

VMmark® 3.1.1 Results

Server Vendor & Model: Supermicro AS-1115CS-TNR
Storage Vendor & Model: VMware vSAN 8.0 U1 - All Flash
Hypervisor: VMware ESXi 8.0 U1a, Build 21813344
Datacenter Management Software: VMware vCenter Server 8.0 U1c, Build 22088981

**VMmark 3.1.1 Score =
35.20 @ 36 Tiles**

Number of Hosts: 4	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 4/384/768
Tested By: Supermicro		Test Date: 10-09-2023
Performance Section Performance	Configuration Section Configuration	Notes Section 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	3577.58	0.99	0.96 0.00	569.17	0.99	0.45 0.00	885.65	1.21	954.19	630.77	1.26	1131.04	463.38	1.34	1253.14	1.15
p1	3562.34	0.99	0.95 0.00	566.37	0.99	0.40 0.01	902.60	1.23	909.55	618.08	1.23	1089.44	429.02	1.24	1229.15	1.13
p2	3547.94	0.99	1.08 0.00	558.97	0.98	0.33 0.00	868.95	1.18	1001.01	620.12	1.24	1176.31	432.68	1.25	1323.84	1.12
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	3571.48	0.99	0.78 0.00	563.61	0.99	0.29 0.01	1010.17	1.38	632.65	738.50	1.48	740.06	554.15	1.60	797.87	1.26
p1	3549.02	0.99	0.78 0.00	562.42	0.98	0.25 0.01	1007.45	1.37	632.43	708.05	1.41	758.94	505.23	1.46	822.90	1.22
p2	3537.28	0.98	0.85 0.00	561.47	0.98	0.31 0.02	997.88	1.36	653.34	731.25	1.46	761.81	527.88	1.52	824.88	1.24
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	3564.69	0.99	0.84 0.00	568.01	0.99	0.31 0.01	991.12	1.35	658.63	739.42	1.48	745.84	548.98	1.58	825.01	1.25
p1	3548.18	0.99	0.85 0.00	564.25	0.99	0.27 0.00	1004.70	1.37	630.73	727.30	1.45	713.81	509.48	1.47	795.46	1.23
p2	3540.79	0.98	0.95 0.00	559.41	0.98	0.33 0.01	996.88	1.36	650.70	741.58	1.48	728.84	524.85	1.51	812.57	1.24
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	3570.32	0.99	0.77 0.00	565.48	0.99	0.29 0.00	975.90	1.33	692.19	716.85	1.43	802.37	541.15	1.56	857.60	1.24
p1	3550.16	0.99	0.80 0.00	563.09	0.98	0.27 0.02	992.62	1.35	661.98	704.65	1.41	763.72	476.32	1.37	842.82	1.20
p2	3534.63	0.98	0.86 0.00	557.22	0.97	0.31 0.00	975.85	1.33	698.60	716.23	1.43	801.97	537.08	1.55	871.47	1.23
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	3566.60	0.99	0.99 0.00	567.05	0.99	0.41 0.00	887.90	1.21	942.63	634.62	1.27	1115.62	448.00	1.29	1251.52	1.14
p1	3553.97	0.99	1.04 0.00	563.24	0.98	0.33 0.01	894.85	1.22	921.96	600.05	1.20	1075.33	432.65	1.25	1195.66	1.12
p2	3537.48	0.98	1.14 0.00	558.43	0.98	0.33 0.02	861.88	1.17	1022.30	639.00	1.28	1179.03	451.88	1.30	1329.22	1.13
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	3559.28	0.99	1.94 0.23	570.52	1.00	0.31 0.00	1027.08	1.40	591.25	720.88	1.44	712.27	538.92	1.55	767.90	1.25

p1	3538.49	0.98	1.75 0.20	567.46	0.99	0.32 0.00	1016.27	1.38	612.75	715.08	1.43	744.71	507.43	1.46	809.37	1.23
p2	3527.92	0.98	2.02 0.27	564.45	0.99	0.27 0.00	1013.15	1.38	616.03	742.02	1.48	730.62	559.62	1.61	790.94	1.26
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	3571.69	0.99	0.61 0.00	573.12	1.00	0.40 0.00	1008.00	1.37	622.11	721.40	1.44	717.69	535.50	1.54	777.91	1.25
p1	3549.38	0.99	0.64 0.00	569.12	0.99	0.33 0.00	1007.70	1.37	635.00	716.73	1.43	736.19	507.52	1.46	805.25	1.23
p2	3536.89	0.98	0.62 0.00	563.60	0.99	0.38 0.01	995.10	1.36	648.10	734.88	1.47	744.44	553.45	1.60	807.47	1.25
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	3560.36	0.99	3.23 0.41	569.82	1.00	0.37 0.00	978.35	1.33	697.90	685.58	1.37	826.12	507.70	1.46	907.61	1.21
p1	3538.83	0.98	3.25 0.46	566.16	0.99	0.36 0.00	980.25	1.33	689.27	692.17	1.38	816.66	486.93	1.40	898.10	1.20
p2	3527.34	0.98	3.96 0.81	559.88	0.98	0.32 0.01	971.33	1.32	716.57	707.90	1.41	835.67	528.55	1.52	903.97	1.22
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	3565.75	0.99	1.15 0.00	570.85	1.00	0.41 0.00	903.02	1.23	884.88	629.35	1.26	1042.36	462.90	1.33	1144.06	1.15
p1	3550.82	0.99	1.15 0.00	566.49	0.99	0.35 0.00	901.00	1.23	902.03	624.52	1.25	1064.84	438.32	1.26	1171.57	1.14
p2	3539.27	0.98	1.33 0.00	563.97	0.99	0.32 0.00	869.95	1.18	991.84	623.62	1.25	1164.62	459.02	1.32	1293.03	1.14
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	3570.68	0.99	0.72 0.00	567.51	0.99	0.32 0.02	1013.30	1.38	624.32	723.73	1.45	715.19	533.40	1.54	793.65	1.25
p1	3556.20	0.99	0.75 0.00	563.77	0.99	0.28 0.00	1012.77	1.38	621.34	721.70	1.44	716.59	512.20	1.48	788.27	1.23
p2	3540.76	0.98	0.83 0.00	561.16	0.98	0.31 0.02	1002.73	1.37	636.40	741.20	1.48	723.96	554.30	1.60	796.82	1.26
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	3572.63	0.99	0.63 0.00	570.53	1.00	0.35 0.00	1021.85	1.39	600.15	726.95	1.45	701.74	536.90	1.55	780.66	1.25
p1	3557.48	0.99	0.62 0.00	568.34	0.99	0.37 0.01	1012.85	1.38	623.14	728.38	1.46	695.69	511.35	1.47	788.39	1.24
p2	3541.19	0.98	0.63 0.00	568.80	0.99	0.29 0.00	1012.08	1.38	615.40	746.17	1.49	715.70	531.02	1.53	795.25	1.25
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	3578.31	0.99	0.75 0.00	568.65	0.99	0.37 0.00	991.10	1.35	666.25	678.23	1.36	789.05	489.18	1.41	885.62	1.21
p1	3569.86	0.99	0.76 0.00	565.37	0.99	0.31 0.00	980.92	1.34	698.53	718.67	1.44	809.71	513.67	1.48	892.63	1.23
p2	3555.91	0.99	0.83 0.00	559.76	0.98	0.27 0.00	983.80	1.34	693.60	692.15	1.38	819.27	507.12	1.46	913.58	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	3576.78	0.99	0.99 0.00	571.83	1.00	0.45 0.00	902.02	1.23	902.93	623.92	1.25	1062.61	439.38	1.27	1167.77	1.14
p1	3552.34	0.99	1.01 0.00	565.72	0.99	0.33 0.02	887.20	1.21	943.50	638.40	1.28	1106.90	455.95	1.31	1197.89	1.15
p2	3531.61	0.98	1.13 0.00	560.59	0.98	0.36 0.00	891.27	1.21	932.68	613.17	1.23	1118.37	449.52	1.30	1224.94	1.13
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	3568.89	0.99	0.57 0.00	570.15	1.00	0.32 0.00	1024.97	1.40	596.63	726.52	1.45	705.89	518.95	1.50	756.89	1.25
p1	3556.83	0.99	0.57 0.00	563.35	0.98	0.26 0.01	1008.98	1.37	624.21	740.27	1.48	723.88	540.38	1.56	774.69	1.25
p2	3544.74	0.99	0.57 0.00	561.51	0.98	0.29 0.04	1016.60	1.38	614.67	718.15	1.43	726.02	540.12	1.56	771.87	1.24
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	3572.49	0.99	2.16 0.28	566.80	0.99	0.28 0.02	1012.25	1.38	613.27	727.02	1.45	697.58	516.33	1.49	765.58	1.24

p1	3555.49	0.99	1.89 0.22	567.91	0.99	0.27 0.02	1007.38	1.37	624.28	751.60	1.50	704.12	540.40	1.56	757.84	1.26
p2	3532.90	0.98	2.48 0.35	564.78	0.99	0.29 0.01	1010.02	1.38	620.86	719.00	1.44	707.93	538.42	1.55	752.31	1.24
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	3562.20	0.99	2.92 0.40	565.77	0.99	0.32 0.01	992.75	1.35	667.15	701.67	1.40	785.33	491.18	1.42	877.11	1.21
p1	3551.71	0.99	3.06 0.60	563.72	0.99	0.28 0.00	989.50	1.35	668.54	727.98	1.45	776.88	520.25	1.50	855.76	1.23
p2	3533.08	0.98	3.85 0.61	559.96	0.98	0.27 0.01	986.60	1.34	685.86	691.27	1.38	814.97	509.52	1.47	897.33	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	3572.34	0.99	1.16 0.00	567.69	0.99	0.37 0.01	898.60	1.22	908.38	621.92	1.24	1069.40	415.55	1.20	1175.78	1.12
p1	3557.66	0.99	1.13 0.00	566.26	0.99	0.34 0.01	885.73	1.21	962.97	636.08	1.27	1123.46	467.15	1.35	1242.35	1.15
p2	3541.80	0.98	1.30 0.01	566.71	0.99	0.34 0.00	895.58	1.22	913.53	591.25	1.18	1104.99	430.45	1.24	1207.29	1.12
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	3578.21	0.99	0.48 0.00	567.91	0.99	0.29 0.00	1015.52	1.38	609.47	695.62	1.39	718.70	494.82	1.43	757.65	1.22
p1	3558.86	0.99	0.49 0.00	566.15	0.99	0.30 0.01	1004.27	1.37	629.67	741.55	1.48	727.64	564.98	1.63	760.95	1.26
p2	3543.02	0.98	0.51 0.00	565.51	0.99	0.28 0.00	1003.08	1.37	635.52	703.67	1.41	748.69	509.30	1.47	796.51	1.22
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	3569.26	0.99	0.65 0.00	564.51	0.99	0.32 0.00	1016.08	1.38	603.15	730.30	1.46	687.36	524.92	1.51	744.14	1.24
p1	3553.63	0.99	0.64 0.00	558.26	0.98	0.30 0.01	1012.42	1.38	620.17	746.73	1.49	708.61	566.40	1.63	759.52	1.26
p2	3540.15	0.98	0.63 0.00	558.49	0.98	0.30 0.01	1014.98	1.38	605.09	725.88	1.45	698.56	520.10	1.50	756.73	1.24
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	3567.79	0.99	1.89 0.24	571.99	1.00	0.34 0.00	990.58	1.35	665.64	703.62	1.41	781.96	499.02	1.44	846.86	1.22
p1	3546.41	0.99	1.72 0.19	565.13	0.99	0.31 0.03	983.08	1.34	685.08	723.60	1.45	789.70	543.60	1.57	847.65	1.24
p2	3532.59	0.98	2.12 0.28	558.26	0.98	0.29 0.01	988.25	1.35	671.16	699.48	1.40	778.68	497.82	1.44	847.17	1.21
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	3552.15	0.99	4.00 0.84	574.18	1.00	0.44 0.00	891.95	1.21	896.86	625.73	1.25	1053.43	436.85	1.26	1174.51	1.14
p1	3544.32	0.99	3.80 0.58	567.94	0.99	0.40 0.00	882.58	1.20	952.41	634.27	1.27	1104.66	470.95	1.36	1208.63	1.15
p2	3538.62	0.98	4.33 0.79	562.32	0.98	0.36 0.02	886.10	1.21	938.14	612.70	1.22	1112.16	406.68	1.17	1240.40	1.11
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	3573.32	0.99	0.41 0.00	571.68	1.00	0.34 0.00	1014.67	1.38	614.31	725.70	1.45	703.59	520.33	1.50	753.20	1.24
p1	3557.18	0.99	0.40 0.00	572.82	1.00	0.32 0.00	1005.88	1.37	629.69	744.50	1.49	719.53	563.77	1.63	762.66	1.27
p2	3546.15	0.99	0.41 0.00	566.60	0.99	0.28 0.01	1003.67	1.37	627.45	717.88	1.43	726.70	508.98	1.47	791.90	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	3577.62	0.99	0.60 0.00	571.36	1.00	0.39 0.00	1005.90	1.37	622.05	724.30	1.45	704.33	519.62	1.50	755.88	1.24
p1	3571.45	0.99	0.59 0.00	568.01	0.99	0.31 0.01	1010.17	1.38	619.17	745.05	1.49	716.41	564.00	1.63	757.71	1.27
p2	3554.63	0.99	0.54 0.00	563.15	0.98	0.31 0.00	1012.30	1.38	618.44	699.80	1.40	702.82	493.73	1.42	758.33	1.22
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	3557.04	0.99	2.71 0.38	566.42	0.99	0.28 0.00	890.42	1.21	925.72	622.90	1.24	1077.84	433.35	1.25	1189.73	1.13

p1	3558.47	0.99	2.65 0.34	562.57	0.98	0.29 0.00	890.23	1.21	923.98	637.50	1.27	1101.53	452.18	1.30	1206.05	1.14
p2	3543.48	0.98	3.22 0.84	559.38	0.98	0.33 0.01	885.65	1.21	936.87	594.83	1.19	1105.87	425.98	1.23	1243.73	1.11
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	3570.75	0.99	1.01 0.00	564.28	0.99	0.31 0.00	886.80	1.21	938.10	641.95	1.28	1084.95	451.10	1.30	1208.20	1.15
p1	3558.88	0.99	1.02 0.00	563.09	0.98	0.32 0.01	893.88	1.22	931.29	615.33	1.23	1100.54	450.32	1.30	1215.88	1.14
p2	3557.45	0.99	1.11 0.00	560.52	0.98	0.35 0.02	888.98	1.21	940.87	612.02	1.22	1112.12	427.12	1.23	1236.11	1.12
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	3573.24	0.99	0.52 0.00	565.94	0.99	0.26 0.01	1005.73	1.37	631.26	747.15	1.49	723.47	536.30	1.55	783.28	1.25
p1	3562.94	0.99	0.52 0.00	561.75	0.98	0.29 0.01	1004.45	1.37	633.20	716.15	1.43	732.08	534.12	1.54	794.81	1.24
p2	3561.62	0.99	0.51 0.00	558.42	0.98	0.27 0.00	1006.33	1.37	636.48	713.27	1.43	743.43	504.40	1.45	813.31	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	3570.27	0.99	0.56 0.00	564.67	0.99	0.33 0.01	1009.27	1.37	610.31	751.77	1.50	695.89	543.48	1.57	753.14	1.26
p1	3569.83	0.99	0.62 0.00	561.53	0.98	0.32 0.00	1008.65	1.37	624.50	721.25	1.44	718.43	540.60	1.56	768.08	1.25
p2	3558.71	0.99	0.71 0.00	559.42	0.98	0.35 0.00	1010.00	1.38	611.90	724.45	1.45	704.94	519.02	1.50	751.91	1.24
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	3572.92	0.99	0.74 0.00	566.38	0.99	0.30 0.00	976.25	1.33	688.94	719.35	1.44	791.87	520.23	1.50	839.96	1.23
p1	3560.58	0.99	0.76 0.00	561.14	0.98	0.31 0.00	981.25	1.34	679.29	698.85	1.40	786.41	519.35	1.50	845.17	1.22
p2	3558.16	0.99	0.78 0.00	560.66	0.98	0.27 0.00	976.58	1.33	690.43	693.15	1.38	797.26	494.27	1.43	855.42	1.21
TILE_28	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3556.73	0.99	3.85 0.62	565.53	0.99	0.33 0.00	882.08	1.20	954.77	639.75	1.28	1088.19	448.73	1.29	1205.74	1.14
p1	3543.49	0.98	3.50 0.44	560.78	0.98	0.33 0.01	901.23	1.23	908.98	616.73	1.23	1102.83	427.85	1.23	1233.48	1.12
p2	3538.04	0.98	4.35 0.75	561.18	0.98	0.36 0.00	865.40	1.18	1011.85	601.20	1.20	1171.82	429.05	1.24	1346.63	1.11
TILE_29	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3565.51	0.99	1.62 0.18	565.89	0.99	0.27 0.01	1008.27	1.37	625.32	750.35	1.50	719.68	536.40	1.55	780.75	1.26
p1	3557.11	0.99	1.68 0.24	561.73	0.98	0.29 0.00	1005.88	1.37	638.97	710.00	1.42	753.47	503.60	1.45	823.42	1.22
p2	3551.16	0.99	1.97 0.35	562.06	0.98	0.30 0.02	996.33	1.36	654.10	711.77	1.42	753.58	527.52	1.52	829.44	1.23
TILE_30	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3573.82	0.99	0.59 0.00	565.28	0.99	0.30 0.00	997.00	1.36	651.94	762.33	1.52	740.14	551.05	1.59	808.12	1.26
p1	3558.40	0.99	0.63 0.00	560.28	0.98	0.34 0.01	1002.27	1.36	641.26	688.67	1.38	752.74	506.25	1.46	808.30	1.22
p2	3559.81	0.99	0.64 0.00	561.97	0.98	0.37 0.00	1000.48	1.36	651.25	735.85	1.47	741.09	531.50	1.53	804.58	1.24
TILE_31	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3574.99	0.99	0.48 0.00	564.49	0.99	0.30 0.01	883.27	1.20	944.47	631.42	1.26	1120.95	465.40	1.34	1235.84	1.15
p1	3565.85	0.99	0.48 0.00	561.88	0.98	0.31 0.00	893.42	1.22	931.73	610.25	1.22	1117.27	423.12	1.22	1253.55	1.12
p2	3556.32	0.99	0.48 0.00	562.35	0.98	0.29 0.00	862.15	1.17	1023.93	615.73	1.23	1203.55	429.35	1.24	1344.05	1.12
TILE_32	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3576.22	0.99	0.89 0.00	568.70	0.99	0.36 0.00	877.50	1.19	981.58	625.95	1.25	1156.25	460.27	1.33	1281.39	1.14

p1	3566.43	0.99	0.86 0.00	565.95	0.99	0.34 0.00	896.80	1.22	921.17	617.30	1.23	1096.12	426.73	1.23	1244.26	1.13
p2	3547.23	0.99	0.98 0.00	567.33	0.99	0.36 0.00	879.30	1.20	962.37	631.73	1.26	1125.13	443.23	1.28	1271.28	1.14
TILE_33	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3576.95	0.99	0.44 0.00	568.46	0.99	0.27 0.02	1009.02	1.37	627.40	744.23	1.49	727.89	560.05	1.61	785.74	1.27
p1	3558.22	0.99	0.45 0.00	568.12	0.99	0.29 0.00	1011.60	1.38	617.69	719.75	1.44	714.32	511.90	1.48	797.86	1.23
p2	3550.03	0.99	0.47 0.00	565.76	0.99	0.31 0.02	1008.83	1.37	631.60	744.60	1.49	730.96	533.27	1.54	795.22	1.25
TILE_34	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3563.84	0.99	3.14 0.54	570.25	1.00	0.30 0.00	1019.70	1.39	614.76	747.50	1.49	711.85	561.48	1.62	776.34	1.27
p1	3544.23	0.99	2.89 0.38	566.95	0.99	0.30 0.00	1014.80	1.38	616.12	726.73	1.45	715.61	512.80	1.48	778.33	1.24
p2	3528.66	0.98	4.05 0.86	567.93	0.99	0.30 0.00	1007.58	1.37	631.87	748.52	1.50	718.04	536.30	1.55	777.61	1.25
TILE_35	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(nRT MaxPctF)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	Actual	Ratio	QoS(ms)	GM
p0	3578.49	0.99	0.63 0.00	569.51	1.00	0.26 0.00	1001.75	1.36	651.76	734.00	1.47	770.67	546.98	1.58	838.45	1.26
p1	3563.39	0.99	0.61 0.00	566.44	0.99	0.26 0.00	1001.55	1.36	661.19	705.60	1.41	783.38	470.55	1.36	875.46	1.21
p2	3546.29	0.99	0.63 0.00	568.67	0.99	0.32 0.00	990.42	1.35	685.57	722.62	1.44	805.36	537.70	1.55	879.31	1.24
p0_score:	43.66															
p1_score:	43.39															
p2_score:	43.21															

Infrastructure_Operations_Scores:	vMotion	SVMotion	XVMotion	Deploy
Completed_Ops_PerHour	56.00	48.00	40.00	23.00
Avg_Seconds_To_Complete	5.95	95.53	123.22	272.95
Failures	0.00	0.00	0.00	0.00
Ratio	2.15	2.67	2.22	2.88
Number_Of_Threads	2	2	2	2

Summary	Run_Is_Compliant	Turbo_Setting:0
	Number_Of_Compliance_Issues(0)*	Median_Phase(p1)
Unreviewed_VMmark3_Applications_Score	43.39	
Unreviewed_VMmark3_Infrastructure_Score	2.46	
Unreviewed_VMmark3_Score	35.20	

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 8.0 U1a, build 21813344 / 06-01-2023

Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 8.0 U1c, Build 22088981 / 07-27-2023
Supplemental Software	None
Servers	
Number of Servers in System Under Test (all subsequent fields in this section are per server)	4
Server Manufacturer and Model	Supermicro AS-1115CS-TNR
Processor Vendor and Model	AMD EPYC 9654P
Processor Speed (GHz) / Turbo Boost Speed (GHz)	2.4 / 3.7
Total Sockets/Total Cores/Total Threads	1 Socket / 96 Cores / 192 Threads
Primary CPU Cache	32 KB I + 32 KB D on chip per core
Secondary CPU Cache	1 MB I+D on chip per core
Other CPU Cache	384 MB I+D on chip per chip, 32MB shared / 8 cores
BIOS Version	1.4
Memory Size (in GB, Number of DIMMs)	1536, 12
Memory Type and Speed	128GB 4Rx4 DDR5-4800 MHz RDIMM
Disk Subsystem Type	VMware vSAN 8.0 U1
Number of Disk Controllers	0
Disk Controller Vendors and Models	N/A
Total Number of Physical Disks for Hypervisor	1
Disk Vendors, Models, Capacities, and Speeds	Samsung SM963
Number of Host Bus Adapters	0
Host Bus Adapter Vendors and Models	N/A
Number of Network Controllers	1
Network Controller Vendors and Models	Supermicro AOC-A100G-m2CM
Other Hardware	None
Other Software	None

Hardware Availability Date (MM-DD-YYYY)	11-29-2022
BIOS Availability Date (MM-DD-YYYY)	04-17-2023
Software Availability Date (MM-DD-YYYY)	06-01-2023
Network	
Network Switch Vendors and Models	Cisco Nexus 31108TC-V
Network Speed	100Gb/s
Primary Storage	
Storage Category	VMware vSAN 8.0 U1
Storage Vendors, Models, and Firmware Versions	vSAN-ESA-AF-2-Supermicro-AS-1115CS-TNR
Storage Configuration Summary	VMware vSAN 8.0 U1 ESA : 6x Intel 6.4TB P5620 2.5" NVME
Datacenter Management Server	
System Model	SYS-220BT-HNTR
Processor Vendor and Model	Intel Xeon Gold 6240Y
Processor Speed (GHz)	2.6GHz
Total Sockets/Total Cores/Total Threads	2 Sockets / 36 Cores / 72 Threads
Memory Size (in GB, Number of DIMMs)	768GB, 12
Network Controller(s) Vendors and Models	Intel(R) Ethernet Controller 10G X550
Operating System, Version, Bitness, and Service Pack	VMware ESXi 8.0 GA Build 20513097
Virtual Center VM Number of vCPUs	8
Virtual Center VM Virtual Memory (in GB)	30
Virtual Center VM Operating System, Version, Bitness, and Service Pack	VMware vCenter Server 8.0 U1c, Build 22088981
Other Hardware	none
Other Software	none
Clients	

Total Number of Virtual Clients / Virtual Client Hosts	37 / 4
System Model(s)	AS-1124US-TNRP
Processor Vendor(s) and Model(s)	AMD EPYC 7453, AMD EPYC 7453, AMD EPYC 75F3, AMD EPYC 7713
Processor Speed(s) (GHz)	2.75, 2.75, 2.95, 2.0
Total Sockets/Total Cores/Total Threads	8 Sockets / 304 Cores / 608 Threads
Memory per Virtual Client Host	2 TB for first two host. 1 TB for third host. 512Gb for fourth host.
Network Controller(s) Vendors and Models	Supermicro AOC-S25G-i2S
Virtual Client Networking Notes	All management traffic and workload traffic running on a single 25Gb/s port
Virtual Client Storage Notes	All Client share same NFS datastore.
Other Hardware	None
Other Software	ESXi 8.0 Update 1a

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

Templates deployed with disk type: Thin

Virtualization Software Notes

- All Standby VMs had CPU shares set to low (default normal)
- All DS3DB, ElasticDB and ElasticLB, and DS3WebA VMs had CPU shares set to High (default normal)
- All DS3DB VM memory shares set to High (default normal)

- Added sched.mem.lpage.enable1GPage to TRUE for all DS3DB VMs. (default normal)
- All memory reserved for DS3DB VMs and PrimeClient (default non-reserved)
- Clients had CDROM removed. Floppy was not removed from any VMs.
- Advanced Setting "UserVars.HostClientCEIPOptIn" was set to 1 on all SUT hosts. (default 0).
- Logical CPU configuration changed for all multi-CPU VMs except for PrimeClient and clients to 1 socket with multiple cores. (default single core per socket)
- vSphere DRS Automation level set to Fully Automated.
- vSphere DRS Migration Threshold set to Fully Automated level 1.
- Logging was disabled for all VMs.
- CDROM was removed from all VMs except PrimeClient, Client and template VMs.

Server Notes

- Under Advanced Menu Tab -> CPU Configuration -> Global C-state Control was changed to "Disabled". (Default: Global C-state Control = Auto)
- Under Advanced Menu Tab -> CPU Configuration -> L2 Stream HW Prefetcher Set to "Disabled". (Default: L2 Stream HW Prefetcher = Auto)
- Under Advanced Menu Tab -> NB Configuration -> TDP control changed to "Manual" and set TDP to "400". (Default: TDP Control = Auto)
- Under Advanced Menu Tab -> NB Configuration -> Package Power Limit Control set to "Manual" and Package Power Limit set to "400". (Default: Package Power Limit Control = Auto)
- Under Advanced Menu Tab -> Determinism Control Set to "Manual" and Determinism Enable set to "Disable Performance Determinism". (Default: Determinism Control = Auto)

Networking Notes

- Single Distributed Switch with one uplink at vmnic0.
- Uplink1 contains the following distributed portgroup: Management Network, VM Network, VM Network2, vMotion and vSAN.
- vLAN ID 1006 consist of vSAN network.
- All other port groups are on vLAN ID 1007.
- VM Network2 untagged but native to vLAN ID 1007.
- MTU of DSwitch, vmnic0, vmk0, vmk1, and vmk2 set to 9000.
- Client VM use VM Network 2 and all other VM uses VM Network.

Storage Notes

- All client server OS installed on M.2 drive.
- All SUT hosts OS installed on M.2 drive
- NFS Folder configuration:
 - All folders are backed by the same NFS server on a single striped zfs array, mounted storage device detailed in the "Secondary Storage section."
 - Deploy1 datastore -> /data/Deploy
 - Deploy2 datastore -> /data/Deploy2
 - NFS datastore -> /data/VMmark2023-NFS
 - NFS3 datastore -> /data/VMmark2023-NFS2
 - System under Test configuration
 - AMD EPYC 9654P 2.70GHz processors
 - 1.5TB Memory (12 x 128GB 4800MHz)
 - 6 x Intel P5620 6.4TB NVMe (shelf)
 - Software configuration
 - All Flash vSAN ESA.

- vSAN Default Storage Policy used.
- Virtual Machine LUN Distribution:
 - vsanDatastore contains the following workloads:
 - AuctionAppA*
 - AuctionAppB*
 - AuctionDB*
 - AuctionLB*
 - AuctionMSQ*
 - AuctionNoSQL*
 - AuctionWebA*
 - AuctionWebB*
 - DS3DB*
 - DS3WebA*
 - DS3Webb*
 - DS3WebC*
 - ElasticAppA*
 - ElasticAppb*
 - ElasticDB*
 - ElasticLB*
 - ElasticWebA*
 - ElasticWebB*
 - Standby*

Secondary Shared Storage Device:

- Hardware:
 - SuperServer SYS-1029P-N32R
 - 768GB Memory 12x 72ASS8G72LZ-2G6D2 64GB 2666 DIMM @ 2666MHz; 1DPC
 - 2x MCX455A-ECAT - Single Port; bonded 100G LACP
 - 2x Xeon 6230; Turbo Enabled, H0 Stepping
 - 24x Intel 4TB P4500 (SSDPE2KX040T7) NVMe SSD's
 - 1x SuperMicro SSD 32GB SATADOM

Datacenter Management Server Notes

None

Operating System Notes

None

Software Notes

None

Client Notes

- MTU of DSwitch and vmnic1 (vmnic0 for fourth client hosts) set to 9000.
- DRS set to level 1.
- Advanced Setting "UserVars.HostClientCEIPOptIn" was set to 1 on all Client hosts (default 0)

Other Notes

- TileDelay=10 (default TileDelay=60).
- VCSupportTimeOut=4800 (default VCSupportTimeOut=2400).
- VCscratchDir= /root/VMmark3/results/scratch (default /root/VMmark3/samples/)
- ErrorImmediate = true (default false)

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