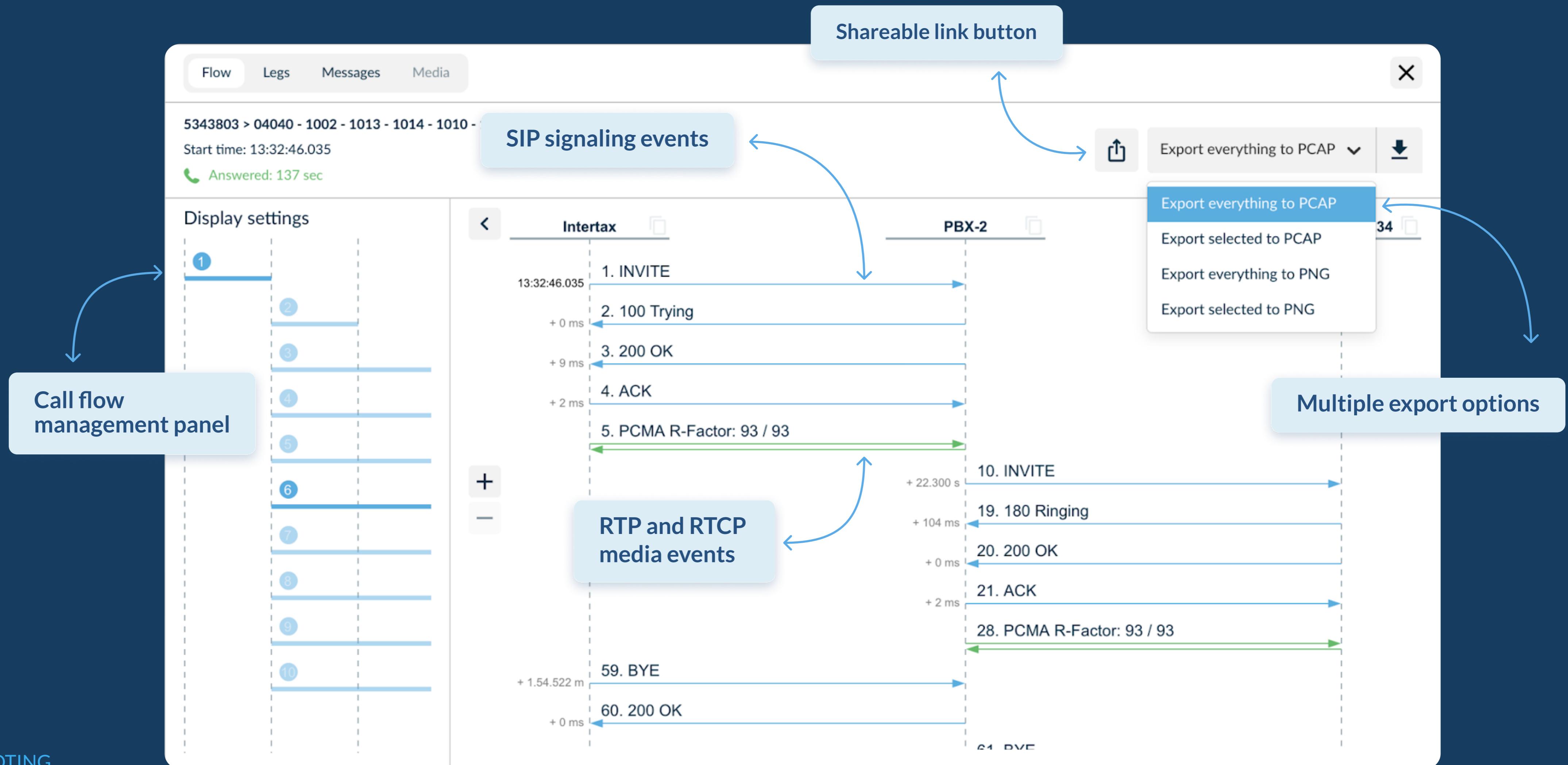


sip_robocall



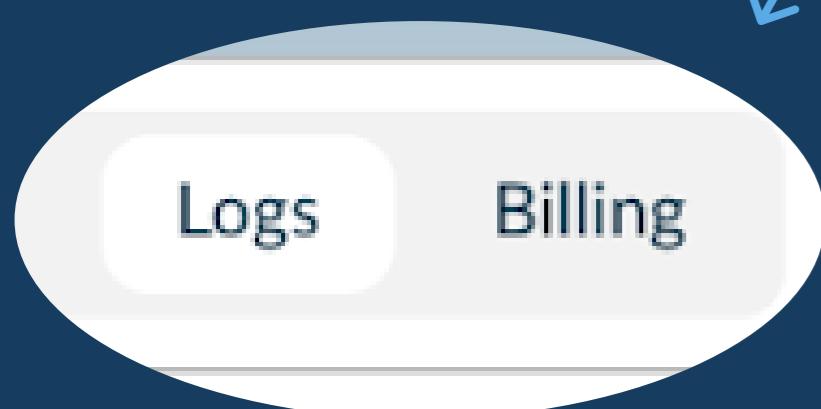
TROUBLESHOOTING

See all the signaling and media call legs correlated in a handy flow diagram





Pull additional data into separate call information tabs

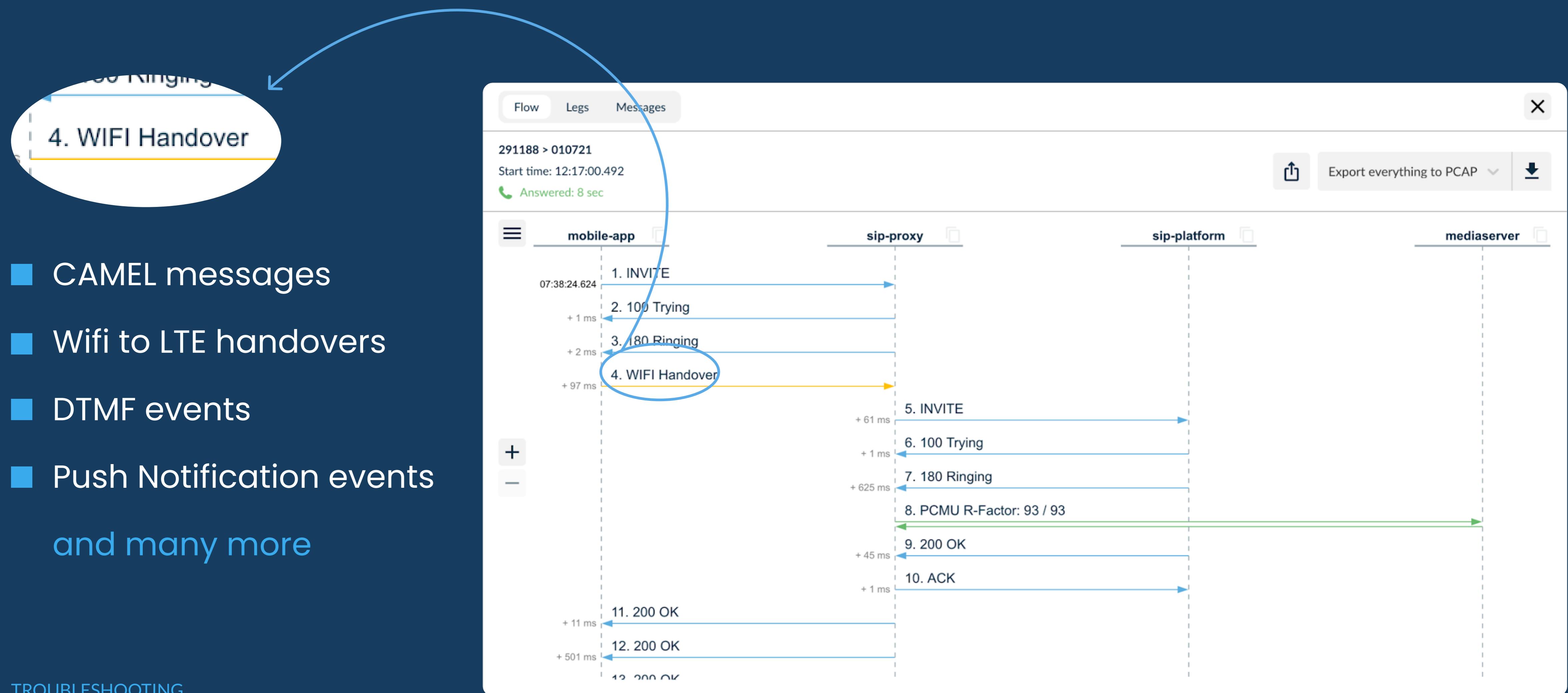


The screenshot shows a user interface for managing call details. At the top, there are five tabs: Flow, Legs, Messages, Logs, and Billing. The Billing tab is currently active, indicated by a blue oval and a blue arrow pointing from the corresponding tab on the left. Below the tabs, the call identifier is shown as "291188 > 230815" and the start time as "Start time: 00:01:39.337". A red phone icon indicates a failure, with the text "Failed: 503" next to it. On the right side of the interface, there is a button labeled "Export everything to PCAP" with up and down arrows.

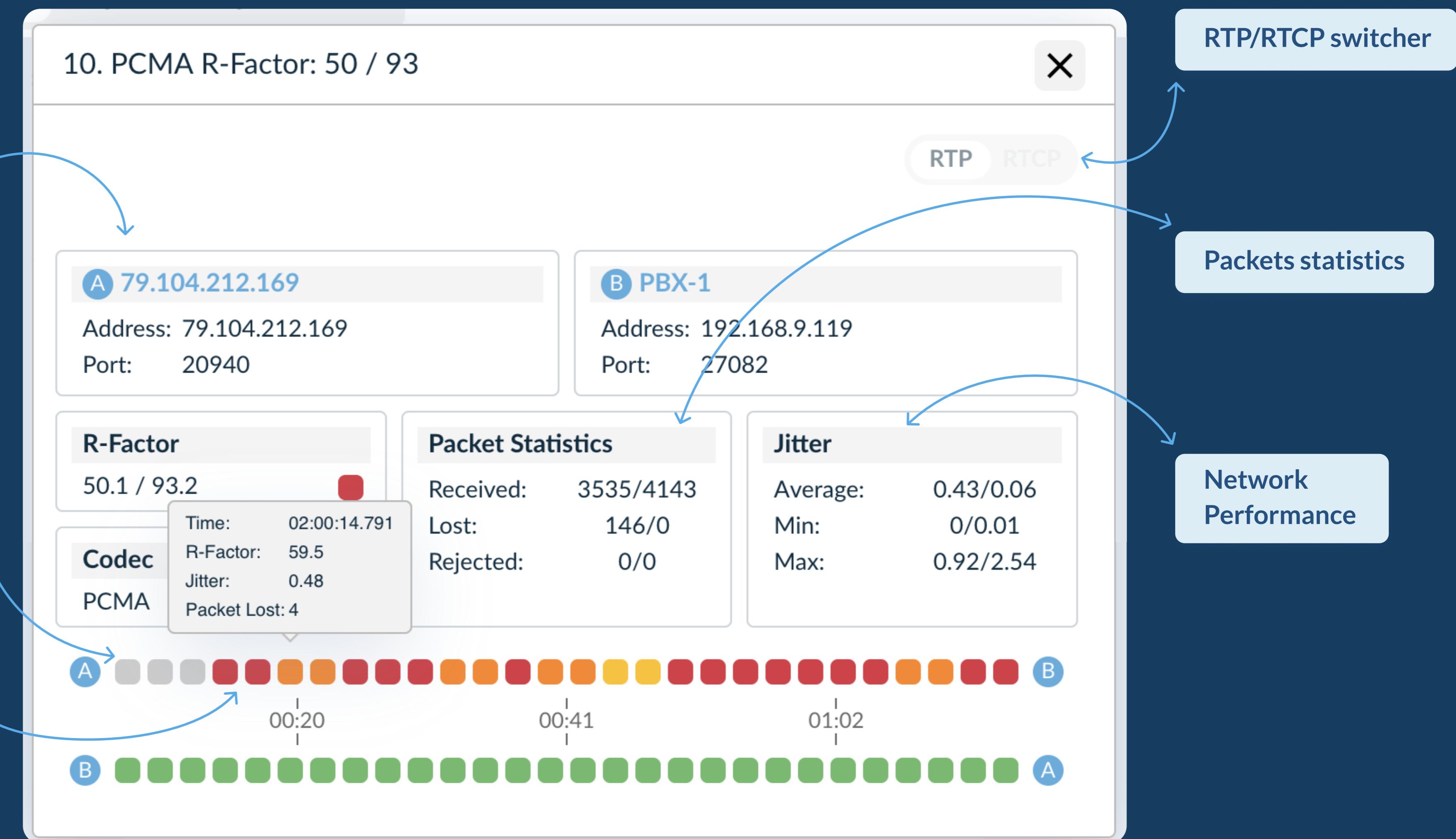
- Application logs
- CDRs
- Billing details
- and many more



Or even push extra data events to the flow diagram



Get really deep insights on media quality



TROUBLESHOOTING

Trace complex media quality issues



```
recording:  
  enabled: true  
  filters:  
    - filter: "sip.src_addr=26.03.19.93 sip.user=desi"  
      mode : 0  
    - filter: "rtp.host=RTP_ENGINE_1 rtp.duration>10000 rtp.r_factor<75"  
      mode : 1
```

Disk space economy
comparing to .pcap files:

FULL MODE: 30%

GDPR MODE: 80%

TRACING

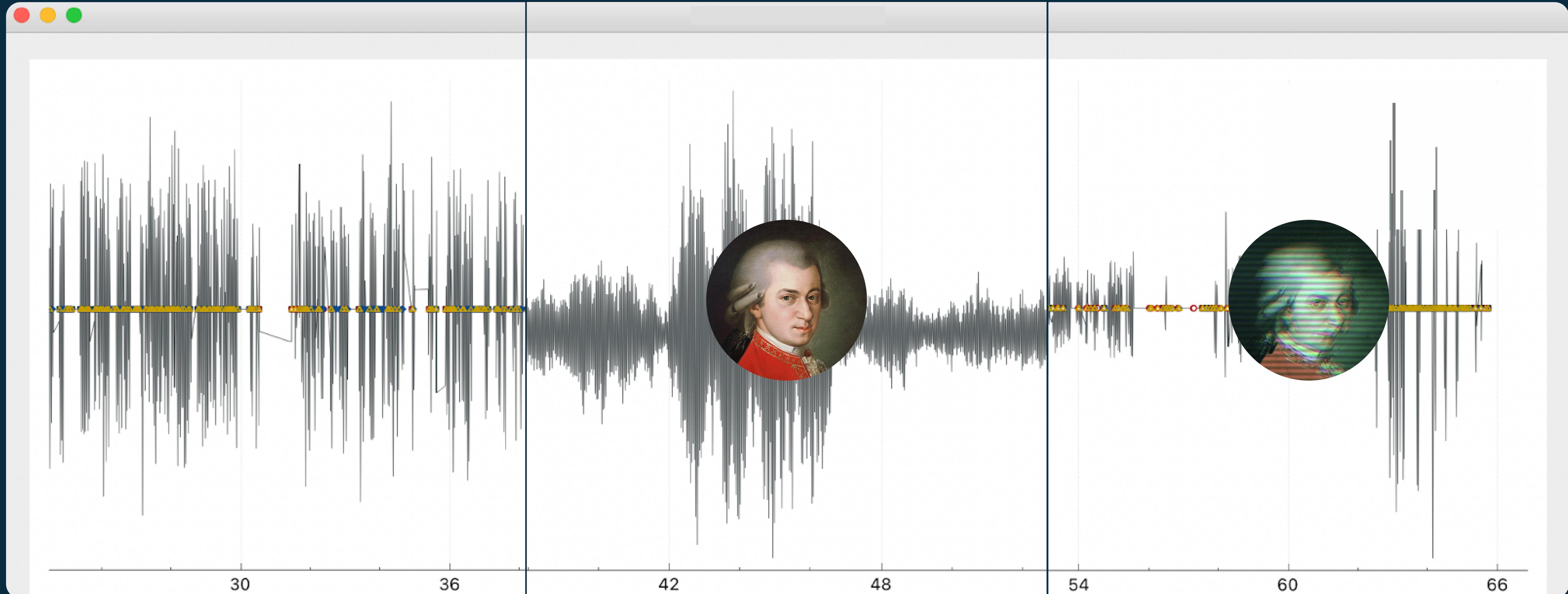
Real-Time Transport Protocol
[Stream setup by SDP (frame 5)]
10.. = Version: RFC 1889 Version (2)
..0. = Padding: False
...0 = Extension: False
.... 0000 = Contributing source identifiers count: 0
0... = Marker: False
Payload type: ITU-T G.711 PCMU (0)
Sequence number: 21375
[Extended sequence number: 21375]
Timestamp: 4202209063
Synchronization Source identifier: 0x4fd221dd
(1339171293)

SRTP Encrypted Payload:
e7e4e3e4e4e4e5ebf6786d696c747a7b756e6b69696765e7e4
e3e4e4e4e5ebf6786d696c747a7b756e6b69696765e7e4e3e4
e4e4e5ebf6786d696c747a7b756e6b69696765e7e4e3e4e4e4
e5e5ebf6786d696c747a7b756e6b69696765e7e4e3e4e4e5e5

GDPR —

FULL —

Ask Mozart to protect your data privacy



SIP3 records a call...

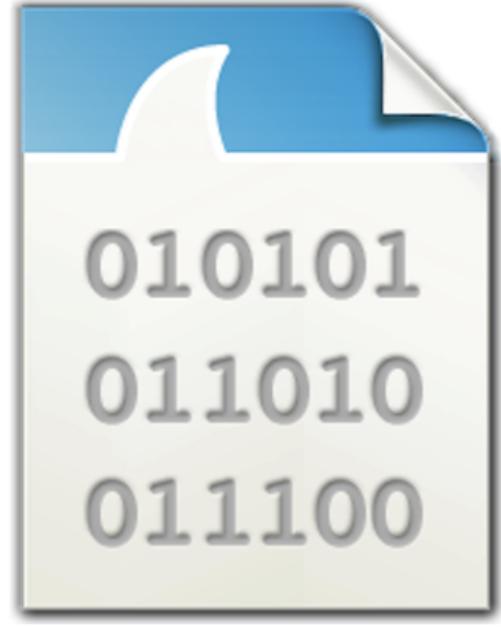


Takes a properly encoded
Mozart melody...

Replaces a real human conversation with
the melody but keep original call user
experience

TRACING

Share all your findings with your teammates or interconnection partners

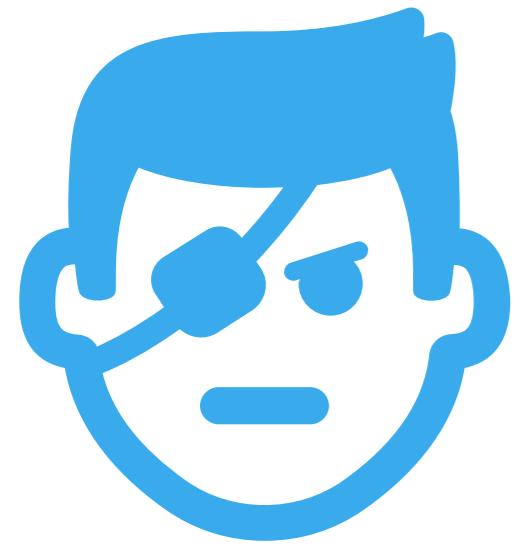


**Full or partial
.pcap files
offline**

Link to a particular call or many calls through Advanced Search online



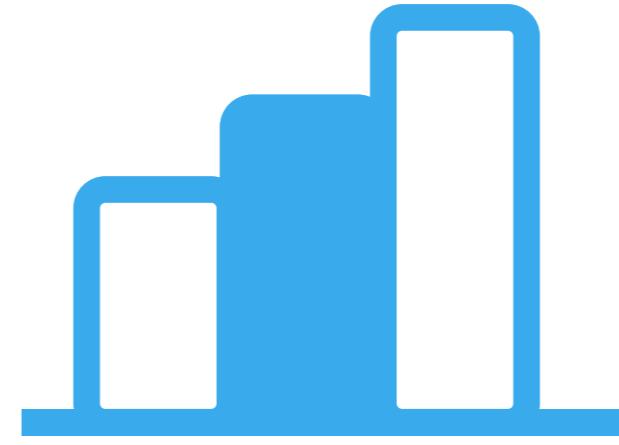
Build SIP3 Solutions to get an additional value of using the SIP3 platform



**Fraud
detection**



**Conditional
routing**



**Business
analytics**



**Predictive
dialing**

and more!

Thank you for listening!

Get in touch:
github.com/sip3io

Visit us:
sip3.io