

## SICS hypervisor Linux Benchmark

OVP simulation: Integrator CP

CPU: ARM Cortex-A8

CPU Frequency: 200MIPS (simulated)

Linux kernel: 2.6.34.3

Latency Benchmark	Native Linux ( $\mu$ s)	SICS v.0.1 ( $\mu$ s)	Ratio
null syscall	0.4454	5.7048	12.81
read	1.6383	6.8919	4.21
write	1.3624	6.627	4.86
stat	361.1598	369.8079	1.02
fstat	2.5026	7.7684	3.1
open/close	383.9217	405.0443	1.06
select (10)	4.4399	9.7108	2.19
select( 100)	35.0226	40.3513	1.15
select( 250)	85.2960	90.7701	1.06
select (500)	200.4096	208.1764	1.04
sig handler install	1.5909	8.0239	5.04
sig handler overhead	28.82141	48.3714	1.68
protection fault	1.0231	8.4530	8.26
pipe	22.0710	61.3805	2.78
fork + exit	2908.2751	6081.011	2.09
fork + execve	3397.1019	6373.7803	1.88
fork + bin/sh-c	31481.4444	44871.7692	1.43
pagefaults	4.1992	16.2557	3.87

Hardware: Infineon XMM6180  
CPU:ARM1176JZS  
CPU Frequency: 180MHZ

Linux Kernel: 2.6.30

Benchmark taken from paper  
*Performance Evaluation of Para-virtualization for Embedded Real-time Systems,*  
2010  
[http://www.ruhr-uni-bochum.de/integriertesysteme/emuco/files/performance\\_evaluation\\_of\\_para\\_virtualization.pdf](http://www.ruhr-uni-bochum.de/integriertesysteme/emuco/files/performance_evaluation_of_para_virtualization.pdf)

Benchmark	Native Linux (μs)	L4Linux Fiasco (μs)	Ratio
null syscall	0.7158	22.3718	31.25
read	3.6399	34.3318	9.43
write	3.1738	30.9641	9.76
stat	16.2348	106.0476	6.53
fstat	4.2553	44.4267	10.44
open/close	39.0611	208.7772	5.34
select (10)	4.3945	50.335	11.45
select( 100)	28.5861	82.4257	2.88
select( 250)	68.8872	122.4306	1.78
select (500)	136.3443	221.5062	1.62
sig handler install	2.619	36.2203	13.83
sig handler overhead	9.8543	136.0835	13.81
protection fault	4.0656	43.9095	10.8
pipe	127.8178	698.4668	5.46
fork + exit	5213.2701	54736.8421	10.5
fork + execve	15915.493	110000	31.25
fork + bin/sh-c	45000	232000	9.43
pagefaults	46.0907	307.4131	9.76

# LMbench

