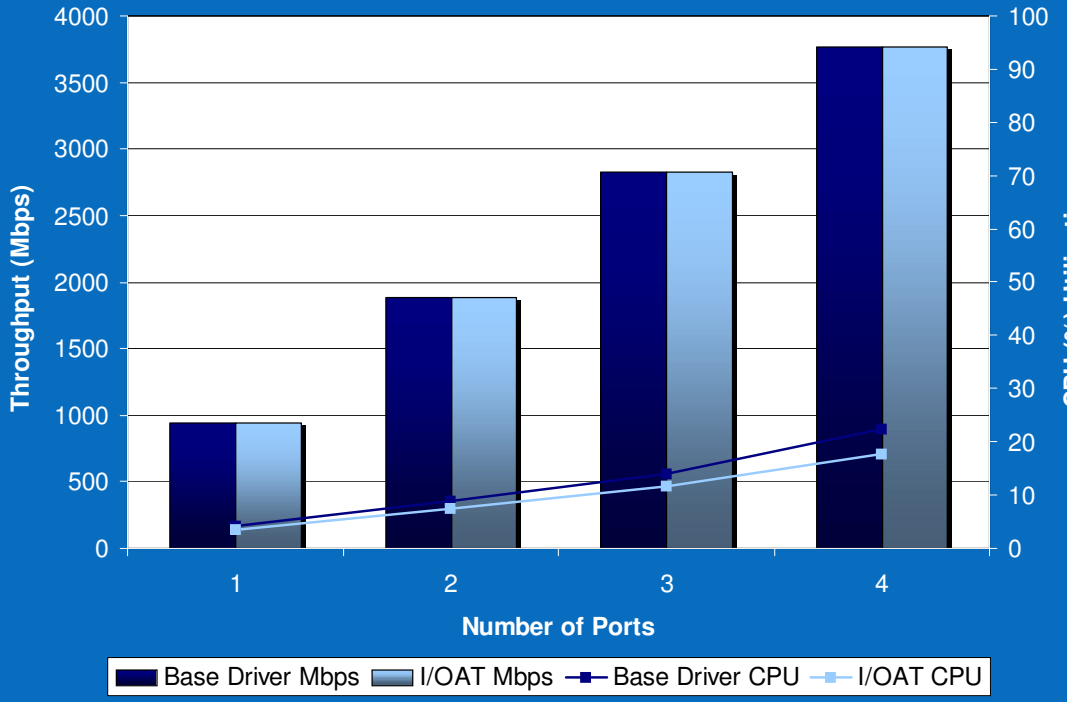
Linux Receive Port Scaling with Intel® I/OAT

Bensley Linux Kernel 2.6.16.1 Std. GbE vs. Intel® I/OAT
64KB Buffer Size Netperf Receive (Rx) Port Scaling Performance Test



Test
Netperf
2 Clients Per Port Under Test
TCP STREAM TEST
Buffer Sizes = 64K Bytes
60 second test iteration
64KB Socket Size
Data Verification Disabled

Bensley Server
Intel® Bridgeport CRB 55
2x 3.2GHz Dual-Core Intel® Xeon® processor
8GB RAM
Linux Kernel 2.6.16.1 patched with Intel® I/OAT DMA v1.5
Base Driver 7.0.38

Clients
Dell PowerEdge 1750
3.4GHz Pentium® 4 processor
Windows XP Professional SP1

Network Configuration
Cisco 6509
Clients connected @ 1000 Mbs

Source: Intel Labs April 2006

Linux Receive Port Scaling with Intel® I/OAT

Linux Kernel 2.6.16.1 with 7.0.38 Base Driver		
Num Ports	Base Driver Mbps	Base Driver CPU
1	941	4
	941	4
	941	4
2	1882	9
	1882	9
	1882	9
3	2834	14
	2824	14
	2824	14
4	3765	23
	3765	22
	3765	22

Linux Kernel 2.6.16.1 with I/OAT v1.5		
Num Ports	I/OAT Mbps	I/OAT CPU
1	941	3
	941	3
	941	4
2	1882	7
	1882	7
	1882	7
3	2823	11
	2823	12
	2823	12
4	3764	18
	3764	18
	3764	18

Num Ports	Base Driver Mbps	Base Driver CPU
1	941	4
2	1882	9
3	2827	14
4	3765	22

Num Ports	I/OAT Mbps	I/OAT CPU
1	941	3
2	1882	7
3	2823	12
4	3764	18

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Buffer Sizes = 64K Bytes
60 second test iteration
64KB Socket Size
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Linux Receive Port Scaling with Intel® I/OAT Netperf Data Verification Enabled*

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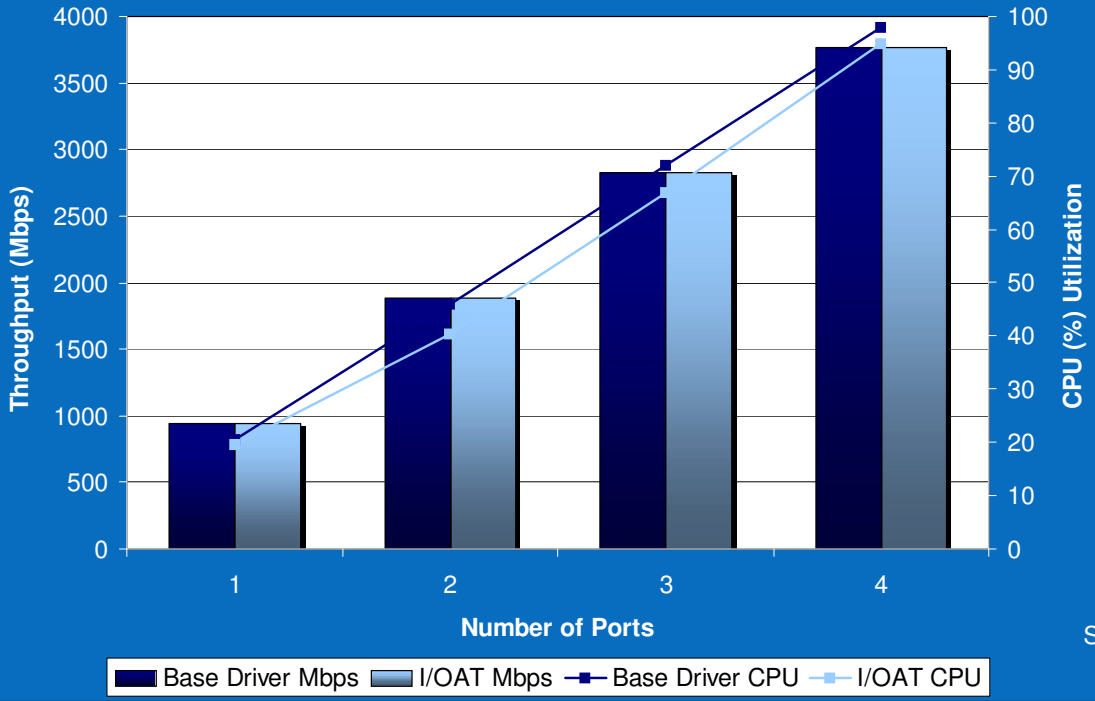
64KB Buffer Size Netperf Receive (Rx) Port Scaling Performance Test



Test
Netperf
2 Clients Per Port Under Test
TCP STREAM TEST
Buffer Sizes = 64K Bytes
60 second test iteration
64KB Socket Size
Data Verification Enabled
*(Touched Data)

Bensley Server
Intel® Bridgeport CRB 55
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Base Driver 7.0.38

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Cisco 6509
Clients connected @ 1000 Mbs

Source: Intel Labs April 2006

Linux Receive Port Scaling with Intel® I/OAT Netperf Data Verification Enabled*

Linux Kernel 2.6.16.1 with 7.0.38 Base Driver		
Num Ports	Base Driver Mbps	Base Driver CPU
1	941	21
	941	20
	941	20
2	1882	46
	1882	46
	1882	46
3	2823	72
	2823	72
	2823	72
4	3765	98
	3765	98
	3765	98

Num Ports	Base Driver Mbps	Base Driver CPU
1	941	20
2	1882	46
3	2823	72
4	3765	98

Linux Kernel 2.6.16.1 with I/OAT v1.5		
Num Ports	I/OAT Mbps	I/OAT CPU
1	941	20
	941	20
	941	20
2	1882	40
	1881	40
	1881	40
3	2823	67
	2823	67
	2823	67
4	3764	95
	3764	95
	3763	95

Num Ports	I/OAT Mbps	I/OAT CPU
1	941	20
2	1881	40
3	2823	67
4	3763	95

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64KB Socket Size
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*(Touched Data)

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