VoIP for GovEd – What You Need to Know

Considering a new phone system? Make sure you know these 3 things before getting started.

Researching, planning, and deploying a phone system replacement – especially in government and educational organizations – can be a challenging undertaking if you're unsure of what to expect. You're in an environment where there is little to no tolerance for downtime and the ability to communicate effectively is critical.

Anyone looking into a phone system replacement will undoubtedly come across VoIP in their research. However, even if you have participated in a phone system deployment in the past, modern VoIP implementations in the public sector require special planning and consideration. Here's how to prepare yourself and what you need to know to get started.

WHAT DOES "VOIP" MEAN?

VoIP, stands for "Voice over Internet Protocol." Simply put, it refers to technology that allows voice communications to use a computer network to transmit information. "Internet Protocol" is a standard that all computers use to communicate, and does not inherently mean that the Internet will be used for your voice traffic. Whereas phone systems prior to VoIP would use two copper wires to send voice signals from point to point, the ability now exists to send the signals over a shared network along with other data. This shared approach allows for potentially greater efficiency.

PREPARING A NETWORK THAT CAN SUPPORT VOIP

VoIP is designed to operate on a shared data network. This can commonly mean that voice traffic is mixing with other network traffic including file sharing, database access, Internet browsing, media streaming, and more. Unlike most of the other traffic it shares space with, voice is "real time" – there's no opportunity to repair or resend incomplete information as it moves from one point to the next. If any part of the voice traffic doesn't make it cleanly across the network, it is perceived by the listener as choppy or unintelligible.

To move voice traffic between points across a shared network as cleanly as possible, several technologies are often utilized. A data network professional well-versed in these technologies, identified below, can help ensure consistent and dependable performance:

- **QoS** – "Quality of Service" relates to criteria used to manage the priority of one type of network traffic over another. For example, voice calls are typically given the highest priority over other network traffic as they require minimal bandwidth and their "real time" nature makes them highly susceptible to network slowdowns. A proper QoS strategy and configuration is imperative in any VoIP deployment.
- **VLAN** – A "virtual local area network" is method of segmenting your data network into smaller subnetworks. This logically separates the traffic of one subnetwork from another. By creating an isolated voice VLAN, the voice traffic on that subnetwork will not be impacted by other network activity.
- **MPLS / SDWAN** – These methods of traffic manipulation are used at the provider level (outside your office in the connectivity between you and your service provider). They work in conjunction with the network policies above to extend the control of the data traffic between an organization's geographically separate sites. These external policies must be designed to compliment your internal policies for optimal performance.

HOW TO PROPERLY EVALUATE A VOIP OFFERING

As a phone system, there are some traditional elements to evaluate. As new technology, however, there are additional areas you should consider.

- **Features** – Many great productivity features exist in the solutions available today. It is best to start out with a "must-have" list, then understand what else is offered. An important note to consider: make sure you understand *how* to use the desired features. As with many forms of technology, ease of use is directly related to adoption rate.
- **Integration** – Solutions often promise integration capabilities that allow users to interact with the phone system from their desktop or mobile devices. Understand what integrated offerings make sense to your situation and any associated costs. Be sure to know up front whose responsibility it is to ensure the integrations are set up and working.
- **Quality** – Offerings are not created equal in today's market, and quality issues are a fact of shared solutions. Have a clear understanding of how the vendor intends to provide top quality and what steps are to be taken if quality if impacted. This one criteria can cost you thousands of dollars to correct and leave a great many unhappy users who struggle to have a decent phone call.
- **True Cost** – VoIP solutions are no longer the isolated telephone systems of the past. They live and breath in data networks. Consider all recommended data network

upgrades to allow the technology to perform over time. Most providers will require a network test before any deployment.

- **Try It First-Hand** – Any functionality that is important to you should be tried and tested in person. It is no longer enough to simply "check a box" and say "yes, it can." Performance varies greatly. Don't buy the car without the test drive!
- **Understand 3rd Party Relationships** – Many solutions require third-party components to complete the offering. In most cases, such third-party components have a weaker integration that purpose-built devices. It is a good idea to understand what is and is not directly under the control of the provider.
- **Talk to Recent Users** – References are always a necessary piece of the puzzle, but talking to the *right* users is key. What vendor would provide a reference that isn't happy? A few tips to talk to the best sources possible are to specify limitations ("provide 3 references in my industry" or "I would like to talk to 5 references who have used your service for over 5 years"). You will likely still get a pre-screened batch of references, but the results may be more meaningful.
- **Consider a Pilot** – If you have more than 150 users, most manufacturers will authorize a proof-of-concept pilot. This is not a great process if you're trying to evaluate five or more solutions, but consider this route for the final 2-3 bidders as a way to confirm your evaluations.

These tips are a great starting point for your journey on deciding how to handle your organization's communications. For any information on this series, or for answers to any other questions you may have, please contact GovEd@intelesysone.com