How to conduct a QoS voice survey

There is a well distributed Gartner report which states that 85% of networks are not VoIP ready.

1. **Network Inventory / Mapping:**
   a. What the customer thinks they have points what network discovery tools you can use, e.g.: at this size you're unlikely to have SNMP/Netflow and the like to investigate the network which will limit your choices.

   b. The actual mapping / network inventory of the network. A variety of tools available for this and in general this area can be 'topped up' by using a port scanner.

Note: SolarWinds mapping tool quickly gets something on Visio. NetIQ's Vivinet Assessor if there is SNMP.

2. **Network Utilization:**
   a. Ideally assess network utilization over the period of a week so that it can be seen, for example, if a back up expected to be run on Thursday evening at 2am is actually running at 2pm.

   b. Network Usage. If SNMP is not present, you can use ICMP delay and jitter to test what is happening: a product as simple as PingPlotter could be used for example.

Note: Special Mentions: If there is SNMP, Codmia's product set as well as NetIQ's Vivinet Assessor are good. My personal feelings are without SNMP present these tools are not so strong. Do not discount RRDtools as purely a management tool as they have well-presented graphs for customer reports.

3. **Hot Spots:**
   a. You may be able to just log on to a switch that requires investigation, or you might need a network analyzer here (note that Wireshark / TCPdump are packet analyzers   a network analyzer is really required for example the functionality added by the CACE pilot Wireshark add-on). Again, there are many tools available here. Although in essence this stage is just standard network faulting this does have to be done as those niggles that don't really bother data but will damage VoIP quality need to be identified.

Note: Fluke Networks and Packet Island products.

4. **Traffic Generation**
a. Some advocate this straight away as a part of an initial assessment. Personally speaking I would not recommend traffic generation as standard as first one must know
   - The overall structure of the network
   - What the utilization is. Running such a tool 'blind' may break the network.
   - Calculate using present PBX usage figures what the bandwidth consumed will be.

Note: Pencil paper and / or calculator

b. Generate the traffic based on calculations through switches to end points. If not using VoIP protocols for this, just be aware of any QoS on the network.

Note: NetAlly - believe this was brought by Fluke Networks, Packet Island, Ixia.