

DEVELOPMENTS

THE NEWSLETTER FROM PACKET FORENSICS COVERING INDUSTRY AND PRODUCT EVOLUTION

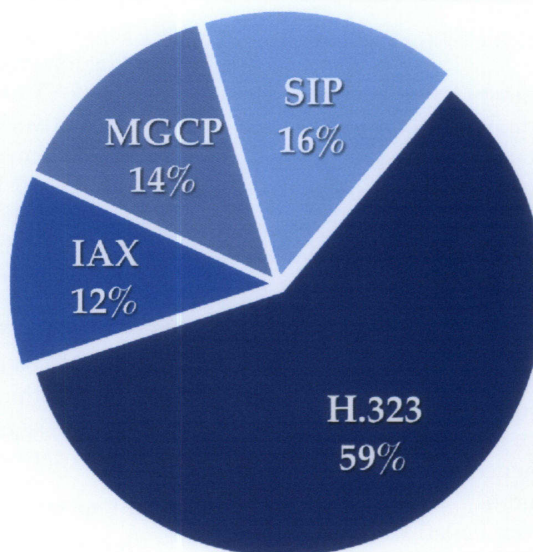
Private VoIP Exchanges & the IAX Dilemma

Explosive Growth of IAX Protocol and International VoIP Trunking Leaves Industry Unprepared

In June of 2009, Packet Forensics undertook a comprehensive research effort with the help of one of our partners, a global telecommunications service provider. Their network represents a large cross-section of the greater North American IP backbone because they are a tier-1 Internet service provider, or to what people commonly refer as a carrier's carrier. Amongst a larger agenda, we sought to unearth quantitative details related to actual VoIP protocol usage—what are people using to transport VoIP traffic and are they trunking to several large carriers or is there a preponderance of peer-to-peer traffic or interconnectivity between PBXs and providers. What we found not only surprised us, but warranted immediate action on our part to fill gaps in our product portfolio and to inform our current customers who rely upon us for passive VoIP monitoring and interception.

In order to preserve subscriber privacy, deep packet inspection (DPI) was used only to positively identify protocols and because of privacy sensitivity, we did not determine if calls were being executed independently or trunked. Traffic flow records were analyzed to identify statistically significant networks of call origination and termination and to get a sense of which protocols were being used in which telephony situations.

The high level results of the analysis provided unexpected answers and insight. First, MGCP is still used across the public Internet, not only within enterprises. Second, H.323 remains the heavy-lifter for teleconferencing. Finally, Inter-Asterisk Exchange (IAX) protocol now comprises a double-digit percentage of VoIP. This is particularly interesting when you consider IAX traffic occupies only one stream for potentially dozens of calls when trunking. Consider also that although IAX is an open standard, the vast majority of telephony platforms implementing IAX are non-



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commercial, public domain applications that don't include facilities for active interception capability. This means IAX traffic must be captured passively and doing so requires systems like ours. The speed of IAX adoption is nothing short of amazing. IAX is very different from most VoIP protocols, but its unique characteristics likely drove its adoption. First, it's a binary protocol as opposed to text-based. Second, it doesn't use RTP to carry call content. Instead, it offers a novel approach that aggregates both content and signaling into one stream making it NAT-friendly and vastly more efficient than RTP with two thirds less overhead per packet.

Suffice it to say, much of our engineering time late last year was spent in support of MGCP and IAX development and we're proud to say that we're now the first and only passive capture solution for IAX. We even support IAX's optional trunking configurations. It's been a busy quarter around here, and a productive one for our customers.

