Global video conferencing

highlight

see clearly

Key concepts

Video-conferencing (VC) uses unified audio and video telecommunications to bring people at different sites together

This can be as simple as a conversation between people in private offices (point-to-point) or involve several (multipoint) sites in large rooms at multiple locations. Besides the audio and visual transmission of meeting activities, allied VC technologies can be used to share documents and display information on whiteboards.

Organisations adopt VC technologies for many compelling reasons, including:

Collaboration

Allowing multiple people to work on common projects and task irrespective or their physical location

Cost saving

The time taken to travel to meetings and the travel costs incurred can be dramatically reduced

Improved communication

Two thirds of communication is non-verbal; the simple ability to see the other people in the conversation increases the ease of communicating ideas.

Understanding VC user experience

At a high level, the VC application is a series of peer-to-peer connections, where capability and features are negotiated during call set-up

Voice, video and document/work-space sharing are all dependent on capability of software, hardware and connectivity. With fixed, known and compatible software and hardware; the reliability and capacity of the connectivity becomes the basis for user experience.

Ensuring a good experience

Delivery of a smooth and consistent VC user experience is dependent on several key components in the delivery architecture. Inherently voice and video communications are always affected by delay, jitter and packet loss. Utilising this technology over global networks can increase these factor and detriment from user experience.

There are standard methods for improving the performance of VC on networks where contention with other, less sensitive, applications occurs. For example, using correct Quality of Service prioritisation will significantly improve user experience as will accurate monitoring of the capability and capacity of the network.

Building the service in Highlight

Highlight encourages an understanding of the role each of the architectural components plays in the delivery of any given digital service and enables an understanding of the service from the users' experience

A clear picture

Understanding the user connectivity required and the elements in the network allows Highlight to build a clear picture that can be shared between all of the teams involved.

Breakdown the service

As VC is a peer-to-peer connection application it is simply impossible to create a single test that directly replicates user experience but, by breaking the service down to its component elements Highlight can show as view of user experience.
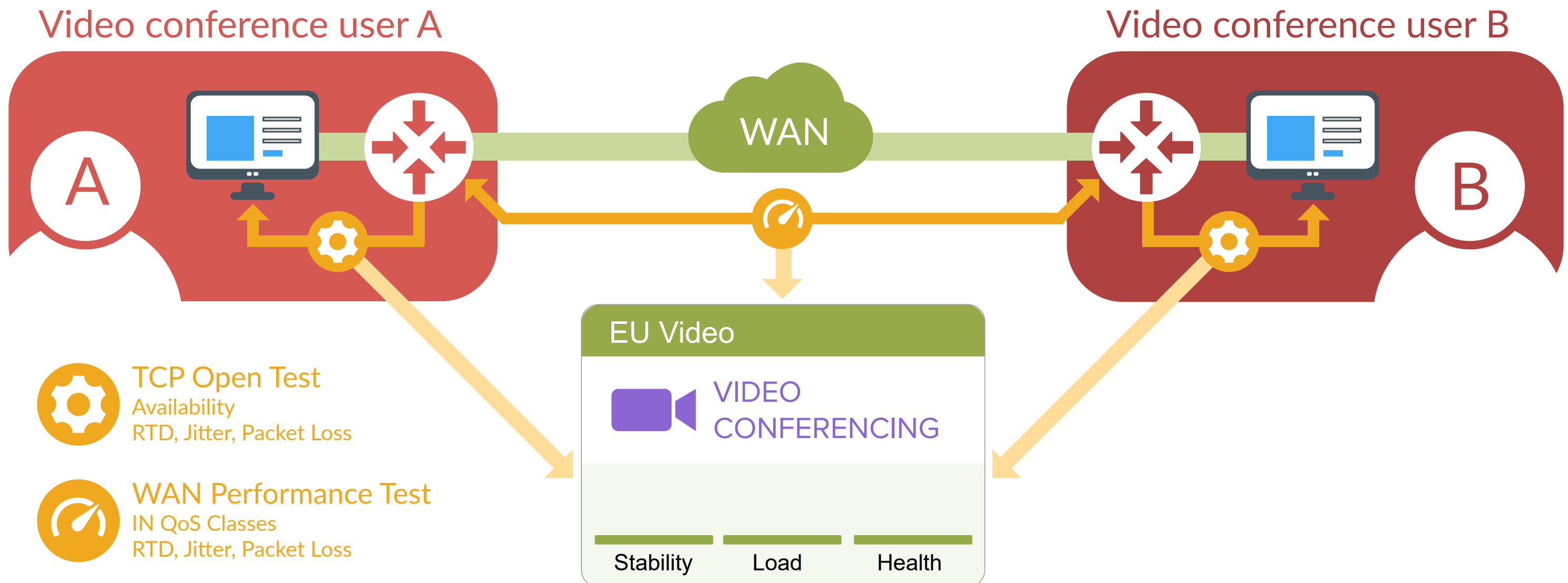
Building a picture of the VC service

IT monitoring is historically and traditionally both technology specific and reactive. Meaning commonly, within a global IT team, the local site teams have their tools, as do the network team.

This separation of different technology streams into siloes fails to deliver an understanding of the service as a whole, in this case VC which results in misunderstanding, finger pointing and slow response to resolve issues, all of which reduce user experience.

How it works

The service is broken down in to two elements, WAN performance and local site performance. By testing connectivity continually across the WAN and marking the test traffic with the same QoS markers as the VC traffic we can get a clear picture of the performance capabilities of the WAN.

Additionally, testing on each site to each of the VC devices, using the correct TCP port, will give a picture of the local end and the state of each VC device.

Video conference user A

Video conference user B

A

B

WAN

EU Video

VIDEO CONFERENCING

Stability   Load   Health

TCP Open Test
Availability
RTD, Jitter, Packet Loss

WAN Performance Test
IN QoS Classes
RTD, Jitter, Packet Loss

1 WAN performance testing

Completed using Cisco's ipSLA or Juniper's RPM features, running a test every 30 seconds to continually monitor for round trip delay (RTD), Packet Loss and Jitter.

An SLA is established where performance above this level is deemed unacceptable from a user perspective.

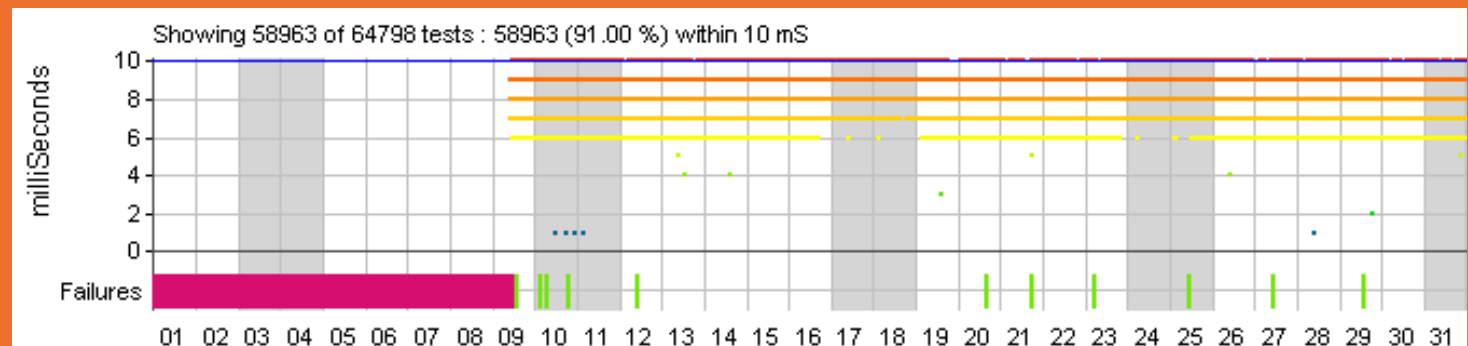Showing 58963 of 64798 tests : 58963 (91.00 %) within 10 mS
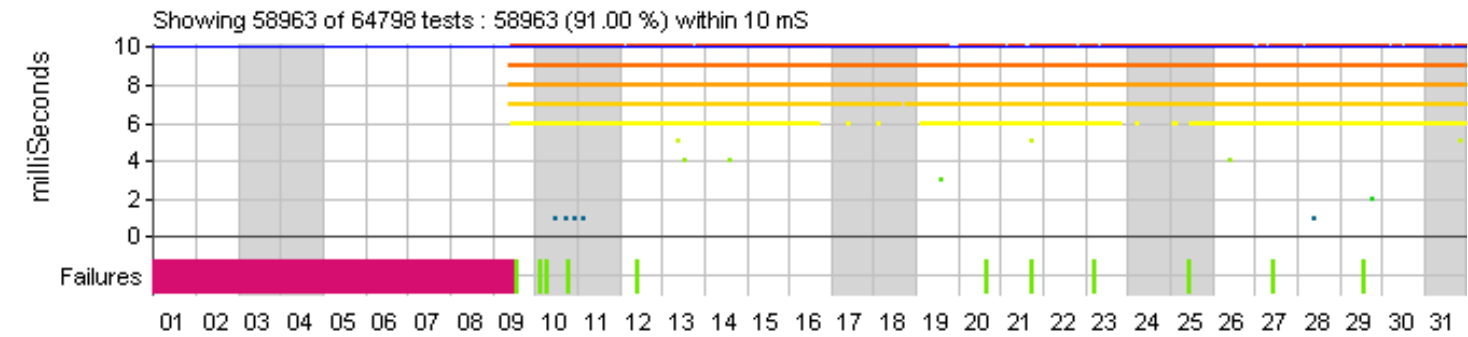
2 Local site testing

Completed using the site's gateway router and completes a TCP Open performance test to each VC device at that site using the relevant TCP port.
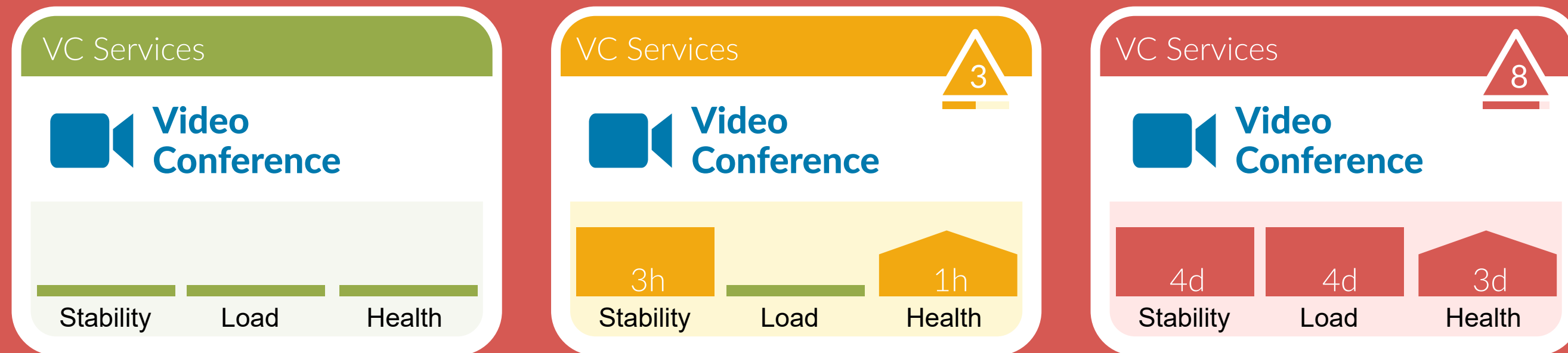
The TCP Open test not only proves availability but also application response.

Showing 58963 of 64798 tests : 58963 (91.00 %) within 10 mS

A clear simple view of the VC service

Highlights 'Service Tiles' feature allows for the most complex of digital services to be viewed in the most straightforward way

For this VC service, the WAN performance testing linked together with all of the site-to-VC device testing is presented in a single 'Service Tile'.

VC Services		
Video Conference		
Stability	Load	Health

VC Services		3
Video Conference		
3h		1h
Stability	Load	Health

VC Services		8
Video Conference		
4d	4d	3d
Stability	Load	Health

Fix problems before users notice they exist

Issues that may affect User Experience are alerted visually in the Highlight Web UI, where the tile's colour, and that of the Stability or Health gauges will turn Amber or Red, in accordance with severity. Automated alerting will generate emails or SNMP Traps to auto-generate support tickets.

To reduce mean time to restoration, clicking on the Tile to drill down immediately reveals the component at risk or at fault. The correct personnel resources can be allocated immediately to affect resolution, or better still, take pre-emptive action before users are aware there is a problem.

Summary

The primary purpose of an enterprise's IT infrastructure is to deliver the applications and services that enable you to do business and be successful. Performance degradation impacts profitability, corporate image, employee morale and competitive edge

Highlight delivers a view of Service Delivery which joins up the disparate elements that affect a user's experience in a single service monitoring platform, and delivers a unique, holistic view.

Get in touch

If you are a service provider and want to improve your ability to meet customer's needs more effectively, contact Highlight for more details.

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