

Measuring Up - Testing and Analysis

By Timothy Young

As the VoIP parade marches on, SPs are clamoring for their share of the increasingly crowded market. According to a February report by the Telecommunications Industry Association, active VoIP lines in the United States have increased from around 50,000 in 1999 to 6.5 million at the end of 2004. The same study predicted this number to grow to 9.9 million by the end of 2005, and approach 26 million by 2008. While this count may still seem small compared to wireless and traditional wireline services (each of these technologies is estimated to currently boast over 175 million accounts in the U.S. alone), the gap is closing. With new technology and greater convergence, this gap is likely to narrow as subscribers opt for VoIP technology.

In spite of its massive upsurge in popularity, many consumers remain leery of VoIP. While some avoid the service based on confusion about the unfamiliar technology or concerns about emergency services, many are simply afraid that the QoS is not going to be up to par. Some have less-than-fond memories of older services, which hardly provided suitable call quality. Others have had run-ins with delay, jitter, lost data, or other problems to which many VoIP services are prone. In order to overcome these shortfalls and retain customers, many of whom may have a few jitters of their own about the new technology, SPs have to be Johnny-on-the-spot when it comes to identifying, isolating, and solving problems at every step of the way. Enter Testing and Analysis solutions.

Stefan Pracht, product marketing manager for Agilent's OSS Group points out the need for monitoring in the face of increasing call complexity. According to Pracht, a traditional POTS telephone call, traveling over standard copper wire, involves something in the ballpark of five signal messages between the point of origin and the end receiver. A run-of-the-mill VoIP call ups that to around twenty-five messages. SIP? At least fifty messages. In fact, some of the next-gen SIP push-to-talk walkie-talkies may require up to 1,000 messages in a single call. That's a lot of cracks through which any amount of data is prey to fall.

And what happens when there isn't anyone around to patch the crack and maintain positive QoS? The customer may drop the VoIP service and rush back into the waiting arms of a legacy system, or pick up another VoIP service who claims to maintain superior QoS, or opt for any other combination of voice services, provided they are lured by the promise of a better customer experience.

It benefits SPs to retain VoIP customers once they have them. Paul Capozzoli, OSSG product manager for Agilent, points out that VoIP firms may have to spend up to \$300 for every new customer they recruit. Given that many VoIP providers only recoup \$20 to \$40 of that per month, the SP has to hang onto the customer for months, or even

years, to turn a profit. Therefore providers are better off maintaining positive relationships with customers once they have them aboard.

How do SPs do that? By maintaining smooth QoS. According to Laura Holly, product line manager of Brix Networks asserts that “VoIP can only be managed through full visibility.” A SP must have the ability to monitor every wire, receiver, softswitch, and gateway from one handset to the other in order to maintain positive QoS. Holly asserts that it is “not enough to just do one-time testing.” The network must be watched every step of the way.

After all, VoIP is just the beginning of the expansion of online capability. Much of the same testing and monitoring technology used to keep VoIP pipes clean and free flowing can be utilized to maximize the potential of IPTV and other technologies that are yet to emerge as possibilities. That is, if vendors are vigilant about maintaining forward-looking network tools. Roger Lingle, vice president of marketing for JDS Uniphase (formerly Acterna) points out that tools, which have emerged on the scene later in the game, have a distinct advantage as they were developed with a clearer idea of network needs and expectations. Capozzoli responds to such statements by asserting that maintaining focus on the technology at hand while always keeping an eye on what is coming next is a “prudent investment strategy.”

Keeping an eye on what’s next is definitely a strong choice for SPs and OSS vendors alike, as it has always been. With the aforementioned massive increases in VoIP traffic come a greater possibility of snags and pitfalls for VoIP providers. Testing and Analysis firms must be there to locate, isolate, and solve these problems as soon as they begin, if not before. Pracht points out that “just a few years ago, quality was defined by PSTN. Now consumers don’t know or care that VoIP is the path, provided the service is solid as a rock.”

This is a truism in any industry. Most people don’t care whether their watch is regulated by gears or quartz. They only care about how well it keeps time. Most grocery shoppers don’t care whether their produce was shipped by truck or by rail. They only care about how fresh it is. Likewise, most consumers don’t care whether their voice signal is delivered over IP or SS7 or any other network. They only care about receiving the call with clarity, speed, and ease. Proper testing and monitoring support assures that SPs will be able to keep tabs on their networks at all times, isolating and solving problems before they have an effect on the overall customer experience. In doing so, SPs help to safeguard against churn, retain hard-earned customers, and strengthen their respective footholds in an era of dynamic and burgeoning technology.