VMmark® 3.1.1 Results

Server Vendor & Model: Fujitsu Server PRIMERGY RX2540 M7
Storage Vendor & Model: 5 x Fujitsu Server PRIMERGY RX2540 M4
3 x Fujitsu Server PRIMERGY RX2540 M5
3 x Fujitsu Server PRIMERGY RX2540 M6
Hypervisor: VMware ESXi 8.0 Update 2, build 22380479
Datacenter Management Software: VMware vCenter Server 8.0 GA, build 20519528

VMmark 3.1.1 Score = 27.52 @ 28 Tiles

Number of Hosts: 2	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 4/256/512
Tested By: Fujitsu	**Test Date: 04-02-2024**	

Performance Section	Configuration Section	Notes Section
Performance	Configuration	Notes for Workload

Performance

	weathervane			weathervaneE			dvdstoreA			dvdstoreB			dvdstoreC			
TILE_0	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3573.64	0.99	0.83 | 0.00	566.41	0.99	0.72 | 0.41	965.40	1.31	760.57	668.10	1.33	923.15	460.10	1.33	1055.21	1.18
p1	3550.46	0.99	0.89 | 0.00	560.33	0.98	0.50 | 0.20	952.17	1.30	794.74	687.65	1.37	935.96	478.18	1.38	1067.54	1.19
p2	3540.53	0.98	0.86 | 0.00	558.69	0.98	0.58 | 0.25	953.38	1.30	807.07	648.77	1.30	996.66	443.60	1.28	1148.26	1.16
TILE_1	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3575.07	0.99	0.76 | 0.00	568.27	0.99	0.97 | 0.63	1011.85	1.38	659.41	701.30	1.40	807.15	482.38	1.39	936.94	1.22
p1	3566.20	0.99	0.67 | 0.00	563.15	0.98	0.58 | 0.28	1010.17	1.38	651.51	728.73	1.46	787.39	537.17	1.55	889.94	1.25
p2	3549.41	0.99	0.70 | 0.00	557.87	0.97	0.59 | 0.32	1025.30	1.40	625.44	716.55	1.43	759.54	495.77	1.43	873.12	1.22
TILE_2	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3572.20	0.99	0.79 | 0.00	571.51	1.00	0.91 | 0.68	991.80	1.35	693.04	696.38	1.39	827.41	475.45	1.37	962.43	1.21
p1	3553.92	0.99	0.80 | 0.00	569.08	0.99	0.83 | 0.54	979.27	1.33	733.26	705.30	1.41	881.49	510.12	1.47	1009.05	1.22
p2	3540.72	0.98	0.82 | 0.01	568.13	0.99	0.60 | 0.45	994.23	1.35	690.00	693.20	1.38	832.44	451.52	1.30	972.38	1.19
TILE_3	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3581.17	1.00	0.75 | 0.00	565.13	0.99	0.51 | 0.19	1020.55	1.39	629.41	738.92	1.48	761.32	516.73	1.49	879.00	1.25
p1	3573.42	0.99	0.70 | 0.00	560.76	0.98	0.59 | 0.26	1032.05	1.41	600.63	719.02	1.44	728.16	530.45	1.53	810.39	1.25
p2	3557.59	0.99	0.72 | 0.00	560.19	0.98	0.68 | 0.35	1019.55	1.39	631.70	710.95	1.42	771.93	492.12	1.42	891.33	1.22
TILE_4	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3572.49	0.99	0.78 | 0.00	569.17	0.99	0.90 | 0.65	994.10	1.35	687.17	718.52	1.44	817.43	505.05	1.46	922.03	1.23
p1	3551.16	0.99	0.90 | 0.01	564.99	0.99	0.44 | 0.14	1003.05	1.37	672.32	688.80	1.38	836.52	503.57	1.45	941.55	1.22

p2	3548.73	0.99	0.86 | 0.00	564.36	0.99	0.57 | 0.20	999.67	1.36	670.49	700.77	1.40	805.58	487.12	1.40	911.14	1.21
TILE_5	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3568.06	0.99	0.85 | 0.00	567.34	0.99	0.55 | 0.28	990.67	1.35	690.02	739.33	1.48	823.33	524.15	1.51	930.47	1.24
p1	3553.41	0.99	0.74 | 0.00	565.20	0.99	0.61 | 0.24	1016.60	1.38	636.53	684.23	1.37	772.79	491.77	1.42	888.55	1.21
p2	3546.13	0.99	0.82 | 0.00	560.56	0.98	0.51 | 0.17	994.35	1.35	688.43	713.55	1.43	835.05	501.73	1.45	950.69	1.22
TILE_6	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3584.32	1.00	0.62 | 0.00	563.60	0.99	0.43 | 0.13	1000.10	1.36	692.68	716.45	1.43	836.04	526.00	1.52	948.51	1.24
p1	3569.09	0.99	0.69 | 0.00	563.67	0.99	0.57 | 0.31	1005.08	1.37	673.75	694.17	1.39	834.73	477.35	1.38	971.94	1.21
p2	3552.51	0.99	0.65 | 0.00	559.04	0.98	0.50 | 0.25	997.62	1.36	689.70	719.77	1.44	828.32	504.35	1.45	940.81	1.22
TILE_7	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3557.10	0.99	0.59 | 0.00	566.52	0.99	0.99 | 0.61	1019.75	1.39	630.84	712.40	1.42	757.93	522.40	1.51	852.78	1.24
p1	3542.10	0.98	0.56 | 0.00	559.15	0.98	0.42 | 0.17	1030.85	1.40	604.01	720.52	1.44	736.22	505.32	1.46	833.90	1.23
p2	3528.22	0.98	0.65 | 0.00	554.30	0.97	0.61 | 0.36	1007.15	1.37	655.62	729.45	1.46	793.74	544.00	1.57	869.35	1.24
TILE_8	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3574.94	0.99	0.74 | 0.00	568.78	0.99	0.67 | 0.34	944.83	1.29	826.56	645.27	1.29	1008.96	463.15	1.34	1155.00	1.17
p1	3560.92	0.99	0.83 | 0.00	564.46	0.99	0.51 | 0.16	970.90	1.32	756.55	676.62	1.35	906.71	458.82	1.32	1063.48	1.18
p2	3541.87	0.98	0.77 | 0.00	558.65	0.98	0.68 | 0.33	966.58	1.32	754.01	700.12	1.40	884.26	507.07	1.46	1015.51	1.21
TILE_9	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3579.21	0.99	0.80 | 0.00	571.42	1.00	0.88 | 0.50	1011.33	1.38	634.02	683.20	1.37	772.58	499.95	1.44	839.47	1.22
p1	3553.68	0.99	0.80 | 0.00	569.64	1.00	1.03 | 0.57	1040.38	1.42	584.44	753.58	1.51	701.82	544.10	1.57	762.31	1.27
p2	3540.99	0.98	0.78 | 0.00	569.30	0.99	0.91 | 0.61	1010.30	1.38	648.17	707.80	1.41	775.44	523.77	1.51	845.51	1.24
TILE_10	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3574.01	0.99	0.76 | 0.00	569.24	0.99	0.57 | 0.21	1003.85	1.37	660.85	699.77	1.40	802.27	482.80	1.39	918.90	1.21
p1	3567.19	0.99	0.77 | 0.00	565.55	0.99	0.54 | 0.20	994.60	1.35	680.50	721.65	1.44	801.52	510.05	1.47	909.04	1.23
p2	3546.34	0.99	0.84 | 0.01	565.04	0.99	0.58 | 0.16	1002.80	1.37	668.44	699.50	1.40	806.49	507.27	1.46	913.40	1.22
TILE_11	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3560.71	0.99	0.77 | 0.00	567.74	0.99	0.73 | 0.38	1026.53	1.40	603.12	732.42	1.46	708.91	482.35	1.39	823.37	1.23
p1	3543.42	0.98	0.75 | 0.00	564.55	0.99	0.52 | 0.20	1021.35	1.39	609.75	757.60	1.51	696.08	556.40	1.60	798.47	1.27
p2	3523.70	0.98	0.75 | 0.00	560.67	0.98	0.56 | 0.25	1014.75	1.38	637.11	690.52	1.38	760.87	497.75	1.44	861.48	1.21
TILE_12	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3574.43	0.99	0.77 | 0.00	564.77	0.99	0.46 | 0.25	999.77	1.36	680.19	696.90	1.39	815.49	477.52	1.38	955.42	1.21
p1	3557.79	0.99	0.92 | 0.01	561.37	0.98	0.55 | 0.23	990.20	1.35	694.15	714.42	1.43	828.51	519.33	1.50	952.71	1.23
p2	3542.77	0.98	0.85 | 0.00	558.69	0.98	0.45 | 0.22	1004.48	1.37	672.92	694.88	1.39	820.19	475.85	1.37	960.77	1.20
TILE_13	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3575.26	0.99	0.61 | 0.00	568.71	0.99	0.57 | 0.31	971.80	1.32	768.75	663.83	1.33	942.73	453.07	1.31	1083.17	1.18

p1	3566.96	0.99	0.55 | 0.00	565.23	0.99	0.41 | 0.25	981.02	1.34	727.65	698.50	1.40	883.48	492.60	1.42	985.92	1.21
p2	3546.05	0.99	0.60 | 0.00	562.20	0.98	0.58 | 0.26	999.58	1.36	693.31	663.23	1.33	857.34	476.98	1.38	978.43	1.19
TILE_14	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3574.21	0.99	0.73 | 0.00	564.63	0.99	0.48 | 0.24	987.27	1.34	710.65	712.45	1.42	850.97	489.62	1.41	996.69	1.22
p1	3557.89	0.99	0.83 | 0.00	561.75	0.98	0.56 | 0.21	979.58	1.33	728.71	681.83	1.36	881.88	483.50	1.39	1029.51	1.20
p2	3547.14	0.99	0.77 | 0.00	554.51	0.97	0.50 | 0.24	993.35	1.35	700.21	690.45	1.38	839.31	471.40	1.36	992.02	1.19
TILE_15	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3570.71	0.99	0.90 | 0.00	569.00	0.99	0.97 | 0.64	983.25	1.34	715.96	708.00	1.41	850.92	497.80	1.44	960.87	1.22
p1	3558.29	0.99	0.83 | 0.00	556.05	0.97	0.46 | 0.14	998.58	1.36	679.09	692.00	1.38	821.29	506.68	1.46	925.07	1.21
p2	3546.84	0.99	0.80 | 0.00	555.30	0.97	0.56 | 0.24	1004.02	1.37	661.11	703.48	1.41	785.25	489.73	1.41	900.88	1.21
TILE_16	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3582.15	1.00	0.68 | 0.00	563.22	0.98	0.69 | 0.35	996.58	1.36	683.77	722.60	1.44	807.59	531.58	1.53	920.24	1.24
p1	3561.31	0.99	0.74 | 0.00	560.56	0.98	0.47 | 0.16	1009.70	1.38	659.41	706.45	1.41	794.75	486.43	1.40	923.85	1.21
p2	3554.25	0.99	0.70 | 0.00	558.64	0.98	0.58 | 0.22	1005.70	1.37	666.69	731.85	1.46	783.91	511.93	1.48	899.30	1.23
TILE_17	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3574.47	0.99	0.94 | 0.00	571.68	1.00	0.80 | 0.37	1009.12	1.37	654.00	728.05	1.45	776.01	539.08	1.55	873.24	1.25
p1	3570.16	0.99	0.86 | 0.01	562.79	0.98	0.49 | 0.22	1020.60	1.39	623.89	716.17	1.43	747.43	471.75	1.36	856.71	1.21
p2	3549.62	0.99	0.86 | 0.00	558.37	0.98	0.45 | 0.17	1002.62	1.37	672.79	726.52	1.45	794.57	530.23	1.53	907.92	1.24
TILE_18	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3576.67	0.99	0.67 | 0.00	569.39	1.00	0.97 | 0.59	985.55	1.34	721.47	676.35	1.35	872.14	494.57	1.43	986.84	1.21
p1	3558.60	0.99	0.70 | 0.00	565.50	0.99	0.93 | 0.49	994.35	1.35	690.91	690.15	1.38	840.22	475.30	1.37	972.54	1.20
p2	3542.69	0.98	0.65 | 0.00	563.90	0.99	0.94 | 0.57	963.20	1.31	764.13	688.83	1.38	910.98	504.98	1.46	1046.00	1.21
TILE_19	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3562.76	0.99	0.66 | 0.00	565.33	0.99	0.55 | 0.32	1005.73	1.37	668.02	695.58	1.39	812.01	505.73	1.46	913.16	1.22
p1	3539.58	0.98	0.58 | 0.00	564.65	0.99	0.43 | 0.14	1015.12	1.38	631.06	713.30	1.43	760.81	495.20	1.43	859.52	1.22
p2	3527.96	0.98	0.66 | 0.00	564.15	0.99	0.58 | 0.41	1010.35	1.38	644.33	736.33	1.47	763.87	545.88	1.57	853.33	1.25
TILE_20	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3566.22	0.99	0.83 | 0.00	567.97	0.99	0.65 | 0.31	994.38	1.35	684.96	688.50	1.38	835.78	482.62	1.39	936.46	1.21
p1	3556.53	0.99	0.73 | 0.00	563.19	0.98	0.52 | 0.19	943.80	1.29	824.08	673.88	1.35	986.80	469.20	1.35	1117.83	1.18
p2	3534.21	0.98	0.69 | 0.00	562.05	0.98	0.56 | 0.25	982.67	1.34	730.50	672.75	1.34	895.78	492.25	1.42	998.31	1.20
TILE_21	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3571.73	0.99	0.81 | 0.00	569.48	1.00	0.96 | 0.63	1015.27	1.38	654.69	703.48	1.41	808.45	486.38	1.40	922.09	1.22
p1	3557.64	0.99	0.72 | 0.00	563.69	0.99	0.60 | 0.36	1016.80	1.38	651.95	733.70	1.47	781.95	512.90	1.48	888.41	1.24
p2	3535.59	0.98	0.71 | 0.00	560.82	0.98	0.47 | 0.16	1021.10	1.39	634.75	711.45	1.42	768.07	517.67	1.49	862.30	1.23
TILE_22	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM

p0	3577.37	0.99	0.87 | 0.00	567.13	0.99	0.88 | 0.55	997.02	1.36	682.57	693.50	1.39	827.34	472.32	1.36	980.51	1.20
p1	3555.29	0.99	0.88 | 0.00	560.55	0.98	0.60 | 0.28	986.62	1.34	708.80	713.33	1.43	835.66	519.83	1.50	961.44	1.23
p2	3548.59	0.99	0.78 | 0.00	556.72	0.97	0.41 | 0.17	1001.00	1.36	677.63	697.90	1.39	813.89	474.02	1.37	962.94	1.20
TILE_23	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3577.78	0.99	0.94 | 0.01	568.36	0.99	1.10 | 0.76	986.55	1.34	707.48	687.35	1.37	851.44	471.38	1.36	985.48	1.20
p1	3561.55	0.99	0.77 | 0.00	566.27	0.99	0.75 | 0.44	984.65	1.34	706.32	718.45	1.44	833.74	525.98	1.52	946.38	1.23
p2	3544.14	0.99	0.73 | 0.00	559.49	0.98	0.38 | 0.22	1007.90	1.37	664.14	700.88	1.40	805.26	483.60	1.39	934.30	1.21
TILE_24	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3577.48	0.99	0.75 | 0.00	573.22	1.00	0.81 | 0.51	951.83	1.30	804.90	631.52	1.26	985.76	467.05	1.35	1132.93	1.17
p1	3563.78	0.99	0.79 | 0.00	568.09	0.99	0.78 | 0.38	961.73	1.31	770.95	629.30	1.26	910.30	484.90	1.40	1041.28	1.18
p2	3554.29	0.99	0.76 | 0.00	566.72	0.99	0.67 | 0.35	963.27	1.31	781.89	642.23	1.28	940.60	457.27	1.32	1075.27	1.17
TILE_25	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3586.57	1.00	0.59 | 0.00	567.20	0.99	0.71 | 0.42	994.30	1.35	695.98	719.05	1.44	825.77	501.68	1.45	955.62	1.23
p1	3562.19	0.99	0.54 | 0.00	561.36	0.98	0.52 | 0.26	1006.00	1.37	668.59	702.88	1.40	806.35	507.10	1.46	921.99	1.22
p2	3540.14	0.98	0.57 | 0.00	559.12	0.98	0.52 | 0.26	1017.20	1.39	647.42	713.80	1.43	780.33	487.70	1.41	906.02	1.22
TILE_26	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3578.78	0.99	0.86 | 0.00	572.44	1.00	0.91 | 0.48	974.45	1.33	734.66	729.83	1.46	863.32	516.00	1.49	985.56	1.23
p1	3572.68	0.99	0.89 | 0.00	571.28	1.00	0.92 | 0.54	945.45	1.29	829.91	617.00	1.23	1042.96	440.70	1.27	1174.32	1.15
p2	3557.18	0.99	0.88 | 0.00	570.63	1.00	0.56 | 0.35	966.15	1.32	763.85	691.75	1.38	913.58	486.07	1.40	1032.35	1.20
TILE_27	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(nRT|MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3576.33	0.99	0.72 | 0.00	567.52	0.99	0.70 | 0.33	994.23	1.35	684.63	732.00	1.46	787.23	540.85	1.56	868.18	1.25
p1	3562.29	0.99	0.64 | 0.00	561.98	0.98	0.61 | 0.34	1019.27	1.39	619.45	728.45	1.46	717.14	510.82	1.47	810.92	1.24
p2	3544.11	0.99	0.73 | 0.00	555.03	0.97	0.47 | 0.15	995.08	1.36	681.20	732.98	1.46	785.97	512.75	1.48	894.54	1.23

p0_score:	34.07
p1_score:	34.09
p2_score:	33.95

Infrastructure_Operations_Scores:	vMotion	SVMotion	XVMotion	Deploy
Completed_Ops_PerHour	28.50	27.00	22.00	12.00
Avg_Seconds_To_Complete	5.76	74.32	94.94	254.73
Failures	0.00	0.00	0.00	0.00
Ratio	1.10	1.50	1.22	1.50
Number_Of_Threads	1	1	1	1

Summary	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p0)

Unreviewed_VMmark3_Applications_Score	34.07
Unreviewed_VMmark3_Infrastructure_Score	1.32
Unreviewed_VMmark3_Score	27.52

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 8.0 Update 2, Build 22380479, 09-21-2023
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 8.0 GA, Build 20519528 / 10-11-2022
Supplemental Software	None
Servers	
Number of Servers in System Under Test (all subsequent fields in this section are per server)	2
Server Manufacturer and Model	Fujitsu Server PRIMERGY RX2540 M7
Processor Vendor and Model	Intel Xeon Platinum 8592+
Processor Speed (GHz) / Turbo Boost Speed (GHz)	1.90 / 3.90
Total Sockets/Total Cores/Total Threads	2 Sockets / 128 Cores / 256 Threads
Primary CPU Cache	32KB I+48KB D on chip per core
Secondary CPU Cache	2MB I+D on chip per core
Other CPU Cache	320MB I+D on chip per chip
BIOS Version	V1.0.0.0 R2.4.0 for D3983-A1x
Memory Size (in GB, Number of DIMMs)	4096, 16
Memory Type and Speed	256GB 8Rx4 DDR5 5600MT/s 3DS RDIMMs
Disk Subsystem Type	FC SAN
Number of Disk Controllers	1
Disk Controller Vendors and Models	integrated SATA controller
Total Number of Physical Disks for Hypervisor	1
Disk Vendors, Models, Capacities, and Speeds	Samsung MZ7L3960HBLT-00A03 960GB SATA SSD 6Gb/s
Number of Host Bus Adapters	2
Host Bus Adapter Vendors and Models	2x QLogic QLE2772 32G dual-port
Number of Network Controllers	3
Network Controller Vendors and Models	2 x Intel E810-XXVDA2 dual port 25Gb SFP28 PCIe Adapters 1 x Intel I210 1Gb onboard

Other Hardware	None
Other Software	None
Hardware Availability Date (MM-DD-YYYY)	05-15-2024
BIOS Availability Date (MM-DD-YYYY)	05-15-2024
Software Availability Date (MM-DD-YYYY)	10-26-2023
Network	
Network Switch Vendors and Models	1 x Fujitsu SR-X340TR1 1 x Extreme Networks SLX 9150-48Y
Network Speed	1 x 1Gbps for SUT management, 1 x 25Gbps for vMotion, 3 x 25Gbps for Client and VMs
Primary Storage	
Storage Category	SCSI Target
Storage Vendors, Models, and Firmware Versions	5 x Fujitsu Server PRIMERGY RX2540 M4, Firmware V5.0.0.12 R1.22.0 for D3384-A1x 3 x Fujitsu Server PRIMERGY RX2540 M5, Firmware V5.0.0.14 R1.15.0 for D3384-B1x 3 x Fujitsu Server PRIMERGY RX2540 M6, Firmware V1.0.0.0 R1.10.0 for D3891-A1x

Storage Configuration Summary	FC switches:
	• 2 x Brocade G620 32Gb 48 port
	Storage Servers:
	• for OS storage
	  ◦ 9 x Micron MTFDDAK480TDC 480GB SATA SSD
	  ◦ 3 x Samsung MZ7KH480HAHQ 480GB SATA SSD
	  ◦ 3 x Micron MTFDDAK480TDT 480GB SATA SSD
	• for Workload storage
	  ◦ 28 x Intel P4800X 750GB PCIe SSD
	  ◦ 1 x Intel P4600 2TB PCIe SSD
	  ◦ 4 x Intel P4600 4TB PCIe SSD
	  ◦ 4 x Intel P4610 3.2TB PCIe SSD

Datacenter Management Server	
System Model	Fujitsu Server PRIMERGY RX2530 M2
Processor Vendor and Model	Intel Xeon E5-2698 v4
Processor Speed (GHz)	2.2
Total Sockets/Total Cores/Total Threads	1 Sockets / 20 Cores / 40 Threads
Memory Size (in GB, Number of DIMMs)	80 GB, 8
Network Controller(s) Vendors and Models	Emulex OneConnect OCe14000 1GbE dual port Adapter
Operating System, Version, Bitness, and Service Pack	VMware ESXi 7.0 Update 3c Build 19193900
Virtual Center VM Number of vCPUs	4
Virtual Center VM Virtual Memory (in GB)	21
Virtual Center VM Operating System, Version, Bitness, and Service Pack	VMware vCenter Server 8.0 GA Build 20519528

Other Hardware	None
Other Software	None

Clients	
Total Number of Virtual Clients / Virtual Client Hosts	29 / 6
System Model(s)	6 x Fujitsu Server PRIMERGY RX2530 M2(Client Host 1-6)
Processor Vendor(s) and Model(s)	Intel Xeon E5-2699 v4 (for Client Host 1-3 and 6) Intel Xeon E5-2699A v4 (for Client Host 4 and 5)
Processor Speed(s) (GHz)	2.2 (Intel Xeon E5-2699 v4) 2.4 (Intel Xeon E5-2699A v4)
Total Sockets/Total Cores/Total Threads	2 Sockets / 44 Cores / 88 Threads for Client Host 1-6
Memory per Virtual Client Host	256 GB (Client Host 1-3,6) 224 GB (Client Host 4) 240 GB (Client Host 5)
Network Controller(s) Vendors and Models	1 x Emulex OneConnect OCe14000 1Gb dual port, 1 x Emulex OneConnect OCe14000 10Gb dual port (Client Host 1-6)
Virtual Client Networking Notes	1 virtual adapter for management, 2 virtual adapters for workload traffic
Virtual Client Storage Notes	1 x 300GB SAS 10K TOSHIBA AL14SEB03EN HDD with RAID0 for OS (Client Host 1-6) 2 x 400GB SAS 12G TOSHIBA PX02SMF040 SSD with RAID0 for Client VMs (Client Host 1-6)
Other Hardware	None
Other Software	VMware ESXi 7.0 Update 3c Build 19193900

Security Mitigations

Vulnerability	CVE	Exploit Name	Public Vulnerability Name	Mitigated		
				Server Firmware	ESXi	Guest OS
Spectre	2017-5753	Variant 1	Bounds Check Bypass	N/A	Not Vulnerable	Not Vulnerable
Spectre	2017-5715	Variant 2	Branch Target Injection	Not Vulnerable	Not Vulnerable	Not Vulnerable
Meltdown	2017-5754	Variant 3	Rogue Data Cache Load	N/A	Not Vulnerable	Not Vulnerable
Spectre-NG	2018-3640	Variant 3a	Rogue System Register Read	Not Vulnerable	N/A	N/A
Spectre-NG	2018-3639	Variant 4	Speculative Store Bypass	N/A	Not Vulnerable	Not Vulnerable
Foreshadow	2018-3615	Variant 5	L1 Terminal Fault - SGX	N/A	N/A	N/A
Foreshadow-NG	2018-3620	Variant 5	L1 Terminal Fault - OS	N/A	N/A	Not Vulnerable
Foreshadow-NG	2018-3646	Variant 5	L1 Terminal Fault - VMM	N/A	Not Vulnerable	N/A

Notes for Workload

Template deployed with disk type: Thick

Virtualization Software Notes

- Logical CPU configuration changed for multi-cpu VMs except PrimeClient VM to 1 socket with multiple cores (default: single core per socket)

- CPU shares set to high for all DS3DB, ElasticDB, ElasticLB, AuctionLB, AuctionDB, and DS3WebA VMs (default normal)
- CPU shares set to low for all Standby VMs (default normal)
- MEM shares set to high for all DS3DB VMs (default normal)
- All memory reserved for DS3DB VMs (default non-reserved)
- sched.mem.pin set to TRUE for all DS3DB VMs (default FALSE)
- Add sched.mem.lpage.enable1GPage to TRUE for all DS3DB VMs (default FALSE)
- vSphere DRS Migration Threshold set to Fully Automated level 2
- CD-ROM was removed from all VMs except template VM and primeclient (default Enabled)

Changed in esx.conf:

- /adv/Cpu/CreditAgePeriod = 1000 (default 3000)
- /adv/Cpu/HTWholeCoreThreshold = 0 (default 800)
- /adv/DataMover/HardwareAcceleratedInit = 0 (default 1)
- /adv/DataMover/HardwareAcceleratedMove = 0 (default 1)
- /adv/Disk/IdleCredit = 64 (default 32)
- /adv/Disk/ReqCallThreshold = 1 (default 8)
- /adv/Mem/CtlMaxPercent = 0 (default 65)
- /adv/Mem/ShareScanGHz = 0 (default 4)
- /adv/Numa/LTermFairnessInterval = 0 (default 5)
- /adv/Numa/LocalityWeightActionAffinity = 0 (default : 130)
- /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 = High Performance (default balanced)
- /adv/VMFS3/HardwareAcceleratedLocking = 0 (default 1)
- /UserVars/HostClientCEIPOptIn = 2 (default : 0)
- hyperthreadingMitigation = true (default : false)

Server Notes

Server BIOS settings:

- Hardware Prefetcher = Disabled (default Enabled)
- DCU Streamer Prefetcher = Disabled (default Enabled)
- DCU IP Prefetcher = Disabled (default Enabled)
- AMP Prefetch = Disabled (default auto)
- Stale AtoS = Enabled (default Auto)
- Uncore Frequency Scaling = Maximum (default Auto)
- Patrol Scrub = Enabled at End of POST(default: Disabled)
- Energy Performance = Performance (default Energy Efficient)
- Package C state Limit = C0 (default C6)
- CPU C1 auto demotion = Enabled (default auto)
- CPU C1 auto undemotion = Enabled (default auto)
- XPT Prefetch = Enabled (default Disabled)
- CPU Performance Boost = Aggressive (default Disabled)
- SNC(Sub NUMA) = Enable SNC2 (default Disabled)
- FAN Control = Full (default Auto)

Networking Notes

vSwitch Configuration:

- vSwitch0 for Service Console on vmnic0 at 1Gb/s
- vSwitch1 for all workloads on vmnic3 at 25Gb/s
- vSwitch2 for vMotion connection on vmnic4 at 25Gb/s

Storage Notes

First Fujitsu Server (PRIMERGY RX2540 M4) configured as a Fibre Channel Target:

- Hardware details:
  - 2 x Intel Xeon Gold 6134M@3.2GHz processors
  - 64 GB RAM (2 x 32GB 2Rx4 2666MHz DDR4 RDIMMs)
  - 2 x QLogic QLE2742 dual port 32Gb FC HBA used as FC target controller
  - 2 x 480GB SATA SSD Micron MTFDDAK480TDC
  - 1 x Intel P4600 4TB PCIe SSD
  - 3 x Intel P4800X 750GB PCIe SSD

- Software details:
  - Operating System: SUSE Linux Enterprise Server 12 SP3 - 4.4.162-94.72-default (64-bit)
  - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 12 SP3)

- RAID configuration:
  - SATA-SSD 1, 2 (RAID1):
    - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
  - First PCIe-SSD (4TB):
    - LUN 1 : AuctionNoSQL, ElasticDB for tile 0 (300GB)
    - LUN 2 : AuctionNoSQL, ElasticDB for tile 1 (300GB)
    - LUN 3 : AuctionNoSQL, ElasticDB for tile 2 (300GB)
    - LUN 4 : AuctionDB, ElasticLB for tile 2 (300GB)
    - LUN 5 : AuctionDB, ElasticLB for tile 0 (300GB)
    - LUN 6 : AuctionDB, ElasticLB for tile 1 (300GB)
    - LUN 7 : AuctionNoSQL, ElasticDB for tile 3 (300GB)
    - LUN 8 : AuctionDB, ElasticLB for tile 3 (300GB)
    - LUN 9 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 0 (300GB)
    - LUN 10 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 1 (300GB)
    - LUN 11 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 2 (300GB)
    - LUN 12 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 3 (300GB)
  - Second PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 0 (600GB)
  - Third PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 1 (600GB)
  - Fourth PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 2 (600GB)

Second Fujitsu Server (PRIMERGY RX2540 M4) configured as a Fibre Channel Target:

- Hardware details:
  - 2 x Intel Xeon Gold 6134M@3.2GHz processors

    - 64 GB RAM (2 x 32GB 2Rx4 2666MHz DDR4 RDIMMs)
    - 2 x QLogic QLE2742 dual port 32Gb FC HBA used as FC target controller
    - 2 x 480GB SATA SSD Micron MTFDDAK480TDC
    - 1 x Intel P4600 4TB PCIe SSD
    - 3 x Intel P4800X 750GB PCIe SSD

- Software details:
    - Operating System: SUSE Linux Enterprise Server 12 SP3 - 4.4.162-94.72-default (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 12 SP3)

- RAID configuration:
    - SATA-SSD 1, 2 (RAID1):
        - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
    - First PCIe-SSD (4TB):
        - LUN 1 : AuctionNoSQL, ElasticDB for tile 4 (300GB)
        - LUN 2 : AuctionNoSQL, ElasticDB for tile 5 (300GB)
        - LUN 3 : AuctionNoSQL, ElasticDB for tile 6 (300GB)
        - LUN 4 : AuctionNoSQL, ElasticDB for tile 7 (300GB)
        - LUN 5 : AuctionDB, ElasticLB for tile 4 (300GB)
        - LUN 6 : AuctionDB, ElasticLB for tile 5 (300GB)
        - LUN 7 : AuctionDB, ElasticLB for tile 6 (300GB)
        - LUN 8 : AuctionDB, ElasticLB for tile 7 (300GB)
        - LUN 9 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 4 (300GB)
        - LUN 10 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 5 (300GB)
        - LUN 11 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 6 (300GB)
        - LUN 12 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 7 (300GB)
    - Second PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 3 (600GB)
    - Third PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 4 (600GB)
    - Fourth PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 5 (600GB)

Third Fujitsu Server (PRIMERGY RX2540 M4) configured as a Fibre Channel Target:

- Hardware details:
    - 2 x Intel Xeon Gold 6134M@3.2GHz processors
    - 64 GB RAM (2 x 32GB 2Rx4 2666MHz DDR4 RDIMMs)
    - 2 x QLogic QLE2742 dual port 32Gb FC HBA used as FC target controller
    - 2 x 480GB SATA SSD Micron MTFDDAK480TDC
    - 1 x Intel P4600 4TB PCIe SSD
    - 3 x Intel P4800X 750GB PCIe SSD

- Software details:
    - Operating System: SUSE Linux Enterprise Server 12 SP3 - 4.4.162-94.72-default (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 12 SP3)

- RAID configuration:
    - SATA-SSD 1, 2 (RAID1):
        - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
    - First PCIe-SSD (4TB):

        - LUN 1 : AuctionNoSQL, ElasticDB for tile 8 (300GB)
        - LUN 2 : AuctionNoSQL, ElasticDB for tile 9 (300GB)
        - LUN 3 : AuctionNoSQL, ElasticDB for tile 10 (300GB)
        - LUN 4 : AuctionNoSQL, ElasticDB for tile 11 (300GB)
        - LUN 5 : AuctionDB, ElasticLB for tile 8 (300GB)
        - LUN 6 : AuctionDB, ElasticLB for tile 9 (300GB)
        - LUN 7 : AuctionDB, ElasticLB for tile 10 (300GB)
        - LUN 8 : AuctionDB, ElasticLB for tile 11 (300GB)
        - LUN 9 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 8 (300GB)
        - LUN 10 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 9 (300GB)
        - LUN 11 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 10 (300GB)
        - LUN 12 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 11 (300GB)
    - Second PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 6 (600GB)
    - Third PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 7 (600GB)
    - Fourth PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 8 (600GB)

Fourth Fujitsu Server PRIMERGY RX2540 M4 configured as a Fibre Channel Target:

- Hardware details:
    - 2 x Intel Xeon Gold 6134M@3.2GHz processors
    - 64 GB RAM (2 x 32GB 2Rx4 2666MHz DDR4 RDIMMs)
    - 2 x QLogic QLE2742 dual port 32Gb FC HBA used as FC target controller
    - 2 x 480GB SATA SSD Micron MTFDDAK480TDC
    - 1 x Intel P4600 4TB PCIe SSD
    - 3 x Intel P4800X 750GB PCIe SSD

- Software details:
    - Operating System: SUSE Linux Enterprise Server 12 SP3 - 4.4.162-94.72-default (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 12 SP3)

- RAID configuration:
    - SATA-SSD 1, 2 (RAID1):
        - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
    - First PCIe-SSD (4TB):
        - LUN 1 : AuctionNoSQL, ElasticDB for tile 12 (300GB)
        - LUN 2 : AuctionNoSQL, ElasticDB for tile 13 (300GB)
        - LUN 3 : AuctionNoSQL, ElasticDB for tile 14 (300GB)
        - LUN 4 : AuctionNoSQL, ElasticDB for tile 15 (300GB)
        - LUN 5 : AuctionDB, ElasticLB for tile 12 (300GB)
        - LUN 6 : AuctionDB, ElasticLB for tile 13 (300GB)
        - LUN 7 : AuctionDB, ElasticLB for tile 14 (300GB)
        - LUN 8 : AuctionDB, ElasticLB for tile 15 (300GB)
        - LUN 9 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 12 (300GB)
        - LUN 10 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 13 (300GB)
        - LUN 11 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 14 (300GB)
        - LUN 12 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 15 (300GB)
    - Second PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 9 (600GB)

    - Third PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 10 (600GB)
    - Fourth PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 11 (600GB)

Fifth Fujitsu Server (PRIMERGY RX2540 M4) configured as a Fibre Channel Target:

- Hardware details:
    - 2 x Intel Xeon Gold 6134M@3.2GHz processors
    - 64 GB RAM (2 x 32GB 2Rx4 2666MHz DDR4 RDIMMs)
    - 2 x QLogic QLE2742 dual port 32Gb FC HBA used as FC target controller
    - 1 x 480GB SATA SSD Micron MTFDDAK480TDC
    - 1 x Intel P4600 2TB PCIe SSD
    - 3 x Intel P4800X 750GB PCIe SSD

- Software details:
    - Operating System: SUSE Linux Enterprise Server 12 SP3 - 4.4.162-94.72-default (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 12 SP3)

- RAID configuration:
    - SATA-SSD 1 (RAID0):
        - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
    - First PCIe-SSD (2TB):
        - LUN 1 : SvMotion Target LUN (300GB)
        - LUN 2 : XvMotion Target LUN (300GB)
        - LUN 3 : vmmark3.1.1-template-031420 (300GB)
        - LUN 4 : DS3DB backup (300GB, this LUN is not counted in the Storage section)
        - LUN 5 : Deploy LUN (300GB)
    - Second PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 12 (600GB)
    - Third PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 13 (600GB)
    - Tourth PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 14 (600GB)

Sixth Fujitsu Server (PRIMERGY RX2540 M5) configured as a Fibre Channel Target:

- Hardware details:
    - 2 x Intel Xeon Gold 6234@3.3GHz processors
    - 128 GB RAM (4 x 32GB 2Rx4 2933MHz DDR4 RDIMMs)
    - 2 x QLogic QLE2742 dual port 32Gb FC HBA used as FC target controller
    - 1 x 480GB SATA SSD Micron MTFDDAK480TDC
    - 1 x Intel P4610 3.2TB PCIe SSD

- Software details:
    - Operating System: SUSE Linux Enterprise Server 15 SP1 - 4.12.14-197.56-default (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 15 SP1)

- RAID configuration:
    - SATA-SSD 1 (RAID0):
        - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)

    - First PCIe-SSD (3.2TB):
        - LUN 1 : AuctionNoSQL, ElasticDB for tile 16 (300GB)
        - LUN 2 : AuctionNoSQL, ElasticDB for tile 17 (300GB)
        - LUN 3 : AuctionDB, ElasticLB for tile 16 (300GB)
        - LUN 4 : AuctionDB, ElasticLB for tile 17 (300GB)
        - LUN 5 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 16 (300GB)
        - LUN 6 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 17 (300GB)
        - LUN 7 : AuctionNoSQL, ElasticDB for tile 24 (300GB)
        - LUN 8 : AuctionDB, ElasticLB for tile 24 (300GB)
        - LUN 9 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 24 (300GB)

Seventh Fujitsu Server (PRIMERGY RX2540 M5) configured as a Fibre Channel Target:

- Hardware details:
    - 2 x Intel Xeon Gold 6234@3.3GHz processors
    - 128 GB RAM (4 x 32GB 2Rx4 2933MHz DDR4 RDIMMs)
    - 2 x QLogic QLE2742 dual port 32Gb FC HBA used as FC target controller
    - 1 x 480GB SATA SSD Micron MTFDDAK480TDC
    - 2 x Intel P4610 3.2TB PCIe SSD

- Software details:
    - Operating System: SUSE Linux Enterprise Server 15 SP1 - 4.12.14-197.56-default (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 15 SP1)

- RAID configuration:
    - SATA-SSD 1 (RAID0):
        - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
    - First PCIe-SSD (3.2TB):
        - LUN 1 : AuctionNoSQL, ElasticDB for tile 18 (300GB)
        - LUN 2 : AuctionNoSQL, ElasticDB for tile 19 (300GB)
        - LUN 3 : AuctionNoSQL, ElasticDB for tile 20 (300GB)
        - LUN 4 : AuctionDB, ElasticLB for tile 18 (300GB)
        - LUN 5 : AuctionDB, ElasticLB for tile 19 (300GB)
        - LUN 6 : AuctionDB, ElasticLB for tile 20 (300GB)
        - LUN 7 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 18 (300GB)
        - LUN 8 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 19 (300GB)
        - LUN 9 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 20 (300GB)
    - Second PCIe-SSD (3.2TB):
        - LUN 1 : AuctionNoSQL, ElasticDB for tile 25 (300GB)
        - LUN 2 : AuctionNoSQL, ElasticDB for tile 26 (300GB)
        - LUN 3 : AuctionNoSQL, ElasticDB for tile 27 (300GB)
        - LUN 4 : AuctionDB, ElasticLB for tile 25 (300GB)
        - LUN 5 : AuctionDB, ElasticLB for tile 26 (300GB)
        - LUN 6 : AuctionDB, ElasticLB for tile 27 (300GB)
        - LUN 7 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 25 (300GB)
        - LUN 8 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 26 (300GB)
        - LUN 9 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 27 (300GB)

Eighth Fujitsu Server (PRIMERGY RX2540 M5) configured as a Fibre Channel Target:

- Hardware details:

    - 2 x Intel Xeon Gold 6254@3.1GHz processors
    - 128 GB RAM (4 x 32GB 2Rx4 2933MHz DDR4 RDIMMs)
    - 2 x QLogic QLE2742 dual port 32Gb FC HBA used as FC target controller
    - 1 x 480GB SATA SSD Micron MTFDDAK480TDC
    - 1 x Intel P4610 3.2TB PCIe SSD

- Software details:
    - Operating System: SUSE Linux Enterprise Server 15 SP3 - 5.3.18-57-default (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 15 SP3)

- RAID configuration:
    - SATA-SSD 1 (RAID0):
        - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
    - First PCIe-SSD (3.2TB):
        - LUN 1 : AuctionNoSQL, ElasticDB for tile 21 (300GB)
        - LUN 2 : AuctionNoSQL, ElasticDB for tile 22 (300GB)
        - LUN 3 : AuctionNoSQL, ElasticDB for tile 23 (300GB)
        - LUN 4 : AuctionDB, ElasticLB for tile 21 (300GB)
        - LUN 5 : AuctionDB, ElasticLB for tile 22 (300GB)
        - LUN 6 : AuctionDB, ElasticLB for tile 23 (300GB)
        - LUN 7 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 21 (300GB)
        - LUN 8 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 22 (300GB)
        - LUN 9 : AuctionWebA, AuctionWebB, AuctionAppA, AuctionAppB, AuctionLB, AuctionMSQ, ElasticWebA, ElasticWebB, ElasticAppA, ElasticAppB, Standby for tile 23 (300GB)

Ninth Fujitsu Server (PRIMERGY RX2540 M6) configured as a Fibre Channel Target:

- Hardware details:
    - 2 x Intel Xeon Gold 6334@3.6GHz processors
    - 128 GB RAM (4 x 32GB 2Rx4 3200MHz DDR4 RDIMMs)
    - 2 x QLogic QLE2772 dual port 32Gb FC HBA used as FC target controller
    - 1 x Micron MTFDDAK480TDT 480GB SATA SSD
    - 6 x Intel P4800X 750GB PCIe SSD

- Software details:
    - Operating System: SUSE Linux Enterprise Server 15 SP4 - 5.14.21-150400.22-default (64-bit)
    - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 15 SP4)

- RAID configuration:
    - SATA-SSD 1 (RAID0):
        - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
    - First PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 15 (600GB)
    - Second PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 16 (600GB)
    - Third PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 17 (600GB)
    - Fourth PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 18 (600GB)
    - Fifth PCIe-SSD (750GB):
        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 19 (600GB)
    - sixth PCIe-SSD (750GB):

        - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 20 (600GB)

Tenth Fujitsu Server (PRIMERGY RX2540 M6) configured as a Fibre Channel Target:

- Hardware details:
  - 2 x Intel Xeon Gold 6334@3.6GHz processors
  - 128 GB RAM (4 x 32GB 2Rx4 3200MHz DDR4 RDIMMs)
  - 2 x QLogic QLE2772 dual port 32Gb FC HBA used as FC target controller
  - 1 x Micron MTFDDAK480TDT 480GB SATA SSD
  - 6 x Intel P4800X 750GB PCIe SSD

- Software details:
  - Operating System: SUSE Linux Enterprise Server 15 SP4 - 5.14.21-150400.22-default (64-bit)
  - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 15 SP4)

- RAID configuration:
  - SATA-SSD 1 (RAID0):
    - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
  - First PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 21 (600GB)
  - Second PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 22 (600GB)
  - Third PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 23 (600GB)
  - Fourth PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 24 (600GB)
  - Fifth PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 25 (600GB)
  - sixth PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 26 (600GB)

Eleventh Fujitsu Server (PRIMERGY RX2540 M6) configured as a Fibre Channel Target:

- Hardware details:
  - 2 x Intel Xeon Gold 6334@3.6GHz processors
  - 128 GB RAM (4 x 32GB 2Rx4 3200MHz DDR4 RDIMMs)
  - 2 x QLogic QLE2772 dual port 32Gb FC HBA used as FC target controller
  - 1 x Micron MTFDDAK480TDT 480GB SATA SSD
  - 1 x Intel P4800X 750GB PCIe SSD

- Software details:
  - Operating System: SUSE Linux Enterprise Server 15 SP4 - 5.14.21-150400.22-default (64-bit)
  - Fibre Channel Target SW: LIO (part of SUSE Linux Enterprise Server 15 SP4)

- RAID configuration:
  - SATA-SSD 1 (RAID0):
    - LUN 1 : Storage system OS (480GB, this LUN is not counted in the Storage section)
  - First PCIe-SSD (750GB):
    - LUN 1 : DS3DB, DS3WebA, DS3WebB, DS3WebC for tile 27 (600GB)

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

Datacenter Management Server Notes

- Virtual Center realized as a VM running on a dedicated Hypervisor system:
  - Number of vCPUs: 4 (Four vSocket)
  - Size of vRAM: 21GB
- The host operating system VMware ESXi 7.0 Update3c Build 19193900 was installed using 'Fujitsu Custom Image for VMware ESXi 7.0.3 update03' named VMware-ESXi-7.0.3.update03-19193900-Fujitsu-v530-1.iso

Operating System Notes

- VMware ESXi 8.0 U2 Build 22380479 was installed using 'FUJITSU Custom Image for VMware ESXi 8.0U2' named VMware-ESXi-8.0.2.update02-22380479-Fujitsu-v570-1.iso

Software Notes

None.

Client Notes

The location of Client VMs:

- Client Host 1: Client0, Client1, Client2, Client3, Client4
- Client Host 2: Client5, Client6, Client7, Client8, Client9
- Client Host 3: Client10, Client11, Client12, Client13, PrimeClient
- Client Host 4: Client14, Client15, Client16, Client17, Client18
- Client Host 5: Client19, Client20, Client21, Client22, Client23
- Client Host 6: Client24, Client25, Client26, Client27

Changes in esx.conf:

- /adv/Power/CpuPolicy = High Performance (default balanced)
- /UserVars/HostClientCEIPOptIn = 2 (default : 0)

vSwitch Configuration:

- vSwitch0 for Service Console on vmnic0 at 1Gb/s
- vSwitch1 for workloads on vmnic3 of ClientHost1~6 at 10Gb/s

Other Notes

Changes in VMmark3.properties files:

- TileDelay = 30 (default 60)
- DebugLevel = 3 (default 0)
- VCscratchDir = /root/VMmark3/results/scratch (default /root/VMmark3/samples/)
- PTD = true (default false)
