

vo:pfuture

RELEASE NEWS

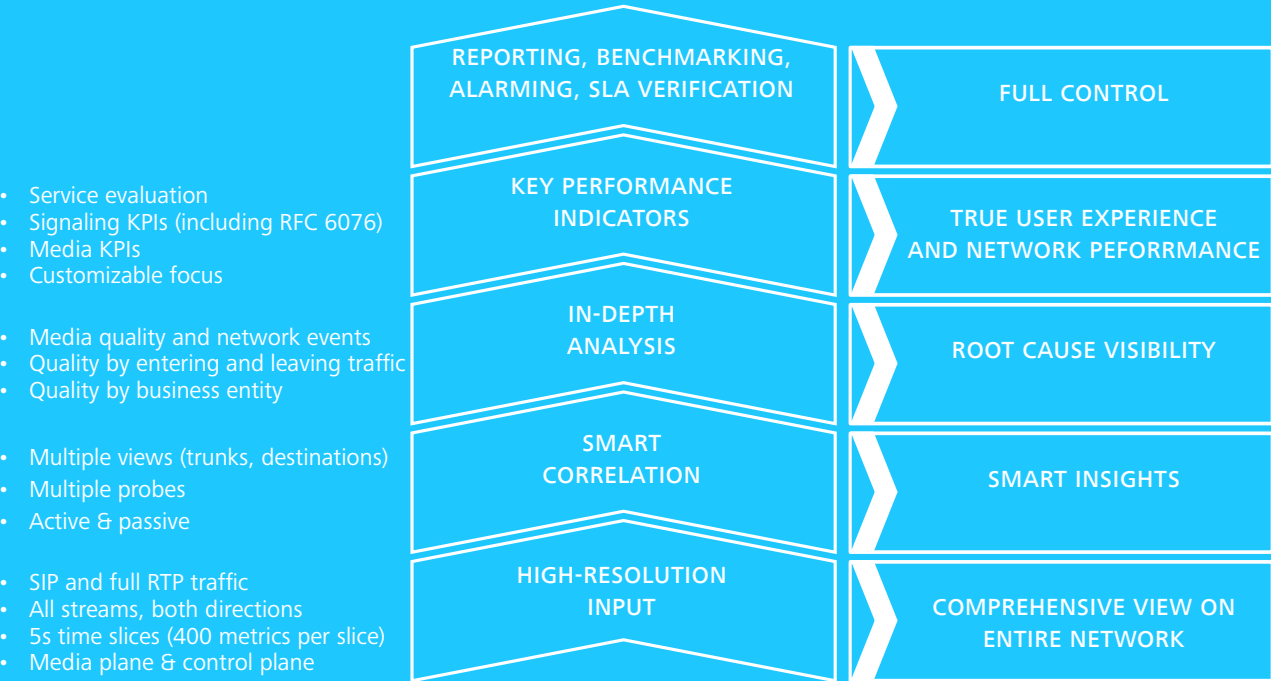
2019

Qrystal



This release overview covers the main differences between Qystal 5.4 and the GA version of Qrystal 6.0. For full details see Release Notes (VPF300-60A_Qrystal_Release_Notes)

VOIPFUTURE’S VERTICAL SOLUTION BENEFITS



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DOC-ID 121, v1.5

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QRYSTAL 6.0 news

The only system
worldwide that
allows drill-down
from the call
level down to an
individual RTP
stream time slice

The unique Call Flow Diagram
feature extends the well-
known concept of sequence
charts for signaling with rich
information on media quality
in one integrated view

CDRs summarize
signaling and media
quality

6.0 FEATURE HIGHLIGHTS

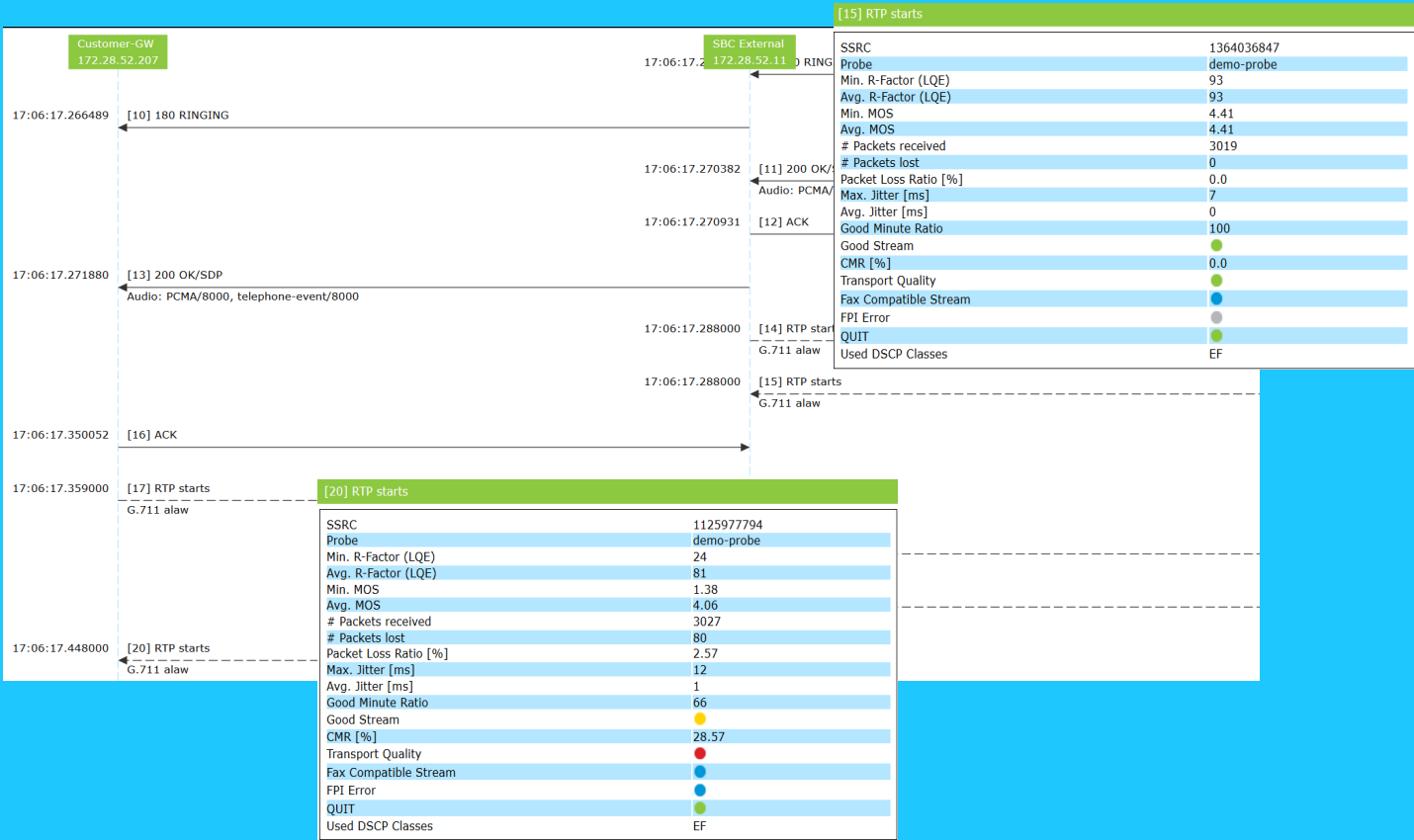
- The Innovative Call-Centric Feature Set
 - Call Search
 - Call-Related Data
 - Call Flow Diagram
 - New Automatic Indicators
- New Dashboard Portlets
 - New Interface for Qrystal Intelligence
 - Enhanced Management Features

AN INTEGRATED VIEW: CALL FLOW DIAGRAM, CALL- RELATED DATA, AND CALL SEARCH

THE 6.0 CALL FLOW DIAGRAM

- The 6.0 Call Flow Diagram breaks down the end-to-end call into an overview chart about all involved call legs. A mouseover or click on the arrow displays the SIP message or a quality summary of the stream.

Visibility in action: A stream reaches the SBC undisturbed.
But when it leaves it, the transport quality changes to red.
A simple click takes you to Call Details or Stream Summary.



CALL SEARCH PAGE

- On the Call Search page, you search for the LTE/IMS/VoIP calls you need.
- You can define the search for calls with the required call attributes and quality criteria using a dialog-driven user interface. You can search by more than 30 criteria for around 50 call attributes.

Call Search

Home Monitor Analyze Manage Info

Search

Search Filter

NOT Type: SIP Trunk Egress DE.FRA.SBC2 <--> US.NYC.Sprint.SBC1

OR AND NOT Type: Dropped Call Yes No

OR AND NOT Type: Session Duration Time Successful > 30 second(s)

Add Advanced Mode

Critical Call
Critical Impairment Ratio
Domain
Dropped Call
Failed Session Request Delay
Final Response
Good Call
Good Minute Ratio

UNIFIED TABULATOR FOR EASY CALL TROUBLESHOOTING

- In Qrystal 6.0, the Call Details, xDR Details and Stream Summary pages share the same Related Tabulator that provides a holistic call view.
- You can click any row to examine that individual record on the respective Call Details/xDR Details/Stream Summary page.
- By clicking, you can easily switch between the different levels of the same call.

Stream Summary (Maxima)

Home Monitor Analyze Manage Info

Indicators & Histograms Stream Details RTP Data Signaling Information Related

Related CDR

Sig Q	TQ AB	TQ BA	Start Date/Time	SDT	Calling Number	Ingress Called Number	Dropped Call	Quality Reduction	Media Transcoding	Redirected Call
●	●	●	2019-05-06 12:07:06.353	00:01:21.002	004943478XXXXXX	004943478XXXXXX	--	No	No	--

Related xDRs

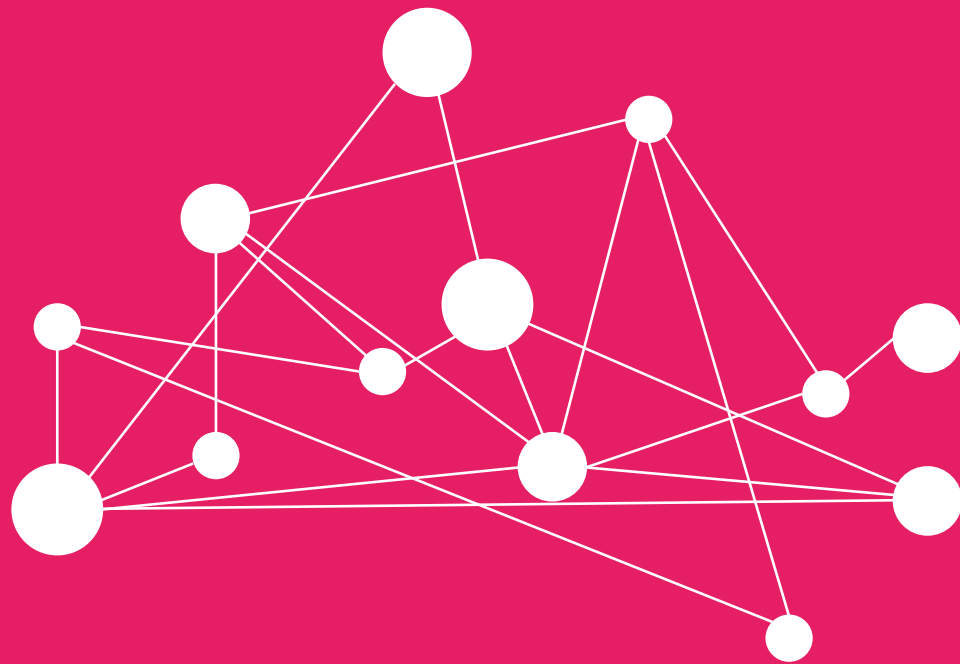
Compare	Sig Q	Probe	SIP Trunk	ST Dir	Call ID	Final Response
●	●	probe2-int	sipgate.de to SBC	B → A	16e03f75-5a5c-44a4-b1de-1d50c04ca935	(200) OK
○	●	lxbluecore-prb	sipgate.de to SBC	B → A	16e03f75-5a5c-44a4-b1de-1d50c04ca935	(200) OK
○	●	probe1-int	sipgate.de to SBC	B → A	16e03f75-5a5c-44a4-b1de-1d50c04ca935	(200) OK

Compare

Related Streams (Transport Quality)

Compare	TQ	Probe	Media Trunk	MT Dir	Call Dir	Stream SSRC	MOS-LQE + GMR	Max. Jitter [ms]	Loss [%]	Worst
●	●	probe2-int	SBC Media	A → B	A → B	1376863383	3.82/4.41/78	38	0.0	Total
○	●	lxbluecore-prb	SBC Media	A → B	A → B	1376863383	4.41/4.41/100	10	0.0	--
○	●	probe1-int	SBC Media	A → B	A → B	1376863383	3.95/4.41/63	36	0.0	Total
○	●	probe1-int	SBC Media	B → A	B → A	153701708	3.95/4.41/87	31	0.0	Total
○	○	lxbluecore-prb	SBC Media	B → A	B → A	153701708	4.41/4.41/100	12	0.0	--
○	○	probe2-int	SBC Media	B → A	B → A	153701708	4.29/4.41/100	32	0.0	--

NEW AUTOMATIC INDICATORS TO DETECT ISSUES



NEW ISSUE DETECTIONS

Qrystal 6.0 extends automatic detection of hard troubleshooting issues.

SINGLE SIDED CALLS

- The Call Search for Single Sided Calls identifies calls in which there was no media transmission in one direction or one direction was halted significantly (15 seconds) before the call ended.

CALL DROP DETECTION

- Qrystal 6.0 introduces a new call drop indicator. Dropped calls were cut off for technical reasons before the call parties had finished their conversation, i.e. before they intentionally hung up. Example reasons for dropped calls in mobile networks include lack of radio coverage, radio interference and failed hand-off attempts. Qrystal detects call drops based on information contained in SIP messages. More specifically it evaluates the SIP Reason Header defined in RFC 3326.

HOP COUNT

- More and more calls use voice over IP transmission only from end-to-end even for international calls. While signaling is typically split into different legs by the call management functions along the path, RTP packets are often transmitted straight from source to destination. In this context it can happen that the IP packet hop count is not large enough to reach the destination resulting in one or both call parties not hearing audio. The Stream Search feature now allows you to find streams with critically low hop counts in the IP header.

CALL REDIRECTIONS

- Apart from call redirections using SIP 3xx responses, the probes now also identify call redirections using the SIP Diversion header. In the case of redirections, the xDR now stores also the Original Called Number.

AMR INTRODUCED SILENCE

- The AMR Silence Sequence Packets counter on Media Details tab of the Stream Summary page, now identifies the longest period of AMR introduced silence.

In addition to these automatic indicators Qrystal 6.0 has a new KPI filter.

- To easily identify root causes of insufficient quality an additional dimension filter is available.
- The KPI filter allows a specific view on one out of 35 available KPIs.

NEW PORTLETS FOR QRYSTAL 6.0 DASHBOARD



In Qrystal 6.0, the collection of monitoring portlets has again been extended to further support individual needs.

QUALITY OVER TIME

- The Quality over Time portlet now supports the new quality type “Signaling Quality” showing statistics related to call attempts.

CALL DURATION

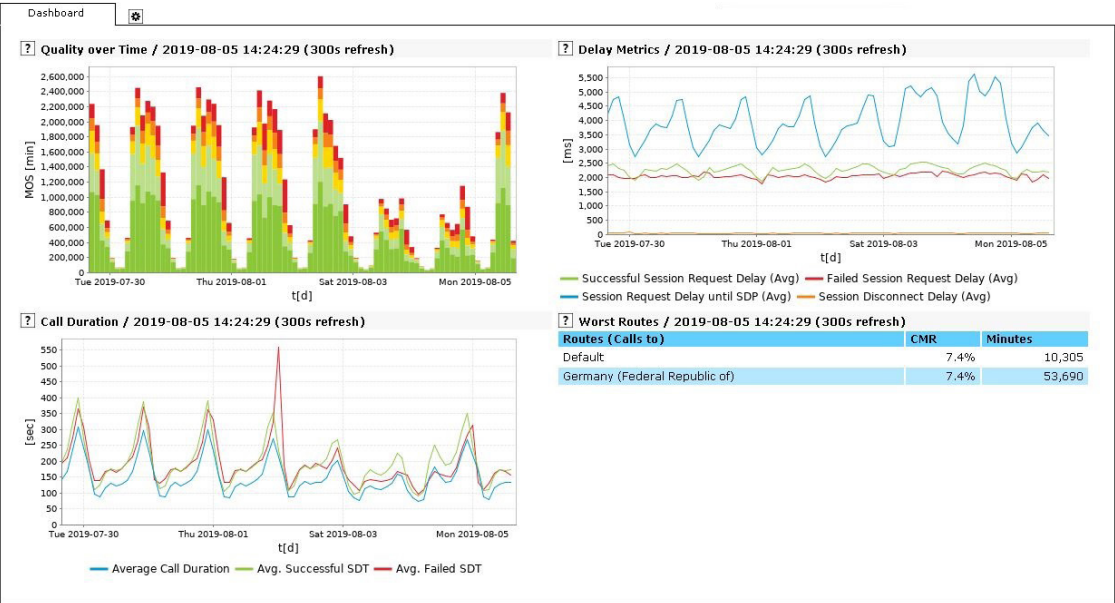
- The new Call Duration portlet shows information from the related tab of the Control Plane Monitor, i.e. Average Call Duration (ACD) or Session Duration Time (SDT), Successful SDT, and Failed SDT.

DELAY METRICS

- As above, the new Delay Metrics portlet picks up information from the Control Plane Monitor for example Session Request Delay or Session Disconnect Delay.

WORST ROUTES

- The Worst Routes portlet offers the same top-ten list for the worst routes, as the Worst Trunks portlet already does since Qrystal 5.3 for trunks.
- To avoid the waste of top-ten rows for trunks/routes without reasonable traffic, the Worst Trunks- and Worst Routes portlet now support the configuration of a minimum traffic threshold in calls or minutes.



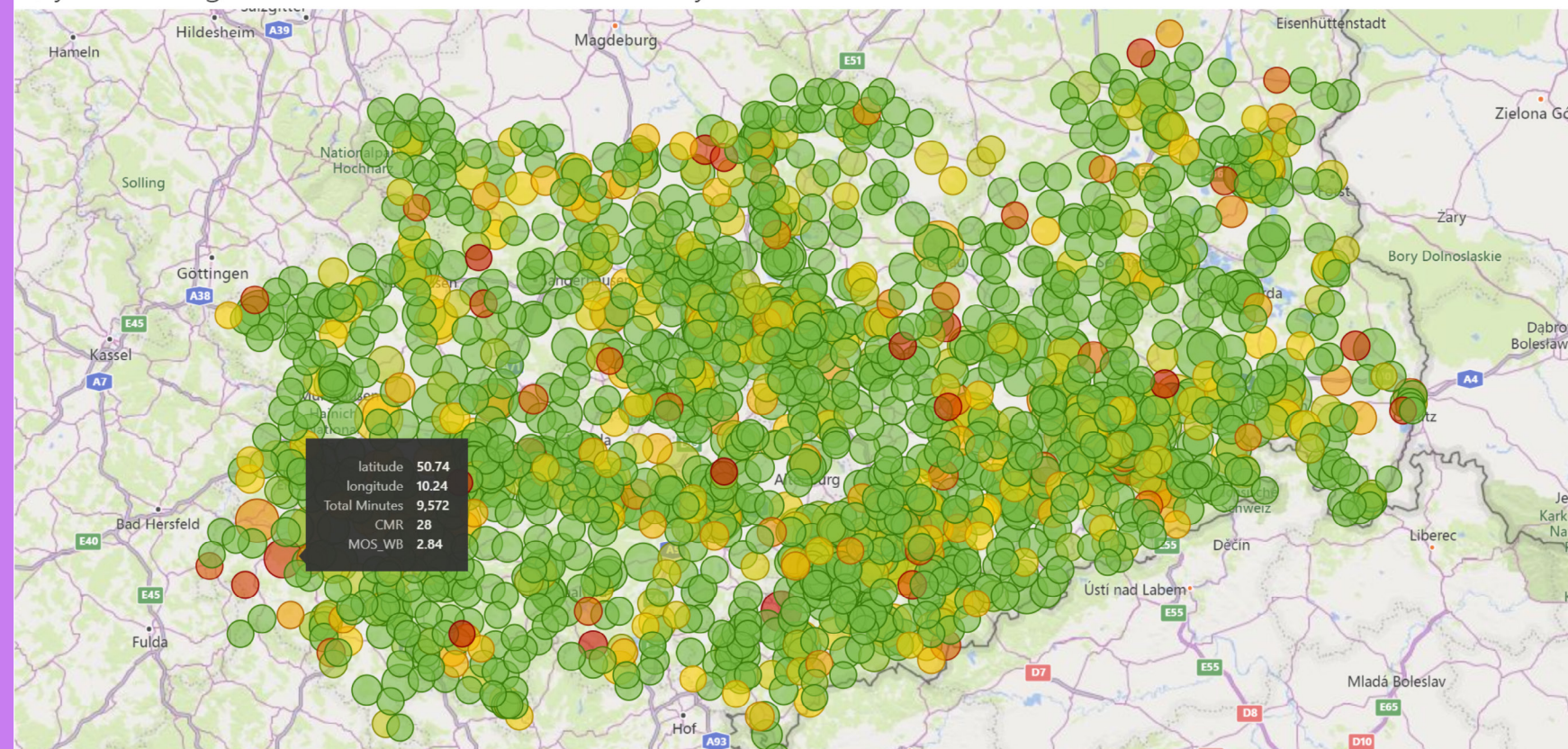
NEW INTERFACE FOR QRYSTAL INTELLIGENCE

QRYSTAL MANAGER HTTP API FOR QRYSTAL INTELLIGENCE SOLUTION

Voipfuture Qrystal quality assurance solution supports export of aggregated quality statistics to the new Qrystal Intelligence BI solution.

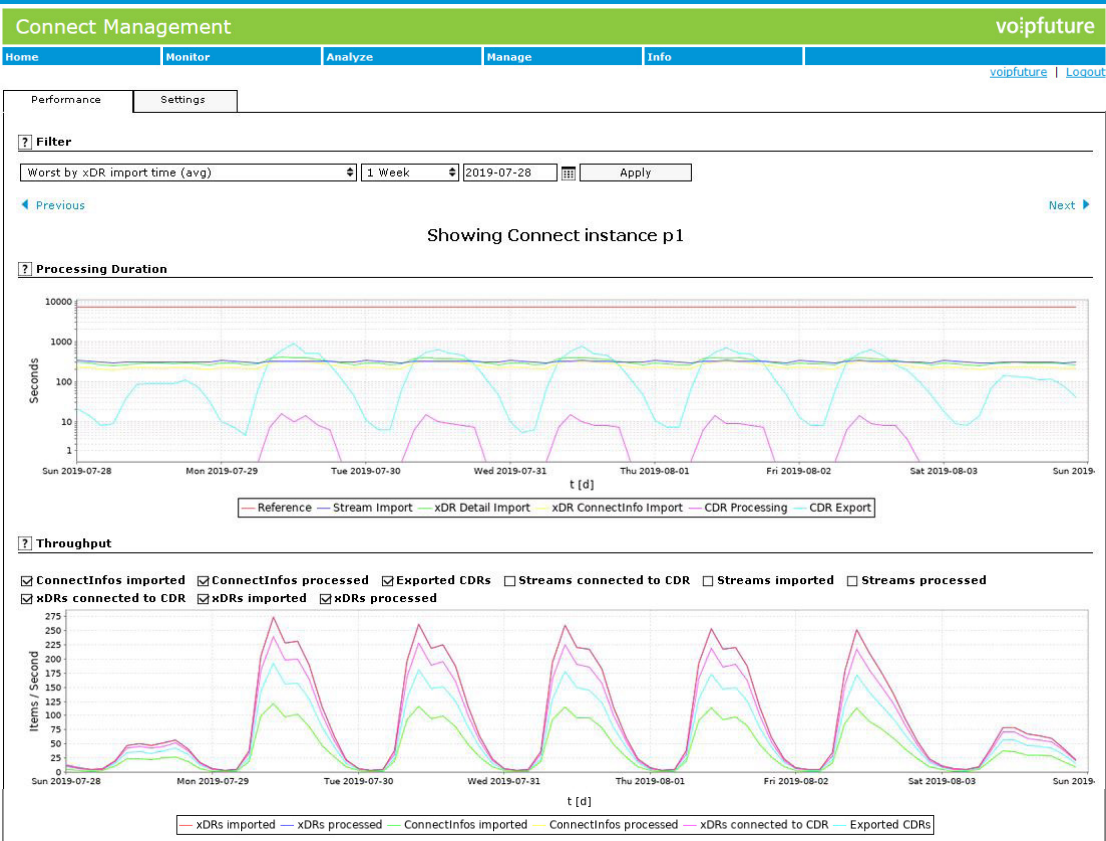
- The Qrystal Intelligence business logic analyzes the quality data and provides high-level service reporting about the performance of the operator's network with information on signaling and media performance, that is not available from any other data source.
- For more information about the Qrystal Intelligence solution, please contact our sales team.
- The new HTTP API allows Qrystal Intelligence users to drill down to specific pages in Qrystal Manager 6.0 for further analysis of the data.

Qrystal Intelligence: VoLTE Minutes and CMR by Location



ENHANCED MANAGEMENT FEATURES

The Qrystal Connect feature is responsible that all call legs which belong to the same call are identified, connected and summarized in a single end-to-end Call Detail Record (CDR) for the call. The new Connect Management Dashboard allows Qrystal Admins to keep track of the correlation performance.



CONNECT STATISTICS PAGE FOR CLUSTER

The Connect Management page of Qrystal 6.0 provides Connect statistics information about performance and throughput and lets you enable or disable the CDR creation.

- On the Performance tab, a filter allows displaying information either about the worst P-node according to 12 performance criteria or a specific P-node.
- The Processing Duration chart shows the consumed time within the consecutive CDR processing steps.
- The Throughput chart shows the number of consumed input records that were analyzed while creating the CDRs.

IMPORTER MANAGEMENT PAGE FOR CLUSTER

In Qrystal 6.0, the Importer Management page shows the status and performance of the total system and each individual importer instance.

- The Status tab displays the status of all instances of the importer or importer cluster.
- You can deactivate and activate importers by clicking the action icon in the leftmost row.

