

VMmark® 3.1.1 Results

Server Vendor & Model: Inspur InMerge1100 (Inspur NF5280M6)
Storage Vendor & Model: VMware vSAN 7.0 U3 - All Flash
Hypervisor: VMware ESXi 7.0 U3d, Build 19482537
Datacenter Management Software: VMware vCenter Server 7.0 U3d, Build 19480866

**VMmark 3.1.1 Score =
25.74 @ 26 Tiles**

Number of Hosts: 4	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 8/320/640
Tested By: Inspur		Test Date: 08-22-2022
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	3571.18	0.99	0.67 0.01	562.53	0.98	0.62 0.28	945.25	1.29	742.57	668.45	1.34	852.38	467.35	1.35	955.73	1.18
p1	3571.18	0.99	0.63 0.00	559.70	0.98	0.55 0.27	950.10	1.29	734.46	693.70	1.39	845.68	514.95	1.48	928.81	1.21
p2	3549.66	0.99	0.57 0.00	556.24	0.97	0.66 0.41	950.02	1.29	734.90	669.40	1.34	857.23	466.05	1.34	959.98	1.17
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	3583.29	1.00	0.53 0.00	569.90	1.00	0.79 0.49	973.73	1.33	679.39	716.02	1.43	784.50	506.77	1.46	867.61	1.22
p1	3570.27	0.99	0.53 0.00	565.13	0.99	0.45 0.16	971.90	1.32	686.09	690.75	1.38	786.72	507.70	1.46	874.80	1.21
p2	3555.46	0.99	0.54 0.00	560.91	0.98	0.59 0.34	976.58	1.33	668.57	695.55	1.39	775.60	487.25	1.40	862.05	1.20
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	3576.82	0.99	0.61 0.00	567.56	0.99	0.62 0.33	976.38	1.33	674.25	725.67	1.45	762.23	513.38	1.48	845.51	1.23
p1	3569.24	0.99	0.62 0.00	567.84	0.99	0.58 0.31	974.55	1.33	673.02	693.67	1.39	774.94	508.40	1.47	853.86	1.22
p2	3547.55	0.99	0.62 0.00	565.44	0.99	0.50 0.17	973.65	1.33	680.02	698.33	1.40	769.38	486.80	1.40	862.92	1.20
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	3571.59	0.99	0.47 0.00	568.05	0.99	0.50 0.25	982.15	1.34	662.35	750.20	1.50	750.48	538.08	1.55	833.62	1.25
p1	3557.25	0.99	0.48 0.00	566.73	0.99	0.62 0.33	989.40	1.35	656.22	680.27	1.36	755.39	493.20	1.42	830.50	1.21
p2	3549.88	0.99	0.61 0.01	564.02	0.99	0.47 0.24	973.60	1.33	679.02	716.05	1.43	773.90	511.18	1.47	850.85	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	3567.46	0.99	0.75 0.01	570.59	1.00	0.94 0.63	935.38	1.27	777.49	684.92	1.37	892.48	499.90	1.44	998.65	1.20
p1	3549.16	0.99	0.58 0.00	567.59	0.99	0.95 0.69	950.85	1.29	731.15	671.95	1.34	851.39	465.90	1.34	969.48	1.18
p2	3541.27	0.98	0.66 0.01	563.12	0.98	0.56 0.31	938.40	1.28	773.58	687.67	1.37	872.03	482.10	1.39	997.21	1.19
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	3578.18	0.99	0.58 0.00	561.82	0.98	0.60 0.35	983.25	1.34	663.58	724.17	1.45	756.38	518.00	1.49	835.62	1.23
p1	3561.39	0.99	0.58 0.00	553.94	0.97	0.51 0.26	983.88	1.34	657.93	683.05	1.36	749.89	494.15	1.42	836.76	1.20

p2	3547.83	0.99	0.54 0.00	554.49	0.97	0.61 0.32	988.35	1.35	652.48	734.50	1.47	747.82	541.33	1.56	826.03	1.24
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	3565.13	0.99	0.52 0.00	564.69	0.99	0.44 0.22	997.62	1.36	636.38	713.52	1.43	713.42	529.92	1.53	784.10	1.24
p1	3553.54	0.99	0.55 0.00	566.93	0.99	0.55 0.25	1000.55	1.36	618.14	723.85	1.45	692.56	508.82	1.47	769.50	1.23
p2	3527.96	0.98	0.57 0.00	565.37	0.99	0.61 0.34	982.80	1.34	657.67	733.65	1.47	738.67	546.52	1.58	808.41	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	3579.67	0.99	0.46 0.00	568.96	0.99	0.96 0.66	988.88	1.35	654.97	705.73	1.41	750.28	496.90	1.43	821.65	1.22
p1	3560.48	0.99	0.48 0.00	567.15	0.99	1.06 0.67	970.48	1.32	690.71	690.58	1.38	790.25	509.52	1.47	865.49	1.21
p2	3552.87	0.99	0.49 0.00	561.12	0.98	0.49 0.20	973.55	1.33	685.77	693.70	1.39	783.81	512.30	1.48	856.98	1.21
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	3575.18	0.99	0.70 0.01	569.35	1.00	1.02 0.74	946.90	1.29	741.61	666.40	1.33	868.71	465.25	1.34	963.28	1.18
p1	3554.74	0.99	0.70 0.01	562.51	0.98	0.45 0.28	947.05	1.29	738.05	698.98	1.40	832.52	492.70	1.42	935.88	1.20
p2	3547.93	0.99	0.70 0.01	561.87	0.98	0.63 0.28	948.20	1.29	746.52	669.52	1.34	863.21	486.38	1.40	960.62	1.19
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	3584.09	1.00	0.41 0.00	572.59	1.00	1.04 0.65	991.42	1.35	651.88	709.75	1.42	755.51	470.60	1.36	852.79	1.21
p1	3568.13	0.99	0.41 0.00	568.87	0.99	0.68 0.43	976.27	1.33	688.60	724.73	1.45	774.68	532.62	1.54	875.36	1.24
p2	3552.93	0.99	0.42 0.00	562.38	0.98	0.46 0.29	990.50	1.35	660.98	679.17	1.36	760.13	495.65	1.43	847.60	1.20
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	3582.86	1.00	0.35 0.00	562.09	0.98	0.47 0.21	1006.70	1.37	615.64	719.92	1.44	696.68	509.73	1.47	768.73	1.23
p1	3564.82	0.99	0.37 0.00	560.94	0.98	0.52 0.23	999.33	1.36	621.98	742.00	1.48	695.17	557.30	1.61	760.75	1.26
p2	3555.42	0.99	0.38 0.00	555.70	0.97	0.57 0.26	1000.40	1.36	630.15	712.27	1.42	721.26	502.25	1.45	800.97	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	3584.30	1.00	0.37 0.01	564.86	0.99	0.61 0.38	997.33	1.36	627.25	713.40	1.43	717.57	502.95	1.45	796.70	1.23
p1	3571.44	0.99	0.38 0.00	560.54	0.98	0.57 0.36	993.02	1.35	648.10	733.90	1.47	730.85	547.12	1.58	799.98	1.25
p2	3561.77	0.99	0.37 0.00	558.21	0.98	0.40 0.20	1005.83	1.37	625.99	712.05	1.42	721.92	479.30	1.38	800.30	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	3577.47	0.99	0.47 0.00	570.72	1.00	0.87 0.78	964.98	1.31	719.68	706.48	1.41	820.33	499.52	1.44	921.83	1.22
p1	3563.77	0.99	0.46 0.00	567.39	0.99	0.87 0.68	973.12	1.33	687.05	688.08	1.37	806.06	506.90	1.46	886.76	1.21
p2	3540.27	0.98	0.48 0.00	567.20	0.99	0.94 0.70	967.50	1.32	706.30	683.98	1.37	817.43	475.07	1.37	930.41	1.19
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	3566.16	0.99	0.41 0.00	565.72	0.99	0.58 0.44	986.10	1.34	661.79	726.42	1.45	753.85	513.35	1.48	844.92	1.23
p1	3540.44	0.98	0.41 0.00	558.94	0.98	0.54 0.27	986.25	1.34	659.71	702.60	1.40	761.48	488.98	1.41	855.37	1.21
p2	3525.91	0.98	0.41 0.00	557.17	0.97	0.52 0.30	988.30	1.35	654.60	703.23	1.41	749.45	515.35	1.49	839.51	1.22
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	3580.88	1.00	0.35 0.00	568.47	0.99	0.79 0.52	1013.35	1.38	607.52	752.58	1.50	684.84	560.50	1.62	761.99	1.27
p1	3565.58	0.99	0.35 0.00	561.97	0.98	0.61 0.32	1023.25	1.39	585.37	733.88	1.47	676.93	515.27	1.49	756.72	1.24
p2	3556.53	0.99	0.36 0.00	560.97	0.98	0.47 0.18	1005.85	1.37	624.37	746.20	1.49	703.65	530.85	1.53	782.51	1.25
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	3582.06	1.00	0.41 0.00	566.49	0.99	0.62 0.31	988.85	1.35	645.74	730.48	1.46	721.62	548.10	1.58	797.92	1.25
p1	3564.82	0.99	0.44 0.00	558.54	0.98	0.44 0.25	993.98	1.35	630.56	717.30	1.43	716.69	501.05	1.44	801.73	1.22
p2	3550.13	0.99	0.44 0.00	557.64	0.97	0.53 0.23	988.35	1.35	652.44	733.50	1.47	728.27	522.75	1.51	808.91	1.23
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	3573.32	0.99	0.52 0.00	567.48	0.99	0.57 0.37	943.65	1.29	748.51	671.20	1.34	863.98	491.40	1.42	959.86	1.19
p1	3555.94	0.99	0.54 0.00	562.97	0.98	0.50 0.25	959.98	1.31	718.10	679.17	1.36	828.18	470.20	1.36	934.56	1.19
p2	3536.85	0.98	0.53 0.00	564.36	0.99	0.59 0.28	947.17	1.29	744.14	698.77	1.40	839.00	515.67	1.49	935.49	1.21
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	3576.99	0.99	0.44 0.00	570.24	1.00	0.70 0.62	994.88	1.35	636.69	714.00	1.43	726.19	524.83	1.51	811.12	1.24
p1	3572.02	0.99	0.44 0.00	560.53	0.98	0.57 0.33	998.42	1.36	631.25	715.95	1.43	717.69	501.55	1.45	798.52	1.22
p2	3553.53	0.99	0.46 0.00	558.99	0.98	0.47 0.23	994.67	1.35	641.21	739.70	1.48	713.95	552.08	1.59	790.40	1.25
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	3576.74	0.99	0.44 0.00	561.85	0.98	0.64 0.38	999.48	1.36	628.07	692.88	1.38	714.28	504.57	1.45	792.95	1.22
p1	3559.10	0.99	0.45 0.00	558.67	0.98	0.46 0.21	993.38	1.35	640.03	738.05	1.47	719.20	527.30	1.52	792.46	1.24
p2	3543.28	0.98	0.48 0.00	556.33	0.97	0.53 0.24	985.25	1.34	654.22	704.60	1.41	746.07	521.30	1.50	822.09	1.22
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	3581.52	1.00	0.45 0.00	564.15	0.99	0.76 0.52	988.02	1.35	640.52	709.27	1.42	736.03	499.48	1.44	807.54	1.22
p1	3567.74	0.99	0.47 0.00	561.10	0.98	0.50 0.17	982.15	1.34	659.18	727.17	1.45	736.12	525.00	1.51	800.88	1.23
p2	3550.62	0.99	0.46 0.00	554.94	0.97	0.60 0.30	979.65	1.33	663.20	697.95	1.39	761.70	520.77	1.50	817.43	1.22
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	3580.60	1.00	0.55 0.00	571.35	1.00	0.90 0.63	954.85	1.30	729.76	672.95	1.34	848.98	467.77	1.35	954.22	1.19
p1	3570.63	0.99	0.53 0.00	566.23	0.99	0.68 0.47	949.15	1.29	741.22	697.33	1.39	840.92	514.62	1.48	934.92	1.21
p2	3556.60	0.99	0.54 0.00	564.80	0.99	0.45 0.29	952.85	1.30	731.38	670.62	1.34	849.29	468.80	1.35	959.07	1.18
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	3576.92	0.99	0.50 0.00	563.59	0.98	0.57 0.22	975.08	1.33	667.73	693.90	1.39	772.27	488.93	1.41	851.48	1.21
p1	3565.33	0.99	0.53 0.00	563.18	0.98	0.49 0.25	966.98	1.32	682.54	719.25	1.44	770.92	536.55	1.55	842.70	1.23
p2	3547.71	0.99	0.52 0.00	558.99	0.98	0.51 0.30	975.58	1.33	666.34	697.67	1.39	762.37	490.00	1.41	852.52	1.20
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	3583.79	1.00	0.45 0.00	569.75	1.00	0.96 0.68	1000.62	1.36	633.97	739.48	1.48	727.81	522.30	1.51	812.28	1.25
p1	3559.45	0.99	0.45 0.00	567.31	0.99	0.99 0.64	998.30	1.36	643.85	709.52	1.42	736.28	522.35	1.51	821.41	1.23
p2	3540.68	0.98	0.49 0.00	561.94	0.98	0.57 0.27	1001.98	1.36	632.76	713.52	1.43	725.08	499.02	1.44	818.20	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	3579.49	0.99	0.40 0.00	572.33	1.00	0.98 0.64	991.58	1.35	643.16	731.42	1.46	737.38	519.65	1.50	830.27	1.24
p1	3560.94	0.99	0.41 0.00	567.47	0.99	0.50 0.29	981.23	1.34	680.12	694.95	1.39	776.61	510.48	1.47	865.76	1.22
p2	3551.85	0.99	0.42 0.00	561.39	0.98	0.64 0.36	992.38	1.35	656.97	707.25	1.41	755.02	491.73	1.42	843.25	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	3571.56	0.99	0.71 0.00	566.26	0.99	0.85 0.52	936.23	1.27	781.97	707.50	1.41	886.83	500.27	1.44	1010.15	1.21

p1	3573.37	0.99	0.70 0.00	559.65	0.98	0.47 0.19	955.88	1.30	735.72	649.20	1.30	864.59	464.27	1.34	975.76	1.17
p2	3557.41	0.99	0.71 0.00	561.81	0.98	0.67 0.31	939.77	1.28	765.56	692.02	1.38	878.02	481.15	1.39	999.08	1.19
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	3573.44	0.99	0.41 0.00	566.47	0.99	0.62 0.40	974.05	1.33	676.35	720.15	1.44	768.90	531.10	1.53	852.17	1.24
p1	3559.61	0.99	0.41 0.00	565.22	0.99	0.47 0.28	986.67	1.34	658.17	699.08	1.40	758.34	487.40	1.41	855.32	1.21
p2	3543.65	0.98	0.40 0.00	563.46	0.98	0.49 0.20	979.62	1.33	669.67	725.48	1.45	758.80	510.68	1.47	852.31	1.23
p0_score:	31.77															
p1_score:	31.65															
p2_score:	31.53															
Infrastructure_Operations_Scores:							vMotion	SVMotion	XVMotion	Deploy						
Completed_Ops_PerHour							54.00	38.00	34.00	19.00						
Avg_Seconds_To_Complete							10.60	150.18	167.01	341.24						
Failures							0.00	0.00	0.00	0.00						
Ratio							2.08	2.11	1.89	2.38						
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							31.65									
Unreviewed_VMmark3_Infrastructure_Score							2.11									
Unreviewed_VMmark3_Score							25.74									

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 7.0 U3d, Build 19482537 / 03-29-2022
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 7.0 U3d, Build 19480866 / 03-29-2022
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	Inspur NF5280M6
Processor Vendor and Model	Intel Xeon Platinum 8380
Processor Speed (GHz) / Turbo Boost Speed (GHz)	2.3 / 3.4
Total Sockets/Total Cores/Total Threads	2 Sockets / 80 Cores / 160 Threads

Primary CPU Cache	32KB I + 48 KB D on chip per core
Secondary CPU Cache	1280 KB I + D on chip per chip
Other CPU Cache	60 MB I + D on chip per chip
BIOS Version	06.00.03(01/28/2022)
Memory Size (in GB, Number of DIMMs)	1024,32
Memory Type and Speed	32GB 2Rx4 PC4-3200 MHz RDIMM
Disk Subsystem Type	vSAN,iSCSI
Number of Disk Controllers	1
Disk Controller Vendors and Models	Intel Corporation Lewisburg SATA AHCI Controller
Total Number of Physical Disks for Hypervisor	1
Disk Vendors, Models, Capacities, and Speeds	Intel,M.2 SATA SSD,480G,6Gbps
Number of Host Bus Adapters	none
Host Bus Adapter Vendors and Models	none
Number of Network Controllers	4
Network Controller Vendors and Models	1x I350 Gigabit Network Connection 1G 2-port 2x E810-XXVAM2 25G 2-port for SFP 1x E810-XXV 25G 2-port for SFP
Other Hardware	none
Other Software	none
Hardware Availability Date (MM-DD-YYYY)	04-01-2022
BIOS Availability Date (MM-DD-YYYY)	01-28-2022
Software Availability Date (MM-DD-YYYY)	03-29-2022
Network	
Network Switch Vendors and Models	ruijie RG-S5510-24GT/8SFP-E Mellanox Switch-Eth SN2410 48P 25GbE & 8P 100GbE
Network Speed	1 Gb/s for management SUT host: 1x 25Gb/s for vMotion 1x 25Gb/s for vSAN 2x 25Gb/s for VMs 1x 25Gb/s for iSCSI Client host: 1x 25Gb/s for VMs
Primary Storage	
Storage Category	VMware vSAN
Storage Vendors, Models, and Firmware Versions	4 x Inspur NF5280M6 servers in a VMware vSAN 7.0 U3 cluster
Storage Configuration Summary	VMware vSAN 2 x Disk Groups per host 1 x Intel P4510 4T U.2 SSD for vSAN cache per Disk Group 2 x Intel P4510 4T U.2 SSD for vSAN storage per Disk Group
Datacenter Management Server	
System Model	Inspur NF5280M6

Processor Vendor and Model	Intel Xeon Platinum 8380
Processor Speed (GHz)	2.3
Total Sockets/Total Cores/Total Threads	2 Sockets / 80 Cores / 160 Threads
Memory Size (in GB, Number of DIMMs)	1024,32
Network Controller(s) Vendors and Models	1x I350 Gigabit Network Connection 1G 2-port 1x E810-XXV 25G 2-port for SFP
Operating System, Version, Bitness, and Service Pack	VMware ESXi 7.0 U3c, Build 19193900
Virtual Center VM Number of vCPUs	4
Virtual Center VM Virtual Memory (in GB)	19
Virtual Center VM Operating System, Version, Bitness, and Service Pack	VMware vCenter Server 7.0 U3d, Build 19480866
Other Hardware	none
Other Software	none

Clients

Total Number of Virtual Clients / Virtual Client Hosts	27 / 3
System Model(s)	host1:Inspur NF5280M6 host2:Inspur NF5280M6 host3:Inspur NF8480M6
Processor Vendor(s) and Model(s)	host1:Intel Xeon Platinum 8380 host2:Intel Xeon Platinum 8358 host3:Intel Xeon Gold 6348H
Processor Speed(s) (GHz)	host1: 2.3 GHz host2: 2.6 GHz host3: 2.3 GHz
Total Sockets/Total Cores/Total Threads	host1: 2 Sockets / 80 Cores / 160 Threads host2: 2 Sockets / 64 Cores / 128 Threads host3: 4 Sockets / 96 Cores / 192 Threads
Memory per Virtual Client Host	host1: 1TB host2: 896GB host3: 3TB
Network Controller(s) Vendors and Models	host1: 1x I350 1G for management 1x E810-XXV 25G for Client host2: 1x Intel 82599 run at 1G for management 1x E810-XXV 25G for Client host3: 1x I350 1G for management 1x E810-XXV 25G for Client
Virtual Client Networking Notes	host1:vSwitch0 on vmnic0 for management (1G),vSwitch1 on vmnic2 for VMs (25G) host2:vSwitch0 on vmnic0 for management (1G),vSwitch1 on vmnic3 for VMs (25G) host3:vSwitch0 on vmnic0 for management (1G),vSwitch1 on vmnic14 for VMs (25G)
Virtual Client Storage Notes	host1:1 x P4510 4T for Client,1 x Intel M.2 SATA SSD 480G for OS host2:1 x P4510 1.6T for Client,1x P4510 1.6T for OS host3:1 x P4510 4T for Client,1 x P4510 4T for OS
Other Hardware	none
Other Software	host1&host2:VMware ESXi 7.0 U3d, Build 19482537 host3:VMware ESXi 7.0 U3c, 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	Yes	Yes

Spectre	2017-5715	Variant 2	Branch Target Injection	Yes	Yes	Yes
Meltdown	2017-5754	Variant 3	Rogue Data Cache Load	N/A	Yes	Yes
Spectre-NG	2018-3640	Variant 3a	Rogue System Register Read	Yes	N/A	N/A
Spectre-NG	2018-3639	Variant 4	Speculative Store Bypass	N/A	Yes	Yes
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	Yes
Foreshadow-NG	2018-3646	Variant 5	L1 Terminal Fault - VMM	N/A	Yes	N/A

Notes for Workload

Template deployed with disk type: Thin

Virtualization Software Notes

-Logical CPU configuration changed for all multi-CPU VMs to 1 socket with multiple cores (default single core per socket)

-Memory shares set to high for all DS3DB,ElasticDB,Client (default normal)

-CPU shares set to high for all DS3DB,Client and all Elastic VMs (default normal)

-CDROM removed from all VMs except for Elastic, PrimeClient, and template VMs.

-All memory reserved for DS3DB,ElasticDB (default non-reserved)

-sched.mem.pin was set to "TRUE" for DS3DB,ElasticDB VMs

-CPU shares set to low for all Standby VMs (default normal)

-vSphere DRS Migration Threshold set to Fully Automated level 1

Advanced settings:

-Cpu.CreditAgePeriod = 1000 (default 3000)

-Cpu.HTWholeCoreThreshold = 0 (default 800)

-DataMover.HardwareAcceleratedInit = 0 (default 1)

-DataMover.HardwareAcceleratedMove = 0 (default 1)

-Disk.IdleCredit = 64 (default 32)

-Disk.ReqCallThreshold = 1 (default 8)

-Mem.CtlMaxPercent = 0 (default 65)

-Mem.ShareScanGHz = 0 (default 4)

-Net.MaxNetifTxQueueLen = 1000 (default 2000)

-Net.MaxPortRxQueueLen = 160 (default 80)

-Numa.LTermFairnessInterval = 0 (default 5)

-Numa.MigImbalanceThreshold = 57 (default 10)

-Numa.PageMigEnable = 0 (default 1)

-Numa.RebalancePeriod = 6000 (default 2000)

-Numa.SwapLoadEnable = 0 (default 1)

-Numa.SwapLocalityEnable = 0 (default 1)

-Power.CpuPolicy = High Performance (default Balanced)

-VMFS3.HardwareAcceleratedLocking = 0 (default 1)

-VMkernel.Boot.hyperthreadingMitigation = true (default false)

-UserVars.HostClientCEIPOptIn= 2(default 0)

-UserVars.SuppressShellWarning = 1 (default 0)

Server Notes

-Sub Numa Clustering set to Disabled (default : Enabled)

-DCU Stream Prefetcher set to Disabled (default : Enabled)

-DCU IP Prefetcher set to Disabled (default : Enabled)

-LLC Prefetch set to Enabled (default : Disabled)

-LLC Dead Line Allocation set to Disabled (default : Enabled)

-Stale A to S set to Enabled (default : Disabled)

Networking Notes

-vSwitch0 for Service Console on vmnic0 at 1Gbps

vmk0 connected with vSwitch0 for management

-vSwitch1 for Auction, DS3, Standby, DeployVM,ElasticLB, VMs on vmnic2 at 25Gbps

MTU 9000 (default 1500)

-vSwitch2 for all Elastic except ElasticLB VMs on vmnic6 at 25Gbps

MTU 9000 (default 1500)

-Distributed Virtual Switch DSwitch1 for vMotion on vmnic5 at 25Gbps

vmk1 connected with DSwitch1 for vMotion

MTU 9000 (default 1500)

-Distributed Virtual Switch DSwitch for vSAN on vmnic4 at 25Gbps

vmk2 connected with DSwitch

MTU 9000 (default 1500)

-iscsi Virtual Switch for iSCSI on vmnic3 at 25Gbps

vmk3 connected with iscsi

Storage Notes

VMware vSAN 7.0 U3

-Capacity: 58.22TB

-Cache: 11.64TB

-Hardware Configuration:

Each host had 2 disk group

each group has 1 x P4510 4TB for cache and 2 x P4510 4TB for storage

iSCSI

-hardware:Inspur NF5280M6

-OS:Windows Server Datacenter 2019

-Network: 1 x E810-XXV 25G

LUN1: 4 x P4510 4T RAID 5

LUN2: 4 x P4510 4T RAID 5

Datacenter Management Server Notes

none

Operating System Notes

none

Software Notes

none

Client Notes

-Client-host1: Client15,Client16,Client17,Client18,Client19,Client20,Client21,Client22,Client23,Client25,PrimeClient,VMware vCenter Server

-Client-host2: Client9,Client10,Client11,Client12,Client13,Client14

-Client-host3: Client0,Client1,Client2,Client3,Client4,Client5,Client6,Client7,Client8,Client24,ntp

Advanced Settings:

-Power.CpuPolicy = High Performance (default Balanced)

-UserVars.HostClientCEIPOptIn = 2 (default 0)

-UserVars.SuppressShellWarning = 1 (default 0)

Server notes:

- Sub Numa Clustering set to Disabled (default : Enabled)
- DCU Stream Prefetcher set to Disabled (default : Enabled)
- DCU IP Prefetcher set to Disabled (default : Enabled)
- LLC Prefetch set to Enabled (default : Disabled)
- LLC Dead Line Allocation set to Disabled (default : Enabled)
- Stale A to S set to Enabled (default : Disabled)

Networking notes:

- Client-host1:vSwitch0 on vmnic0 connected with vmk0 for management at 1Gbps
vSwitch1 on vmnic2 for VMs at 25Gbps MTU 9000 (default 1500)
- Client-host2: vSwitch0 on vmnic0 connected with vmk0 for management at 1Gbps
vSwitch1 on vmnic3 for VMs at 25Gbps MTU 9000 (default 1500)
- Client-host3: vSwitch0 on vmnic0 connected with vmk0 for management at 1Gbps
vSwitch1 on vmnic14 for VMs at 25Gbps MTU 9000 (default 1500)

Storage notes:

- Client-host1: 1 x P4510 4T for Client , 1 x Intel M.2 SATA SSD 480G for OS
- Client-host2: 1 x P4510 1.6T for Client, 1 x P4510 1.6T for OS
- Client-host3: 1 x P4510 4T for Client, 1 x P4510 4T for OS

Other Notes

Changes to VMmark3.properties file:

- TileDelay = 30 (default 60)

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

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