

VOIP under: WLAN 802.11g
and Ethernet connection

VS

Telephone Landline

ENSC 427 Team 1

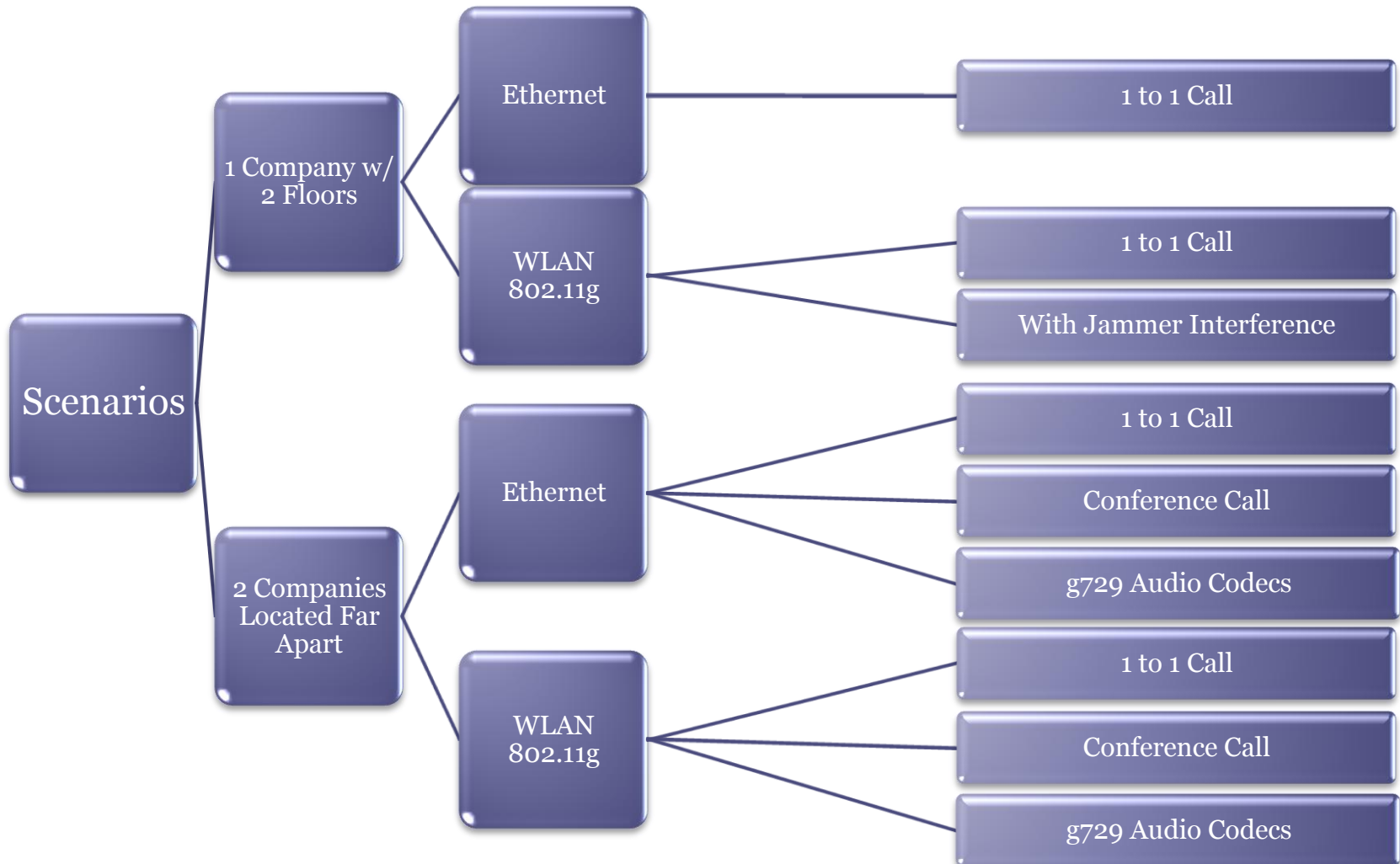
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Scenario Specifications



Audio Codec: G.711 vs. G.729

	G.711	G.729
Quality	64 Kbps	24 Kbps
Audio	Uncompressed	Compressed
Jitter	Higher	Minimal
Tradeoff	High Quality	Use Less Bandwidth
Others	Perform better when high bandwidth is available	Perform better under heavy traffic congestion; Require license; Popular

In general:

Difference is unnoticeable in normal conversation unless music is played in the call as it is difficult to predict the next tone during data compression.

Analysis:

Below listed the factors and their affect on parameters (jitter, MOS value, Delay Variation, End-to-End Delay) based on an Ethernet network scenario.

<u>Factors</u>	Jitter	MOS Value	Delay Variation	End-to-End Delay
WLAN 802.11g	Increase	No Change	Increase	No Change
Increase Distance between Callers	Increase	Decrease	Increase	Increase
Added Wireless Interference	Increase	No Change	Increase	No Change
Increase Workstations	Increase	No Change	Increase	Increase
Under G.729 Audio Codec	Decrease	Decrease	Decrease	No Change

Conclusion

- Circuit Switching vs Packet Switching
- G711 codec give better voice quality (MOS) but consume more bandwidth than G729
- Ethernet shows more reliability and less delay than wireless
- POTS has less drop rate than VOIP but more costly
- VOIP is a good substitution for POTS

Future Work

- Wireless N
- Better Model for the Interference