



For Immediate Release

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SkyPipe™ SOFTWARE MAXIMIZES FILE TRANSFER SPEED OVER SATELLITE LINKS

Dallas, Texas, May 12, 2003 - The problems with sending Transmission Control Protocol (TCP) traffic over long-delay and high-bit error links - such as satellite links - are the result of a congestion control scheme that was designed for terrestrial networks. TCP requires that the destination host provide regular acknowledgements to the source to indicate that an error-free packet has successfully arrived. If the source does not receive an acknowledgement within a certain period of time of sending a packet, TCP will assume network congestion, and will reduce data throughput.

AOS, Inc., a leader in rapidly deployable and secure communications, has introduced a proprietary software application to optimize TCP traffic over satellite links. “We discovered a critical deficiency in file transfer speed during development of our Outpost Communicator™ 256 system,” said Sue Robinson, President of AOS. The OC-256 combines the data channels of up to four standard Inmarsat M4 terminals to achieve much higher bandwidth for mobile satellite users. “Combining the Inmarsat channels was difficult and required extensive research and development at our lab in Dallas,” said Ms. Robinson, “but the big surprise came when we measured how long it took to send a file from an OC-256 field unit to its terminus in the office. We noted that the transfer time of a compressed file indicated a throughput of less than 100 Kbps when the available bandwidth was 256 Kbps. Unless we could substantially increase the file transfer speed, the OC-256, like many other broadband satellite systems, might appear to offer a fast connection speed, but in reality would be delivering far less – and costing our customers more in airtime charges. That simply would not do.”

AOS tried several ways to increase file transfers over the satellite channels before ultimately developing SkyPipe™. “We first attempted to alter the windows sizes in the Windows operating systems of the computers on both ends of the satellite link. Nothing we did to the registry settings had any effect on the speed,” said Ms. Robinson, “and we really did not want to force our customers to make changes to their registries. We next tried a hardware solution that did the trick, but it was not suited for a rapidly-deployable, portable product. Finally, working with a software developer, we were able to produce a solution that was both efficient and highly cost effective.

SkyPipe™ resides on the client and server computers on each end of the satellite link and runs transparently in the background. “During a session with all four Inmarsat M4 channels running simultaneously through the OC-256, we get a measured throughput of about 240 Kbps with a



file that is fully compressed,” Ms. Robinson said, “and up to 380 Kbps with other files, as SkyPipe™ applies its own on-the-fly compression to the stream.” AOS includes SkyPipe™ with all installations of its OC-256 system but believes the software has applications in any satellite communication above 64Kbps, including a wide array of Inmarsat services. “We think that if users of Inmarsat or VSAT systems would actually measure their throughput with a compressed file, they would be surprised to discover the actual file transfer rate is much less than the bandwidth suggests,” said Ms. Robinson, “Just because you have a 128Kbps link or higher, does not mean your computers are actually transferring files at anywhere near the capacity”.

Founded in 1988, **AOS, Inc.** is a multi-vendor, turnkey systems provider offering a broad range of communications and security products, specializing in rapid deployment and emergency response solutions for a worldwide customer base. The company designs, develops, integrates, assembles and tests its own products under the most rigid international standards.

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