

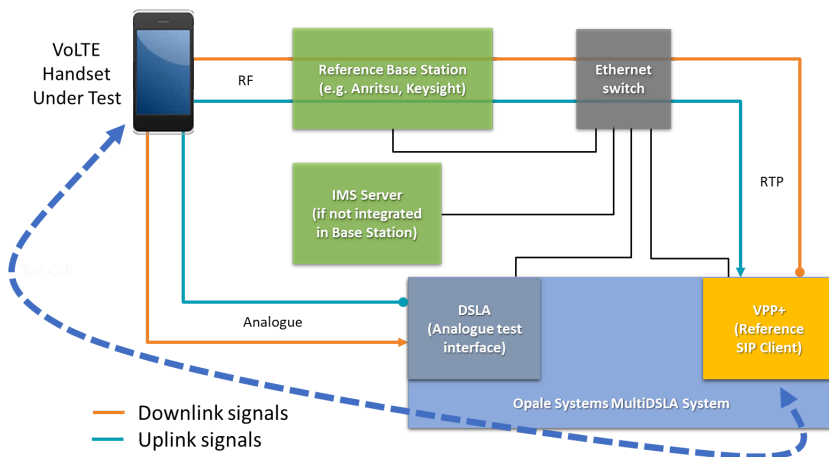
Vox Port Packet Brochure

Opale Systems VoxPort Packet is a reference VoIP end-point designed for performance validation, troubleshooting, analysis and on-going reporting. It delivers vital and timely information about test and production versions of fixed and mobile (VoLTE, VoNR) networks. Product Development, Quality Assurance and Tier 3/4 support personnel will appreciate the ease of deployment and flexibility of VoxPort Packet.

VoxPort Packet (VPP) generates real voice calls over a VoIP network, analysing voice quality and other parameters affecting users' perception of performance. Optional built-in packet impairment generation and managed codec rate changes combine to make VoxPort Packet+ a simple and effective way to understand, manage and even reproduce VoIP network behaviour.

See also the following:

- MultiDSLAs Nodes Datasheet, for details of all node types
- MultiDSLAs Brochure, for a general description of the MultiDSLAs system
- Audio Streaming Integrity Brochure, for details of this option
- VQMaas datasheet for observability cloud-based offer



VPP+ to test mobiles in lab, used with DSLA for mobile side

Key points

- ▶ Multiple SIP instances on one VPP host
- ▶ Tests with or without registrations
- ▶ SIP over TLS and secured RTP support
- ▶ SIPless tests (just RTP)
- ▶ VoIP to 4G/5G codec support
- ▶ Packet impairment
- ▶ SIP Signalling capture
- ▶ Packet stats from the host
- ▶ RTCP stats
- ▶ Packet loss and Jitter generation
- ▶ Bit Rate overlay

VPP PC minimum recommended specifications

- Intel Core i5 processor or equivalent (Minimum), 2 vCPU or more for virtual machines
- 4GB memory minimum, 8GB recommended
- Windows 10 Pro; Windows 11 Pro; Windows Server 2016; Windows Server 2019; Both 32-bit and 64-bit versions of all Operating Systems.

System Scaling - SIP instances:

- 50 per host,
- up to 100 in specific configuration (contact us)

VPP application note

How is it used?

Test calls can be made with or without SIP server registration.

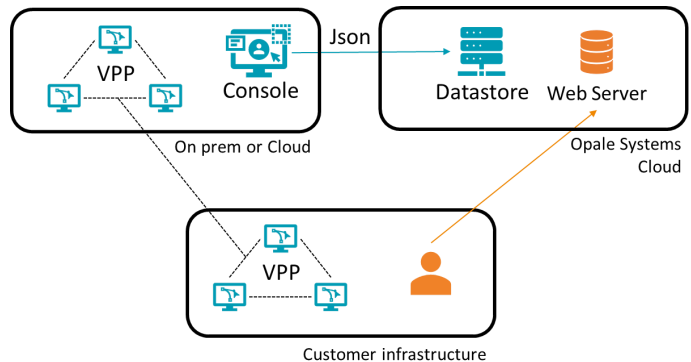
The VPP encodes and transmits real speech samples.

It also receives and decodes the speech.

A test system controller, such as MultiDSL, manages the configuration, runs the test call plan and stores the measurements for reporting and analysis.

VPP is highly flexible and can be configured in many ways to address specific test requirements.

With VoxPort Packet you have the tools to examine, understand and even reproduce VoIP network behaviour.



VPP or VPP+ to monitor VoIP with VQMaas observability platform

Overlays

The key to reproducing and understanding speech quality impairment VPP+ has two overlay modes: packet impairment and rate-change.

The Packet Impairment Overlay defines a precise pattern of packet impairments.

The Rate Change Overlay defines transmit rate changes or Codec Mode Requests (CMR) synchronised to speech transmissions.

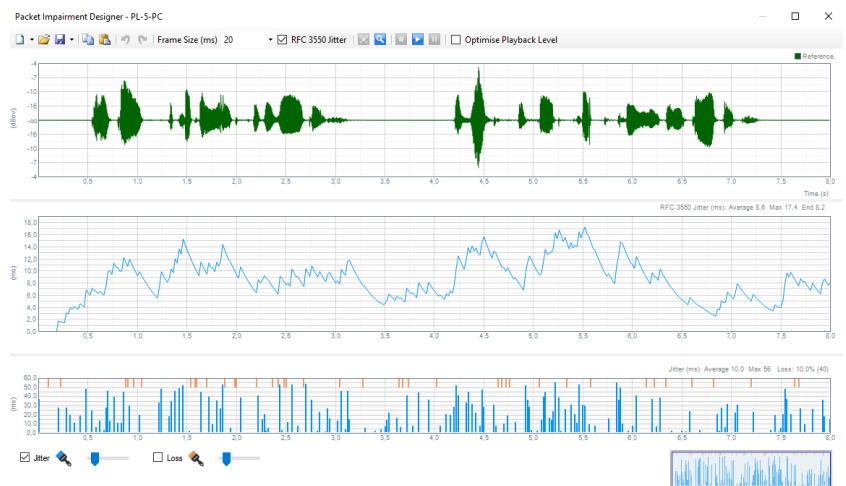
These overlays may be constructed by the user with a graphical overlay designer.

Alternatively, the Packet Impairment Overlay may be based on a capture from a live network.

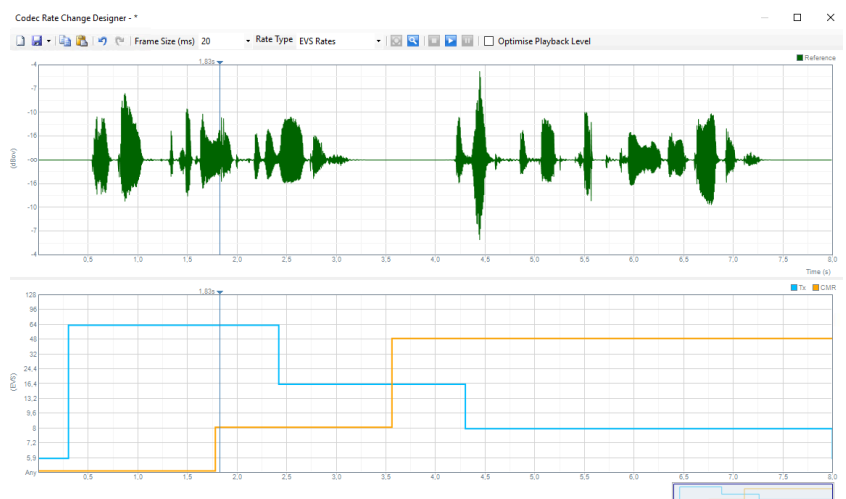
The example here shows a user-defined jitter/loss overlay, which is synchronised to the start of a test event to ensure repeatability.

The Rate Change Overlay feature is available for AMR and EVS codecs

VPP+ also support EVS / AMR-WB interoperability



This Impairment Overlay defines a repeatable pattern of loss and jitter changes

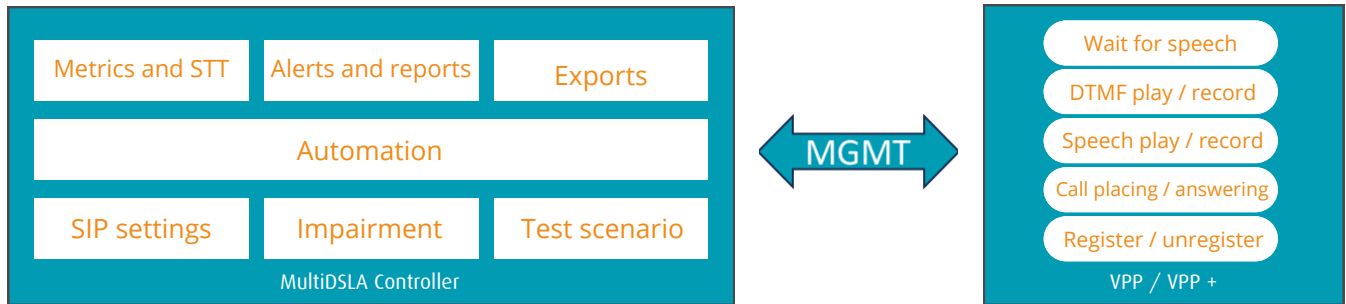


This Rate Change Overlay defines a repeatable pattern TX rate and Codec Mode Request changes

VPP application note

Excellent test efficiency and economy in one VoIP test solution!

As well as enabling advanced VoIP testing, VPP+ combines with MultiDSL Controller to provide synchronised packet impairment and codec rate change events on a single platform – replacing and out-performing a test system, impairment generator and automation host



Why synchronise packet impairments to the speech signal ?

When an RTP packet is lost in a VoIP network the effect may be noticeable, or may be completely unnoticeable.

Exploring the effects of packet impairment during high-energy or low- energy speech, and during silence, is important in analysing the performance of error concealment techniques.

It follows that to perform repeatable tests of the effects of packet impairments on voice quality, the impairments must be synchronised to the speech signal used for testing: this is exactly what VPP+ does.

Randomly-generated loss and jitter have their place in testing of course, but do not allow repeatable testing.

In what case do we use VPP or VPP+ ?

VPP+ is a VPP extension that covers very specific needs to specific targets

Item	VPP	VPP+
24/7 Service observability	X	X
VoIP QA or lab tests		X
VoLTE tests - live network		X
VoLTE tests with base station emulator		X
VoNR tests - live network		X
VoNR tests with base station emulator		X
Mobile gateway tests		X
Voice over Wifi	X	X
OTT application testing and validation	X	X
IVR testing and service monitoring	X	X
UCaaS gateway service monitoring	X	X

Want to know more ?

Reach us at sales@opalesystems.com or contact your local distributor