VMware® VMmark® V2.5.2 Results

Vendor and Hardware Platform: HP ProLiant DL580 Gen9 **Virtualization Platform: VMware ESXi 6.0.0 Build 2494585** **VMware vCenter Server : VMware vCenter Server 6.0.0 Build 2559268**	**VMmark V2.5.2 Score = 46.64 @ 40 Tiles**

Number of Hosts: 2	**Uniform Hosts [yes/no]: yes**	**Total sockets/cores/threads in test: 8/144/288**
Tested By: Hewlett-Packard Company	**Test Date: 05-26-2015**	

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	327.57	0.99	83.45	4646.23	1.00	234.30	3865.68	1.76	69.08	2811.28	1.85	73.33	2022.70	1.91	76.27	1.44
p1	330.32	1.00	83.97	4598.50	0.99	237.31	3821.95	1.74	70.70	2874.03	1.89	74.98	2082.53	1.97	78.50	1.45
p2	329.25	1.00	84.00	4624.23	1.00	242.32	3781.18	1.72	71.83	2749.75	1.81	76.86	2063.68	1.95	80.49	1.43
TILE_1	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.77	1.00	84.00	4639.38	1.00	232.52	3837.65	1.75	69.83	2786.07	1.83	74.52	2001.42	1.89	77.61	1.43
p1	323.82	0.98	84.00	4614.98	0.99	245.34	3784.25	1.72	72.01	2848.88	1.88	76.10	2070.28	1.96	79.17	1.44
p2	326.25	0.99	89.00	4605.68	0.99	256.61	3724.45	1.69	74.70	2708.43	1.78	78.94	2035.65	1.92	82.46	1.42
TILE_2	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.62	0.99	84.00	4625.27	1.00	228.17	3849.55	1.75	69.38	2806.20	1.85	73.72	2012.05	1.90	76.87	1.43
p1	331.40	1.00	84.00	4619.82	1.00	233.02	3797.03	1.73	71.89	2854.72	1.88	75.97	2173.53	2.05	78.70	1.46
p2	330.07	1.00	88.25	4619.30	1.00	250.44	3770.38	1.71	72.88	2729.18	1.80	77.84	1952.55	1.85	81.54	1.41
TILE_3	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.95	1.00	73.10	4631.20	1.00	227.77	3870.12	1.76	68.57	2817.50	1.86	72.88	2018.40	1.91	76.28	1.44
p1	322.65	0.98	77.00	4615.93	0.99	242.40	3799.45	1.73	71.41	2864.95	1.89	75.67	2176.57	2.06	78.46	1.45
p2	325.88	0.99	84.00	4589.18	0.99	264.35	3753.95	1.71	73.63	2732.15	1.80	77.99	1954.53	1.85	82.20	1.41
TILE_4	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	321.82	0.97	73.97	4601.68	0.99	208.44	3927.55	1.79	66.40	2967.22	1.95	69.91	2164.82	2.05	72.66	1.47
p1	319.43	0.97	73.97	4575.00	0.99	235.99	3879.32	1.76	68.26	2819.00	1.86	72.68	2134.07	2.02	74.48	1.44
p2	323.95	0.98	74.00	4571.07	0.98	266.71	3789.28	1.72	71.93	2758.75	1.82	76.36	1990.03	1.88	78.87	1.42
TILE_5	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.15	0.99	81.75	4634.23	1.00	219.22	3863.03	1.76	68.81	2914.75	1.92	72.63	2118.88	2.00	76.09	1.46
p1	324.07	0.98	84.00	4592.95	0.99	229.57	3806.72	1.73	69.23	2790.35	1.84	74.31	2106.40	1.99	76.61	1.44

p2	331.65	1.00	84.00	4583.40	0.99	251.82	3186.05	1.45	64.17	2802.72	1.85	73.68	2010.28	1.90	77.20	1.38
TILE_6	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.88	0.98	74.00	4618.77	1.00	218.51	3228.00	1.47	62.33	3037.10	2.00	70.98	2243.55	2.12	73.26	1.43
p1	325.88	0.99	74.00	4617.82	0.99	236.35	3234.80	1.47	62.03	2753.40	1.81	71.14	2046.42	1.93	74.12	1.38
p2	330.40	1.00	74.00	4595.82	0.99	250.36	3203.18	1.46	63.49	2920.75	1.92	72.44	2121.85	2.01	75.56	1.41
TILE_7	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.52	0.99	73.00	4605.90	0.99	225.56	3856.88	1.75	69.19	2906.38	1.91	72.99	2209.90	2.09	75.54	1.47
p1	325.25	0.98	73.00	4597.40	0.99	236.32	3855.30	1.75	69.17	2804.78	1.85	73.68	2021.55	1.91	76.45	1.43
p2	326.75	0.99	73.00	4621.68	1.00	239.80	3800.35	1.73	71.45	2861.32	1.88	75.65	2075.62	1.96	79.14	1.44
TILE_8	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	331.55	1.00	74.75	4630.38	1.00	226.99	3890.32	1.77	67.71	2856.75	1.88	70.82	2166.95	2.05	72.30	1.47
p1	327.07	0.99	81.00	4592.43	0.99	239.80	3849.43	1.75	69.65	2816.72	1.85	72.79	2051.40	1.94	74.24	1.44
p2	322.30	0.98	82.00	4611.32	0.99	254.08	3809.22	1.73	71.09	2893.38	1.91	73.89	2219.93	2.10	75.52	1.46
TILE_9	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.07	0.99	74.00	4634.25	1.00	209.20	3894.28	1.77	67.50	2870.43	1.89	70.11	2176.88	2.06	71.92	1.47
p1	327.73	0.99	74.00	4616.43	0.99	233.85	3853.40	1.75	69.16	2838.95	1.87	71.96	2059.80	1.95	73.30	1.44
p2	321.07	0.97	74.00	4584.35	0.99	258.50	3775.32	1.72	72.32	2870.68	1.89	75.19	2195.70	2.08	76.53	1.45
TILE_10	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.27	1.00	74.00	4617.15	0.99	217.28	3905.60	1.78	67.06	2782.45	1.83	69.66	2095.93	1.98	70.63	1.45
p1	323.82	0.98	74.00	4623.50	1.00	236.81	3848.70	1.75	69.30	2931.93	1.93	71.87	2156.90	2.04	73.29	1.46
p2	329.50	1.00	74.00	4609.43	0.99	246.17	3796.55	1.73	71.50	2793.50	1.84	74.23	2131.57	2.01	75.39	1.45
TILE_11	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.20	0.98	74.00	4624.38	1.00	227.25	3869.43	1.76	68.39	2854.25	1.88	70.77	2071.78	1.96	72.38	1.45
p1	328.52	0.99	74.00	4606.15	0.99	240.29	3804.12	1.73	71.14	2892.75	1.90	73.79	2127.97	2.01	75.38	1.46
p2	323.85	0.98	74.00	4603.73	0.99	259.67	3755.75	1.71	73.37	2755.93	1.81	76.35	2093.53	1.98	78.04	1.43
TILE_12	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.43	1.00	80.50	4620.25	1.00	220.75	3914.90	1.78	66.54	2800.85	1.84	68.24	2011.55	1.90	69.79	1.44
p1	329.18	1.00	84.00	4595.88	0.99	236.20	3865.82	1.76	68.70	3043.60	2.00	70.91	2251.28	2.13	72.69	1.49
p2	328.65	1.00	84.00	4583.65	0.99	269.75	3765.55	1.71	71.95	2692.80	1.77	74.53	2030.53	1.92	75.86	1.42
TILE_13	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.68	0.99	84.00	4632.12	1.00	217.56	3877.62	1.76	68.11	2837.75	1.87	71.67	2058.03	1.95	73.65	1.45
p1	323.20	0.98	84.00	4596.48	0.99	241.00	3834.95	1.74	69.74	2913.12	1.92	72.77	2235.75	2.11	74.00	1.47
p2	326.62	0.99	84.00	4583.88	0.99	259.29	3815.70	1.74	70.72	2779.80	1.83	74.79	2022.67	1.91	76.50	1.43
TILE_14	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	324.93	0.98	84.00	4612.88	0.99	232.01	3850.22	1.75	69.04	2840.95	1.87	71.57	2062.80	1.95	73.22	1.44
p1	322.57	0.98	84.00	4632.70	1.00	225.18	3856.65	1.75	69.07	2922.78	1.92	72.35	2238.40	2.12	73.84	1.47

p2	327.57	0.99	84.00	4595.23	0.99	241.47	3819.78	1.74	70.47	2713.75	1.79	73.57	1938.90	1.83	75.63	1.41
TILE_15	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.43	0.99	83.17	4638.10	1.00	216.16	3864.03	1.76	68.75	2940.93	1.94	71.24	2158.53	2.04	72.97	1.47
p1	331.12	1.00	83.00	4611.07	0.99	232.05	3854.22	1.75	69.09	2840.75	1.87	71.75	2158.28	2.04	72.98	1.46
p2	336.45	1.02	83.00	4602.82	0.99	236.45	3827.07	1.74	70.22	2807.40	1.85	73.67	2032.97	1.92	75.46	1.44
TILE_16	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.18	0.99	84.00	4588.50	0.99	224.54	3877.78	1.76	68.00	2966.70	1.95	69.97	2183.97	2.06	70.88	1.48
p1	329.40	1.00	84.00	4585.45	0.99	237.41	3831.07	1.74	69.79	2739.93	1.80	72.32	2064.10	1.95	72.95	1.43
p2	324.95	0.98	83.97	4607.60	0.99	235.74	3817.30	1.74	70.55	2907.12	1.91	73.27	2141.32	2.02	74.18	1.46
TILE_17	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.82	0.99	83.62	4630.93	1.00	224.52	3860.95	1.76	68.60	2953.40	1.94	70.75	2264.68	2.14	71.92	1.48
p1	325.43	0.99	84.00	4614.93	0.99	238.97	3827.20	1.74	70.15	2821.78	1.86	72.52	2052.88	1.94	73.92	1.44
p2	331.15	1.00	84.00	4591.70	0.99	250.86	3765.95	1.71	72.93	2871.35	1.89	75.10	2103.12	1.99	76.76	1.45
TILE_18	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	325.88	0.99	82.00	4644.65	1.00	216.36	3871.32	1.76	68.23	2961.82	1.95	69.94	2277.20	2.15	71.03	1.49
p1	325.88	0.99	82.75	4617.68	0.99	237.80	3836.82	1.74	69.58	2840.93	1.87	71.43	2071.12	1.96	72.29	1.44
p2	324.23	0.98	81.50	4601.02	0.99	239.72	3787.88	1.72	71.80	2889.07	1.90	73.88	2135.57	2.02	74.54	1.45
TILE_19	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.27	1.00	84.00	4639.32	1.00	215.35	3824.05	1.74	70.25	2829.62	1.86	72.32	2152.18	2.03	73.67	1.46
p1	328.07	0.99	84.00	4617.15	0.99	239.07	3782.03	1.72	72.15	2790.07	1.84	74.48	2023.85	1.91	76.20	1.43
p2	324.12	0.98	84.75	4600.30	0.99	248.95	3715.55	1.69	75.17	2828.93	1.86	77.41	2175.18	2.06	78.64	1.44
TILE_20	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.60	1.00	83.72	4639.27	1.00	218.84	3882.25	1.77	67.79	2861.45	1.88	70.48	2174.93	2.06	72.09	1.47
p1	326.85	0.99	83.55	4610.85	0.99	237.47	3822.03	1.74	70.25	2813.45	1.85	73.18	2044.50	1.93	74.77	1.44
p2	324.32	0.98	83.92	4591.07	0.99	250.48	3734.38	1.70	74.05	2836.75	1.87	76.95	2181.82	2.06	78.28	1.45
TILE_21	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	324.50	0.98	84.00	4637.93	1.00	214.78	3889.50	1.77	67.67	2875.38	1.89	69.49	2096.47	1.98	70.65	1.45
p1	327.52	0.99	84.00	4622.20	1.00	234.02	3870.35	1.76	68.60	2955.62	1.95	70.55	2176.60	2.06	71.80	1.47
p2	326.07	0.99	84.00	4582.68	0.99	258.00	3818.28	1.74	70.61	2816.90	1.85	72.72	2145.78	2.03	73.91	1.45
TILE_22	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	321.38	0.97	83.58	4622.05	1.00	218.64	3859.32	1.75	68.66	2862.85	1.89	70.36	2078.10	1.96	71.77	1.44
p1	325.15	0.98	84.00	4617.18	0.99	236.22	3843.25	1.75	69.53	2950.95	1.94	70.73	2170.10	2.05	72.00	1.47
p2	326.95	0.99	84.00	4624.65	1.00	228.57	3820.38	1.74	70.22	2829.82	1.86	72.22	2164.53	2.05	72.98	1.46
TILE_23	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.43	1.00	84.00	4622.60	1.00	221.67	3851.62	1.75	69.00	2856.47	1.88	70.67	2076.05	1.96	72.25	1.45
p1	326.50	0.99	84.00	4617.30	0.99	233.95	3838.57	1.75	69.61	2942.78	1.94	71.01	2255.10	2.13	72.40	1.48

p2	322.82	0.98	84.00	4586.45	0.99	260.68	3807.43	1.73	70.95	2823.70	1.86	72.55	2051.97	1.94	73.77	1.43
TILE_24	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.82	0.99	84.40	4630.52	1.00	202.48	3899.53	1.77	67.58	2892.40	1.90	68.80	2071.20	1.96	72.31	1.46
p1	323.77	0.98	84.00	4612.45	0.99	233.26	3849.70	1.75	69.41	2940.62	1.94	71.13	2240.65	2.12	74.00	1.48
p2	324.82	0.98	84.00	4594.35	0.99	237.01	3813.03	1.73	70.25	2832.45	1.87	72.12	2036.00	1.92	75.07	1.43
TILE_25	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	327.57	0.99	84.00	4633.15	1.00	209.33	3881.10	1.76	67.86	2976.32	1.96	69.38	2161.55	2.04	72.76	1.48
p1	325.80	0.99	84.00	4617.35	0.99	232.70	3821.18	1.74	70.40	2838.40	1.87	71.84	2124.32	2.01	75.17	1.45
p2	332.10	1.01	84.00	4599.73	0.99	243.20	3783.22	1.72	71.80	2796.12	1.84	74.05	1904.55	1.80	76.58	1.42
TILE_26	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	326.20	0.99	76.17	4649.27	1.00	205.70	3882.82	1.77	67.77	2969.43	1.96	69.73	2153.35	2.04	73.06	1.47
p1	327.40	0.99	82.22	4618.43	1.00	237.43	3840.97	1.75	69.44	2845.30	1.87	71.32	2130.72	2.01	74.84	1.45
p2	329.07	1.00	84.00	4611.82	0.99	234.27	3816.20	1.74	70.93	2788.03	1.84	72.36	2023.75	1.91	75.83	1.43
TILE_27	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.75	1.00	84.45	4645.15	1.00	214.12	3856.90	1.75	68.97	2953.57	1.94	70.58	2243.72	2.12	73.34	1.48
p1	328.45	0.99	84.00	4598.55	0.99	244.84	3809.25	1.73	71.06	2829.62	1.86	72.32	2032.20	1.92	75.56	1.44
p2	326.05	0.99	84.00	4600.00	0.99	240.20	3763.80	1.71	73.14	2882.72	1.90	74.49	2096.65	1.98	77.51	1.44
TILE_28	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	324.85	0.98	84.00	4630.73	1.00	214.52	3919.25	1.78	66.32	2977.88	1.96	69.15	2272.53	2.15	71.66	1.49
p1	328.05	0.99	84.00	4596.05	0.99	240.59	3882.43	1.77	68.23	2849.78	1.88	70.89	2052.90	1.94	74.02	1.45
p2	330.82	1.00	84.00	4609.60	0.99	249.57	3784.07	1.72	72.05	2883.05	1.90	74.72	2094.62	1.98	77.78	1.45
TILE_29	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.75	1.00	84.00	4622.80	1.00	210.37	3868.53	1.76	68.49	2864.07	1.89	70.30	2159.40	2.04	72.80	1.46
p1	323.10	0.98	84.00	4621.35	1.00	234.19	3846.50	1.75	69.50	2852.35	1.88	71.13	2040.80	1.93	74.51	1.44
p2	323.48	0.98	84.00	4609.23	0.99	238.66	3810.35	1.73	70.93	2882.70	1.90	72.34	2182.88	2.06	75.62	1.46
TILE_30	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.57	0.98	90.50	4639.62	1.00	217.33	3852.28	1.75	69.30	2843.00	1.87	71.62	2132.57	2.02	74.75	1.45
p1	322.62	0.98	84.00	4632.65	1.00	228.23	3841.38	1.75	69.46	2843.32	1.87	71.35	2043.85	1.93	74.29	1.44
p2	324.18	0.98	84.00	4607.65	0.99	237.67	3806.20	1.73	71.17	2916.62	1.92	72.66	2209.18	2.09	76.19	1.47
TILE_31	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	324.93	0.98	83.92	4613.90	0.99	215.43	3862.75	1.76	68.86	2758.43	1.82	71.14	2044.67	1.93	74.16	1.43
p1	327.05	0.99	84.00	4623.23	1.00	224.09	3851.88	1.75	69.17	2935.38	1.93	71.53	2136.15	2.02	74.59	1.46
p2	321.88	0.97	84.00	4603.43	0.99	241.22	3802.97	1.73	71.07	2812.50	1.85	73.23	2116.12	2.00	76.35	1.44
TILE_32	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.27	0.99	84.00	4626.85	1.00	217.03	3864.60	1.76	68.83	2821.15	1.86	72.76	2019.67	1.91	76.37	1.44
p1	324.02	0.98	84.00	4603.05	0.99	251.02	3812.85	1.73	70.80	2809.78	1.85	77.08	2094.50	1.98	77.78	1.44

p2	326.75	0.99	84.00	4433.07	0.96	374.90	3820.40	1.74	71.03	2777.95	1.83	75.24	1940.38	1.83	79.67	1.41
TILE_33	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	328.18	0.99	84.00	4620.18	1.00	212.40	3880.30	1.76	68.00	2833.47	1.87	72.22	1949.28	1.84	74.96	1.43
p1	330.23	1.00	84.00	4602.68	0.99	244.05	3828.05	1.74	70.36	2899.10	1.91	73.68	2191.22	2.07	76.99	1.47
p2	328.75	1.00	84.00	4616.10	0.99	238.90	3782.20	1.72	72.09	2668.15	1.76	76.16	1985.40	1.88	79.22	1.41
TILE_34	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	331.93	1.01	84.92	4653.93	1.00	215.50	3882.72	1.77	68.19	2826.93	1.86	72.49	2032.88	1.92	75.43	1.45
p1	325.30	0.99	84.00	4611.48	0.99	231.20	3831.32	1.74	70.38	2882.88	1.90	74.32	2201.47	2.08	76.64	1.46
p2	332.00	1.01	84.00	4618.07	0.99	237.88	3813.00	1.73	71.29	2746.45	1.81	77.04	1980.88	1.87	79.82	1.42
TILE_35	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.85	1.00	84.00	4619.85	1.00	202.35	3863.22	1.76	68.98	2807.90	1.85	73.47	2019.58	1.91	76.48	1.44
p1	324.65	0.98	84.00	4621.95	1.00	236.77	3792.53	1.72	71.86	2864.30	1.89	75.65	2172.20	2.05	78.72	1.46
p2	327.62	0.99	84.00	4605.05	0.99	239.31	3756.78	1.71	73.31	2724.88	1.79	78.24	1951.80	1.84	82.01	1.41
TILE_36	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	330.57	1.00	89.12	4628.93	1.00	205.41	3897.38	1.77	67.60	2939.43	1.94	71.46	2144.47	2.03	73.94	1.47
p1	322.45	0.98	83.88	4633.55	1.00	224.42	3857.30	1.75	69.09	2807.25	1.85	73.44	2125.30	2.01	75.74	1.45
p2	321.50	0.97	84.00	4605.77	0.99	247.30	3777.68	1.72	72.45	2751.18	1.81	76.97	1984.28	1.88	79.39	1.41
TILE_37	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.45	0.98	94.00	4614.82	0.99	225.01	3830.70	1.74	70.28	2890.82	1.90	74.02	2098.47	1.98	77.49	1.45
p1	328.77	1.00	94.00	4620.27	1.00	233.60	3808.93	1.73	71.38	2772.45	1.83	75.57	2087.60	1.97	78.46	1.44
p2	323.35	0.98	94.00	4603.52	0.99	231.02	3785.10	1.72	72.40	2747.03	1.81	76.94	1968.28	1.86	80.98	1.41
TILE_38	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	323.80	0.98	97.60	4650.80	1.00	220.33	3797.38	1.73	71.90	2856.38	1.88	76.00	2167.72	2.05	79.03	1.46
p1	329.93	1.00	94.00	4621.85	1.00	233.41	3820.57	1.74	70.78	2775.18	1.83	75.24	1992.70	1.88	78.73	1.43
p2	323.07	0.98	94.00	4620.93	1.00	227.07	3769.85	1.71	72.85	2841.62	1.87	77.02	2060.68	1.95	80.25	1.43
TILE_39	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0	329.62	1.00	84.95	4626.57	1.00	214.70	3849.25	1.75	69.52	2906.93	1.91	73.09	2208.78	2.09	75.79	1.47
p1	327.50	0.99	84.00	4612.70	0.99	246.70	3863.05	1.76	68.83	2821.43	1.86	72.88	2018.62	1.91	76.13	1.44
p2	325.62	0.99	84.00	4595.02	0.99	244.09	3816.90	1.74	70.87	2877.62	1.89	74.74	2091.30	1.98	78.09	1.45

p0_score:	58.28
p1_score:	57.99
p2_score:	57.30

Infrastructure_Operations_Scores:	vmotion	svmotion	deploy
Completed_Ops_PerHour	17.00	11.00	5.50
Avg_Seconds_To_Complete	27.33	11.62	316.94
Failures	0.00	0.00	0.00

Ratio	1.06	1.22	1.38
Number_Of_Threads	1	1	1

Summary	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p1)
Unreviewed_VMmark2_Applications_Score	57.99	
Unreviewed_VMmark2_Infrastructure_Score	1.21	
Unreviewed_VMmark2_Score	46.64	

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 6.0.0 Build 2494585/ 03-12-2015
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
Servers	
Quantity	2
Server Manufacturer and Model	HP ProLiant DL580 Gen9
Processor Vendor and Model	Intel Xeon E7-8890 v3
Processor Speed (GHz)	2.50
Total Sockets/Total Cores/Total Threads	4 Sockets / 72 Cores / 144 Threads
Primary Cache	32 KB I + 32 KB D on chip per core
Secondary Cache	256 KB I+D on chip per core
Other Cache	45 MB I+D on chip per chip
BIOS Version	U17 03/13/2015
Memory Size (in GB, Number of DIMMs)	1024 GB, 32 x 32 GB DIMMs
Memory Type and Speed	DDR4 2133 MHz RDIMM
Disk Subsystem Type	FC SAN
Number of Disk Controllers	1

Disk Controller Vendors and Models	HP Smart Array P830i
Number of Host Bus Adapters	2
Host Bus Adapter Vendors and Models	2 x HP SN1000Q PCIe dual port 16 Gb Fibre HBA
Number of Network Controllers	3
Network Controller Vendors and Models	HP Ethernet 1 Gb 4-port 331FLR Adapter, 2 x HP Ethernet 10Gb 2-port 560SFP+ Adapter
Other Hardware	none
Other Software	none
Hardware Availability Date (MM-DD-YYYY)	05-05-2015
Software Availability Date (MM-DD-YYYY)	03-12-2015
Network	
Network Switch Vendors and Models	1 x H3C S5820X-28S
Network Speed	H3C S5820X-28S - 24 x 10 GbE ports, 4 x 1 GbE ports
Storage	
Array Vendors, Models, and Firmware Versions	Fusion-io ION Data Accelerator, FW versions 2.2.0 and 2.5.0
Fibre Channel Switch Vendors and Models	HP SN3000B 16Gb 24-port Fibre Channel Switch
Disk Space Used	22.2 TB
Array Cache Size	N/A
Total Number of Physical Disks Used	10 (2 per SUT OS, 2 for Fusion ION OS per storage system), 9 x PCI-e flash
Total Number of Enclosures/Pods/Shelves Used	3
Number of Physical Disks Used per Enclosure/Pod/Shelf	Internal: 2 disks per host Enclosure: 2 disks and 9 x PCI-e flash for Fusion ION OS per storage system (3 systems total)
Total Number of Storage Groups Used	0
Number of LUNs Used	20
LUN Size and Number of Disks Per LUN	All LUNs used a single PCI-e flash card in Direct Access Mode under the control of the SanDisk ION Data Accelerator software 12 LUNs: 1205 GB 6 LUNs: 1050 GB 2 LUNs: 500 GB
RAID Type	RAID 0 for enclosures, RAID 1 for OS drives

Number of Members per RAID Set	RAID 1: 2 RAID 0: 15
Disk Vendors, Models, and Speeds	10 x HP 146GB 15K RPM SAS SFF (P/N 652605-B21) 6 x HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo 3 x HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator

Datacenter Management Server	
System Model	HP ProLiant BL685c G7
Processor Vendor and Model	AMD Opteron 6380
Processor Speed (GHz)	2.50
Total Sockets/Total Cores/Total Threads	4 Sockets / 64 Cores / 64 Threads
Memory	256 GB
Network Controller(s) Vendors and Models	2 x Integrated NC551i Dual Port FlexFabric 10Gb Converged Network Adapter
Operating System, Version, Bitness, and Service Pack	VMware ESXi 5.1.0 U2 Build 1483097
Other Hardware	none
Other Software	Microsoft® Windows® 2008 R2 Enterprise (64-bit)

Clients	
Total Number of Clients / Total Physical Clients / Total Virtual Client Hosts	41 / 1 / 12
System Model(s)	HP ProLiant BL465c G7
Processor Vendor(s) and Model(s)	AMD Opteron 6174
Processor Speed(s) (GHz)	2.20
Total Sockets/Total Cores/Total Threads	2 Sockets / 24 Cores / 24 Threads
Memory per Physical Client	64 GB
Network Controller(s) Vendors and Models	Prime Client: HP 551i embedded dual port FlexFabric 10Gb adapter, 1xHP NC542m dual port Flex-10 10 GbE adapter Virtual Client Hosts 0-11: HP NC551i embedded dual port FlexFabric 10Gb Adapter, 1xHP NC542m dual port Flex-10 10 GbE adapter
Operating System, Version, Bitness, and Service Pack	Prime Client: Microsoft® Windows® 2008 R2 (64-bit) Virtual Client Hosts 0-11: VMware ESXi 5.5 U1 (Build 1623387) Virtual Clients 0-39: Microsoft® Windows® 2008 R2 Enterprise (64-bit)
Number of Virtual Clients	40
Number of vCPUs Per Virtual Client	4
Number of vMem (GB) Per Virtual Client	4

Virtual Client Networking Notes	All client VMs attached to port 1 of NC542m card running at speed of 10 Gb/s
Virtual Client Storage Notes	Client VMs stored on local media respective to their ESX host. 1x300GB 6G 10K rpm SFF SAS disk per Physical Client
Other Hardware	HP BladeSystem c7000 Enclosure, 4xHP VC Flex-10 Ethernet Modules, 2xHP B-series 8/24c SAN Switch BladeSystem c-Class
Other Software	HP BladeSystem c7000 Onboard Administrator Version 4.30, HP Virtual Connect Manager Version 4.10

Notes for Workload

Virtualization Software Notes

- All VMs used virtual hardware V7
- All VMs (except for Deploy Template) had VMware tools version 8305 installed and running
- Ethernet adapter type set to vmxnet3 for all VMs (default vmxnet2)
- Except for mailservers, logging was disabled for all VMs (default enabled)
- CD and floppy devices were removed on all VMs (default enabled)
- All VMs besides standbys: Paravirtual Controller
- Cluster DRS Automation Level set to Fully Automated
- DrsMigrationThreshold set to level 2
- Logical CPU layout changed for all Linux VMs to 1 socket w/ multiple cores. (default Single core per socket)
- All ds2db VMs had CPU shares set to High (default Normal)
- ethernet0.coalescingScheme = static for all OlioWeb VMs
- monitor_control.disable_flexpriority = "FALSE" added to /etc/vmware/config

Advanced Settings:

- Cpu.CoschedCrossCall = 0 (default 1)
- Cpu.CreditAgePeriod = 1000 (default 3000)
- Cpu.HTWholeCoreThreshold = 0 (default 200)
- DataMover.HardwareAcceleratedInit = 0 (default 1)
- DataMover.HardwareAcceleratedMove = 0 (default 1)
- Irq.BestVcpuRouting = 1 (default 0)
- Irq.IRQRebalancePeriod = 20000 (default 50)
- Mem.ShareScanGHz = 0 (default 4)
- Mem.VMOverheadGrowthLimit = 0 (default 4294967295)
- Misc.TimerMaxHardPeriod = 4000 (default 100000)
- Net.MaxNetifRxQueueLen = 1000 (default 100)
- Net.MaxNetifTxQueueLen = 1000 (default 500)
- Numa.LTermFairnessInterval = 0 (default 5)
- Numa.MigImbalanceThreshold = 57 (default 10)
- Numa.MonMigEnable = 0 (default 1)
- Numa.PageMigEnable = 0 (default 1)
- Numa.RebalancePeriod = 60000 (default 2000)
- Numa.SwapInterval = 1 (default 3)
- Numa.SwapLoadEnable = 0 (default 1)
- Numa.SwapLocalityEnable = 0 (default 1)
- VMFS3.HardwareAcceleratedLocking = 0 (default 1)
- Power.CpuPolicy = static (default balanced)

Driver Options:

- /vmkernel/module/qlnativefc/options = "ql2xmaxqdepth=256 ql2xintrdelaytimer=2 qlxenablemsix=1" (default 32, 0, and 0)
- /vmkernel/module/ixgbe/options = "MQ=0,0,0,0 InterruptThrottleRate=2000,2000,2000,2000 InterruptType=2,2,2,2 " (default 1, 16000, and 2)

Server OS (ESXi 6.0.0 Build 2494585) was installed using VMware-ESXi-6.0.0-2494585-HP-600.9.2.38-Mar2015.iso, which was preloaded with HP device drivers. No driver upgrades were made after the OS was installed.

Server Notes

Server BIOS settings:

- Power Management set to Maximum Performance (default: Balanced Power and Performance)
    - Customized by setting Power Regulator to OS Control Mode.
        - Power Management set to Maximum Performance
- Thermal Configuration set to Maximum Cooling (default: Optimal Cooling)
- Memory Refresh Rate set to 1x Refresh (default: 2x Refresh)
- Intel Turbo Boost Enabled (frequency boost to 3.3 GHz) (default: Enabled)

Networking Notes

- vSwitch0 for the Service Console on vmnic0 at 1Gb/s
- vSwitch1 defined as vmkernel vMotion connection on vmnic1 at 1Gb/s
- vSwitch2 for the DS2* workload on vmnic4 at 10Gb/s
- vSwitch3 for the Olio* (tiles 0-20) workload on vmnic6 at 10Gb/s
- vSwitch4 for the mailserver workload on vmnic5 at 10 Gb/s
- vSwitch5 for the standby (all tiles), deploy and Olio* (tiles 21-39) workloads on vmnic7 at 10 Gb/s

Storage Notes

- ESXi was installed on two disks configured as RAID1 in the internal server storage bay
- All LUNs were configured as block devices and no system memory was used for write caching
- Storage box #1
    - Hardware Configuration
        - HP ProLiant DL380p Gen8
            - 2 x Intel Xeon E5-2643 3.30 GHz processors
            - 64 GB Memory (8 x 8 GB DIMMs dual rank PC3-12800 Registered DDR3)
            - 3 x HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash cards
            - 2 x HP SN1000Q dual port 16 GB fibre HBAs
            - 1 x HP Smart Array 420i controller for ION OS
            - 2 x 146 GB 15K RPM SAS SFF for ION OS
            - SanDisk ION Accelerator version 2.2.0
    - Software Configuration
        - Each HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash card is recognized as 2 x 1205 GB devices.
        - Storage Pools were created using Direct Access storage profile.
            - one storage pool per device
            - total of 6 storage pools
        - One RAID0 volume was created for each storage pool.
            - Total: 6 x 1205 GB volumes
            - each volume was exported as LUNs
        - HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash card #1

            - Storage Pool #1, Volume #1, LUN #1
            - Storage Pool #2, Volume #2, LUN #2
        - HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash card #2
            - Storage Pool #3, Volume #3, LUN #3
            - Storage Pool #4, Volume #4, LUN #4
        - HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash card #3
            - Storage Pool #5, Volume #5, LUN #5
            - Storage Pool #6, Volume #6, LUN #6
    - LUN/VM layout
        - LUN1: All VMs (except for the standby VM) from tiles 1, 19, 37
        - LUN2: All VMs (except for the standby VM) from tiles 10, 28
        - LUN3: All VMs (except for the standby VM) from tiles 4, 22
        - LUN4: All VMs (except for the standby VM) from tiles 13, 31
        - LUN5: All VMs (except for the standby VM) from tiles 7, 25
        - LUN6: All VMs (except for the standby VM) from tiles 16, 34
- Storage box #2
    - Hardware Configuration
        - HP ProLiant DL380p Gen8
            - 2 x Intel Xeon E5-2690 2.90 GHz processors
            - 256 GB Memory (16 x 16 GB DIMMs dual rank PC3-12800 Registered DDR3)
            - 3 x HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash cards configured in RAID 0
            - 2 x HP SN1000Q dual port 16 GB fibre HBAs
            - 1 x HP Smart Array 420i controller for ION OS
            - 2 x 146 GB 15K RPM SAS SFF for ION OS
            - SanDisk ION Accelerator version 2.5.0
    - Software Configuration
        - Each HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash card is recognized as a 2600 GB device.
        - Storage Pools were created using Direct Access storage profile.
            - one storage pool per device
            - total of 3 storage pools
        - Three RAID0 volumes was created for each storage pool.
            - each storage pool had:
                - 2 x 1050 GB volumes
                - 1 x 500 GB volume
            - all but one volume was exported as LUNs
        - HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash card #1
            - Storage Pool #1
                - Volume #1, LUN #1
                - Volume #2, LUN #2
                - Volume #3 (not exported)
        - HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash card #2
            - Storage Pool #2
                - Volume #4, LUN #3
                - Volume #5, LUN #4
                - Volume #6, LUN #5
        - HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator flash card #3
            - Storage Pool #4
                - Volume #7, LUN #6
                - Volume #8, LUN #7
                - Volume #9, LUN #8

    - LUN/VM layout
        - LUN1: All VMs (except for the standby VM) from tiles 0, 18, 36
        - LUN2: All VMs (except for the standby VM) from tiles 9, 27
        - LUN3: All VMs (except for the standby VM) from tiles 3, 21, 39
        - LUN4: All VMs (except for the standby VM) from tiles 12, 30
        - LUN5: All standby VMs and deploy template
        - LUN6: All VMs (except for the standby VM) from tiles 6, 24
        - LUN7: All VMs (except for the standby VM) from tiles 15, 33
        - LUN8: Target LUN for deploy and svmotion
- Storage box #3
    - Hardware Configuration
        - HP ProLiant DL380p Gen8
            - 2 x Intel Xeon E5-2690 2.90 GHz processors
            - 256 GB Memory (16 x 16 GB DIMMs dual rank PC3-12800 Registered DDR3)
            - 3 x HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash cards
            - 2 x HP SN1000Q dual port 16 GB fibre HBAs
            - 1 x HP Smart Array 420i controller for ION OS
            - 2 x 146 GB 15K RPM SAS SFF for ION OS
            - SanDisk ION Accelerator version 2.2.0
    - Software Configuration
        - Each HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash card is recognized as 2 x 1205 GB devices.
        - Storage Pools were created using Direct Access storage profile.
            - one storage pool per device
            - total of 6 storage pools
        - One RAID0 volume was created for each storage pool.
            - Total: 6 x 1205 GB volumes
            - each volume was exported as LUNs
        - HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash card #1
            - Storage Pool #1, Volume #1, LUN #1
            - Storage Pool #5, Volume #5, LUN #5
        - HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash card #2
            - Storage Pool #2, Volume #2, LUN #2
            - Storage Pool #3, Volume #3, LUN #3
        - HP 2410GB Multi Level Cell G2 PCIe ioDrive2 Duo flash card #3
            - Storage Pool #4, Volume #4, LUN #4
            - Storage Pool #6, Volume #6, LUN #6
    - LUN/VM layout
        - LUN1: All VMs (except for the standby VM) from tiles 2, 20, 38
        - LUN2: All VMs (except for the standby VM) from tiles 11, 29
        - LUN3: All VMs (except for the standby VM) from tiles 5, 23
        - LUN4: All VMs (except for the standby VM) from tiles 14, 32
        - LUN5: All VMs (except for the standby VM) from tiles 8, 26
        - LUN6: All VMs (except for the standby VM) from tiles 17, 35

Datacenter Management Server Notes

- HP ProLiant BL685c G7 running ESXi 5.1.0 U2 Build 1483097 with one virtual machine for vCenter for SUT
    - vCenter for SUT

        - 2 virtual CPUs
        - 8 GB virtual memory
        - Microsoft® Windows® 2008 R2 Enterprise (64-bit)
        - VMware vCenter Server 5.5.0 Build 1800108

Operating System Notes

- All mailserver VMs running Microsoft® Windows® 2008 R2 Enterprise SP1 (64-bit)
    - The Microsoft Exchange System Attendant service was not running on mailservers 3, 7, 16, 22 and 31.
- All standby VMs running Microsoft® Windows® 2003 Enterprise SP2 (32-bit)
- All DS2DB, DS2WebA, DS2WebB, DS2WebC, OlioDB and OlioWeb running SUSE® Linux Enterprise Server 11 SP2 (64-bit)

Software Notes

- Microsoft® Exchange Server 2007 Enterprise SP3 (64-bit) was installed on each mailserver VM

Client Notes

- Prime client functionality was split from the client0 driver and was run on a non-virtualized copy of Microsoft® Windows® 2008 R2 Enterprise (64-bit).
- Prime client was running VMware vSphere PowerCLI 5.5 Release 2 Build 1671586
- All client drivers were run on virtual machines that were each defined with 4 virtual CPUs, 4 GB of memory, 1 vmxnet2 network, and 32 GB of disk space.
- Twelve HP ProLiant BL465c G7 clients ran the 40 client virtual machines as follows:
    - system 1: hosted vclients: 0, 12, 24, 36
    - system 2: hosted vclients: 1, 13, 25, 37
    - system 3: hosted vclients: 2, 14, 26, 38
    - system 4: hosted vclients: 3, 15, 27, 39
    - system 5: hosted vclients: 4, 16, 28
    - system 6: hosted vclients: 5, 17, 29
    - system 7: hosted vclients: 6, 18, 30
    - system 8: hosted vclients: 7, 19, 31
    - system 9: hosted vclients: 8, 20, 32
    - system 10: hosted vclients: 9, 21, 33
    - system 11: hosted vclients: 10, 22, 34
    - system 12: hosted vclients: 11, 23, 35
- All client operating systems were updated via Windows Update.
    - The SPP Notification Service was only running on clients 0-9, 10-13 and 18-23.
    - The Software Protection service was only running on clients 0-9, 10-13 and 18-23.

Other Notes

- TILEDELAY set to 30 (default 60)

Standard Performance Evaluation Corporation (SPEC®). VMmark results are not SPEC metrics and cannot be compared to SPEC metrics in any way.