VMware® VMmark® V2.5.2 Results

Vendor and Hardware Platform: Fujitsu Server PRIMERGY RX4770 M3 Virtualization Platform: VMware ESXi 6.0.0 U2 Build 3620759 VMware vCenter Server : VMware vCenter Server 6.0.0 Build 3018524	VMmark V2.5.2 Server PPKW Score = 30.4559 @ 52 Tiles

Number of Hosts: 2	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 8/192/384

Tested By: Fujitsu	Test Date: 06-06-2016

Performance Section	Configuration Section	Notes Section
Performance	Configuration	Notes for Workload

Performance

	mailserver			olio			dvdstoreA			dvdstoreB			dvdstoreC			
TILE_0	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.57	0.99	64.00	4686.05	1.01	146.50	4118.85	1.87	60.58	2933.22	1.93	73.59	2221.50	2.10	76.88	1.50
p1	322.45	0.98	64.00	4631.70	1.00	202.37	4084.55	1.86	61.63	2857.70	1.88	72.62	2043.47	1.93	76.05	1.46
p2	331.57	1.00	67.25	4598.50	0.99	239.17	3966.68	1.80	65.95	2935.03	1.93	73.70	2124.47	2.01	77.57	1.47
TILE_1	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.20	0.98	63.52	4688.40	1.01	152.83	4090.55	1.86	61.35	2914.20	1.92	74.54	2108.38	1.99	78.80	1.48
p1	324.32	0.98	65.03	4620.48	1.00	232.72	4051.00	1.84	63.05	2836.25	1.87	73.43	2121.62	2.01	77.47	1.46
p2	325.50	0.99	74.00	4589.00	0.99	251.50	3908.45	1.78	68.31	2881.55	1.90	76.69	2082.10	1.97	81.01	1.45
TILE_2	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.18	0.99	53.52	4711.18	1.02	127.28	4102.80	1.87	61.22	2792.68	1.84	76.70	2079.47	1.97	80.95	1.47
p1	324.57	0.98	58.08	4672.45	1.01	172.31	4065.38	1.85	62.53	2808.12	1.85	75.27	2006.65	1.90	79.63	1.45
p2	327.07	0.99	64.50	4646.73	1.00	202.62	3906.05	1.78	68.35	2973.93	1.96	76.75	2169.20	2.05	81.01	1.48
TILE_3	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.45	0.99	65.50	4688.18	1.01	148.55	4066.60	1.85	62.75	2784.88	1.83	77.01	2074.97	1.96	81.75	1.46
p1	331.18	1.00	74.00	4630.98	1.00	211.65	4017.05	1.83	64.17	2789.45	1.84	76.36	1989.75	1.88	81.04	1.45
p2	327.82	0.99	80.00	4601.82	0.99	238.85	3865.82	1.76	69.85	2855.90	1.88	78.09	2149.07	2.03	82.76	1.46
TILE_4	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.10	1.00	64.00	4690.75	1.01	134.49	3895.20	1.77	69.16	2815.25	1.85	74.25	2057.07	1.94	74.82	1.45
p1	327.98	0.99	64.00	4659.45	1.00	182.20	3865.43	1.76	70.50	2916.05	1.92	74.12	2154.90	2.04	74.65	1.47
p2	321.60	0.97	71.00	4635.80	1.00	214.15	3886.90	1.77	69.60	2898.80	1.91	75.03	2246.97	2.12	74.91	1.47
TILE_5	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.80	0.99	64.00	4707.27	1.01	140.38	3887.95	1.77	69.42	2832.65	1.87	73.88	2063.93	1.95	74.29	1.45
p1	330.88	1.00	67.75	4673.18	1.01	208.35	3881.47	1.76	70.07	2912.38	1.92	74.34	2164.88	2.05	73.96	1.48

p2	322.57	0.98	75.75	4593.68	0.99	247.06	3870.12	1.76	70.23	2819.05	1.86	74.36	2147.22	2.03	75.46	1.45
TILE_6	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.90	0.99	56.23	4684.88	1.01	136.63	3899.62	1.77	69.06	2834.03	1.87	73.28	2070.55	1.96	73.75	1.45
p1	328.12	0.99	64.00	4647.62	1.00	202.43	3868.95	1.76	70.04	3012.32	1.98	73.85	2261.12	2.14	74.05	1.49
p2	322.85	0.98	67.25	4613.65	0.99	230.91	3874.55	1.76	69.96	2822.03	1.86	74.18	2153.62	2.04	74.83	1.45
TILE_7	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.07	0.99	61.25	4681.93	1.01	156.44	3874.32	1.76	70.13	2812.90	1.85	74.73	2055.78	1.94	75.09	1.45
p1	325.23	0.98	68.00	4655.43	1.00	215.89	3853.40	1.75	71.00	2903.68	1.91	74.82	2237.75	2.11	75.57	1.48
p2	326.68	0.99	74.00	4605.32	0.99	229.96	3861.07	1.76	70.57	2896.70	1.91	75.26	2138.45	2.02	75.60	1.46
TILE_8	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	333.75	1.01	64.00	4703.10	1.01	141.69	4178.57	1.90	58.63	2967.28	1.95	71.67	2210.20	2.09	70.81	1.51
p1	323.00	0.98	64.00	4661.52	1.00	190.90	4109.62	1.87	60.87	2965.97	1.95	71.66	2309.90	2.18	70.67	1.51
p2	325.10	0.98	65.00	4616.45	0.99	240.76	4016.38	1.83	64.40	2846.32	1.87	72.99	2105.35	1.99	71.73	1.46
TILE_9	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.60	1.00	63.33	4684.20	1.01	151.82	4113.70	1.87	60.48	2942.15	1.94	72.95	2197.25	2.08	71.67	1.50
p1	330.25	1.00	66.08	4613.73	0.99	228.12	4072.45	1.85	62.25	2858.15	1.88	72.50	2196.40	2.08	71.86	1.48
p2	324.60	0.98	78.25	4594.48	0.99	269.30	3959.88	1.80	66.49	2898.55	1.91	75.29	2155.28	2.04	74.78	1.47
TILE_10	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.55	1.00	56.95	4708.10	1.01	144.14	3875.97	1.76	70.22	2937.32	1.93	73.50	2273.25	2.15	65.93	1.49
p1	327.90	0.99	64.00	4620.45	1.00	207.88	3896.35	1.77	69.33	2857.65	1.88	72.46	2260.38	2.14	67.20	1.48
p2	326.18	0.99	68.50	4604.90	0.99	258.84	3861.88	1.76	70.53	2844.53	1.87	73.21	2113.35	2.00	70.55	1.45
TILE_11	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.77	0.99	63.05	4698.98	1.01	147.97	3864.00	1.76	70.60	3030.45	2.00	73.16	2357.88	2.23	67.00	1.51
p1	327.52	0.99	63.40	4644.65	1.00	204.51	3889.95	1.77	69.57	2844.35	1.87	73.26	2240.32	2.12	68.44	1.47
p2	330.93	1.00	76.58	4617.57	0.99	231.70	3840.85	1.75	71.70	2812.32	1.85	75.17	2087.18	1.97	72.60	1.45
TILE_12	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.00	0.98	55.50	4706.77	1.01	141.20	3859.88	1.76	70.42	2929.70	1.93	73.37	2264.35	2.14	73.88	1.48
p1	328.60	1.00	62.90	4661.30	1.00	176.47	3869.72	1.76	70.31	2848.05	1.88	72.50	2073.40	1.96	73.72	1.45
p2	324.48	0.98	69.75	4644.05	1.00	225.06	3860.28	1.76	70.54	2934.82	1.93	73.06	2159.95	2.04	74.24	1.47
TILE_13	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	331.82	1.00	64.00	4702.38	1.01	143.66	3851.57	1.75	70.73	2937.88	1.93	72.78	2268.50	2.14	73.07	1.49
p1	329.07	1.00	65.25	4641.27	1.00	205.38	3855.65	1.75	70.58	2844.65	1.87	72.84	2083.62	1.97	73.05	1.45
p2	323.50	0.98	74.75	4614.73	0.99	247.73	3841.95	1.75	71.04	2925.22	1.93	73.32	2167.88	2.05	73.75	1.46
TILE_14	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.62	1.00	64.00	4704.62	1.01	144.12	3865.15	1.76	70.15	2843.60	1.87	73.11	2165.47	2.05	73.88	1.47
p1	330.70	1.00	64.00	4639.73	1.00	211.00	3869.80	1.76	70.09	2839.95	1.87	72.89	2072.07	1.96	73.98	1.45

p2	329.30	1.00	69.75	4591.27	0.99	256.35	3853.15	1.75	70.65	3019.03	1.99	73.62	2253.97	2.13	74.17	1.49
TILE_15	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.43	0.99	64.00	4680.05	1.01	140.95	3848.80	1.75	70.97	2821.45	1.86	74.17	2161.80	2.04	74.28	1.46
p1	330.10	1.00	69.25	4646.93	1.00	188.78	3849.45	1.75	70.71	2833.62	1.87	73.60	2072.65	1.96	73.83	1.45
p2	324.00	0.98	83.00	4628.90	1.00	221.43	3844.12	1.75	71.09	2917.85	1.92	73.85	2246.93	2.12	74.66	1.47
TILE_16	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.52	0.99	64.00	4705.40	1.01	135.08	3960.10	1.80	66.73	2934.18	1.93	68.42	2213.20	2.09	70.55	1.49
p1	322.45	0.98	64.00	4669.12	1.01	174.08	3961.62	1.80	66.50	3040.85	2.00	68.09	2125.45	2.01	70.38	1.48
p2	326.38	0.99	70.50	4647.57	1.00	208.34	3922.18	1.78	68.05	3007.65	1.98	69.78	2297.07	2.17	71.44	1.50
TILE_17	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.52	0.98	63.27	4689.10	1.01	139.32	3924.07	1.78	67.77	2921.93	1.92	68.84	2104.55	1.99	71.50	1.47
p1	327.77	0.99	63.83	4650.93	1.00	209.71	3924.07	1.78	68.13	3023.97	1.99	68.87	2209.65	2.09	71.37	1.49
p2	327.20	0.99	74.00	4592.10	0.99	236.09	3835.30	1.74	71.77	2959.65	1.95	72.51	2257.95	2.13	74.35	1.48
TILE_18	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	324.70	0.98	63.88	4715.55	1.02	126.66	3887.70	1.77	69.72	2898.90	1.91	70.40	2063.40	1.95	75.05	1.46
p1	328.85	1.00	64.00	4669.62	1.01	173.66	3899.30	1.77	69.18	3009.35	1.98	69.93	2181.95	2.06	73.00	1.49
p2	325.70	0.99	67.75	4633.07	1.00	199.99	3872.10	1.76	70.26	2880.68	1.90	71.46	2158.53	2.04	74.99	1.46
TILE_19	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.50	0.99	63.95	4691.30	1.01	152.46	3897.47	1.77	69.42	2895.38	1.91	70.61	2081.38	1.97	73.81	1.46
p1	324.73	0.98	64.00	4611.23	0.99	217.45	3873.12	1.76	70.51	3074.80	2.02	71.35	2253.85	2.13	74.87	1.49
p2	329.32	1.00	72.50	4597.30	0.99	252.94	3858.95	1.75	71.15	2859.93	1.88	72.67	2143.82	2.03	75.88	1.46
TILE_20	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.25	0.99	64.00	4670.25	1.01	142.50	3866.43	1.76	70.40	2878.22	1.90	71.53	2055.35	1.94	75.24	1.45
p1	333.52	1.01	64.00	4645.15	1.00	204.15	3867.85	1.76	70.22	2958.03	1.95	71.98	2251.30	2.13	74.58	1.49
p2	323.90	0.98	66.75	4606.18	0.99	251.52	3853.57	1.75	70.59	2867.88	1.89	72.17	2058.47	1.95	74.95	1.44
TILE_21	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	324.05	0.98	63.00	4693.32	1.01	130.52	3889.55	1.77	69.55	2976.35	1.96	71.17	2150.12	2.03	75.29	1.48
p1	330.32	1.00	64.10	4648.12	1.00	188.40	3877.53	1.76	69.82	2969.07	1.96	71.75	2243.70	2.12	75.28	1.49
p2	328.32	0.99	75.75	4619.18	1.00	221.92	3891.32	1.77	69.40	2860.40	1.88	72.28	2050.85	1.94	75.43	1.45
TILE_22	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	324.45	0.98	64.00	4694.35	1.01	128.14	3881.62	1.77	69.70	2962.32	1.95	72.00	2150.47	2.03	75.01	1.47
p1	326.23	0.99	63.75	4665.88	1.01	176.96	3872.53	1.76	70.03	2855.47	1.88	72.21	2149.00	2.03	75.07	1.46
p2	325.25	0.98	65.22	4638.57	1.00	217.41	3865.25	1.76	70.19	2857.07	1.88	72.60	2061.00	1.95	74.92	1.45
TILE_23	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.82	1.00	64.00	4707.40	1.01	139.13	3853.57	1.75	70.71	3043.10	2.00	72.75	2235.78	2.11	75.92	1.50
p1	327.50	0.99	64.00	4676.48	1.01	175.85	3863.62	1.76	70.73	2858.25	1.88	72.37	2138.03	2.02	76.03	1.46

p2	327.93	0.99	74.75	4646.60	1.00	204.02	3857.72	1.75	70.78	2845.57	1.87	72.96	2040.00	1.93	76.53	1.45
TILE_24	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	322.85	0.98	64.00	4707.68	1.01	138.50	3937.00	1.79	68.00	2944.43	1.94	72.83	2217.25	2.10	77.35	1.48
p1	324.68	0.98	64.00	4658.20	1.00	186.95	3970.47	1.81	66.65	2967.53	1.95	71.80	2043.90	1.93	76.33	1.46
p2	327.68	0.99	70.25	4624.40	1.00	212.66	3917.43	1.78	68.55	2850.47	1.88	72.96	2121.07	2.00	77.58	1.46
TILE_25	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.18	0.98	64.00	4693.00	1.01	145.07	3922.93	1.78	68.78	2923.15	1.92	74.22	2190.95	2.07	79.42	1.48
p1	325.60	0.99	64.25	4640.52	1.00	203.87	3946.75	1.79	67.68	2843.10	1.87	73.66	2012.80	1.90	78.93	1.45
p2	329.90	1.00	74.00	4602.82	0.99	239.50	3866.60	1.76	71.11	2883.47	1.90	76.35	2061.45	1.95	82.28	1.45
TILE_26	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.82	0.99	64.00	4691.57	1.01	142.36	3892.60	1.77	70.30	2893.78	1.91	76.11	2174.45	2.06	80.60	1.47
p1	325.43	0.99	64.00	4636.98	1.00	207.30	3921.88	1.78	68.83	2805.95	1.85	75.49	1999.70	1.89	79.95	1.44
p2	330.77	1.00	68.45	4609.95	0.99	243.37	3872.32	1.76	70.96	2878.50	1.90	76.58	2074.80	1.96	81.35	1.45
TILE_27	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.12	0.98	64.00	4712.68	1.02	136.75	3889.80	1.77	70.60	2802.78	1.85	75.72	2088.10	1.97	79.80	1.45
p1	327.80	0.99	64.00	4658.48	1.00	185.98	3888.93	1.77	70.18	2774.12	1.83	75.09	1999.92	1.89	79.69	1.43
p2	325.35	0.99	76.50	4634.20	1.00	210.46	3847.70	1.75	71.87	2969.05	1.96	76.83	2166.00	2.05	81.56	1.47
TILE_28	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.90	0.99	65.00	4713.35	1.02	128.46	3889.28	1.77	69.45	2846.50	1.87	72.92	2138.22	2.02	75.88	1.46
p1	324.27	0.98	64.00	4679.75	1.01	166.45	3879.75	1.76	69.99	2845.32	1.87	72.89	2049.68	1.94	75.88	1.45
p2	330.90	1.00	71.25	4644.93	1.00	204.26	3858.12	1.75	70.64	2933.32	1.93	73.39	2234.53	2.11	75.67	1.48
TILE_29	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.93	1.00	64.00	4696.15	1.01	135.94	3889.10	1.77	69.44	2843.78	1.87	73.07	2068.20	1.95	73.81	1.46
p1	328.52	0.99	65.25	4645.62	1.00	209.60	3875.57	1.76	69.68	2935.68	1.93	73.22	2157.85	2.04	74.29	1.47
p2	332.45	1.01	75.00	4617.52	0.99	222.22	3854.12	1.75	70.71	2921.22	1.92	74.13	2245.30	2.12	74.91	1.48
TILE_30	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.85	1.00	64.00	4733.05	1.02	121.82	3897.43	1.77	69.08	2848.07	1.88	72.94	2054.20	1.94	75.37	1.46
p1	328.85	1.00	64.00	4658.70	1.00	169.20	3880.85	1.76	69.76	2950.05	1.94	72.32	2151.75	2.03	74.83	1.47
p2	326.57	0.99	68.75	4649.10	1.00	193.81	3869.68	1.76	70.30	2837.25	1.87	73.40	2146.28	2.03	75.54	1.46
TILE_31	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	322.25	0.98	64.00	4699.30	1.01	132.68	3872.05	1.76	70.44	2830.35	1.86	73.88	2056.43	1.94	75.19	1.45
p1	326.70	0.99	64.00	4657.32	1.00	181.42	3850.38	1.75	71.03	3008.93	1.98	74.42	2232.43	2.11	75.90	1.49
p2	326.82	0.99	76.00	4634.05	1.00	202.68	3853.90	1.75	70.98	2816.53	1.85	74.62	2133.55	2.02	76.20	1.45
TILE_32	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.95	0.99	66.25	4695.02	1.01	125.92	3937.95	1.79	67.43	2902.95	1.91	69.92	2119.57	2.00	70.54	1.47
p1	321.20	0.97	64.00	4681.60	1.01	172.74	3935.72	1.79	67.52	2997.60	1.97	70.08	2321.25	2.19	70.06	1.50

p2	328.88	1.00	68.75	4637.35	1.00	209.95	3909.60	1.78	68.66	2980.97	1.96	70.85	2203.85	2.08	71.05	1.49
TILE_33	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.80	0.99	74.00	4720.38	1.02	126.28	3918.95	1.78	68.22	2895.00	1.91	70.59	2212.72	2.09	70.82	1.48
p1	327.43	0.99	71.25	4671.70	1.01	175.13	3916.45	1.78	68.47	2980.47	1.96	70.55	2303.40	2.18	70.84	1.50
p2	325.73	0.99	75.75	4645.12	1.00	201.62	3855.12	1.75	70.62	2842.28	1.87	73.34	2082.62	1.97	73.40	1.45
TILE_34	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	331.57	1.00	64.00	4722.25	1.02	127.83	3863.28	1.76	70.40	2959.15	1.95	71.96	2212.12	2.09	70.65	1.49
p1	327.57	0.99	64.00	4694.15	1.01	169.78	3877.15	1.76	69.80	2972.38	1.96	71.16	2307.82	2.18	70.73	1.50
p2	332.48	1.01	67.50	4642.88	1.00	200.83	3848.47	1.75	70.88	2872.53	1.89	71.48	2107.57	1.99	71.21	1.46
TILE_35	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.65	1.00	64.50	4687.15	1.01	141.53	3883.43	1.77	69.48	2960.62	1.95	72.02	2208.50	2.09	71.02	1.49
p1	324.50	0.98	64.00	4646.18	1.00	201.86	3889.53	1.77	69.40	2870.75	1.89	71.72	2201.25	2.08	71.29	1.47
p2	323.68	0.98	77.75	4617.40	0.99	226.57	3845.50	1.75	71.29	2851.80	1.88	72.95	2096.45	1.98	72.17	1.45
TILE_36	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.90	0.98	74.00	4692.62	1.01	139.69	3852.43	1.75	70.82	3021.93	1.99	73.55	2247.40	2.12	74.84	1.49
p1	327.75	0.99	64.00	4665.65	1.01	193.08	3859.90	1.76	70.45	2832.57	1.87	73.63	2158.43	2.04	74.49	1.46
p2	326.02	0.99	72.50	4615.93	0.99	236.15	3862.00	1.76	70.41	2827.38	1.86	73.87	2052.93	1.94	75.30	1.44
TILE_37	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.70	1.00	75.50	4713.55	1.02	137.18	3854.25	1.75	70.67	2929.85	1.93	73.59	2249.15	2.13	74.80	1.49
p1	328.43	0.99	74.00	4673.38	1.01	189.30	3869.45	1.76	70.28	2829.85	1.86	73.79	2059.55	1.95	74.97	1.45
p2	323.73	0.98	82.50	4621.00	1.00	245.98	3862.68	1.76	70.17	2914.35	1.92	74.17	2147.70	2.03	75.54	1.46
TILE_38	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	321.68	0.97	74.00	4717.27	1.02	128.87	3871.60	1.76	69.89	2934.10	1.93	73.27	2240.65	2.12	75.37	1.48
p1	325.80	0.99	74.00	4668.93	1.01	173.48	3865.57	1.76	70.15	2850.88	1.88	72.76	2047.30	1.93	75.67	1.45
p2	325.80	0.99	74.25	4629.68	1.00	221.58	3856.68	1.75	70.41	2943.10	1.94	73.09	2143.50	2.03	75.78	1.47
TILE_39	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.43	1.00	74.00	4717.15	1.02	131.78	3856.45	1.75	70.67	2821.05	1.86	74.38	2149.55	2.03	75.42	1.46
p1	323.02	0.98	74.00	4657.18	1.00	180.05	3854.62	1.75	70.50	2918.57	1.92	74.24	2149.18	2.03	75.51	1.46
p2	328.95	1.00	81.50	4633.80	1.00	208.30	3834.47	1.74	71.31	2919.85	1.92	73.99	2148.40	2.03	75.46	1.47
TILE_40	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	331.57	1.00	69.00	4716.30	1.02	130.03	3956.30	1.80	67.15	2925.38	1.93	69.18	2170.32	2.05	73.67	1.49
p1	331.48	1.00	64.00	4681.75	1.01	176.55	3964.12	1.80	66.75	2931.35	1.93	68.76	2069.75	1.96	74.30	1.47
p2	324.65	0.98	68.50	4644.48	1.00	199.87	3914.55	1.78	68.66	2994.80	1.97	70.39	2255.95	2.13	74.62	1.49
TILE_41	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.55	0.99	77.38	4708.60	1.01	132.40	3924.32	1.78	68.43	2999.55	1.98	70.29	2150.95	2.03	75.15	1.49
p1	327.18	0.99	74.00	4663.35	1.00	181.08	3931.00	1.79	68.11	2911.68	1.92	69.89	2056.65	1.94	75.08	1.46

p2	332.20	1.01	78.53	4613.73	0.99	211.94	3845.55	1.75	71.82	2936.18	1.93	73.99	2199.47	2.08	78.38	1.48
TILE_42	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.73	0.99	66.25	4699.10	1.01	121.47	3894.38	1.77	69.82	2871.22	1.89	72.46	2017.40	1.91	78.42	1.45
p1	322.15	0.98	64.00	4684.45	1.01	156.88	3907.40	1.78	69.16	2980.30	1.96	71.78	2119.15	2.00	77.86	1.47
p2	328.35	0.99	65.00	4647.00	1.00	181.94	3864.12	1.76	70.95	2939.40	1.94	73.77	2193.25	2.07	78.97	1.48
TILE_43	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.30	0.99	68.25	4724.32	1.02	123.25	3930.50	1.79	68.46	2879.53	1.90	72.19	2015.90	1.91	78.98	1.45
p1	332.38	1.01	64.00	4687.20	1.01	158.22	3885.95	1.77	70.33	2958.70	1.95	72.82	2098.82	1.98	79.15	1.47
p2	327.93	0.99	71.00	4660.48	1.00	184.00	3866.75	1.76	71.20	2827.22	1.86	75.19	2079.40	1.97	81.01	1.45
TILE_44	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.40	0.99	71.00	4712.43	1.02	130.45	3884.93	1.77	69.55	2866.15	1.89	72.27	2034.78	1.92	77.01	1.45
p1	328.20	0.99	64.00	4661.57	1.00	171.25	3869.45	1.76	70.27	3058.12	2.01	72.21	2221.70	2.10	76.87	1.49
p2	326.50	0.99	68.50	4624.45	1.00	216.07	3857.90	1.75	70.57	2855.28	1.88	72.27	2133.30	2.02	76.67	1.46
TILE_45	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.02	1.00	90.10	4692.80	1.01	144.39	3862.43	1.76	70.41	2884.47	1.90	71.15	2035.12	1.92	76.88	1.45
p1	327.45	0.99	78.00	4631.77	1.00	216.69	3858.30	1.75	70.77	2946.45	1.94	73.19	2218.57	2.10	76.88	1.48
p2	330.02	1.00	84.00	4590.10	0.99	278.52	3875.95	1.76	70.09	2861.70	1.88	72.36	2026.40	1.92	77.63	1.44
TILE_46	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.10	1.00	150.03	4721.00	1.02	120.06	3884.72	1.77	69.75	2963.30	1.95	72.26	2127.47	2.01	76.73	1.48
p1	327.15	0.99	98.47	4701.02	1.01	153.90	3873.20	1.76	70.04	2950.22	1.94	72.63	2224.78	2.10	76.61	1.48
p2	324.68	0.98	84.97	4666.80	1.01	191.91	3876.80	1.76	69.80	2862.88	1.89	72.06	2040.80	1.93	76.31	1.45
TILE_47	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.30	0.99	92.08	4709.23	1.01	128.58	3851.50	1.75	71.19	2948.10	1.94	72.89	2103.80	1.99	78.67	1.47
p1	329.73	1.00	82.70	4675.88	1.01	162.65	3847.28	1.75	71.38	2844.70	1.87	73.37	2109.55	1.99	78.25	1.46
p2	323.73	0.98	81.75	4657.15	1.00	187.64	3859.07	1.75	71.00	2942.82	1.94	73.20	2099.22	1.98	79.12	1.46
TILE_48	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.18	1.00	69.55	4715.02	1.02	130.90	3788.93	1.72	73.10	2999.95	1.98	74.81	2223.25	2.10	77.03	1.49
p1	329.20	1.00	63.62	4675.93	1.01	174.87	3788.47	1.72	73.23	2805.40	1.85	75.21	2135.53	2.02	76.67	1.45
p2	323.57	0.98	64.00	4640.15	1.00	203.78	3776.12	1.72	73.72	2795.15	1.84	75.81	2018.83	1.91	78.77	1.43
TILE_49	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.57	0.99	233.35	4686.40	1.01	145.48	3784.00	1.72	73.40	2892.45	1.90	75.64	2204.25	2.08	78.50	1.47
p1	325.15	0.98	131.85	4637.12	1.00	198.16	3786.38	1.72	73.58	2905.65	1.91	75.16	2106.22	1.99	78.89	1.45
p2	329.48	1.00	112.75	4616.95	0.99	243.90	3761.15	1.71	74.16	2772.97	1.83	77.01	1967.58	1.86	82.89	1.42
TILE_50	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.45	1.00	213.32	4697.27	1.01	127.11	3783.53	1.72	73.47	2895.70	1.91	75.46	2192.40	2.07	79.60	1.47
p1	329.15	1.00	114.85	4662.35	1.00	171.99	3805.55	1.73	72.49	2807.80	1.85	75.09	2016.58	1.91	79.07	1.44

p2	326.25	0.99	94.25	4632.00	1.00	218.04	3773.75	1.72	73.81	2898.12	1.91	75.37	2092.95	1.98	80.22	1.45
TILE_51	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.73	0.99	483.38	4689.32	1.01	154.71	3813.90	1.73	72.27	2891.90	1.90	75.75	2184.62	2.06	80.10	1.47
p1	329.25	1.00	285.15	4629.93	1.00	209.45	3808.53	1.73	72.54	2808.93	1.85	75.03	1999.17	1.89	80.20	1.43
p2	326.68	0.99	186.43	4617.75	0.99	219.53	3780.32	1.72	73.60	2888.05	1.90	75.92	2059.07	1.95	82.78	1.44

p0_score:	76.57
p1_score:	76.35
p2_score:	75.94

Infrastructure_Operations_Scores:	vmotion	svmotion	deploy
Completed_Ops_PerHour	17.50	11.00	5.50
Avg_Seconds_To_Complete	28.55	21.19	314.66
Failures	0.00	0.00	0.00
Ratio	1.09	1.22	1.38
Number_Of_Threads	1	1	1

PTD_Summary:	
Number_of_PTD_Daemons	1
Number_of_PTD_Phases	3
PTD_Phase_Timing	2400secs
PtdTiming:	ptd0
p0	0
p1	0
p2	0

PTD_Results:							
p0	Target	Avg_Watts	Avg_Volts	Avg_Amps	Avg_PF	Samples	UnCert%
ptd0	SERVER	2003.58	224.96	8.95	1.00	2400.00	0.00
p1	Target	Avg_Watts	Avg_Volts	Avg_Amps	Avg_PF	Samples	UnCert%
ptd0	SERVER	2013.50	225.17	8.98	1.00	2400.00	0.00
p2	Target	Avg_Watts	Avg_Volts	Avg_Amps	Avg_PF	Samples	UnCert%
ptd0	SERVER	2026.49	224.26	9.08	1.00	2400.00	0.00

Summary	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p1)
Unreviewed_VMmark2_Avg_Watts	2013.50	
Unreviewed_VMmark2_Applications_Score	76.35	
Unreviewed_VMmark2_Infrastructure_Score	1.22	
Unreviewed_VMmark2_Score	61.32	

Unreviewed_VMmark2_PPKW	30.4559	

Configuration

PTD Configuration	
Number of Power Meters	1
Power Meter Vendors and Models	Hioki 3334
Power Meter PTD Target(s) (SERVER/EXT_STOR)	SERVER
Power Meter Connection Type(s) (Eth/GPIB/Serial/USB)	Serial
Power Meter Calibration Date(s) (MM-DD-YYYY)	07-20-2015
Power Meter Calibration Info (Calibrated By/Duration/Calibration certificate)	Atlas Copco / one year / W15072360
Power Meter(s) Volt/Amp Range	300 / 10
PTD Client Configuration	
Number of Power Meter Clients	1
System Model(s)	Prime Client, details in client configuration section
Processor Vendor(s) and Model(s)	Prime Client, details in client configuration section
Processor Speed(s) (GHz)	Prime Client, details in client configuration section
Total Sockets/Total Cores/Total Threads	Prime Client, details in client configuration section
Memory Per Power Meter Client	Prime Client, details in client configuration section
Network Controller(s) Vendors and Models	Prime Client, details in client configuration section
Operating System, Version, and Service Pack	Prime Client, details in client configuration section
Other Hardware	Delock Adapter USB 2.0 > 1 x Serial
Other Software	none

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 6.0.0 U2 Build 3620759 / 03-15-2016
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 6.0.0 Build 3018524 / 09-16-2015
Supplemental Software	none
Servers	
Quantity	2
Server Manufacturer and Model	Fujitsu Server PRIMERGY RX4770 M3
Processor Vendor and Model	Intel Xeon E7-8890 v4

Processor Speed (GHz)	2.2
Total Sockets/Total Cores/Total Threads	4 Sockets / 96 Cores / 192 Threads
Primary Cache	32KB I + 32KB D on chip per core
Secondary Cache	256KB I+D on chip per core
Other Cache	60MB I+D on chip per chip L3
BIOS Version	V5.0.0.11 R1.0.0 for D3749-A1x
Memory Size (in GB, Number of DIMMs)	1024, 32
Memory Type and Speed	32GB DIMMs 2Rx4 PC4-2400T ECC
Disk Subsystem Type	FC SAN
Number of Disk Controllers	0
Disk Controller Vendors and Models	
Number of Host Bus Adapters	1
Host Bus Adapter Vendors and Models	Dual port Emulex LPe16002
Number of Network Controllers	2
Network Controller Vendors and Models	Embedded Intel X540-AT2 Dual Port 10GbE Adapter One Emulex OneConnect OCe14000 Dual Port Adapter
Other Hardware	none
Other Software	none
Hardware Availability Date (MM-DD-YYYY)	09-18-2016
Software Availability Date (MM-DD-YYYY)	03-15-2016
Network	
Network Switch Vendors and Models	Fujitsu PRIMERGY BX600 GbE Switch Blade 30/12, Brocade VDX 6740
Network Speed	100Mbps for SUT management, 1Gbps for VMotion, 10Gbps for Clients and VMs
Storage	
Array Vendors, Models, and Firmware Versions	Three Fujitsu Server PRIMERGY RX300 S8, Firmware V4.6.5.4 R1.1.0 One Fujitsu ETERNUS DX100 S3, Firmware version V10L32-0000
Fibre Channel Switch Vendors and Models	Brocade 6510
Disk Space Used	15.77TB
Array Cache Size	1GB(Fujitsu Server PRIMERGY RX300 S8), 4GB(Fujitsu ETERNUS DX100)
Total Number of Physical Disks Used	2xSAS-HDD, 27xSAS-SSD, 6xPCIe-SSD
Total Number of Enclosures/Pods/Shelves Used	4
Number of Physical Disks Used per Enclosure/Pod/Shelf	Details in section Storage Notes
Total Number of Storage Groups Used	0
Number of LUNs Used	69

LUN Size and Number of Disks Per LUN	Details in section Storage Notes
RAID Type	0
Number of Members per RAID Set	Details in section Storage Notes
Disk Vendors, Models, and Speeds	2xSeagate, ST1200MM0007, 10krpm; 27xSSD Toshiba PX02SMF040; 6xFusion-io ioDrive2 1.2TB PCIe SSD

Datacenter Management Server	
System Model	Fujitsu Server PRIMERGY BX620 S5
Processor Vendor and Model	Intel Xeon X5570
Processor Speed (GHz)	2.93
Total Sockets/Total Cores/Total Threads	Hypervisor: 2 Sockets / 8 Cores / 16 Threads Virtual Center VM: Details in section Datacenter Management Server Notes
Memory	Hypervisor: 24GB Virtual Center VM: Details in section Datacenter Management Server Notes
Network Controller(s) Vendors and Models	3 Intel Dual port 82575EB
Operating System, Version, Bitness, and Service Pack	Hypervisor: VMware ESXi 5.1.0 Build 799733 Virtual Center VM: Details in section Datacenter Management Server Notes
Other Hardware	none
Other Software	none

Clients	
Total Number of Clients / Total Physical Clients / Total Virtual Client Hosts	53 / 1 / 3
System Model(s)	1xFujitsu Server PRIMERGY BX620 S5 (Prime Client) 3xFujitsu Server PRIMERGY RX600 S6 (Virtual Client Hosts)
Processor Vendor(s) and Model(s)	Prime Client: Intel Xeon Intel Xeon X5570 Virtual Client Hosts: PRIMERGY RX600 S6: Intel Xeon E7-4870
Processor Speed(s) (GHz)	Prime Client: 2.93 Virtual Client Hosts: PRIMERGY RX600 S6: 2.4
Total Sockets/Total Cores/Total Threads	Prime Client: 2 Sockets / 8 Cores / 16 Threads Virtual Client Hosts: PRIMERGY RX600 S6: 4 Sockets / 40 Cores / 80 Threads
Memory per Physical Client	Prime Client: 12GB Virtual Client Hosts: PRIMERGY RX600 S6: 512GB
Network Controller(s) Vendors and Models	Prime Client: Three Intel Dual Port 82575EB Virtual Client Hosts: PRIMERGY RX600 S6: Two Intel Dual Port 82576NS, Intel Dual Port 82599
Operating System, Version, Bitness, and Service Pack	Clients: Windows Server 2008 Enterprise 64-bit SP2 Virtual Client Hosts: VMware ESX 4.1 U2 Build 502767

Number of Virtual Clients	52
Number of vCPUs Per Virtual Client	4
Number of vMem (GB) Per Virtual Client	4
Virtual Client Networking Notes	All virtual clients were distributed evenly over 2 vSwitches per Virtual Client Host
Virtual Client Storage Notes	none
Other Hardware	One Dual Port Emulex LPe12002 for each virtual client host, three shared Fujitsu ETERNUS DX80 with 24x300GB disks, one Brocade 5100 Fibre Channel Switch
Other Software	none

Notes for Workload

Virtualization Software Notes

- CDROM removed for all VMs (default enabled)
- Config.HostAgent.log.level set to warning (default info)
- CPU shares set to high for all DS2DB VMs (default normal)
- Floppy removed for all VMs (default enabled)
- Hardware version 8 used for all VMs
- Logging disabled for all VMs (default enabled)
- Logical CPU configuration changed for all Linux VMs to one socket with multiple cores (default: multiple sockets with one core per socket)
- sched.mem.maxmemctl = 0 set for all VMs (default defined through global parameter Mem.CtlMaxPercent)
- sched.mem.min and sched.mem.minsize set to the configured VM memory size (default 0)
- sched.mem.pin = TRUE set for all VMs (default FALSE)
- SCSI adapter type PVSCSI used for all Standby VMs and Deploy template (default LSI Logic parallel)
- SCSI adapter type PVSCSI used for all Mailserver and Linux VMs (default LSI Logic SAS)
- Syslog.global.defaultSize set to 112 (default 1024)
- VMware Tools build 10246 used for all VMs (default 10246)
- VMXNET3 enabled for all VMs (default VMXNET2)
- Vpx.Vpxa.config.log.level set to warning (default verbose)
- vSphere DRS Migration Threshold set to Fully Automated level 2

Changes in esx.conf:

- /adv/Cpu/CreditAgePeriod = 1000 (default 3000)
- /adv/Cpu/HTWholeCoreThreshold = 0 (default 200)
- /adv/Cpu/IntraCoreMigrate = 1 (default 0)
- /adv/DataMover/HardwareAcceleratedInit = 0 (default 1)
- /adv/DataMover/HardwareAcceleratedMove = 0 (default 1)
- /adv/Disk/UseIOWorlds = 1 (default 0)
- /adv/Mem/CtlMaxPercent = 0 (default 65)
- /adv/Mem/ShareScanGHz = 0 (default 4)
- /adv/Net/MaxNetifRxQueueLen = 500 (default 100)
- /adv/Net/MaxNetifTxQueueLen = 1000 (default 500)
- /adv/Net/MaxTxCompDelay = 61 (default 50)
- /adv/Net/NetSchedCoalesceTxUsecs = 61 (default 33)
- /adv/Numa/LTermFairnessInterval = 0 (default 5)

- /adv/Numa/MigImbalanceThreshold = 57 (default 10)
- /adv/Numa/PageMigEnable = 0 (default 1)
- /adv/Numa/RebalancePeriod = 60000 (default 2000)
- /adv/Numa/SwapLoadEnable = 0 (default 1)
- /adv/Numa/SwapLocalityEnable = 0 (default 1)
- /adv/Power/CpuPolicy = static (default balanced)
- /adv/VMFS3/HardwareAcceleratedLocking = 0 (default 1)

Server Notes

- Server BIOS settings:
  - COD Enable: Enable (default Auto)
  - Onboard SAS/SATA controller disabled (default enabled)
  - Onboard Serial COM1 disabled (default enabled)
  - Power Technology: Custom (default Energy Efficient)
  - Turbo Boost Technology: Enabled (Intel Turbo Boost up to 3.4GHz, default Enabled)
  - Uncore Frequency Override: Maximum (default Disabled)

Networking Notes

- One dedicated VLAN for the systems under test, vCenter Server and Benchmark Controller (SUT-VLAN)
- One dedicated VLAN for the VMs and Clients (Load-VLAN)

- vSwitch Configuration:
  - vSwitch0 on vmnic0 for Service Console (100Mb/s)
  - vSwitch1 on vmnic1 for VMotion (1Gb/s)
  - vSwitch2 on vmnic2 (10Gb/s) All DS2-VMs
  - vSwitch3 on vmnic3 (10Gb/s) All VMs except DS2-VMs

Storage Notes

- First Fujitsu Server PRIMERGY RX300 S8 configured as a Fibre Channel Target:

  - Hardware details:
    - Two Intel Xeon E5-2667@3.3GHz processors
    - 128GB RAM (8x16 GB dual rank PC3-12800 Registered DDR3 / 1600 MHz DIMMs)
    - One QLogic QLE2562 8Gb FC HBA used as FC target controller
    - One Fujitsu RAID SAS 6G Controller with 1GB Cache and BBU (D3116)
    - 11x400GB SAS-SSDs Toshiba PX02SMF040
    - 2xFusion-io ioDrive2 1.2TB PCIe-SSD

  - Software details:
    - Operating System: SUSE Linux Enterprise Server 11 SP3 - 3.0.101-0.46 (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 11 SP3)

  RAID configuration:

  - SAS-SSD 1:

        - LUN 1: Storage system OS (12GB, this LUN is not counted in the Storage section)
        - LUN 2: Target LUN for Storage VMotion (10GB)
        - LUN 3: Source LUN for Deploy (10GB)
        - LUN 4: Target LUN for Deploy (10GB)

    - SAS-SSD 2:
        - LUN 1: For Tile 0 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 2 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 3:
        - LUN 1: For Tile 1 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 3 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 4:
        - LUN 1: For Tile 4 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 6 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 5:
        - LUN 1: For Tile 5 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 7 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 6:
        - LUN 1: For Tile 8 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 10 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 7:
        - LUN 1: For Tile 9 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 11 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 8:
        - LUN 1: For Tile 12 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 14 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 9:
        - LUN 1: For Tile 13 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 15 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 10:
        - LUN 1: For Tile 16 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 18 Olio/Standby VMs and Mailserver VHDs (186GB)

    - SAS-SSD 11:
        - LUN 1: For Tile 17 Olio/Standby VMs and Mailserver VHDs (186GB)
        - LUN 2: For Tile 19 Olio/Standby VMs and Mailserver VHDs (186GB)

    - First PCIe-SSD:
        - LUN 1: Mailserver configuration files and DS2 VMs for tiles 0, 4, 8, 12, 16 (537GB)
        - LUN 2: Mailserver configuration files and DS2 VMs for tiles 2, 6, 10, 14, 18 (537GB)

- Second PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2 VMs for tiles 1, 5, 9, 13, 17 (537GB)
  - LUN 2: Mailserver configuration files and DS2 VMs for tiles 3, 7, 11, 15, 19 (537GB)

- All LUNs were configured as block devices; no system memory was used for caching

- Second Fujitsu Server PRIMERGY RX300 S8 configured as a Fibre Channel Target:

  - Hardware details:
    - Two Intel Xeon E5-2667@3.3GHz processors
    - 128GB RAM (8x16 GB dual rank PC3-12800 Registered DDR3 / 1600 MHz DIMMs)
    - One QLogic QLE2562 8Gb FC HBA used as FC target controller
    - One Fujitsu RAID SAS 6G Controller with 1GB Cache and BBU (D3116)
    - 11x400GB SAS-SSDs Toshiba PX02SMF040
    - 2xFusion-io ioDrive2 1.2TB PCIe-SSD

  - Software details:
    - Operating System: SUSE Linux Enterprise Server 11 SP3 - 3.0.101-0.46 (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 11 SP3)

  RAID configuration:

  - SAS-SSD 1:(this SSD is not counted in the Storage section)
    - LUN 1: Storage system OS (12GB, this LUN is not counted in the Storage section)
  - SAS-SSD 2:
    - LUN 1: For Tile 20 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 22 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 3:
    - LUN 1: For Tile 21 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 23 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 4:
    - LUN 1: For Tile 24 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 26 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 5:
    - LUN 1: For Tile 25 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 27 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 6:
    - LUN 1: For Tile 28 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 30 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 7:
    - LUN 1: For Tile 29 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 31 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 8:
  - LUN 1: For Tile 32 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 34 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 9:
  - LUN 1: For Tile 33 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 35 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 10:
  - LUN 1: For Tile 36 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 38 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 11:
  - LUN 1: For Tile 37 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 39 Olio/Standby VMs and Mailserver VHDs (186GB)

- First PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2 VMs for tiles 20, 24, 28, 32, 36 (537GB)
  - LUN 2: Mailserver configuration files and DS2 VMs for tiles 22, 26, 30, 34, 38 (537GB)

- Second PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2 VMs for tiles 21, 25, 29, 33, 37 (537GB)
  - LUN 2: Mailserver configuration files and DS2 VMs for tiles 23, 27, 31, 35, 39 (537GB)

- All LUNs were configured as block devices; no system memory was used for caching

- Third Fujitsu Server PRIMERGY RX300 S8 configured as a Fibre Channel Target:

  - Hardware details:
    - Two Intel Xeon E5-2667@3.3GHz processors
    - 128GB RAM (8x16 GB dual rank PC3-12800 Registered DDR3 / 1600 MHz DIMMs)
    - One QLogic QLE2562 8Gb FC HBA used as FC target controller
    - One Fujitsu RAID SAS 6G Controller with 1GB Cache and BBU (D3116)
    - 7x400GB SAS-SSDs Toshiba PX02SMF040
    - 2xFusion-io ioDrive2 1.2TB PCIe-SSD

  - Software details:
    - Operating System: SUSE Linux Enterprise Server 11 SP3 - 3.0.101-0.46 (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 11 SP3)

  RAID configuration:

  - SAS-SSD 1:(this SSD is not counted in the Storage section)
    - LUN 1: Storage system OS (12GB, this LUN is not counted in the Storage section)

  - SAS-SSD 2:
    - LUN 1: For Tile 40 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 42 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 3:
  - LUN 1: For Tile 41 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 43 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 4:
  - LUN 1: For Tile 44 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 46 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 5:
  - LUN 1: For Tile 45 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 47 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 6:
  - LUN 1: For Tile 48 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 50 Olio/Standby VMs and Mailserver VHDs (186GB)

- SAS-SSD 7:
  - LUN 1: For Tile 49 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 51 Olio/Standby VMs and Mailserver VHDs (186GB)

- First PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2 VMs for tiles 40, 44, 48 (537GB)
  - LUN 2: Mailserver configuration files and DS2 VMs for tiles 42, 46, 50 (537GB)

- Second PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2 VMs for tiles 41, 45, 49 (537GB)
  - LUN 2: Mailserver configuration files and DS2 VMs for tiles 43, 47, 51 (537GB)

- All LUNs were configured as block devices; no system memory was used for caching

- Fujitsu ETERNUS DX100 S3(2 disks)

  - RAID set 0: (2 disks)
    - LUN 0: Boot/Console OS for SUT1 (11GB)
    - LUN 1: Boot/Console OS for SUT2 (11GB)

Datacenter Management Server Notes

- Virtual Center realized as a VM running on a dedicated Hypervisor system:
  - Number of vCPUs: 4 (one vCPU per vSocket)
  - Size of vRAM: 10GB
  - Operating System: Windows Server 2008 R2 Enterprise 64-bit

Operating System Notes

- Mailserver VMs: Microsoft Windows 2008 R2 Enterprise 64-bit.

- Linux VMs:

- All SLES11 VMs were updated with SP2
- VMXNET3 driver configured to use one receive and one request queue (default: number of queues matches the number of vCPUs)
- Paravirtualized drivers (VMXNET3, PVSCSI, VMMEMCTL) compiled with gcc 4.3.4

- The file systems of all Linux and Standby VMs were aligned to a 4KB boundary

Software Notes

- Mailserver VMs: Microsoft Exchange 2007 Enterprise x64 Edition updated with SP3.

Client Notes

- Prime Client was running VMware vSphere PowerCLI 5.1 Release 1 Build 793510.
- Prime Client was updated via Windows Update.
- Virtual Client Hosts:
  - System 1 (PRIMERGY RX600 S6): Clients 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51
  - System 2 (PRIMERGY RX600 S6): Clients 1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43, 46, 49
  - System 3 (PRIMERGY RX600 S6): Clients 2, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35, 38, 41, 44, 47, 50

Other Notes

- One client used as a dedicated Benchmark Controller.

- TILEDELAY reduced to 25 seconds (default: 60 seconds)

This is a full disclosure report for a VMmark benchmark result. All published VMmark results must be from fully-compliant tests for which a full disclosure report is publicly available.

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