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Errata Slip #2

In the paper “HYPER SHELL: A Practical Hypervisor Layer Guest OS Shell for Automated In-VM Management” by Yangchun Fu, Junyuan Zeng, and Zhiqiang Lin, The University of Texas at Dallas (Thursday session, “Virtualization,” pp. 86–96 of the proceedings), the following changes were made:

Table 3 on page 92 and Table 4 on page 93 contained incorrect numbers for slowdown in the forth and last columns.

Tested Item	Native-KVM	GYM-RI-Phase	Slowdown (%)	GYM-RE-Phase	Slowdown (%)
stat (μ s)	0.39	2.28	82.89	0.41	4.88
fork proc (μ s)	47.20	147.26	67.95	47.54	0.72
exec proc (μ s)	158.20	480.00	67.04	161.30	1.92
sh proc (μ s)	384.90	1088.10	64.63	386.30	0.36
ctxsw (μ s)	0.59	1.23	52.03	0.73	19.18
10K File Create (μ s)	17.80	40.67	56.23	17.96	0.89
10K File Delete (μ s)	4.64	7.16	35.20	4.65	0.22
Bcopy (MB/s)	5689.17	5647.71	0.73	5605.40	1.47
Rand mem (ns)	72.20	72.65	0.62	73.24	1.42
Mem read (MB/s)	10150.00	10000.00	1.48	10000.00	1.48
Mem write (MB/s)	8567.70	8543.00	0.29	8540.40	0.32

Table 3 original

Tested Item	Native-KVM	GYM-RI-Phase	Slowdown (%)	GYM-RE-Phase	Slowdown (%)
stat (μ s)	0.39	2.28	484.62	0.41	5.13
fork proc (μ s)	47.2	147.26	211.99	47.54	0.72
exec proc (μ s)	158.2	480	203.41	161.3	1.96
sh proc (μ s)	384.9	1088.1	182.7	386.3	0.36
ctxsw (μ s)	0.59	1.23	108.47	0.73	23.73
10K File Create (μ s)	17.8	40.67	128.48	17.96	0.90
10K File Delete (μ s)	4.64	7.16	54.31	4.65	0.22
Bcopy (MB/s)	5689.17	5647.71	0.73	5605.4	1.47
Rand mem (ns)	72.2	72.65	0.62	73.24	1.44
Mem read (MB/s)	10150	10000	1.48	10000	1.48
Mem write (MB/s)	8567.7	8543	0.29	8540.4	0.32

Table 3 corrected

Benchmark Program	Native-KVM	GVM-RI-Phase	Slowdown (%)	GVM-RE-Phase	Slowdown (%)
bzip (s)	16.83	18.35	8.28	17.04	1.23
kbuild (s)	1799.00	2270.25	20.76	1889.97	4.81
memcached (s)	1.57	3.11	49.52	1.64	4.27
Apache (#request/s)	1104.60	904.12	18.15	1065.28	3.56

Table 4 original

Benchmark Program	Native-KVM	GVM-RI-Phase	Slowdown (%)	GVM-RE-Phase	Slowdown (%)
bzip (s)	16.83	18.35	9.03	17.04	1.25
kbuild (s)	1799.00	2270.25	26.2	1889.97	5.06
memcached (s)	1.57	3.11	98.09	1.64	4.46
Apache (#request/s)	1104.60	904.12	18.15	1065.28	3.56

Table 4 corrected