

Connectivity - *The what and why*

Dave Dadds MD of VanillaIP and Chair of the FCS VoIP Group answers commonly asked questions on Connectivity within the context of Hosted VoIP



Dave Dadds of VanillaIP

Q. What is Connectivity?

A. The emergence of VoIP has put bigger demands on the connectivity whether it is the clients LAN or WAN both need to be configured correctly to deliver a consistent, business-grade voice call when using VoIP. Due to the fact that voice is a real-time protocol any delay greater than 150ms in the RTP (real time protocol) leaving one handset and being received by the other could result in a bad quality call with crackle, speech delay, brown outs and echo. For many voice resellers looking at Hosted VoIP for the first time this is the bit that causes the most concern but with good training and experience very quickly you can be configuring WAN and LAN connections to deliver VoIP calls as good (if not better) in quality as traditional ISDN and analogue circuits.

Q. Explain the Client LAN

A. This area is often seen by resellers as a 'hornet's nest', with many client companies

especially smaller SME having a cobbled-together network with little knowledge of what is doing what.

There are two ways of dealing with the client LAN, the first is to physically separate the VoIP network from the client's data network. This is done by providing a separate router, data switches and using separate category 5 outlets for the phone. This method takes the problem of firewalls away as you do not need one as there is no client data on the LAN that needs to be secured. Also because it is separate the challenge of supporting the network is much easier, as all that is on the VoIP LAN is a combination of IP Phones and ATAs. 90% of the installations that are set up on the VanillaIP network today use this type of architecture.

The other option is using VLANs (virtual local area network), this method we find is normally only used when the client has on-site data engineers who are fully up to speed at both setting up the VLANs and fault finding.

In simple terms it allows a single structured wired outlet to be used for the both the phone and PC. Apart from requiring less wired outlets we find the benefits of VLANs to be a lot less than the 'techies' of this world rave about and in most cases it costs more to both set up and maintain.

Q. Tell me about the Client WAN

A. WAN Connectivity for VoIP can come in many forms including ADSL, SDSL, LES (LAN Extension Service), WiFi, WiMax, GSM to name but a few. What gives Hosted VoIP a major advantage over traditional TDM type connectivity like ISDN and analogue circuits is that the connectivity is independent of the client's telephone numbers so as long as they have connectivity inbound calls will ring to the phone(s) regardless of where they are or what WAN connectivity they are using.

Resellers should tread carefully when selecting an ISP, you should not need to install leased lines or run VPNs to deliver business-grade VoIP call quality, but many ISPs do make exaggerated claims about what they can deliver. The first thing we recommend a reseller purchases is a WAN monitoring tool. This will give you an independent historic view on the performance of a WAN connection regardless of the ISP. These tools will measure latency, packet loss, hops and put it all into an easy to read graph. This way the reseller does not have to rely on the ISP to confirm the quality of any particular circuit, with a little experience a reseller can diagnose faults to a high degree of accuracy, which in turn speeds up any fault resolution and takes out the 'black magic' of WAN connections.

We recommend two approaches when setting up a WAN for voice connection, if using an xDSL service we would always recommend you put in a dedicated broadband circuit for voice and a separate broadband for Internet. This way you are able to deliver a consistent, high quality voice call.