Interactive Intelligence, Inc.
Server Hardware Validation Testing Results

General Information:
Tester: Scott Brewer

Testing start date: 10/24/2006
Testing end date: 03/30/2007

Server Information:
Server Manufacturer: Alliance Systems Ltd. www.alliancesystems.com

Server Model: Q-12000R2   Serial Number: AZH66335087

Server Configuration: Quad Xeon MP 3.66GHz., 4096MB ECC DDR2 400 SDRAM, Intel SROMBU42E RAID adapter w/512MB Cache memory, RAID10(OS & Application)+RAID1(logs), six 147GB, Fujitsu MAU3147NC 15K rpm U320 hard drives, three 140CFM cooling fans in the PCI expansion chassis, dual BroadCom NetXtreme Gigabit Ethernet NICs, ATI Radeon 7000 PCI w/ 16MB RAM, two 1570W PSUs in Host Chassis & four 300W PSUs(N+1) 900W total in PCI Expansion Chassis. 16 PCI slots usable for telephony boards.

Platforms Tested:
☒ Aculab
☒ Aculab + AudioCodes
☒ Dialogic + AudioCodes

Aculab Testing Results

Software Configuration: Windows Server 2003 Standard Edition+SP1, CIC 2.4GA+FP1+SU10 & Aculab 5.11.3

Board Configuration: PCI slots 1 – 12 Aculab Prosody v1.5 boards, PCI slots 13-16 Aculab E1/T1 Trunk-only boards

General Observations: This is one of the biggest servers certified by I3 for use with Interaction Center. The system has excellent cooling capabilities considering 16 telephony boards were installed and loaded to capacity. The server is a very stout design that will handle all the power requirements of the 16 boards installed without significant signs of loading. Additionally after speaking with Aculab, the load factor of all post-v1.4 Prosody boards can be considered to be 1 versus 1.5 so the 12 Prosody boards and 4 E1/T1 trunk boards do not exceed the recommend H.100 loading of 20.

Testing Information:

Call volume tested: 6 calls/second, 360 calls/minute for 18 hours

Number of agents: 384 ACD agents via channel banks

Number of trunks: 48 ISDN NI2 (loop-back)

+5VDC value at idle: 5.12VDC   +5VDC value under full load: 5.055VDC

Ambient lab temperature: 78.1° F   Maximum internal chassis temperature observed: 107.9° F

Average CPU Utilization with Default tracing: 34.4%

Average CPU Utilization with Field[1] tracing: 46.6%

Aculab + AudioCodes Testing Results

Software Configuration: Windows Server 2003 Standard Edition+SP1, CIC 2.4GA+FP1+SU10 & Aculab 5.11.3

Board Configuration: PCI slots 1 – 12 Aculab Prosody v1.5 boards, PCI slots 13 &14 Aculab E1/T1 Trunk-only boards, PCI slots 15 & 16 AudioCodes IPM260A (120 & 240 ports) boards

General Observations: This is one of the biggest servers certified by I3 for use with Interaction Center. The system has excellent cooling capabilities considering 16 telephony boards were installed and loaded to capacity. The server is a very stout design that will handle all the power requirements of the 16 boards installed without significant signs of loading. Additionally after speaking with Aculab, the load factor of all post-v1.4 Prosody boards can be considered to be 1 versus 1.5 so the 12 Prosody boards and 2 E1/T1 trunk cards do not actually meet the maximum H.100 loading of 20.

Testing Information:

Call volume tested: 6 calls/second, 360 calls/minute for 18 hours

Number of agents: 542 ACD agents, 192 via channel banks & 360 via SIP

Number of trunks: 48 ISDN NI2 (loop-back)

+5VDC value at idle: 5.12VDC   +5VDC value under full load: 5.056VDC

Ambient lab temperature: 78.3° F   Maximum internal chassis temperature observed: 107.8° F

Average CPU Utilization with Default tracing: 36.22%

Average CPU Utilization with Field[1] tracing: 48.65%

Dialogic + AudioCodes Testing Results

Software Configuration: Server 2003 Standard Edition+SP2, CIC 2.4GA+FP1+SU18 & Dialogic SR6 SU133

Board Configuration: PCI slots 1 & 2 Dialogic DM/V600BTEPW boards, PCI slots 3 – 10 Dialogic DM/V1200BTEPW boards, PCI slots 11 &12 Dialogic DM/V3600BP boards, PCI slots 13 & 14 Dialogic HDSI1200 boards, PCI slots 15 & 16 AudioCodes IPM260A (120 & 240 ports) boards

General Observations: This is one of the biggest servers certified by I3 for use with Interaction Center. The system has excellent cooling capabilities considering 16 telephony boards were installed and loaded to capacity. The server is a very stout design that will handle all the power requirements of the 16 boards installed without significant signs of loading.

Testing Information:

Call volume tested: 6 calls/second, 360 calls/minute for 18 hours

Number of agents: 600 ACD agents, 360 via SIP & 240 via HDSIs

Number of trunks: 36 ISDN NI2 (loop-back)

+5VDC value at idle: 5.10VDC   +5VDC value under full load: 5.058VDC

Ambient lab temperature: 78.4° F   Maximum internal chassis temperature observed: 106.7° F

Average CPU Utilization with Default tracing: 21.56%

Average CPU Utilization with Field[1] tracing: 36.83%

Conclusions:
The server was configured with a RAID-10 array for the operating system, applications and recordings. This server also utilized a secondary RAID-1 array for the trace logging storage. Each RAID array was configured across both SCSI channels using the Intel SROMB42E. All six drives were located in the host chassis.   The server can also support Dual-Core, hyper-threading capable processors providing the possibility of a sixteen "virtual" processor solution.

1- Field tracing is an increase of key Topic values under the IP, Notifier and TsServer subsystems in the Trace Configuration utility. These specific Topic values are increased to the highest Notes-level value of 80. This provides a much higher load on the storage subsystem to allow proper evaluation of hard drive and hard drive controller performance.