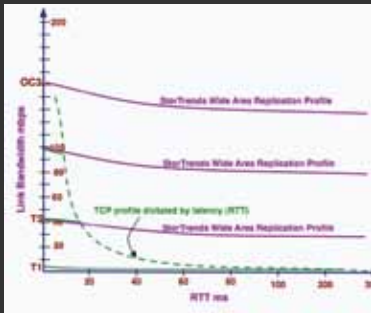


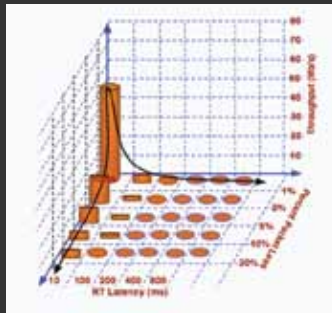


## WAN Accelerator for Remote Replication

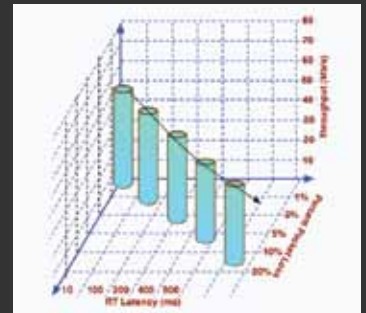
An effective Disaster Recovery (DR) strategy is vital to an enterprise's Business Continuity policy. Remote Replication across geographical sites done over Metropolitan or Wide Area Networks (MAN or WAN) has become a popular storage DR mechanism. While this seems like a good idea, the problem is not in the idea itself but rather in its implementation. One of the biggest challenges now facing replication over significant distances is the delay incurred when doing so unlike LAN transfers. These round-trip delays range from a couple of milliseconds for inter-city connections to around 80-100 ms from coast-to-coast, as much as 250-300 ms for submarine transmissions across the globe and about 700ms when geostationary satellites are used.



Effect of RTT on TCP and StorTrends WDS



Effect of RTT and Packet Loss on TCP



Effect of RTT and Packet Loss on StorTrends

Unfortunately as the Figure 1 depicts as the latency increases the TCP performance plummets. American Megatrends Inc. (AMI) through its proprietary, patent-pending WAN Acceleration techniques grouped under its Wide Area Data Services (WDS) feature comes to the rescue by achieving near theoretical maximum throughput (up to 95%) even in networks with high latency and packet losses. The figures show the effect of packet loss and delays on long distance replications using iSCSI, and the typical corresponding improvements achieved with WDS in the Asynchronous Replication module found



AMI offers these WDS features as an integral part of the StorTrends iTX stack, which can be enabled or disabled through a robust feature licensing capability. This also makes it a cheaper alternative to using separate third party WAN accelerators available in the market. Designed to provide the most efficient and optimal asynchronous replication capability, WDS does so through powerful data reduction (or **data deduplication**) and WAN acceleration features.