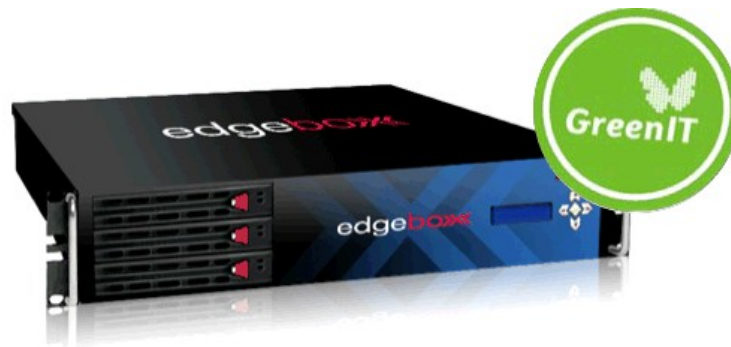


Dramatically simplifying voice and data networking



edgeBOX

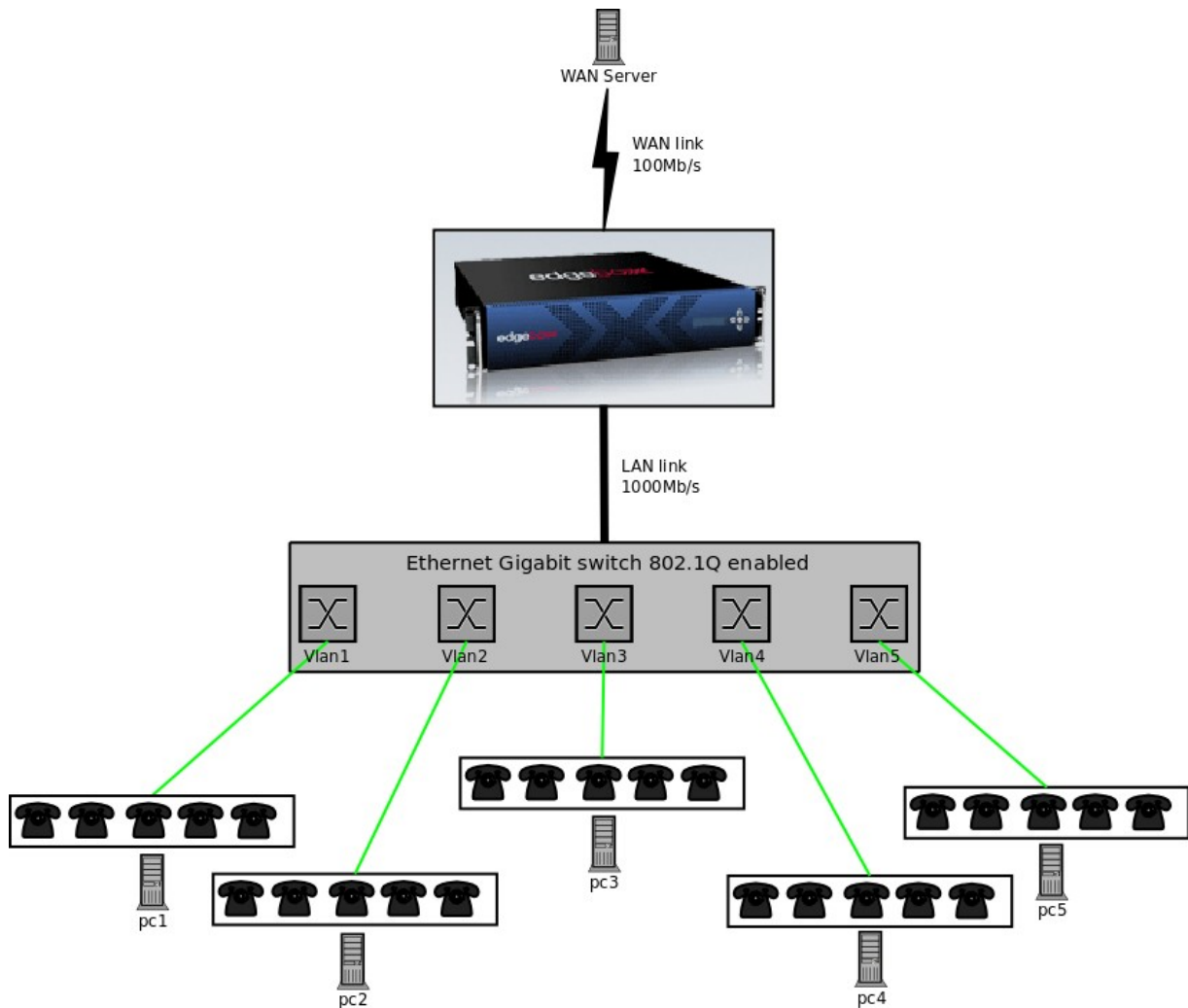
Performance Metrics for edgeBOX
Appliances



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Test scenario



- Office Appliance tests performed with 20 clients, each with caller and callee phone to achieve a maximum of 40 simultaneous calls.
- Business Appliance tests performed with 30 clients, each with caller and callee phone to achieve a maximum of 60 simultaneous calls.
- Enterprise Appliance tests performed with 40 clients, each with caller and callee phone to achieve a maximum of 80 simultaneous calls.
- All calls with transcoding G711 ulaw ↔ GSM
- MOS scores were calculated according to the E-model (depicted from G.107 and ITU-T G.113) in a controlled environment. Jitter, delay and packet loss were retrieved from passive mode monitoring and all other needed values were the default model values. You should find an online calculator in the following address <http://www.itu.int/ITU-T/studygroups/com12/emodelv1/calcul.php>

Firewall throughput results

Office Appliance (900kBytes chunks)

	Firewall and NAT	No Firewall and NAT	No Firewall and no NAT
UDP intervlan	110.769Mb/s	128.572Mb/s	132.134Mb/s
TCP intervlan	238.254Mb/s	257.143Mb/s	266.667Mb/s
UDP lan-wan	103.045Mb/s	113.544Mb/s	124.001Mb/s
TCP lan-wan	545.546Mb/s	554.001Mb/s	554.001Mb/s
Streaming 1Mb/s (10 secs)	no lost data	no lost data	no lost data

Business Appliance (900kBytes chunks)

	Firewall and NAT	No Firewall and NAT	No Firewall and no NAT
UDP intervlan	110.769Mb/s	128.572Mb/s	132.134Mb/s
TCP intervlan	450.000Mb/s	450.000Mb/s	480.001Mb/s
UDP lan-wan	109.091Mb/s	128.572Mb/s	132.134Mb/s
TCP lan-wan	600.001Mb/s	654.546Mb/s	654.546Mb/s
Streaming 1Mb/s (10 secs)	no lost data	no lost data	no lost data

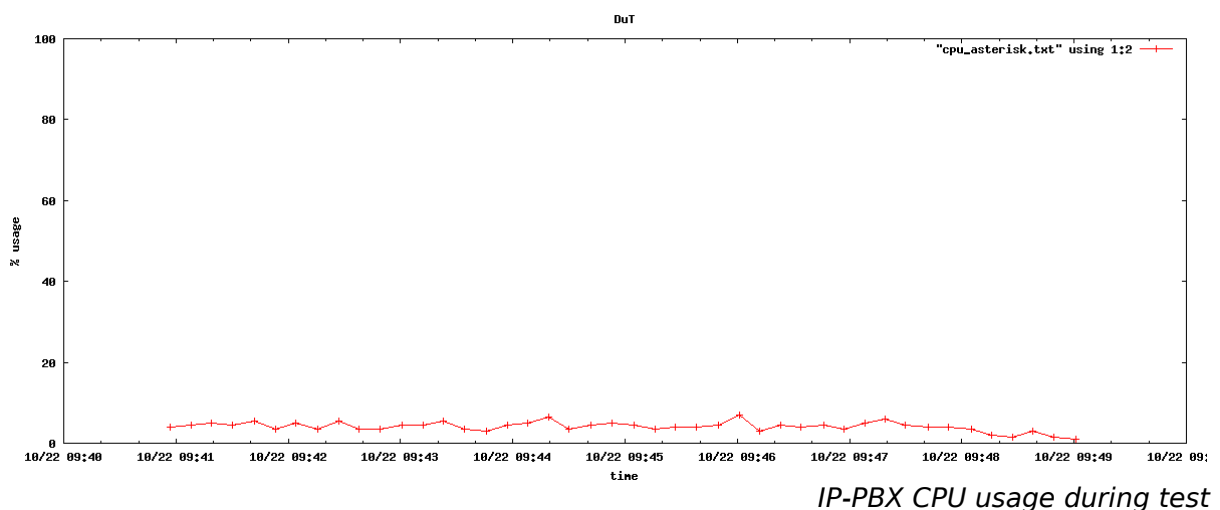
Enterprise Appliance (900kBytes chunks)

	Firewall and NAT	No Firewall and NAT	No Firewall and no NAT
UDP intervlan	110.769Mb/s	128.572Mb/s	132.134Mb/s
TCP intervlan	450.000Mb/s	514.286Mb/s	514.286Mb/s
UDP lan-wan	109.091Mb/s	130.909Mb/s	132.134Mb/s
TCP lan-wan	600.001Mb/s	654.546Mb/s	654.546Mb/s
Streaming 1Mb/s (10 secs)	no lost data	no lost data	no lost data

VoIP results

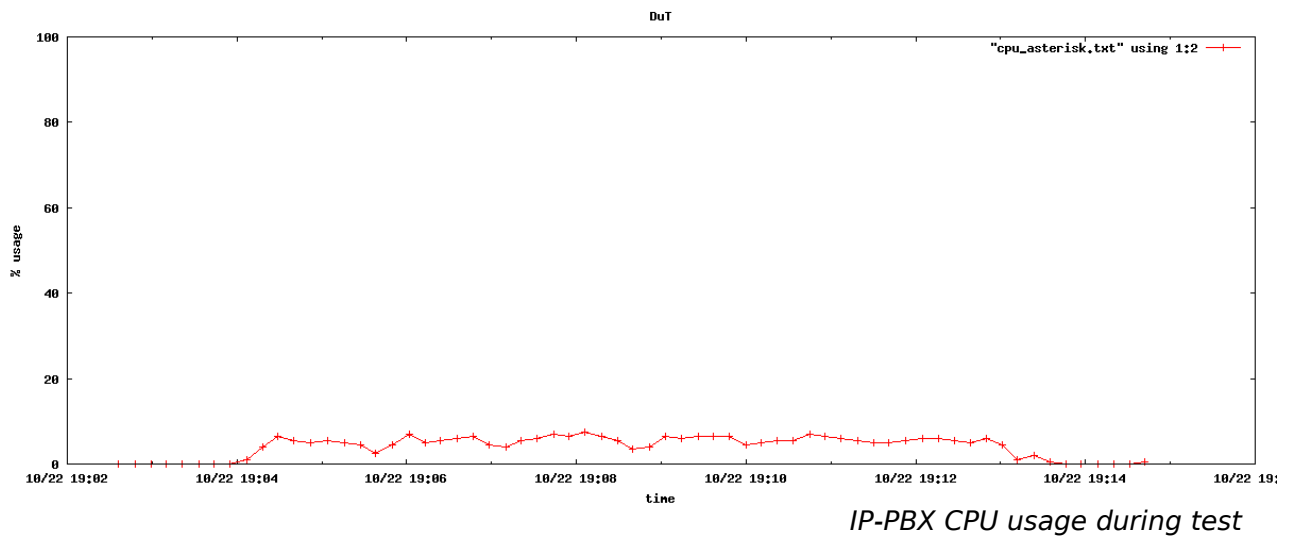
Office appliance

- 100 SIP calls
- Transcoding G711 ulaw → GSM (initiator → participant)
- All within local edgeBOX and ethernet switch (single broadcast domain)
- MOS average score = 3.8
- Average R Factor = 93.9
- Average Jitter = 0.7
- Average Delay = 0
- Average Packet loss = 0



Business appliance

- 479 SIP calls
- Transcoding G711 ulaw → GSM (initiator → participant)
- All within local edgeBOX and ethernet switch (single broadcast domain)
- MOS average score = 3.7
- Average R Factor = 93.6
- Average Jitter = 0.84
- Average Delay = 0
- Average Packet loss = 0.11



Enterprise appliance

- 705 SIP calls
- transcoding ulaw->GSM (initiator->participant)
- all within local edgeBOX and ethernet switch (single broadcast domain)
- MOS average score = 3.7
- Average R Factor = 93.65
- Average Jitter = 0.86
- Average Delay = 0
- Average Packet loss = 0.08

