

# VoxPort Packet (VPP)

## VoIP Speech Quality & Performance Testing

VoxPort Packet (VPP) is a software solution that enables comprehensive **speech quality and transmission performance testing** to and from VoIP endpoints across any telephone network. Deployed as a Windows service and controlled through the MultiDSLAs graphical user interface, VPP operates just like a hardware DSLA channel — **offering flexible, scalable, and fully-automated VoIP testing** without additional physical equipment.

Tests between a physical terminal and a VPP node effectively segment the speech transmission path, helping engineers rapidly localise speech performance issues in complex VoIP infrastructures.

### Software Node for MultiDSLAs Solution

(VPP) is a fully software-based node integrated into the MultiDSLAs platform and managed through the same graphical interface as hardware DSLA channels. Users can configure SIP parameters, codecs, QoS, and DTMF settings directly from MultiDSLAs, while the platform controls call setup, monitoring, and RTP stream analysis using PESQ or POLQA.

### Use Cases

- **VoIP Monitoring & Troubleshooting**

Emulate VoIP users, run measurement campaigns, and collect QoS/QoE KPIs for service analysis and optimisation.

- **Mobile Network Testing**

Test SIP over 4G/5G, including encrypted signalling and media.

- **Call Center Service Availability**

Explore IVR trees and verify line availability.

- **Softphone Qualification**

Qualify softphone voice quality using DSLAs and VPP.

- **Media Gateway Testing**

Validate media gateway capabilities and interoperability.

### Key features

- ▶ SIP-based call origination and termination (UDP, TCP, TLS/SIPS)
- ▶ Real-time SIP call setup diagnostics and Analysis
- ▶ QoS DSCP tagging of RTP flows, DTMF support: Inband/Outband
- ▶ Packet transmission impairment simulation: jitter, loss, sequencing
- ▶ Simultaneous handling of multiple calls per node
- ▶ Analysis of degraded speech files (PESQ/POLQA...) with MultiDSLAs

## VPPf & VPP+f Series

Automatically re-assignable VPP instances managed by the MultiDSLAs Controller. Any number of VPP instances can be installed and deployed, with licences dynamically allocated when a test starts and automatically reclaimed upon completion, maximising utilisation across teams.

The table below highlights the differences between VPPf and VPP+f.

Item	VPPf	VPP+f
Requisites	Windows 11 / Windows Server 2016 - 2019	
	Intel Core i5 or equivalent   4 vCPU 8 GB RAM	
Network Interface (NIC) and IP Management	Configurable network test interface for each call	
	IPv4 / IPv6 support	
Parallel instances per VPPf host	30 in standard, up to 50 with specific hardware requisites	
Protocol	SIP (RFC 3261), SDP (RFC 3264) SIPless Mode (RTP only, without SIP signalling)	
Transport	UDP	UDP (default), TCP, TLS 1.1 / 1.2 / 1.3
Codec Support	G.711 a-law/u-law, G.729, G.729A, G.729B, G.723.1, G.722, G.726, iLBC, Opus, EVS all modes, AMR NB & WB with DTX, 8k, 16k, 32k linear pcm	
Frame size	5, 10, 20, 30, 40, 50, 60ms codec dependent	
QoS	DSCP tagging of RTP flows; configurable per DSCP class (EF, AF, CS values)	
DTMF	Inband and RFC 2833/4733 (configurable per node)	
Packet based Loopback	yes	yes
User-defined static jitter buffer	yes	yes
Secure media	no	SRTP (RFC 3711); key negotiation via SDP Security Descriptions (RFC 4568)
IMS support	no	GSM Association IR.92 v8.0; 3GPP TS 24.228 / TS 24.229
Impairment	no	Jitter and packet loss generation on output stream
AMR/EVS advanced features	no	AMR EVS in-call bit rate change, EVS to AMR interoperability

Compliances  
Signalling:

[RFC2617](#)  
[RFC2976](#)  
[RFC3261](#)  
[RFC3264](#)  
[RFC3325](#)  
[RFC3903](#)  
[RFC4568](#)  
[RFC5630](#)

Media:

[RFC3550](#)  
[RFC3711](#)

DTMF:

[RFC4733](#)