Wholesale SIP Trunking
(W-SIPTRUNK)

Fact Sheet

Vodafone
Power to you

Vodafone Wholesale SIP Trunking (W-SIPTRUNK)

With Vodafone Wholesale SIP Trunks, we're making it easy for you to help your customers take a quantum leap in real-time telecommunications. By adding SIP trunking to IP - PBX sales you'll be driving down that cost and complexity of calling and unlocking the value of Voice over IP for their businesses.

W-SIPTRUNK is for enterprise business end users with a premises based IP-PBX or equivalent equipment that requires public network calling services. A packet switched alternative to ISDN Primary Rate (PRI) and Basic Rate (BRI) voice access services.

W-SIPTRUNK Overview

W-SIPTRUNK allows IP-PBXs (or equivalent devices) to send and receive voice traffic and signalling messages in the form of IP packets to and from the Vodafone NGN.

A W-SIPTRUNK can be used to make calls between end-user phones and soft phones that are attached to the IP-PBX and the Vodafone fixed IP and Public Switched Telephone Network (TDM), or attached to third party IP or PSTN networks that have an interconnection with Vodafone.

W-SIPTRUNKs can originate or terminate the same call types as PRI/BRI including Local, National, International, Landline-to-Cellular, Toll-Free or Special Services calls.

The Vodafone NGN is a packet based data transport network able to support converged voice, video and data services. The network consists of carrier grade packet switching network elements interconnected via physical fibre optic transmission paths.

Call processing devices attached to the NGN include soft switches for controlling call setup and teardown, media gateways for interworking with the PSTN and session border controllers for security and access control.

A Vodafone data circuit (which could be an existing connection) provides access to the NGN from an end user site. Media used for the last mile attachment circuit may be optical fibre or twisted pair copper cable.

The demarcation point for a W-SIPTRUNK service is an Ethernet port on a network interface device (NID) owned and supplied by Vodafone and located at the end user premise. End - user IP-PBX equipment may be directly or indirectly connected (e.g. via Firewall/SBC) to the port on the NID.

To deliver W-SIPTRUNKRUNK, Vodafone configures an Ethernet Virtual Connection (EVC) across the broadband attachment circuit between the NGN edge and the NID as shown in Figure 1 below. The attachment circuit may also support other services in addition to W-SIPTRUNK and hence the total bandwidth of individual services should not exceed the maximum bandwidth available from the attachment circuit.

The EVC provides the trunk between the IP-PBX and the call processing elements in the Vodafone NGN. The EVC is dimensioned at 100kbps for each concurrent call channel ordered.

Call setup and teardown is requested using Session Initiation Protocol (SIP) signalling via the Vodafone soft switch. Packetised speech signals and SIP signalling messages are encapsulated respectively within User Datagram Protocol (UDP), IP and Ethernet protocols for transport over the EVC.

The NGN relays calls to their dialled NGN or PSTN destinations. Media Gateways then convert packet traffic to TDM format for delivery over the PSTN. Calls destined for alternative fixed line carriers, mobile networks or international networks are routed through the PSTN or to NGN's of other carriers. Calls between different customers attached to the NGN remain on the NGN.

To ensure the service can provide PSTN-equivalent voice quality industry standard quality of service (QoS) practices are used in conjunction with the use of a default G.711 A-Law codec in the NGN call processing devices such as Media Gateways and announcement servers.
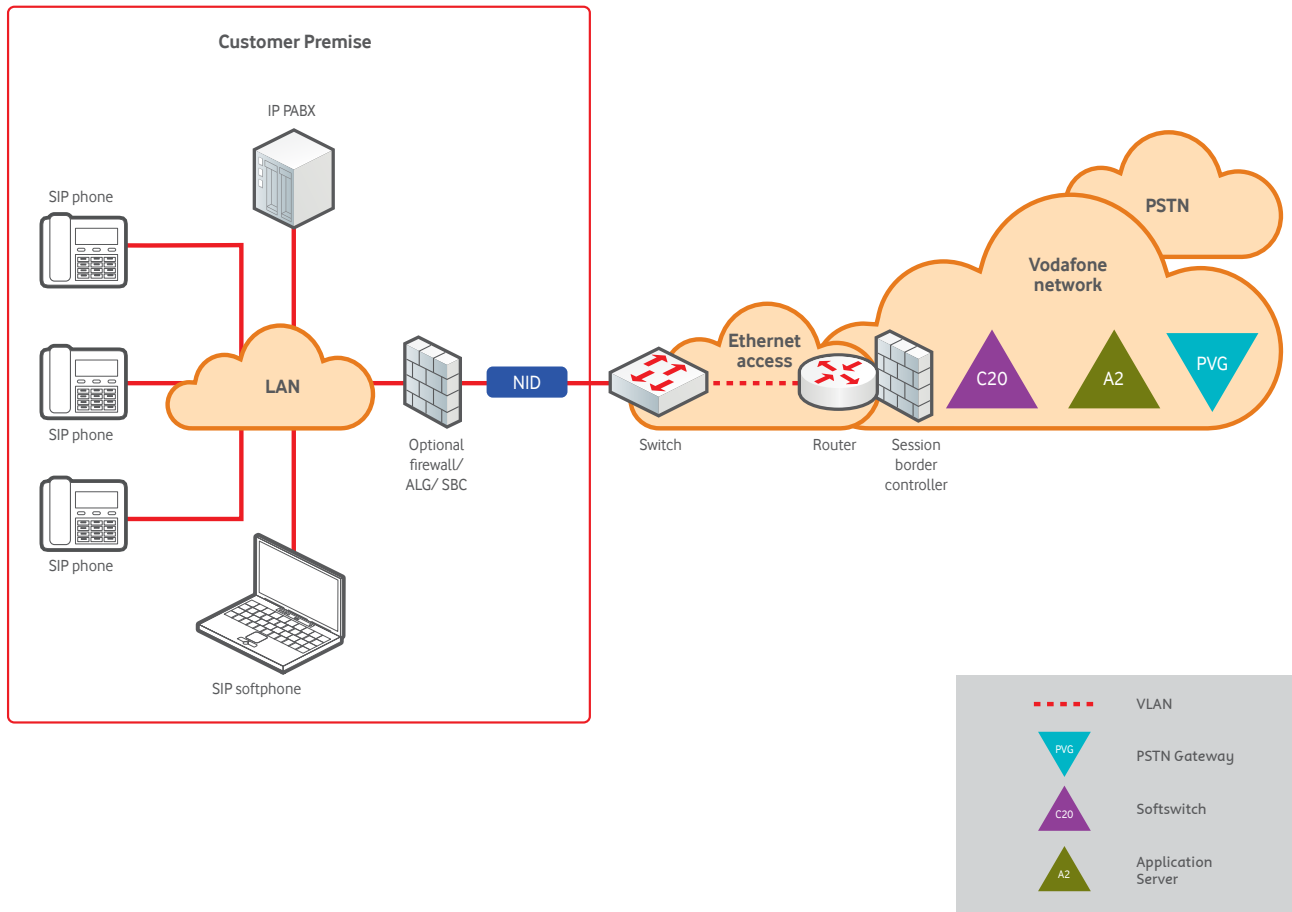

Figure 1 – W-SIPTRUNK Network elements

Both private IP address ranges as described in RFC1918 and Public IP address ranges may be used with W-SIPTRUNK. For public addressing Vodafone will assign the addresses to be configured on the EVC linknet. For private addressing the end user may assign the private addresses to be configured on the EVC linknet.

Vodafone will assign a single PSTN pilot number for each W-SIPTRUNK Trunk. Numbers supplied as part of the service conform to the guidelines for New Zealand phone numbering, as outlined by the Number Allocation Rules and the Number Administration Deed.

The pilot number may either be chosen from the Vodafone number range or ported from a previous service provider, subject to the terms for LNMP in New Zealand. The area code of the number will be determined based on the local calling area that the end user site resides in.

W-SIPTRUNK Features and Benefits

Features	Benefits
High quality voice connections using G7.11	Voice quality equal too or better than the traditional voice network
Supports the convergence of voice and data on a single data access	Reduce customer voice access charges by moving calling to an existing data access
A low cost replacement for ISDN BRI / PRI	Reduce customer voice access charges by rationalising existing ISDN connections.
Scalable from 5 to 2000 concurrent calls	Suitable for businesses of any size, able to grow, as customer needs change. Able to upsize or downsize in 1 trunk increments.
Supports EFTPOS and FAX	Migrate all PSTN / ISDN services to the data network to simplify infrastructure and reduce cost.

Associated Products

Resellers proposing W-SIPTRUNK will also require Vodafone data services such as our Wholesale Ethernet services. Further information on these products is available via our website at www.wholesale.vodafone.co.nz.

To order, or for more information on Wholesale SIP contact your Vodafone Account Manager.