Team: Team 3

Inject Number: 42

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From: Chief Information Officer

To: Infrastructure Team

Subject: 003 CTO Inquiry - Network Bandwidth Analysis and Report

Our CTO was at a conference and the keynote speaker spoke extensively on the importance of bandwidth and the exponential growth that will be required to support future applications and users. He is now worried that we don't know what bandwidth is supported by both TCP and UDP traffic between our various network zones. He has requested a report on the measured bandwidth using a machine (or two) in each zone and the open-source iperf tool. He is also interested in testing if any of the zones utilize jumbo frames to move data more efficiently. Create a report in formal memo format to clearly document the following (include screenshots/captures in an appendix to validate the summarized data in the report):

A) Report on both TCP and UDP maximum bandwidth measurements between machines utilizing an Maximum Segment Size(MSS) of 1450 (see -M option in iperf) on:
1) Internal LAN to Internal LAN
2) Internal LAN to DMZ
3) Internal LAN to the External Machine (Windows 7)

B) Report on the same machines on both tcp/udp with an MSS of 8960. This may or may not be successful and the machine network interfaces may/or may not be configured to support jumbo frames. Provide the report in the current configuration without making network interface adjustments.
1) Internal LAN to Internal LAN
2) Internal LAN to DMZ
3) Internal LAN to the External Machine (Windows 7)

C) Describe the changes that would be required to support jumbo frames on the machines themselves and the network infrastructure. Specifically include whether the devices (clients/servers, firewall, and network

switches) require simple configuration changes or hardware upgrades. Also describe the potential benefits of the increase to jumbo frames from the standard frame size.

Thank you.

Chief Information Officer