

## VMware® VMmark® V2.5.2 Results

Vendor and Hardware Platform: Fujitsu Server PRIMEQUEST 2800E2 (partitioned as 2-ways)  
 Virtualization Platform: VMware ESXi 6.0.0 Build 2615704  
 VMware vCenter Server : VMware vCenter Server 6.0.0 Build 2559268

**VMmark V2.5.2 Score =  
102.03 @ 88 Tiles**

Number of Hosts: 8

Uniform Hosts [yes/no]: yes

Total sockets/cores/threads in test: 16/288/576

Tested By: Fujitsu

Test Date: 04-25-2015

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### 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	325.10	0.98	91.97	4706.25	1.01	143.18	3866.97	1.76	72.07	2694.43	1.77	86.34	1815.45	1.72	100.24	1.40
p1	325.93	0.99	96.00	4656.73	1.00	180.14	3738.32	1.70	76.72	2830.65	1.86	84.64	1951.80	1.84	99.08	1.42
p2	323.52	0.98	104.00	4691.55	1.01	166.64	3698.43	1.68	78.92	2577.65	1.70	89.51	1833.90	1.73	102.61	1.37
TILE_1	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.68	1.00	83.58	4721.43	1.02	121.44	3886.97	1.77	71.33	2698.25	1.78	86.15	1832.85	1.73	98.64	1.41
p1	327.55	0.99	93.00	4697.10	1.01	139.52	3917.75	1.78	69.22	2868.95	1.89	76.82	2053.32	1.94	89.74	1.46
p2	326.35	0.99	94.75	4693.27	1.01	139.67	3783.68	1.72	75.12	2743.07	1.81	84.74	1881.55	1.78	97.84	1.41
TILE_2	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	331.62	1.00	86.33	4716.00	1.02	127.09	3907.25	1.78	70.53	2710.10	1.78	85.11	1846.53	1.75	97.28	1.41
p1	327.73	0.99	92.47	4707.82	1.01	148.90	3938.95	1.79	68.10	2895.45	1.91	75.30	2070.78	1.96	88.14	1.46
p2	323.85	0.98	94.00	4686.70	1.01	149.82	3888.32	1.77	70.44	2749.70	1.81	78.70	1870.08	1.77	90.90	1.41
TILE_3	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.40	0.98	94.00	4705.82	1.01	118.22	3925.25	1.78	70.36	2716.88	1.79	85.68	1844.95	1.74	97.13	1.41
p1	328.75	1.00	94.00	4714.20	1.02	136.48	3956.60	1.80	67.53	2909.45	1.92	74.67	2080.93	1.97	87.66	1.47
p2	325.90	0.99	96.50	4694.00	1.01	143.77	3858.75	1.75	72.09	2721.95	1.79	80.59	1845.75	1.74	93.46	1.41
TILE_4	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.50	0.99	84.00	4724.32	1.02	113.70	3955.20	1.80	68.70	2846.85	1.87	82.76	1958.00	1.85	93.95	1.44
p1	323.62	0.98	88.75	4703.02	1.01	133.21	3992.47	1.82	66.25	2932.30	1.93	73.30	2106.20	1.99	85.65	1.47
p2	325.65	0.99	94.00	4718.27	1.02	139.12	3869.93	1.76	71.65	2722.38	1.79	80.24	1853.40	1.75	92.69	1.41
TILE_5	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	320.23	0.97	82.90	4716.50	1.02	121.63	3879.57	1.76	71.39	2806.53	1.85	85.12	1940.97	1.83	95.75	1.43
p1	329.88	1.00	96.50	4668.60	1.01	159.83	3923.40	1.78	68.85	2854.93	1.88	77.33	2039.47	1.93	90.73	1.45

<b>p2</b>	322.48	0.98	104.00	4674.23	1.01	162.24	3792.12	1.72	74.81	2662.30	1.75	83.93	1805.30	1.71	97.43	1.38
<b>TILE_6</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.07	0.99	100.75	4711.10	1.02	130.98	3856.38	1.75	72.30	2793.78	1.84	86.17	1903.30	1.80	100.10	1.42
<b>p1</b>	325.30	0.99	104.00	4687.62	1.01	148.18	3939.88	1.79	68.21	2876.90	1.89	76.42	2051.38	1.94	89.63	1.46
<b>p2</b>	334.02	1.01	104.00	4689.80	1.01	146.34	3791.70	1.72	74.71	2662.38	1.75	83.88	1810.85	1.71	96.43	1.40
<b>TILE_7</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	332.95	1.01	94.75	4709.75	1.01	134.50	3859.38	1.75	72.09	2802.43	1.85	85.69	1909.90	1.81	100.21	1.43
<b>p1</b>	327.20	0.99	103.25	4704.77	1.01	143.25	3819.82	1.74	73.30	2776.15	1.83	82.37	2002.90	1.89	93.89	1.43
<b>p2</b>	326.45	0.99	104.00	4655.27	1.00	151.34	3779.93	1.72	75.20	2658.68	1.75	83.91	1810.00	1.71	97.08	1.39
<b>TILE_8</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.40	0.99	93.92	4706.00	1.01	131.96	3851.35	1.75	73.11	2786.15	1.83	86.44	1956.40	1.85	95.03	1.43
<b>p1</b>	322.73	0.98	102.75	4674.75	1.01	165.65	3762.47	1.71	76.85	2634.43	1.73	86.57	1925.12	1.82	93.60	1.40
<b>p2</b>	327.12	0.99	114.00	4703.23	1.01	154.35	3709.03	1.69	79.40	2682.45	1.77	89.10	1873.97	1.77	98.42	1.40
<b>TILE_9</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.77	0.99	83.78	4719.07	1.02	116.25	3870.78	1.76	72.57	2799.00	1.84	86.14	1961.55	1.85	94.94	1.43
<b>p1</b>	326.07	0.99	88.50	4709.88	1.01	132.45	3935.50	1.79	69.26	2782.05	1.83	77.30	2037.60	1.93	83.93	1.45
<b>p2</b>	325.23	0.98	94.00	4699.18	1.01	131.24	3788.68	1.72	75.33	2676.70	1.76	84.11	1858.58	1.76	92.36	1.40
<b>TILE_10</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	329.55	1.00	94.00	4733.52	1.02	124.46	3869.20	1.76	72.21	2806.90	1.85	84.40	2065.55	1.95	91.64	1.45
<b>p1</b>	327.77	0.99	94.00	4691.40	1.01	145.28	3928.88	1.79	69.26	2773.40	1.83	77.49	2034.08	1.92	84.15	1.44
<b>p2</b>	329.50	1.00	100.50	4716.55	1.02	144.73	3861.55	1.76	71.95	2727.30	1.80	80.47	1901.22	1.80	88.27	1.42
<b>TILE_11</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.48	0.99	94.00	4731.70	1.02	120.14	3851.55	1.75	72.83	2901.15	1.91	84.02	2070.68	1.96	91.37	1.46
<b>p1</b>	327.48	0.99	94.00	4711.02	1.01	132.59	3946.10	1.79	67.98	2790.40	1.84	76.68	2049.32	1.94	82.72	1.45
<b>p2</b>	332.85	1.01	100.25	4686.38	1.01	139.74	3781.47	1.72	75.27	2681.05	1.77	83.34	1864.83	1.76	91.65	1.40
<b>TILE_12</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.43	0.98	92.25	4715.45	1.02	120.89	3907.47	1.78	70.57	2947.35	1.94	80.45	2110.50	1.99	87.17	1.47
<b>p1</b>	328.68	1.00	94.00	4699.40	1.01	142.40	3986.53	1.81	66.93	2807.38	1.85	75.54	2062.95	1.95	81.92	1.46
<b>p2</b>	321.80	0.97	101.50	4676.15	1.01	146.70	3823.18	1.74	73.70	2700.47	1.78	82.26	1882.85	1.78	90.23	1.40
<b>TILE_13</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.77	1.00	84.00	4714.00	1.02	121.02	3890.60	1.77	71.01	2840.65	1.87	81.19	2103.93	1.99	86.70	1.46
<b>p1</b>	321.70	0.97	93.50	4683.05	1.01	162.27	3945.22	1.79	68.72	2876.25	1.89	77.31	2031.08	1.92	84.50	1.45
<b>p2</b>	330.00	1.00	104.00	4677.73	1.01	161.33	3779.10	1.72	75.75	2671.47	1.76	84.24	1855.83	1.75	92.36	1.40
<b>TILE_14</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.43	0.99	90.35	4712.40	1.02	120.80	3858.78	1.75	72.62	2818.82	1.86	82.08	2088.78	1.97	87.44	1.45
<b>p1</b>	329.62	1.00	94.00	4701.30	1.01	133.53	3960.12	1.80	68.16	2886.50	1.90	76.56	2034.38	1.92	83.99	1.46

<b>p2</b>	324.10	0.98	94.00	4714.95	1.02	132.57	3780.20	1.72	75.41	2664.82	1.75	84.48	1852.35	1.75	92.77	1.39
<b>TILE_15</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	330.98	1.00	100.75	4704.98	1.01	131.88	3837.18	1.74	73.30	2816.03	1.85	81.23	2086.30	1.97	87.25	1.45
<b>p1</b>	325.60	0.99	104.00	4712.95	1.02	137.06	3812.38	1.73	74.25	2688.80	1.77	83.01	1864.38	1.76	91.56	1.40
<b>p2</b>	326.60	0.99	104.00	4693.82	1.01	144.91	3742.38	1.70	77.21	2722.80	1.79	86.38	1919.67	1.81	94.46	1.41
<b>TILE_16</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.07	0.99	93.00	4720.75	1.02	133.97	3820.88	1.74	74.63	2884.90	1.90	76.43	2043.35	1.93	90.73	1.45
<b>p1</b>	326.88	0.99	104.25	4670.00	1.01	162.96	3782.07	1.72	75.17	2680.47	1.77	83.06	1790.08	1.69	98.61	1.39
<b>p2</b>	328.02	0.99	114.00	4683.93	1.01	149.49	3701.38	1.68	78.64	2719.10	1.79	86.45	1858.53	1.76	100.07	1.40
<b>TILE_17</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.43	0.99	89.75	4729.18	1.02	119.68	3828.50	1.74	74.22	2890.38	1.90	76.03	2065.47	1.95	88.88	1.45
<b>p1</b>	330.23	1.00	97.50	4662.80	1.00	140.91	3960.95	1.80	67.22	2838.15	1.87	73.61	1891.20	1.79	88.81	1.43
<b>p2</b>	324.35	0.98	104.00	4675.05	1.01	139.32	3783.40	1.72	74.60	2792.45	1.84	81.72	1913.55	1.81	94.84	1.41
<b>TILE_18</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.70	1.00	89.75	4717.12	1.02	120.60	3886.70	1.77	71.97	2911.12	1.92	75.05	2079.43	1.97	87.65	1.46
<b>p1</b>	331.73	1.00	94.00	4694.38	1.01	140.87	3994.75	1.82	66.31	2846.75	1.87	73.54	1903.58	1.80	88.06	1.44
<b>p2</b>	326.68	0.99	94.00	4707.10	1.01	141.80	3883.25	1.77	70.80	2871.90	1.89	77.14	1957.55	1.85	90.87	1.44
<b>TILE_19</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	329.62	1.00	89.50	4728.02	1.02	115.94	3858.05	1.75	73.18	2889.57	1.90	76.40	2085.45	1.97	87.47	1.46
<b>p1</b>	326.05	0.99	94.00	4706.80	1.01	128.95	4011.93	1.82	65.58	2860.22	1.88	72.51	1916.62	1.81	86.77	1.44
<b>p2</b>	324.62	0.98	94.00	4723.73	1.02	136.70	3826.03	1.74	72.86	2834.85	1.87	79.47	1909.20	1.80	92.98	1.42
<b>TILE_20</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.73	0.99	92.50	4705.25	1.01	124.32	3893.55	1.77	71.41	2814.97	1.85	75.33	2008.22	1.90	86.33	1.44
<b>p1</b>	323.50	0.98	94.25	4691.70	1.01	145.68	3992.82	1.82	65.89	2947.55	1.94	72.68	2001.70	1.89	86.86	1.46
<b>p2</b>	326.55	0.99	104.00	4687.73	1.01	146.80	3822.18	1.74	73.11	2827.30	1.86	79.73	1937.15	1.83	93.00	1.43
<b>TILE_21</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.02	0.99	82.25	4711.55	1.02	126.05	3875.25	1.76	71.69	2797.38	1.84	76.69	2002.53	1.89	86.90	1.44
<b>p1</b>	329.30	1.00	95.25	4677.57	1.01	165.85	3956.12	1.80	67.31	2820.12	1.86	74.08	1883.92	1.78	89.66	1.43
<b>p2</b>	328.45	0.99	104.00	4667.85	1.01	167.73	3775.57	1.72	75.01	2883.38	1.90	81.26	1990.40	1.88	95.54	1.44
<b>TILE_22</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.12	0.99	86.40	4716.50	1.02	133.11	3852.72	1.75	72.94	2769.90	1.82	78.34	1981.70	1.87	88.88	1.43
<b>p1</b>	329.12	1.00	94.00	4684.18	1.01	145.97	3989.53	1.81	66.25	2855.78	1.88	72.26	1912.83	1.81	86.61	1.44
<b>p2</b>	326.02	0.99	94.00	4696.98	1.01	143.03	3780.93	1.72	74.95	2877.43	1.89	81.83	2005.55	1.90	94.06	1.44
<b>TILE_23</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.50	0.99	94.25	4685.85	1.01	124.07	3867.03	1.76	72.40	2760.22	1.82	79.26	1970.60	1.86	89.70	1.43
<b>p1</b>	329.57	1.00	102.22	4713.15	1.02	131.36	3865.82	1.76	71.47	2750.78	1.81	78.78	1860.35	1.76	91.87	1.42

<b>p2</b>	323.10	0.98	104.00	4704.43	1.01	139.28	3765.57	1.71	75.46	2777.18	1.83	82.97	1990.25	1.88	95.53	1.42
<b>TILE_24</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.45	0.98	84.00	4722.07	1.02	125.29	3867.22	1.76	72.73	2775.50	1.83	79.09	2103.32	1.99	78.94	1.45
<b>p1</b>	333.50	1.01	99.75	4664.40	1.00	151.10	3811.47	1.73	73.38	2715.35	1.79	80.69	1929.90	1.82	85.50	1.42
<b>p2</b>	329.40	1.00	104.00	4709.95	1.01	140.35	3717.53	1.69	77.80	2720.20	1.79	86.16	2044.10	1.93	90.82	1.43
<b>TILE_25</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.05	0.98	82.10	4701.40	1.01	123.33	3869.68	1.76	72.17	2764.43	1.82	79.53	2101.62	1.99	79.07	1.45
<b>p1</b>	325.48	0.99	89.75	4691.30	1.01	139.20	3954.85	1.80	67.08	2848.85	1.88	72.82	2034.08	1.92	76.80	1.45
<b>p2</b>	327.07	0.99	94.00	4701.50	1.01	138.72	3799.35	1.73	73.86	2792.47	1.84	81.30	2110.07	1.99	85.32	1.45
<b>TILE_26</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	330.12	1.00	92.20	4737.75	1.02	121.49	3882.72	1.77	71.76	2773.57	1.83	79.17	2013.12	1.90	79.52	1.44
<b>p1</b>	323.68	0.98	98.75	4702.38	1.01	136.40	3972.65	1.81	66.39	2950.45	1.94	72.21	2139.68	2.02	75.67	1.48
<b>p2</b>	328.70	1.00	104.00	4676.73	1.01	136.16	3899.68	1.77	69.65	2876.15	1.89	76.37	2185.70	2.07	79.21	1.47
<b>TILE_27</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	329.50	1.00	94.00	4725.38	1.02	120.40	3884.20	1.77	72.31	2778.78	1.83	79.86	2005.25	1.90	80.98	1.44
<b>p1</b>	324.30	0.98	94.00	4700.10	1.01	133.69	3987.45	1.81	65.88	2968.18	1.95	71.42	2155.85	2.04	74.89	1.48
<b>p2</b>	327.10	0.99	97.75	4693.18	1.01	137.40	3833.38	1.74	72.08	2836.85	1.87	78.65	2144.32	2.03	82.58	1.46
<b>TILE_28</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.93	0.98	84.00	4719.40	1.02	118.00	3950.12	1.80	70.08	2813.12	1.85	77.62	2025.38	1.91	79.38	1.45
<b>p1</b>	325.60	0.99	91.00	4690.27	1.01	137.54	4015.35	1.83	65.02	2982.05	1.96	70.76	2159.18	2.04	74.52	1.49
<b>p2</b>	326.23	0.99	94.00	4712.60	1.02	141.18	3873.60	1.76	70.72	2856.43	1.88	77.79	2151.12	2.03	82.10	1.47
<b>TILE_29</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.73	0.99	80.25	4703.38	1.01	125.21	3922.47	1.78	71.28	2798.07	1.84	78.56	2006.30	1.90	82.46	1.44
<b>p1</b>	332.07	1.01	92.25	4674.98	1.01	167.60	3955.25	1.80	67.48	2931.70	1.93	73.53	2125.50	2.01	77.22	1.48
<b>p2</b>	326.23	0.99	104.00	4684.43	1.01	164.65	3795.70	1.73	74.00	2797.32	1.84	81.36	2108.05	1.99	85.42	1.45
<b>TILE_30</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	330.68	1.00	92.50	4703.18	1.01	133.29	3865.07	1.76	73.39	2750.57	1.81	81.39	1962.15	1.85	85.98	1.43
<b>p1</b>	327.30	0.99	101.00	4698.82	1.01	149.85	3964.20	1.80	66.77	2934.28	1.93	72.94	2132.20	2.02	76.03	1.48
<b>p2</b>	330.23	1.00	104.00	4685.02	1.01	144.83	3786.15	1.72	74.24	2698.05	1.78	81.64	2019.85	1.91	85.31	1.43
<b>TILE_31</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.23	0.99	94.00	4724.62	1.02	129.07	3872.28	1.76	73.18	2758.75	1.82	80.58	1971.17	1.86	85.64	1.43
<b>p1</b>	330.20	1.00	101.25	4713.12	1.02	134.17	3802.00	1.73	73.28	2827.20	1.86	78.97	2047.47	1.94	83.33	1.45
<b>p2</b>	327.35	0.99	104.00	4703.80	1.01	140.64	3787.40	1.72	73.94	2690.38	1.77	81.93	2015.62	1.91	85.73	1.42
<b>TILE_32</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	319.70	0.97	86.75	4714.25	1.02	132.14	3863.50	1.76	74.04	2828.43	1.86	82.33	1942.10	1.84	94.55	1.43
<b>p1</b>	323.57	0.98	98.25	4663.35	1.00	160.00	3765.15	1.71	75.54	2760.97	1.82	83.44	1881.78	1.78	97.84	1.40

<b>p2</b>	328.30	0.99	104.00	4689.30	1.01	149.16	3719.38	1.69	78.01	2611.78	1.72	87.44	1849.05	1.75	100.93	1.39
<b>TILE_33</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	330.18	1.00	81.00	4722.27	1.02	117.56	3878.15	1.76	73.42	2833.45	1.87	82.76	1868.33	1.77	93.69	1.43
<b>p1</b>	323.52	0.98	88.25	4692.80	1.01	137.38	3940.00	1.79	68.17	2909.68	1.92	74.73	2072.35	1.96	87.84	1.46
<b>p2</b>	327.88	0.99	94.00	4722.93	1.02	136.13	3825.43	1.74	73.39	2684.55	1.77	82.54	1920.15	1.81	94.17	1.41
<b>TILE_34</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.18	0.99	84.00	4744.25	1.02	118.38	3910.78	1.78	72.47	2761.82	1.82	81.11	1883.05	1.78	92.94	1.42
<b>p1</b>	330.62	1.00	94.92	4712.50	1.02	136.20	3963.00	1.80	67.15	3017.90	1.99	73.52	2092.95	1.98	86.72	1.48
<b>p2</b>	329.45	1.00	96.70	4703.23	1.01	132.10	3917.93	1.78	69.38	2768.70	1.82	77.38	1977.15	1.87	89.25	1.44
<b>TILE_35</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	323.52	0.98	87.00	4739.02	1.02	124.68	3873.47	1.76	74.33	2733.43	1.80	83.54	1864.10	1.76	93.79	1.41
<b>p1</b>	327.60	0.99	91.25	4696.80	1.01	138.17	3959.32	1.80	67.42	3018.47	1.99	73.66	2092.00	1.98	86.56	1.48
<b>p2</b>	323.02	0.98	94.00	4672.12	1.01	142.87	3854.62	1.75	71.92	2714.72	1.79	80.54	1939.90	1.83	92.25	1.41
<b>TILE_36</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.85	1.00	84.00	4714.00	1.02	127.33	3917.82	1.78	72.14	2763.35	1.82	81.13	1887.83	1.78	91.40	1.42
<b>p1</b>	328.77	1.00	87.00	4695.23	1.01	149.27	3962.97	1.80	67.02	2925.30	1.93	73.77	2099.90	1.98	86.13	1.47
<b>p2</b>	329.48	1.00	94.00	4705.55	1.01	151.20	3860.10	1.76	71.67	2738.22	1.80	79.34	1863.50	1.76	91.53	1.41
<b>TILE_37</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.50	0.99	84.25	4703.52	1.01	126.17	3904.40	1.78	72.87	2760.05	1.82	81.53	1875.35	1.77	92.52	1.42
<b>p1</b>	325.48	0.99	96.00	4672.77	1.01	168.83	3908.93	1.78	69.18	2889.95	1.90	75.56	2056.80	1.94	89.72	1.46
<b>p2</b>	327.65	0.99	113.50	4660.60	1.00	170.51	3813.90	1.73	73.52	2697.15	1.78	81.70	1827.62	1.73	95.17	1.40
<b>TILE_38</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.82	0.99	86.90	4703.60	1.01	126.93	3854.97	1.75	74.82	2733.45	1.80	82.93	1846.25	1.74	96.30	1.41
<b>p1</b>	324.95	0.98	94.00	4712.57	1.02	140.94	3966.93	1.80	67.28	2909.32	1.92	74.65	2076.68	1.96	88.03	1.47
<b>p2</b>	329.07	1.00	94.00	4694.35	1.01	134.37	3833.57	1.74	73.09	2706.10	1.78	81.38	1842.45	1.74	93.65	1.40
<b>TILE_39</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.50	0.98	94.00	4717.65	1.02	120.17	3872.40	1.76	74.15	2838.20	1.87	81.92	1939.72	1.83	95.98	1.43
<b>p1</b>	330.32	1.00	95.25	4725.55	1.02	127.54	3850.00	1.75	72.47	2808.40	1.85	80.70	2019.40	1.91	92.87	1.44
<b>p2</b>	329.02	1.00	103.25	4694.07	1.01	134.12	3832.20	1.74	73.10	2700.22	1.78	81.59	1838.58	1.74	94.30	1.40
<b>TILE_40</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.25	0.99	95.50	4705.05	1.01	136.44	3794.47	1.73	77.57	2767.15	1.82	86.51	1952.35	1.85	93.90	1.42
<b>p1</b>	324.52	0.98	104.00	4682.25	1.01	165.65	3738.10	1.70	77.35	2713.68	1.79	86.80	2008.50	1.90	93.83	1.42
<b>p2</b>	326.85	0.99	112.50	4677.12	1.01	161.77	3693.62	1.68	79.79	2586.75	1.70	89.49	1796.30	1.70	98.23	1.37
<b>TILE_41</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.48	0.99	87.50	4702.30	1.01	127.95	3800.90	1.73	77.48	2774.05	1.83	86.36	1956.88	1.85	93.93	1.42
<b>p1</b>	328.12	0.99	94.00	4699.12	1.01	150.58	3914.20	1.78	69.80	2851.10	1.88	78.23	2125.22	2.01	83.83	1.47

<b>p2</b>	326.93	0.99	102.50	4685.45	1.01	147.55	3782.38	1.72	75.47	2655.25	1.75	85.04	1853.17	1.75	92.46	1.39
<b>TILE_42</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.15	0.99	93.53	4713.35	1.02	123.89	3831.75	1.74	76.15	2790.75	1.84	84.86	1948.62	1.84	91.98	1.43
<b>p1</b>	328.93	1.00	100.08	4701.38	1.01	143.28	3928.97	1.79	68.88	2788.70	1.84	76.59	2055.40	1.94	82.23	1.45
<b>p2</b>	327.73	0.99	103.28	4718.10	1.02	139.18	3888.55	1.77	70.80	2828.62	1.86	79.50	2017.92	1.91	85.78	1.45
<b>TILE_43</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	329.65	1.00	84.00	4717.70	1.02	118.96	3834.32	1.74	76.58	2786.57	1.84	85.81	1956.92	1.85	94.26	1.43
<b>p1</b>	323.07	0.98	89.50	4696.07	1.01	131.39	3950.38	1.80	68.37	2798.43	1.84	76.21	2054.88	1.94	82.36	1.45
<b>p2</b>	328.02	0.99	99.00	4715.30	1.02	139.06	3837.00	1.74	73.72	2696.25	1.78	82.86	1963.55	1.86	90.46	1.42
<b>TILE_44</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.82	0.99	94.00	4723.62	1.02	118.79	3882.95	1.77	73.87	2803.90	1.85	82.04	1995.85	1.89	89.85	1.44
<b>p1</b>	325.43	0.99	94.00	4700.35	1.01	140.38	3962.03	1.80	68.10	2797.30	1.84	76.06	2062.10	1.95	81.69	1.45
<b>p2</b>	326.43	0.99	100.25	4694.88	1.01	141.58	3860.43	1.76	72.46	2707.20	1.78	81.58	1901.85	1.80	88.50	1.41
<b>TILE_45</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.82	0.99	92.75	4709.05	1.01	125.84	3820.28	1.74	75.77	2811.97	1.85	83.02	2085.12	1.97	89.04	1.45
<b>p1</b>	325.70	0.99	97.75	4670.05	1.01	166.25	3909.85	1.78	69.73	2754.60	1.81	78.63	2022.15	1.91	84.89	1.44
<b>p2</b>	326.68	0.99	110.00	4688.15	1.01	164.98	3767.38	1.71	76.27	2657.93	1.75	85.02	1850.53	1.75	92.84	1.39
<b>TILE_46</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.32	0.98	94.00	4692.07	1.01	135.29	3795.57	1.73	76.83	2893.82	1.91	83.39	2075.72	1.96	89.84	1.45
<b>p1</b>	324.75	0.98	97.75	4681.77	1.01	149.70	3940.15	1.79	68.60	2766.88	1.82	77.62	2035.10	1.92	83.61	1.44
<b>p2</b>	323.90	0.98	104.00	4706.35	1.01	144.24	3773.93	1.72	75.75	2658.07	1.75	84.55	1855.83	1.75	92.23	1.39
<b>TILE_47</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.45	0.99	97.00	4701.85	1.01	134.18	3797.25	1.73	76.83	2901.82	1.91	82.45	2077.70	1.96	88.50	1.46
<b>p1</b>	329.77	1.00	104.00	4692.82	1.01	141.43	3818.65	1.74	73.80	2671.25	1.76	83.84	1963.55	1.86	90.22	1.42
<b>p2</b>	322.80	0.98	104.00	4709.88	1.01	149.69	3766.32	1.71	76.33	2651.07	1.75	85.31	1847.80	1.75	92.75	1.39
<b>TILE_48</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.73	0.99	86.00	4706.32	1.01	127.24	3814.28	1.73	75.80	2843.80	1.87	80.36	2021.15	1.91	92.77	1.44
<b>p1</b>	326.57	0.99	94.00	4671.52	1.01	153.31	3785.88	1.72	75.28	2764.35	1.82	83.69	1855.85	1.75	100.11	1.40
<b>p2</b>	324.23	0.98	100.75	4696.62	1.01	145.90	3719.72	1.69	78.23	2638.93	1.74	86.45	1774.30	1.68	100.99	1.37
<b>TILE_49</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	322.50	0.98	82.75	4708.55	1.01	122.92	3827.03	1.74	75.50	2865.03	1.89	78.65	2045.22	1.93	91.21	1.44
<b>p1</b>	324.70	0.98	87.50	4693.77	1.01	143.60	3957.10	1.80	67.92	2822.50	1.86	74.44	1881.90	1.78	90.25	1.43
<b>p2</b>	328.12	0.99	94.00	4695.77	1.01	143.13	3807.20	1.73	74.11	2802.78	1.85	81.67	1900.80	1.80	96.32	1.42
<b>TILE_50</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	321.98	0.97	100.25	4726.40	1.02	124.67	3825.45	1.74	74.82	2880.95	1.90	76.96	2047.03	1.93	90.53	1.45
<b>p1</b>	323.68	0.98	103.75	4709.05	1.01	141.53	3952.25	1.80	68.05	2820.78	1.86	74.88	1872.80	1.77	90.71	1.42

<b>p2</b>	324.52	0.98	107.00	4677.88	1.01	138.32	3870.97	1.76	71.39	2851.65	1.88	78.49	1935.75	1.83	92.87	1.43
<b>TILE_51</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.62	0.98	94.00	4708.27	1.01	123.76	3813.30	1.73	75.27	2873.38	1.89	77.22	2047.15	1.93	90.51	1.45
<b>p1</b>	328.38	0.99	94.00	4697.70	1.01	139.85	3961.35	1.80	67.54	2824.62	1.86	74.34	1888.05	1.78	89.42	1.43
<b>p2</b>	325.45	0.99	97.25	4692.70	1.01	147.57	3825.20	1.74	73.15	2801.68	1.84	81.12	1914.40	1.81	94.80	1.42
<b>TILE_52</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.62	0.99	90.50	4723.25	1.02	121.87	3882.30	1.77	72.22	2912.20	1.92	74.95	2076.90	1.96	87.78	1.46
<b>p1</b>	324.45	0.98	94.00	4693.93	1.01	142.57	4012.18	1.82	65.51	2859.38	1.88	72.48	1908.15	1.80	87.33	1.44
<b>p2</b>	327.55	0.99	98.75	4699.18	1.01	146.88	3834.07	1.74	72.90	2829.95	1.86	79.79	1928.97	1.82	93.79	1.43
<b>TILE_53</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.65	0.98	84.25	4733.93	1.02	120.25	3883.18	1.77	72.23	2906.60	1.91	75.42	2072.28	1.96	88.56	1.46
<b>p1</b>	328.10	0.99	95.75	4683.98	1.01	155.93	3956.30	1.80	67.71	2818.10	1.86	75.16	1864.08	1.76	91.44	1.43
<b>p2</b>	331.93	1.01	104.00	4701.18	1.01	157.50	3780.78	1.72	75.21	2792.70	1.84	81.99	1887.72	1.78	97.35	1.42
<b>TILE_54</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.75	0.99	93.50	4697.82	1.01	121.03	3853.05	1.75	73.17	2879.57	1.90	77.09	2054.88	1.94	89.84	1.45
<b>p1</b>	327.88	0.99	102.25	4707.10	1.01	134.87	3982.75	1.81	66.57	2840.07	1.87	73.97	1891.03	1.79	89.14	1.44
<b>p2</b>	329.65	1.00	104.00	4709.38	1.01	137.46	3791.85	1.72	74.88	2792.10	1.84	81.92	1898.38	1.79	96.47	1.42
<b>TILE_55</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.43	0.99	97.25	4686.93	1.01	128.68	3830.10	1.74	73.72	2767.35	1.82	78.31	1947.45	1.84	91.54	1.42
<b>p1</b>	324.98	0.98	99.25	4725.35	1.02	135.94	3832.22	1.74	73.21	2802.72	1.85	81.12	1908.20	1.80	95.54	1.42
<b>p2</b>	322.88	0.98	104.00	4685.93	1.01	143.34	3756.62	1.71	76.36	2768.00	1.82	83.59	1883.08	1.78	97.84	1.40
<b>TILE_56</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.60	0.99	102.55	4703.25	1.01	130.66	3830.03	1.74	73.64	2762.90	1.82	78.83	2092.10	1.98	79.43	1.44
<b>p1</b>	325.77	0.99	105.80	4680.25	1.01	161.58	3776.95	1.72	74.80	2690.07	1.77	82.24	1915.42	1.81	87.21	1.41
<b>p2</b>	325.25	0.98	113.67	4697.75	1.01	148.23	3689.82	1.68	78.70	2801.95	1.85	86.26	2039.10	1.93	91.34	1.43
<b>TILE_57</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	330.18	1.00	94.00	4712.15	1.02	123.40	3862.00	1.76	72.51	2778.88	1.83	77.59	2101.95	1.99	78.88	1.45
<b>p1</b>	329.50	1.00	94.00	4701.02	1.01	145.59	3958.12	1.80	67.21	2848.25	1.88	73.28	2028.03	1.92	77.21	1.46
<b>p2</b>	325.25	0.98	94.00	4700.00	1.01	155.27	3779.38	1.72	74.47	2892.40	1.90	80.94	2108.43	1.99	85.43	1.45
<b>TILE_58</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	323.20	0.98	94.25	4722.38	1.02	116.94	3906.12	1.78	70.88	2800.72	1.84	76.84	2121.70	2.01	77.29	1.46
<b>p1</b>	322.23	0.98	98.75	4710.23	1.01	133.29	3985.95	1.81	66.34	2859.20	1.88	72.28	2037.17	1.93	76.78	1.45
<b>p2</b>	324.80	0.98	104.00	4696.88	1.01	133.55	3892.38	1.77	70.38	2976.47	1.96	76.65	2159.70	2.04	81.22	1.48
<b>TILE_59</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	329.10	1.00	94.00	4723.73	1.02	119.19	3878.78	1.76	72.31	2776.20	1.83	78.90	2104.78	1.99	79.24	1.45
<b>p1</b>	321.38	0.97	94.00	4702.75	1.01	131.48	3991.03	1.81	66.05	2864.62	1.89	71.98	2038.72	1.93	76.72	1.45

<b>p2</b>	320.80	0.97	94.00	4687.35	1.01	138.50	3830.20	1.74	72.73	2830.35	1.86	79.51	2126.12	2.01	84.13	1.45
<b>TILE_60</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.95	0.99	96.75	4706.82	1.01	123.74	3906.70	1.78	71.18	2895.68	1.91	77.49	2123.55	2.01	78.20	1.47
<b>p1</b>	329.12	1.00	97.00	4704.98	1.01	142.41	3987.50	1.81	65.72	2868.68	1.89	71.80	2041.97	1.93	75.80	1.46
<b>p2</b>	329.48	1.00	104.00	4700.40	1.01	147.86	3849.57	1.75	72.05	2833.45	1.87	78.98	2135.32	2.02	83.17	1.46
<b>TILE_61</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.30	0.99	93.97	4718.10	1.02	125.37	3892.00	1.77	71.65	2781.07	1.83	78.86	2009.10	1.90	80.33	1.44
<b>p1</b>	327.65	0.99	99.75	4662.90	1.00	162.36	3927.10	1.79	68.34	2910.18	1.92	74.52	2110.25	1.99	78.46	1.47
<b>p2</b>	327.18	0.99	111.75	4680.35	1.01	168.20	3788.75	1.72	74.52	2782.57	1.83	81.92	2096.12	1.98	86.23	1.44
<b>TILE_62</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	329.43	1.00	96.25	4709.40	1.01	124.21	3869.28	1.76	72.82	2750.60	1.81	81.01	1977.60	1.87	83.10	1.43
<b>p1</b>	328.93	1.00	104.00	4703.75	1.01	137.52	3958.28	1.80	67.06	2937.38	1.93	73.03	2130.72	2.01	76.46	1.48
<b>p2</b>	325.35	0.99	104.00	4718.27	1.02	137.37	3790.40	1.72	74.16	2791.70	1.84	81.45	2103.88	1.99	85.66	1.45
<b>TILE_63</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	330.65	1.00	100.38	4715.95	1.02	122.75	3879.22	1.76	72.90	2762.05	1.82	80.71	1974.35	1.87	84.51	1.44
<b>p1</b>	326.77	0.99	103.00	4709.00	1.01	127.29	3836.28	1.74	72.20	2836.97	1.87	78.76	2046.22	1.93	83.52	1.45
<b>p2</b>	330.75	1.00	104.00	4710.75	1.01	134.93	3785.47	1.72	74.68	2786.72	1.84	81.87	2096.40	1.98	86.33	1.45
<b>TILE_64</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.45	0.99	94.25	4718.95	1.02	126.10	3894.40	1.77	72.37	2768.90	1.82	80.07	1880.55	1.78	92.53	1.42
<b>p1</b>	327.02	0.99	103.75	4681.07	1.01	152.78	3798.05	1.73	74.23	2785.62	1.83	81.62	1900.03	1.80	96.52	1.42
<b>p2</b>	326.20	0.99	104.00	4707.55	1.01	145.45	3719.65	1.69	77.57	2729.50	1.80	85.53	1952.08	1.84	98.58	1.41
<b>TILE_65</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.68	0.99	89.53	4717.57	1.02	121.31	3890.12	1.77	72.61	2757.25	1.82	80.88	1892.33	1.79	91.28	1.42
<b>p1</b>	328.07	0.99	94.00	4701.07	1.01	138.18	3932.35	1.79	68.07	2913.62	1.92	74.17	1997.97	1.89	87.00	1.45
<b>p2</b>	330.65	1.00	102.00	4722.38	1.02	141.54	3817.32	1.74	73.64	2688.10	1.77	82.14	1931.70	1.83	93.33	1.42
<b>TILE_66</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	331.82	1.00	104.00	4724.30	1.02	124.28	3908.03	1.78	71.73	2790.22	1.84	79.04	1905.83	1.80	90.54	1.43
<b>p1</b>	327.27	0.99	104.00	4691.62	1.01	144.49	3948.47	1.80	67.24	2924.15	1.93	73.33	2013.12	1.90	85.62	1.46
<b>p2</b>	326.43	0.99	104.00	4704.05	1.01	146.55	3909.40	1.78	69.16	2786.93	1.84	76.03	1994.38	1.88	87.09	1.44
<b>TILE_67</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.95	0.98	97.25	4730.43	1.02	121.63	3886.22	1.77	73.24	2853.62	1.88	81.44	1978.28	1.87	91.14	1.44
<b>p1</b>	327.62	0.99	95.03	4692.70	1.01	134.45	3948.75	1.80	67.25	2935.57	1.93	72.84	2014.40	1.90	85.64	1.46
<b>p2</b>	327.77	0.99	103.95	4712.93	1.02	143.59	3848.93	1.75	71.65	2737.00	1.80	79.21	1957.92	1.85	90.75	1.43
<b>TILE_68</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.88	0.98	94.00	4709.70	1.01	115.05	3942.35	1.79	71.00	2808.55	1.85	78.81	1915.20	1.81	89.33	1.43
<b>p1</b>	327.75	0.99	94.00	4689.00	1.01	133.72	3992.55	1.82	65.82	3066.30	2.02	71.37	2118.75	2.00	84.33	1.49



<b>p2</b>	326.35	0.99	100.25	4702.68	1.01	138.23	3892.72	1.77	70.18	2769.62	1.82	77.58	1974.22	1.87	89.52	1.43
<b>TILE_69</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	331.12	1.00	100.33	4726.77	1.02	115.78	3937.60	1.79	71.33	2791.20	1.84	79.29	1901.15	1.80	90.54	1.43
<b>p1</b>	327.32	0.99	102.50	4692.00	1.01	153.73	3944.55	1.79	67.73	3022.90	1.99	73.41	2076.65	1.96	87.86	1.48
<b>p2</b>	329.30	1.00	110.50	4685.93	1.01	154.34	3832.60	1.74	72.67	2717.97	1.79	80.75	1932.75	1.83	93.30	1.42
<b>TILE_70</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	321.00	0.97	102.50	4714.75	1.02	129.05	3863.90	1.76	74.48	2732.60	1.80	82.98	1852.40	1.75	96.10	1.40
<b>p1</b>	326.85	0.99	103.75	4711.07	1.02	144.18	3938.30	1.79	67.96	3015.57	1.99	73.77	2087.80	1.97	86.92	1.48
<b>p2</b>	327.20	0.99	104.00	4685.10	1.01	143.36	3791.75	1.72	73.88	2691.40	1.77	81.99	1906.03	1.80	93.06	1.41
<b>TILE_71</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.57	0.98	104.25	4694.50	1.01	136.86	3867.05	1.76	73.87	2751.00	1.81	81.60	1855.38	1.75	95.84	1.41
<b>p1</b>	329.43	1.00	104.00	4693.73	1.01	146.15	3828.15	1.74	72.52	2812.80	1.85	80.05	2028.28	1.92	92.15	1.44
<b>p2</b>	329.52	1.00	104.00	4666.35	1.01	153.67	3802.40	1.73	73.80	2693.53	1.77	81.64	1834.70	1.73	94.43	1.40
<b>TILE_72</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.77	0.98	118.33	4695.18	1.01	130.30	3824.78	1.74	76.26	2692.62	1.77	85.46	1895.35	1.79	92.05	1.41
<b>p1</b>	329.07	1.00	114.75	4690.52	1.01	158.17	3737.22	1.70	77.57	2696.88	1.78	87.51	2023.67	1.91	92.57	1.42
<b>p2</b>	330.23	1.00	114.00	4701.12	1.01	149.38	3699.20	1.68	79.15	2585.82	1.70	89.35	1811.90	1.71	96.30	1.38
<b>TILE_73</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.45	0.99	84.25	4724.48	1.02	116.75	3834.78	1.74	76.00	2698.28	1.78	85.09	1982.67	1.87	91.43	1.42
<b>p1</b>	323.25	0.98	93.25	4696.60	1.01	132.43	3920.45	1.78	69.50	2859.78	1.88	77.76	2137.22	2.02	83.00	1.46
<b>p2</b>	331.02	1.00	95.00	4705.52	1.01	134.57	3792.57	1.72	75.32	2666.95	1.76	84.49	1866.53	1.76	91.58	1.40
<b>TILE_74</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.15	0.98	110.60	4729.25	1.02	121.22	3858.80	1.75	75.30	2803.45	1.85	84.16	1998.20	1.89	90.16	1.44
<b>p1</b>	326.05	0.99	104.00	4692.82	1.01	139.85	3940.05	1.79	68.30	2886.05	1.90	76.51	2171.32	2.05	80.46	1.47
<b>p2</b>	325.25	0.98	104.00	4684.57	1.01	142.13	3908.25	1.78	70.44	2746.95	1.81	79.15	1949.97	1.84	84.34	1.43
<b>TILE_75</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	326.23	0.99	106.00	4706.93	1.01	118.42	3861.22	1.76	75.33	2803.12	1.85	84.74	1988.83	1.88	91.32	1.44
<b>p1</b>	327.45	0.99	94.75	4704.68	1.01	130.42	3939.30	1.79	68.84	2875.68	1.89	76.48	2152.07	2.03	81.76	1.47
<b>p2</b>	326.95	0.99	104.00	4712.18	1.02	137.78	3829.12	1.74	73.38	2691.88	1.77	82.69	1888.35	1.78	89.08	1.41
<b>TILE_76</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	332.82	1.01	183.68	4713.55	1.02	120.75	3874.90	1.76	74.04	2822.45	1.86	82.45	2017.45	1.91	88.70	1.45
<b>p1</b>	328.02	0.99	129.18	4710.12	1.01	140.73	3956.35	1.80	67.77	2895.88	1.91	75.51	2178.57	2.06	79.77	1.48
<b>p2</b>	329.15	1.00	123.25	4687.75	1.01	146.33	3853.78	1.75	72.22	2710.97	1.79	81.14	1914.78	1.81	86.99	1.42
<b>TILE_77</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	325.45	0.99	102.50	4710.38	1.01	123.67	3860.03	1.76	74.87	2809.35	1.85	83.87	1996.20	1.89	90.93	1.44
<b>p1</b>	321.75	0.97	101.25	4670.15	1.01	163.31	3893.05	1.77	70.45	2759.22	1.82	77.99	2043.30	1.93	83.15	1.44

<b>p2</b>	331.25	1.00	108.25	4687.93	1.01	164.97	3786.05	1.72	75.26	2732.80	1.80	85.02	1956.83	1.85	91.12	1.42
<b>TILE_78</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	329.20	1.00	103.85	4700.23	1.01	119.31	3818.78	1.74	76.70	2793.32	1.84	84.89	1985.83	1.88	91.24	1.43
<b>p1</b>	325.38	0.99	103.90	4718.60	1.02	133.73	3937.65	1.79	68.90	2758.70	1.82	78.08	2047.28	1.93	82.99	1.45
<b>p2</b>	327.65	0.99	106.25	4693.85	1.01	132.03	3785.78	1.72	75.38	2663.18	1.75	84.19	1878.03	1.77	90.45	1.40
<b>TILE_79</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.20	0.99	105.50	4721.10	1.02	121.71	3826.65	1.74	76.00	2798.78	1.84	83.82	2000.58	1.89	90.49	1.44
<b>p1</b>	328.65	1.00	104.00	4702.20	1.01	128.41	3815.55	1.73	74.21	2672.05	1.76	83.76	1977.90	1.87	89.14	1.42
<b>p2</b>	324.77	0.98	104.00	4686.12	1.01	139.48	3794.60	1.73	75.07	2666.00	1.76	84.28	1874.20	1.77	90.51	1.40
<b>TILE_80</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	324.98	0.98	147.05	4713.88	1.02	130.68	3830.60	1.74	73.88	2923.50	1.93	80.94	1986.67	1.88	96.97	1.44
<b>p1</b>	327.35	0.99	129.00	4686.05	1.01	155.88	3786.12	1.72	75.02	2687.55	1.77	82.94	1702.83	1.61	99.75	1.37
<b>p2</b>	328.98	1.00	124.00	4670.98	1.01	146.99	3720.50	1.69	75.97	2758.57	1.82	78.46	1988.20	1.88	88.61	1.42
<b>TILE_81</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.43	0.99	85.75	4724.98	1.02	119.45	3846.50	1.75	73.35	2935.68	1.93	79.98	2000.60	1.89	95.12	1.45
<b>p1</b>	325.43	0.99	94.00	4697.07	1.01	136.01	3933.80	1.79	68.73	2787.95	1.84	76.65	1939.65	1.83	92.37	1.43
<b>p2</b>	322.15	0.98	94.25	4691.12	1.01	139.09	3785.53	1.72	75.15	2686.30	1.77	83.19	1791.53	1.69	98.70	1.38
<b>TILE_82</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	329.00	1.00	107.00	4698.10	1.01	124.31	3863.30	1.76	72.08	2953.75	1.95	78.74	2019.65	1.91	93.85	1.46
<b>p1</b>	329.70	1.00	104.00	4694.35	1.01	143.93	3940.65	1.79	68.32	2791.93	1.84	76.42	1947.67	1.84	91.73	1.44
<b>p2</b>	329.38	1.00	104.00	4719.15	1.02	144.50	3870.62	1.76	71.33	2749.82	1.81	79.29	1835.35	1.73	94.45	1.41
<b>TILE_83</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.68	0.99	100.00	4700.18	1.01	126.98	3852.40	1.75	72.40	2836.97	1.87	80.54	2015.92	1.91	93.51	1.44
<b>p1</b>	324.07	0.98	95.25	4701.62	1.01	143.97	3949.28	1.80	68.12	2814.82	1.85	75.27	1869.30	1.77	90.66	1.42
<b>p2</b>	323.15	0.98	102.25	4701.55	1.01	153.06	3811.57	1.73	73.85	2787.12	1.84	82.33	1887.85	1.78	97.33	1.41
<b>TILE_84</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	328.12	0.99	111.85	4716.05	1.02	122.65	3905.95	1.78	70.14	2882.43	1.90	77.05	2047.17	1.93	90.76	1.46
<b>p1</b>	326.85	0.99	103.30	4690.43	1.01	142.43	3983.18	1.81	66.97	2842.85	1.87	73.44	1882.38	1.78	89.73	1.43
<b>p2</b>	325.60	0.99	104.00	4689.02	1.01	149.08	3834.80	1.74	72.91	2813.90	1.85	80.67	1903.15	1.80	95.80	1.42
<b>TILE_85</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	330.20	1.00	109.75	4717.18	1.02	121.45	3892.38	1.77	70.59	2859.85	1.88	78.01	2028.55	1.92	91.97	1.45
<b>p1</b>	327.05	0.99	107.75	4683.73	1.01	155.11	3936.57	1.79	68.46	2787.53	1.84	76.58	1834.75	1.73	94.04	1.42
<b>p2</b>	328.55	0.99	118.15	4691.65	1.01	156.75	3765.00	1.71	75.98	2760.60	1.82	83.70	1863.72	1.76	99.74	1.41
<b>TILE_86</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	327.35	0.99	127.20	4714.85	1.02	127.85	3862.68	1.76	71.70	2855.43	1.88	78.12	2026.62	1.92	92.47	1.45
<b>p1</b>	328.23	0.99	114.92	4698.52	1.01	141.61	3923.60	1.78	68.97	2797.22	1.84	76.07	1860.92	1.76	91.79	1.42

<b>p2</b>	327.07	0.99	113.65	4689.65	1.01	140.34	3751.38	1.71	76.49	2760.90	1.82	83.80	1879.33	1.78	98.07	1.41
<b>TILE_87</b>	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
<b>p0</b>	321.57	0.97	134.95	4718.35	1.02	126.78	3866.80	1.76	71.51	2854.00	1.88	78.33	2015.22	1.90	93.04	1.44
<b>p1</b>	324.30	0.98	120.75	4708.27	1.01	131.90	3817.38	1.74	73.60	2697.57	1.78	82.18	1799.28	1.70	97.45	1.39
<b>p2</b>	325.12	0.98	114.00	4702.00	1.01	142.43	3742.35	1.70	76.74	2752.47	1.81	84.44	1866.90	1.76	99.24	1.40
<b>p0_score:</b>	126.55															
<b>p1_score:</b>	127.15															
<b>p2_score:</b>	124.63															

<b>Infrastructure_Operations_Scores:</b>										vmotion			svmotion			deploy	
<b>Completed_Ops_PerHour</b>										66.00			40.00			13.50	
<b>Avg_Seconds_To_Complete</b>										35.08			31.64			457.91	
<b>Failures</b>										0.00			0.00			1.00	
<b>Ratio</b>										4.12			4.44			3.38	
<b>Number_Of_Threads</b>										4			4			4	
<b>Summary</b>										Run_Is_Compliant						Turbo_Setting:0	
										Number_Of_Compliance_Issues(0)*						Median_Phase(p0)	
<b>Unreviewed_VMmark2_Applications_Score</b>										126.55							
<b>Unreviewed_VMmark2_Infrastructure_Score</b>										3.96							
<b>Unreviewed_VMmark2_Score</b>										102.03							

## Configuration

<b>Virtualization Software</b>	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 6.0.0 Build 2615704 / 04-09-2015
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 6.0.0 Build 2559268 / 03-12-2015
Supplemental Software	none
<b>Servers</b>	
Quantity	8 (realized as completely independent system partitions in two PRIMEQUEST 2800E2 systems)
Server Manufacturer and Model	Fujitsu Server PRIMEQUEST 2800E2
Processor Vendor and Model	Intel Xeon E7-8890 v3

Processor Speed (GHz)	2.5
Total Sockets/Total Cores/Total Threads	2 Sockets / 36 Cores / 72 Threads (per system partition)
Primary Cache	32KB I + 32KB D on chip per core
Secondary Cache	256KB I+D on chip per core
Other Cache	45MB I+D on chip per chip L3
BIOS Version	1.13
Memory Size (in GB, Number of DIMMs)	512, 32 (per system partition)
Memory Type and Speed	16GB DIMMs 2Rx4 PC4-2133P ECC
Disk Subsystem Type	FC SAN
Number of Disk Controllers	0
Disk Controller Vendors and Models	
Number of Host Bus Adapters	2 (per system partition)
Host Bus Adapter Vendors and Models	Dual port Emulex LPe16002 Dual port Emulex OCe14102 (FCoE function, unused)
Number of Network Controllers	3 (per system partition)
Network Controller Vendors and Models	One Intel 82579LM 1GbE Adapter One Intel I350 Dual Port 1GbE Adapter One Dual port Emulex OCe14102 10GbE Adapter
Other Hardware	One IO unit (per system partition)
Other Software	none
Hardware Availability Date (MM-DD-YYYY)	08-01-2015
Software Availability Date (MM-DD-YYYY)	04-09-2015
<b>Network</b>	
Network Switch Vendors and Models	Fujitsu PRIMERGY BX600 GbE Switch Blade 30/12, Brocade VDX 6740
Network Speed	1Gbps for SUT management and VMotion, 10Gbps for Clients and VMs
<b>Storage</b>	
Array Vendors, Models, and Firmware Versions	Four Fujitsu Server PRIMERGY RX300 S8, Firmware V4.6.5.4 R1.1.0 One Fujitsu ETERNUS DX80, Firmware version V10L20-0000
Fibre Channel Switch Vendors and Models	Brocade 6510
Disk Space Used	25168GB
Array Cache Size	1GB(Fujitsu Server PRIMERGY RX300 S8), 2GB(Fujitsu ETERNUS DX80)

Total Number of Physical Disks Used	4 HDDs, 48xSAS-SSDs, 8xPCIe-SSD
Total Number of Enclosures/Pods/Shelves Used	5 (one per storage system)
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	124
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	4xSeagate, ST3450856SS, 15krpm; 48xSSD Toshiba PX02SMF040; 8xFusion-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	89 / 1 / 5
System Model(s)	1xFujitsu Server PRIMERGY BX620 S5 (Prime Client) 3xFujitsu Server PRIMERGY RX600 S6 (Virtual Client Hosts) 2xFujitsu Server PRIMERGY RX500 S7 (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 PRIMERGY RX500 S7: Intel Xeon E5-4650

Processor Speed(s) (GHz)	Prime Client: 2.93 Virtual Client Hosts: PRIMERGY RX600 S6: 2.4 PRIMERGY RX500 S7: 2.7
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 PRIMERGY RX500 S7: 4 Sockets / 32 Cores / 64 Threads
Memory per Physical Client	Prime Client: 12GB Virtual Client Hosts: PRIMERGY RX600 S6: 512GB PRIMERGY RX500 S7: 256GB
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 PRIMERGY RX500 S7: Intel Dual Port I350, 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	88
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

- Floppy and CDROM 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 (disables Ballooning, default enabled)
- sched.mem.min/sched.mem.minsize set to the configured VM memory size (reserves all guest memory, default 0)
- sched.mem.pin = TRUE set for all VMs (locks all guest memory into physical memory, default FALSE)
- SCSI adapter type PVSCSI used for all Standby VMs (default LSI Logic parallel)
- SCSI adapter type PVSCSI used for all Mailserver and Linux VMs (default LSI Logic SAS)
- VMware Tools build 9536 used for all VMs (default 9536)
- VMXNET3 enabled for all VMs (default VMXNET2)

- 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/DataMover/HardwareAcceleratedInit = 0 (default 1)
- /adv/DataMover/HardwareAcceleratedMove = 0 (default 1)
- /adv/Mem/CtlMaxPercent = 0 (default 65)
- /adv/Mem/ShareScanGHz = 0 (default 4)
- /adv/Net/MaxNetifRxQueueLen = 1000 (default 100)
- /adv/Net/MaxNetifTxQueueLen = 2000 (default 500)
- /adv/Net/MaxPortRxQueueLen = 160 (default 80)
- /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

- The PRIMEQUEST 2800E2 can be split up into 1 to 4 completely independent system partitions with dedicated HW. Each partition is treated as a separate ESXi host. For this VMmark result four partitions (containing one system board and one IO Unit) were configured on each of two PRIMEQUEST 2800E2.
- Partition settings:
  - Memory Operation Mode: Performance Mode (default Normal Mode)
  - PCI Address Mode: PCI Bus Mode (default PCI Segment Mode)
- Server/Partition BIOS settings:
  - DIMM Speed: Performance Mode (default Normal Mode)
  - Energy Performance: Performance (default Energy Efficient)
  - Memory Power States: Performance Mode (default Default)
  - Turbo Boost Technology: Enabled (Intel Turbo Boost up to 3.3GHz, default enabled)

## 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 vmnic1 for Service Console (1Gb)
  - vSwitch1 on vmnic2 for VMotion (1Gb)
  - vSwitch2 on vmnic3 (10Gb) All DS2 and Deploy VMs
  - vSwitch3 on vmnic4 (10Gb) All VMs except DS2 and Deploy 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)
    - 12x400GB 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: First Target LUN for Storage VMotion (10GB)
  - LUN 3: First Source LUN for Deploy (10GB)
  - LUN 4: First 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)
- SAS-SSD 12:
  - LUN 1: For Tile 80 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 81 Olio/Standby VMs and Mailserver VHDs (186GB)
- First PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2DB VMs for tiles 0, 4, 8, 12, 16, 80 (537GB)
  - LUN 2: Mailserver configuration files and DS2DB VMs for tiles 2, 6, 10, 14, 18 (537GB)
- Second PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2DB VMs for tiles 1, 5, 9, 13, 17, 81 (537GB)
  - LUN 2: Mailserver configuration files and DS2DB 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)
    - 12x400GB 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: Second Target LUN for Storage VMotion (10GB)
  - LUN 3: Second Source LUN for Deploy (10GB)
  - LUN 4: Second Target LUN for Deploy (10GB)
- 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)
- SAS-SSD 12:
  - LUN 1: For Tile 82 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 83 Olio/Standby VMs and Mailserver VHDs (186GB)
- First PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2DB VMs for tiles 20, 24, 28, 32, 36, 82 (537GB)
  - LUN 2: Mailserver configuration files and DS2DB VMs for tiles 22, 26, 30, 34, 38 (537GB)
- Second PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2DB VMs for tiles 21, 25, 29, 33, 37, 83 (537GB)
  - LUN 2: Mailserver configuration files and DS2DB 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)
    - 12x400GB 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: Third Target LUN for Storage VMotion (10GB)
  - LUN 3: Third Source LUN for Deploy (10GB)
  - LUN 4: Third Target LUN for Deploy (10GB)
- 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)
- SAS-SSD 8:
  - LUN 1: For Tile 52 Olio/Standby VMs and Mailserver VHDs (186GB)

- LUN 2: For Tile 54 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 9:
    - LUN 1: For Tile 53 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 55 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 10:
    - LUN 1: For Tile 56 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 58 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 11:
    - LUN 1: For Tile 57 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 59 Olio/Standby VMs and Mailserver VHDs (186GB)
  - SAS-SSD 12:
    - LUN 1: For Tile 84 Olio/Standby VMs and Mailserver VHDs (186GB)
    - LUN 2: For Tile 85 Olio/Standby VMs and Mailserver VHDs (186GB)
  - First PCIe-SSD:
    - LUN 1: Mailserver configuration files and DS2DB VMs for tiles 40, 44, 48, 52, 56, 84 (537GB)
    - LUN 2: Mailserver configuration files and DS2DB VMs for tiles 42, 46, 50, 54, 58 (537GB)
  - Second PCIe-SSD:
    - LUN 1: Mailserver configuration files and DS2DB VMs for tiles 41, 45, 49, 53, 57, 85 (537GB)
    - LUN 2: Mailserver configuration files and DS2DB VMs for tiles 43, 47, 51, 55, 59 (537GB)
  - All LUNs were configured as block devices; no system memory was used for caching
- Fourth 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)
    - 12x400GB 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: Fourth Target LUN for Storage VMotion (10GB)
  - LUN 3: Fourth Source LUN for Deploy (10GB)
  - LUN 4: Fourth Target LUN for Deploy (10GB)

- SAS-SSD 2:
  - LUN 1: For Tile 60 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 62 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 3:
  - LUN 1: For Tile 61 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 63 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 4:
  - LUN 1: For Tile 64 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 66 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 5:
  - LUN 1: For Tile 65 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 67 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 6:
  - LUN 1: For Tile 68 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 70 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 7:
  - LUN 1: For Tile 69 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 1: For Tile 71 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 8:
  - LUN 1: For Tile 72 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 74 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 9:
  - LUN 1: For Tile 73 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 1: For Tile 75 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 10:
  - LUN 1: For Tile 76 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 78 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 11:
  - LUN 1: For Tile 77 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 1: For Tile 79 Olio/Standby VMs and Mailserver VHDs (186GB)
- SAS-SSD 12:
  - LUN 1: For Tile 86 Olio/Standby VMs and Mailserver VHDs (186GB)
  - LUN 2: For Tile 87 Olio/Standby VMs and Mailserver VHDs (186GB)
- First PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2DB VMs for tiles 60, 64, 68, 72, 76, 86 (537GB)
  - LUN 2: Mailserver configuration files and DS2DB VMs for tiles 62, 66, 70, 74, 78 (537GB)
- Second PCIe-SSD:
  - LUN 1: Mailserver configuration files and DS2DB VMs for tiles 61, 65, 69, 73, 77, 87 (537GB)

- LUN 2: Mailserver configuration files and DS2DB VMs for tiles 63, 67, 71, 75, 79 (537GB)
  - All LUNs were configured as block devices; no system memory was used for caching
- Fujitsu ETERNUS DX80 (4 disks)
  - RAID set 0: (4 disks)
    - LUN 0: Boot/Console OS for SUT1 (11GB)
    - LUN 1: Boot/Console OS for SUT2 (11GB)
    - LUN 2: Boot/Console OS for SUT3 (11GB)
    - LUN 3: Boot/Console OS for SUT4 (11GB)
    - LUN 4: Boot/Console OS for SUT5 (11GB)
    - LUN 5: Boot/Console OS for SUT6 (11GB)
    - LUN 6: Boot/Console OS for SUT7 (11GB)
    - LUN 7: Boot/Console OS for SUT8 (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, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 83, 86
  - System 2 (PRIMERGY RX600 S6): Clients 1, 6, 11, 16, 21, 26, 31, 36, 41, 46, 51, 56, 61, 66, 71, 76, 81, 84, 87
  - System 3 (PRIMERGY RX600 S6): Clients 2, 7, 12, 17, 22, 27, 32, 37, 42, 47, 52, 57, 62, 67, 72, 77, 82, 85
  - System 4 (PRIMERGY RX500 S7): Clients 3, 8, 13, 18, 23, 28, 33, 38, 43, 48, 53, 58, 63, 68, 73, 78
  - System 5 (PRIMERGY RX500 S7): Clients 4, 9, 14, 19, 24, 29, 34, 39, 44, 49, 54, 59, 64, 69, 74, 79

## Other Notes

- One client used as a dedicated Benchmark Controller.
  - RMQ\_MinInitDelay increased to 100 seconds (default: 60 seconds)
  - TILEDELAY reduced to 9 seconds (default: 60 seconds)
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