



Before you begin deploying a VoIP service in your existing network, please consider consulting with a network engineer who is an expert in voice, data and network security.

There is a host of issues you need to take into consideration before you even think of deploying VoIP in your network. So please don't just order a service, let someone perform a network readiness assessment before you commit to this change. VoIP services have come a long way and have proved to be very reliable and provides great quality of service as long as your network can handle it.

iTalk IP Networks provides such consulting services and can do an onsite or offsite network readiness assessment to make sure your network elements, design and available bandwidth has the capacity to handle VoIP.

Managed Switch recommended VLAN settings: When deploying a converged voice and data network, you must use managed switched to create VLANs (virtual Local Area Networks) and logically separate various traffic types and apply quality of service policies. To learn more about VLANs please visit: http://en.wikipedia.org/wiki/Virtual_LAN

We recommend creating the following logical networks for optimal performance:

1. Public network VLAN: for connecting WAN connections from your internet service providers
2. Pure Data VLAN: for connecting your servers, printers, scanners and other IP devices with lower class of service needs.
3. Pure Voice or voice/data VLAN: for connecting IP phones, IP security cameras and other IP devices with higher class of service needs.

Once VLANs are created, assign ports to various VLANs as follows:

- Connect servers, printers routers, firewalls and other low COS grade devices to ports that are member of native VLAN 1 with port the type "access" selected.
- Connect IP phones and other higher COS grade devices to ports that are member of voice VLAN with port the type "access" selected.
- Connect IP phones and PC cascaded links to ports that are member of both voice and native VLAN 1 with port the type "trunk" selected.
- Connect router, DHCP and other servicing servers for voice network to ports that are member of voice VLAN with port type "access" selected.



DHCP and IP address scheme: In an optimized IP Telephony network, IP addresses for telephones and PCs must be set up in different network segments. If Dynamic Host Configuration Protocol (DHCP) is used to assign addresses, then a DHCP server for each network segment is normally needed. However, you can use a single DHCP server to assign both ranges of addresses if you have routers capable of DHCP relay in your IP network.

Note: if you do not have a routing capable device, there are only two possibilities for assigning different IP addresses to telephones and PCs. You must either have a DHCP server with two network interface cards or have two DHCP servers.

Let us help you: If you are experiencing poor voice quality, dropped calls, jitter or other issues, the problems more likely are within your internal network. Engaging us in evaluating your existing network and planning to redesign the network to support VoIP is a valuable investment on your part that saves you time and money in the long run. Don't attempt to do this on your own if you are not a network engineer with special skills in converged networks. Simply contact our technical support and schedule a network assessment service to do it right.

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