



Interactive Intelligence, Inc. Server Hardware Validation Testing Results

General Information:

Tester: Scott Brewer

Testing start date: 11/20/2006

Testing end date: 04/20/2007

Server Information:

Server Manufacturer: Alliance Systems

Server Model: I-6000R3

Serial Number: E061606-5

Server Configuration: Dual Xeon Dual-Core 2.0GHz. LV processors, 2048MB ECC DDR2 400 SDRAM, Adaptec 4805SAS PCI-E x8 RAID adapter, single RAID10 array w/ six Fujitsu MAX3073RC 68GB SAS hard drives, three 140CFM cooling fans, dual Intel Pro 1000/MT NICs, ATI Mobility M1 display adapter w/16MB SDRAM, four 350W PSUs (N+1)1050W total, 15 PCI slots usable for telephony boards

Telephony Platforms Tested:

- Aculab
- Aculab + AudioCodes
- Dialogic + AudioCodes

Aculab Testing Results

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

Board Configuration: PCI slots 2 – 12 Aculab Prosody v1.5 boards, PCI slots 13-16 Aculab E1/T1 Trunk-only boards

General Observations: This is one of the bigger servers certified by I3 for use with Interaction Center. The system has excellent cooling capabilities considering 15 telephony boards were installed and loaded to capacity. 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 11 Prosody and 4 E1/T1 trunk boards do not exceed the recommend H.100 loading of 20. The Adaptec RAID controller installed in the PCIe X16 slot consumed too much space to allow an Aculab Prosody board to comfortably occupy PCI slot 1. For this reason, we tested with only 15 boards.

Testing Information:

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

Number of agents: 384 via Channel Banks

Number of trunks: 44 ISDN NI2 (loop-back)

+5VDC value at idle: +5.029VDC

+5VDC value under full load: +5.023VDC

Ambient lab temp.: 78.1 °F

Max. internal chassis temp. under load: 107.1 °F

Average CPU Utilization with Default tracing: 33.9%

Average CPU Utilization with Field¹ tracing: 48.1%

Aculab + AudioCodes Testing Results

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

Board Configuration: PCI slots 2 – 12 Aculab Prosody v1.5 boards, PCI slots 13 & 14 Aculab E1/T1 Trunk-only boards, PCI slots 15 & 16 AudioCodes IPM260A (120-port)

General Observations: This is one of the bigger servers certified by I3 for use with Interaction Center. The system has excellent cooling capabilities considering 15 telephony boards were installed and loaded to capacity. The Adaptec RAID controller installed in the PCIe X16 slot consumed too much space to allow an Aculab Prosody board to comfortably occupy PCI slot 1. For this reason, we tested with only 15 boards.

Testing Information:

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

Number of agents: 432 agents, 240 via SIP and 192 via Channel Banks

Number of trunks: 44 ISDN NI2 (loop-back)

+5VDC value at idle: +5.029VDC

+5VDC value under full load: +5.023VDC

Ambient lab temp.: 78.1 °F

Max. internal chassis temp. under load: 107.4 °F

Average CPU Utilization with Default tracing: 34.8%

Average CPU Utilization with Field¹ tracing: 49.4%

Dialogic + AudioCodes Testing Results

Software Configuration: Windows Server 2003 Standard Edition, CIC 2.4GA+FP1+SU10 & Dialogic SR6 SU133

Server Configuration: Dual Xeon Dual-Core 2.0GHz. LV processors, 2048MB ECC DDR2 400 SDRAM, Adaptec 4805SAS PCI-E x8 RAID adapter, single RAID10 array w/ six Fujitsu MAX3073RC 68GB SAS hard drives, three 140CFM cooling fans, dual Intel Pro 1000/MT NICs, ATI Mobility M1 display adapter w/16MB SDRAM, four 350W PSUs (N+1)1050W total, 15 PCI slots usable for telephony boards

Board Configuration: PCI slots 2 & 3 DM/V600BTEPW boards, PCI slots 4 & 11 DM/V1200BTEPW boards, PCI slot 12 HDSI1200, PCI slots 13 & 14 DM/V3600BP, PCI slot 15 AudioCodes IPM260A (240-port)

General Observations: This is one of the bigger servers certified by I3 for use with Interaction Center. The system has excellent cooling capabilities considering 14 telephony boards were installed and loaded to capacity.

Testing Information:

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

Number of agents: 360 ACD agents, 240 via SIP & 120 via HDSI

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

+5VDC value at idle: +5.030VDC +5VDC value under full load: +5.024VDC

Max. internal chassis temp. under load: 106.8°F Ambient lab temp.: 78.2°F

Average CPU Utilization with Default tracing: 26.42%

Average CPU Utilization with Field¹ tracing: 38.79%

Conclusions:

This is an excellent mid to large scale system that has plenty of CPU and disk throughput for it's intended role. CPUs were not overly taxed by our test and higher density usage should be possible. Cooling capability was excellent and the high-bandwidth PCI-express RAID controller allows us to push the disk I/O with higher agents counts doing full recording. This server is capable in every area, cooling, power and performance.

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.