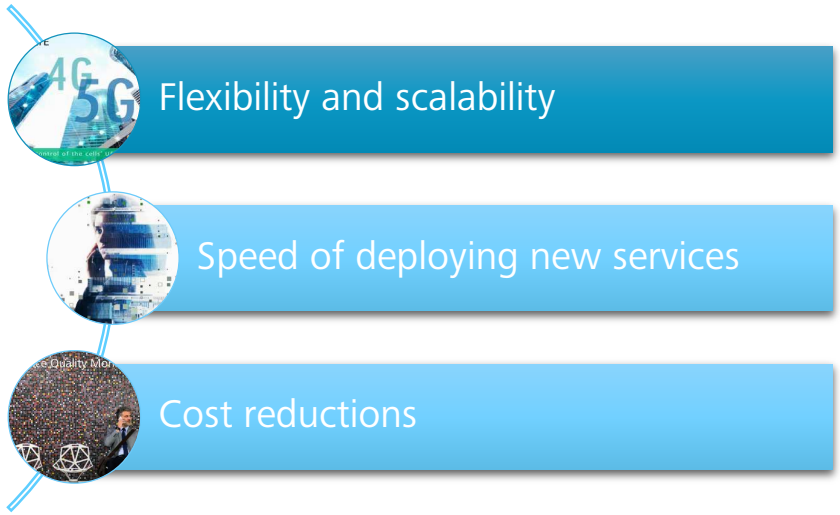
The need for visibility in the private cloud

Voice services moving to the cloud

Many service providers are seeing the benefits of moving their voice services to public and private clouds:



➔ **Premium user experience is key to the success of any cloud service migration. This means: cloud migration needs visibility and accurate data.**

The need for visibility – a private cloud customer case

A tier-1 CSP deployed a new virtual IMS core in a private cloud.

Subscribers are successively moved from old to new system – as of August 2021 roughly 60% of subscribers are hosted on the new system in the private cloud.

Voipfuture Qrystal monitors both the old and the new platforms.

Subscribers on the new platform report many more call drops and other issues.

Significant rise in tickets relating to

- Silent calls
- Dropped calls (up by 30% compared to old platform)

➔ **Data provided by new vendor solution does not match ticket situation and vendor denies any issues.**

The need for visibility – a private cloud customer case

Independent investigations were started by vendor and by customer.

Vendor still denied any problems.

The issues were escalated to the CTO level and Voipfuture was asked for support.

The following shows three findings relating to tickets about silent and dropped calls

Using Qrystal the CSP

- Had access to accurate data
- Could help the new IMS vendor to identify issues with their solution
- Could improve the overall user experience

Finding 1: Mute calls

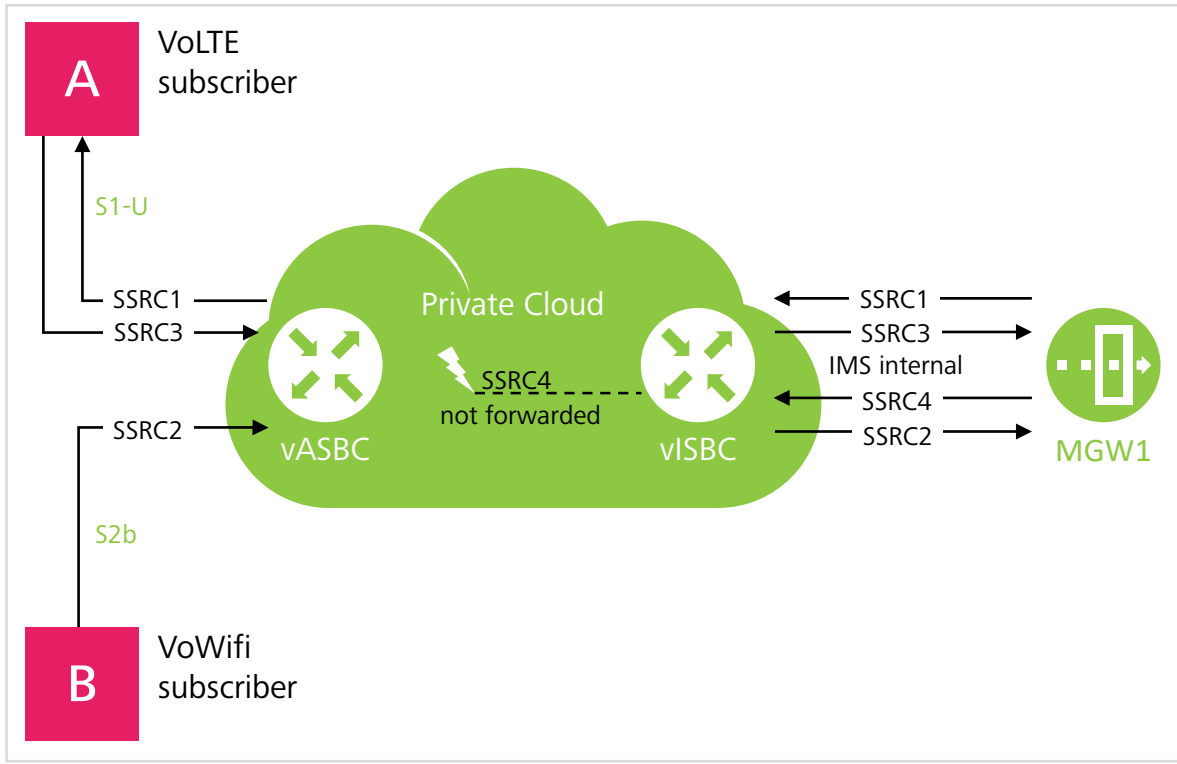
Subscribers are complaining about audio going silent in one direction.

Investigation showed issue with new virtual IMS.

Pattern:

- The new IMS core is failing to forward some RTP streams
- Streams are detected at the MGW, but blocked by IMS in private cloud

Status: Under investigation by vendor.



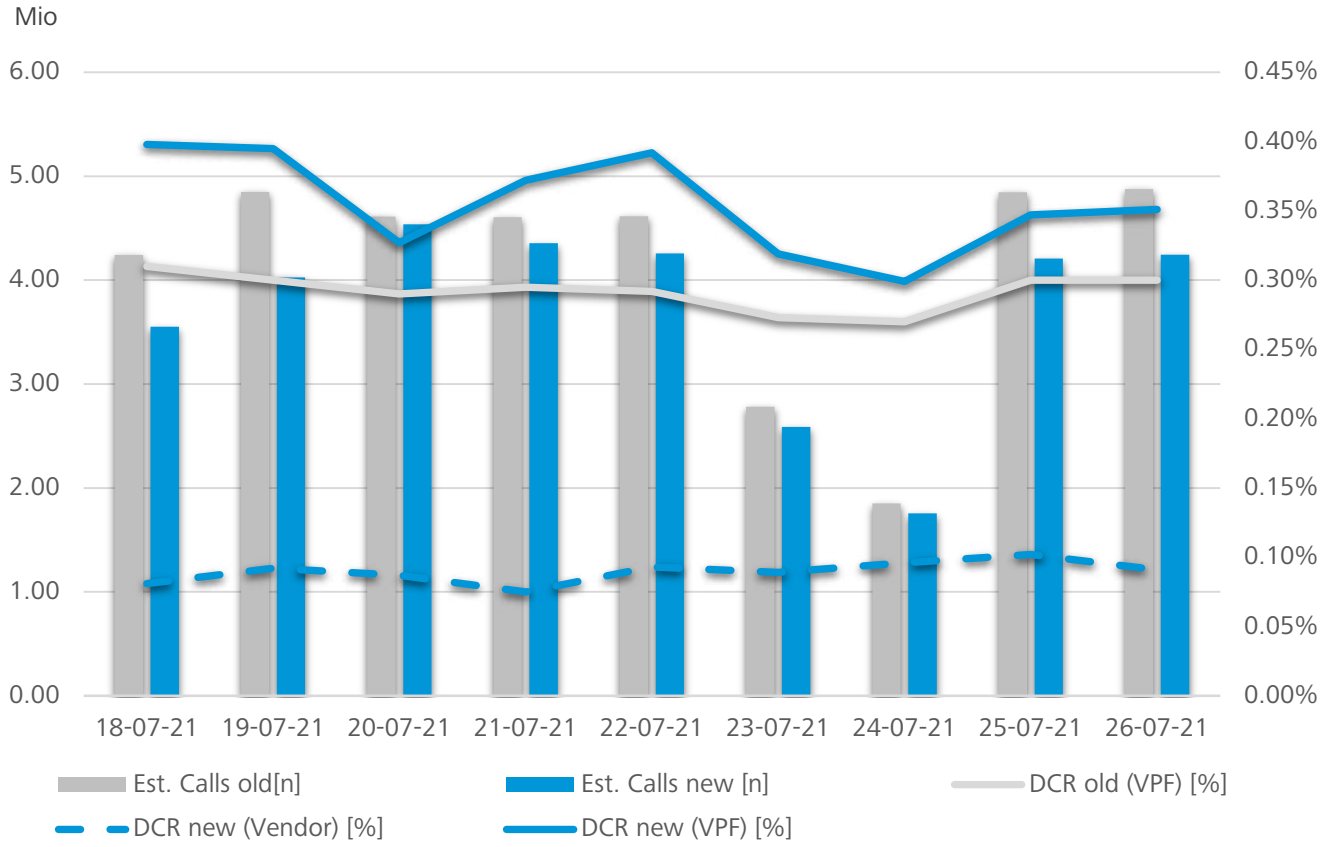
Finding 2: Dropped calls

New vendor reports Dropped Call Rate (DCR) of around 0.1% (based on own measurements).

Qrystal's DCR measurements revealed

- nearly 0.4% for new IMS and
- around 0.3% for old vendor

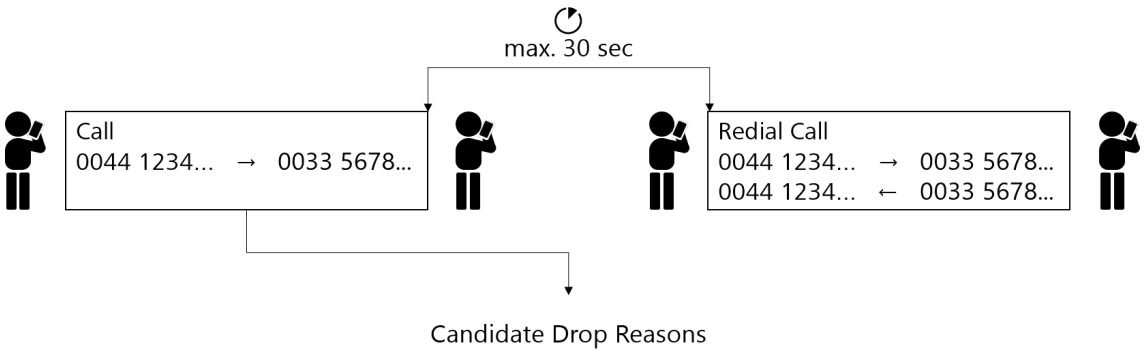
Qrystal DCR is in line with customer complaints.



Qrystal's call drop detection – observe user behavior

Users experiencing a call drop often try to re-establish the call.

- The second call in short succession is referred to as 'redial call'
- Redial calls are much more likely after unexpected call termination



➔ **The reason header of the first call indicates the call drop cause.**

➔ **Call drop reason headers are self-learned by Qrystal from observed user behavior.**

➔ **Resulting DCR is accurate and closely matches DCR provided by active test calls.**

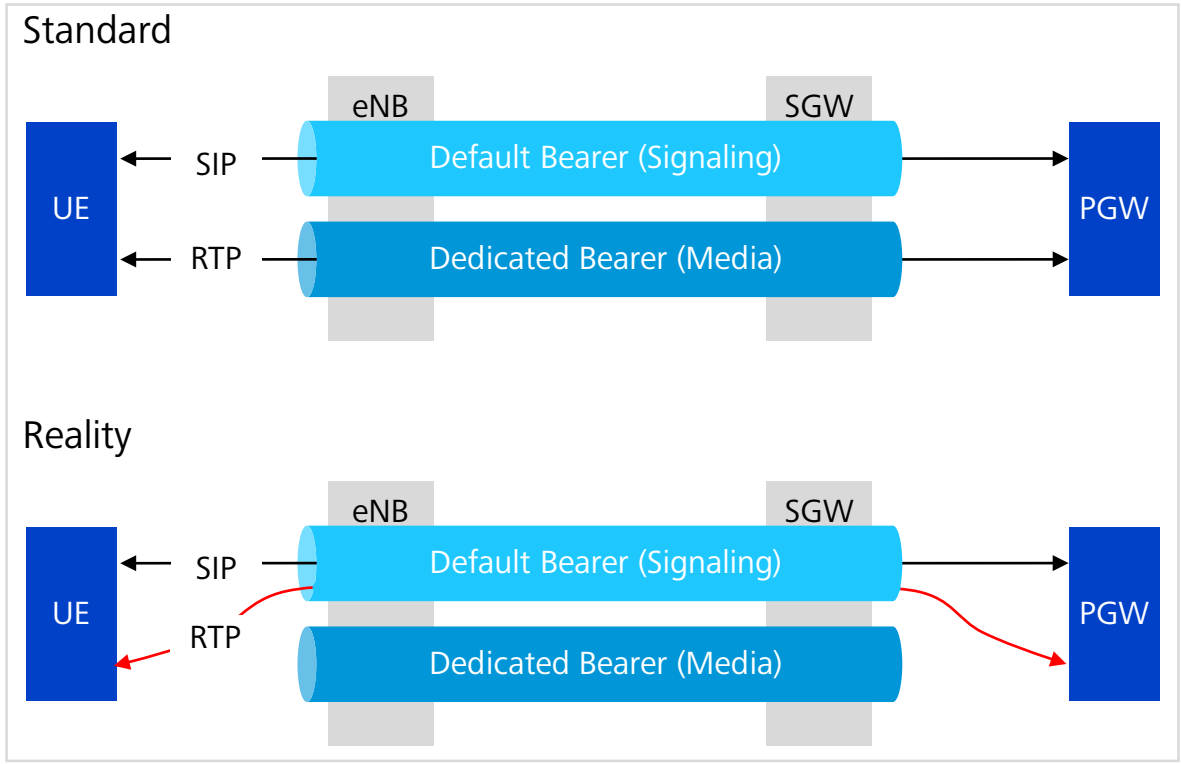
Finding 3: One cause for call drops – RTP uses wrong bearer

Rise in call drop tickets was investigated.

Analysis showed lots of calls with ‘RTP timeout’ reason headers.

Many of these calls used the wrong bearer for RTP.

Status: wrong bearer confirmed by vendor, but denial of user impact.



Summary

Obvious issues with new platform, especially when compared to old system

The data provided by the IMS vendor is not accurate. Vendors denies issues until proven wrong.

Qrystal monitoring the traffic in the private cloud provided valuable data on many issues

- Reliable call drop rates 24/7 allowing direct comparison between old and new platform
- Root cause for call drops
- Root cause for silent calls
- Detailed pointers for vendor to improve his software

Conclusion

➔ **Premium voice service performance in the cloud needs visibility.**

- Qrystal provides accurate data on signaling and media plane
- Reduces time-to-fix by up to 80%
- Allows CSPs to leverage on the benefits of cloud deployments without compromising user experience


Thank you!