VMware® VMmark® V2.5.2 Result

Vendor and Hardware Platform: HPE Synergy 480 Gen9 Virtualization Platform: VMware ESXi 6.0.0 U2 Build 3620759 VMware vCenter Server : VMware vCenter Server 6.0.0 U2 Build 3634793	Non-Compliant

Number of Hosts: 10	Uniform Hosts [yes/no]: yes	Total sockets/cores/threads in test: 20/440/880
Tested By: Hewlett Packard Enterprise	Test Date: 04-21-2017	

Performance Section	Configuration Section	Notes Section
Performance	Configuration	Notes for Workload

It has been determined that this result was not in compliance with the VMmark Run and Reporting Rules. Specifically, this result used tunings that are not generally available and therefore was not in compliance with section 3.2 of the Run and Reporting Rules.

Performance -- all data has been removed = NC

	mailserver			olio			dvdstoreA			dvdstoreB			dvdstoreC			
TILE_0	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_1	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_2	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_3	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_4	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_5	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																

p1																
p2																
TILE_6	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_7	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_8	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_9	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_10	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_11	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_12	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_13	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_14	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																

p2																
TILE_15	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_16	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_17	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_18	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_19	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_20	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_21	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_22	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_23	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																

TILE_24	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_25	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_26	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_27	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_28	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_29	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_30	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_31	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_32	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_33	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM

p0																
p1																
p2																
TILE_34	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_35	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_36	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_37	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_38	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_39	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_40	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_41	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_42	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																

p1																
p2																
TILE_43	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_44	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_45	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_46	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_47	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_48	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_49	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_50	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_51	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																

p2																
TILE_52	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_53	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_54	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_55	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_56	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_57	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_58	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_59	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_60	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																

TILE_61	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_62	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_63	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_64	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_65	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_66	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_67	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_68	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_69	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_70	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM

p0																
p1																
p2																
TILE_71	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_72	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_73	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_74	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_75	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_76	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_77	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_78	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_79	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																

p1																
p2																
TILE_80	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_81	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_82	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_83	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_84	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_85	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_86	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_87	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_88	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																

p2																
TILE_89	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_90	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_91	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_92	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_93	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_94	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_95	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_96	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_97	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																

TILE_98	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_99	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_100	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_101	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_102	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_103	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_104	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_105	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_106	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_107	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM

p0																
p1																
p2																
TILE_108	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_109	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_110	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_111	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_112	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_113	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_114	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_115	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_116	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																

p1																
p2																
TILE_117	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_118	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																
TILE_119	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	Actual	Ratio	QoS	GM
p0																
p1																
p2																

p0_score:	NC
p1_score:	NC
p2_score:	NC

Infrastructure_Operations_Scores:	vmotion	svmotion	deploy
Completed_Ops_PerHour	NC	NC	NC
Avg_Seconds_To_Complete	NC	NC	NC
Failures	NC	NC	NC
Ratio	NC	NC	NC
Number_Of_Threads	NC	NC	NC

Summary	NC	Turbo_Setting:0
	Number_Of_Compliance_Issues - NC	Median_Phase(NC)
Unreviewed_VMmark2_Applications_Score	NC	
Unreviewed_VMmark2_Infrastructure_Score	NC	
Unreviewed_VMmark2_Score	NC	

Configuration

Virtualization Software	
Hypervisor Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware ESXi 6.0.0 U2 Build 3620759 / 03-15-2016
Datacenter Management Software Vendor, Product, Version, and Build / Availability Date (MM-DD-YYYY)	VMware vCenter Server 6.0.0 U2 Build 3634793 / 03-15-2016

Supplemental Software	none
Servers	
Quantity	10
Server Manufacturer and Model	HPE Synergy 480 Gen9
Processor Vendor and Model	Intel Xeon E5-2699 v4
Processor Speed (GHz)	2.20
Total Sockets/Total Cores/Total Threads	2 Sockets / 44 Cores / 88 Threads
Primary Cache	32KB I + 32KB D on chip per core
Secondary Cache	256KB I+D on chip per core
Other Cache	55MB I+D on chip per chip L3
BIOS Version	I37 v2.20 09/14/2016
Memory Size (in GB, Number of DIMMs)	512, 16
Memory Type and Speed	32GB 2Rx4 DDR4 2400 MHz RDIMM
Disk Subsystem Type	FC SAN
Number of Disk Controllers	1
Disk Controller Vendors and Models	HPE Smart Array P240nr
Number of Host Bus Adapters	1
Host Bus Adapter Vendors and Models	HPE Synergy 3830C 16Gb FC HBA (dual port)
Number of Network Controllers	2
Network Controller Vendors and Models	2 x HPE Synergy 3820C 10/20Gb CNA
Other Hardware	2 x HPE Synergy 12000 Frame
Other Software	HPE OneView version 3.00.05-0271823
Hardware Availability Date (MM-DD-YYYY)	12-28-2016
Software Availability Date (MM-DD-YYYY)	03-15-2016
Network	
Network Switch Vendors and Models	4 x HPE Synergy Virtual Connect SE 40Gb F8 Module 4 x HPE Synergy 20Gb Interconnect Link Module 1 x HPE FlexFabric 5700 32XGT 8XG 2QSFP+ Switch
Network Speed	Details in Networking Notes
Storage	
Array Vendors, Models, and Firmware Versions	3 x HPE 3PAR StoreServ 7450c four-controller system, with 3PAR OS 3.2.1 (MU1) 1 x HPE 3PAR StoreServ 7450 four-controller system, with 3PAR OS 3.2.1 (MU2)
Fibre Channel Switch Vendors and Models	4 x Brocade 16Gb/24 FC Switch Module for Synergy 2 x HPE SN6000B 16Gb 48-port Fibre Channel Switch
Disk Space Used	56340 GB
Array Cache Size	16 GB

Total Number of Physical Disks Used	Internal: 20 (2 per host) External: 308
Total Number of Enclosures/Pods/Shelves Used	4
Number of Physical Disks Used per Enclosure/Pod/Shelf	Details in Storage Notes
Total Number of Storage Groups Used	0
Number of LUNs Used	179
LUN Size and Number of Disks Per LUN	Details in Storage Notes
RAID Type	1
Number of Members per RAID Set	Details in Storage Notes
Disk Vendors, Models, and Speeds	240 x HPE 3PAR StoreServ M6710 480GB SAS SFF (2.5in) Solid State Drive (P/N E7W54B) 68 x HPE 3PAR StoreServ M6710 920GB SAS SFF (2.5in) Solid State Drive (P/N E7W24B) 20 x HPE 400GB SAS 12G Mixed Use SFF (2.5in) Solid State Drive (P/N 822555-B21)

Datacenter Management Server	
System Model	HPE Synergy 480 Gen9
Processor Vendor and Model	Intel Xeon E5-2697 v4
Processor Speed (GHz)	
Total Sockets/Total Cores/Total Threads	2 Sockets / 36 Cores / 72 Threads
Memory	256 GB
Network Controller(s) Vendors and Models	2 x Synergy 3820C 10/20Gb CNA
Operating System, Version, Bitness, and Service Pack	Microsoft Windows Server 2016 Datacenter, 64-bit
Other Hardware	none
Other Software	VMware vCenter Server 6.0.0 U2 Build 3634793 Microsoft SQL Server 2008 R2 Enterprise SP3 (64-bit)

Clients	
Total Number of Clients / Total Physical Clients / Total Virtual Client Hosts	121 / 11 / 10
System Model(s)	Prime Client: HP ProLiant DL360 G8 Client Hosts: HPE Synergy 480 Gen9
Processor Vendor(s) and Model(s)	Prime Client: Intel Xeon E5-2670 Client Hosts: Intel Xeon E5-2697 v4
Processor Speed(s) (GHz)	Prime Client: 2.60 Client Hosts: 2.30
Total Sockets/Total Cores/Total Threads	Prime Client: 2 Sockets / 16 Cores / 32 Threads Client Hosts: 2 Sockets / 36 Cores / 72 Threads
Memory per Physical Client	Prime Client: 128 GB Client Hosts: 256 GB
Network Controller(s) Vendors and Models	Prime Client: HP Ethernet 1Gb 4-port 366FLR FIO Adapter Client Hosts: 2 x HPE Synergy 3820C 10/20Gb CNA
Operating System, Version, Bitness, and Service Pack	Prime Client: Microsoft® Windows® 2008 R2 Enterprise SP1 (64-bit) Client Hosts: VMware ESXi 6.0 U2 Build 3620759

Number of Virtual Clients	120
Number of vCPUs Per Virtual Client	4
Number of vMem (GB) Per Virtual Client	4 GB
Virtual Client Networking Notes	Details in Client Notes
Virtual Client Storage Notes	Details in Client Notes
Other Hardware	Details in Other Notes
Other Software	Client VMs (Guest OS): Microsoft® Windows® 2008 R2 Enterprise (64-bit)

Notes for Workload

Virtualization Software Notes

- All DS2 and Olio VMs used virtual hardware V11
- All Mailserver and Standby VMs and Deploy templates used virtual hardware V7
- All DS2 and Olio VMs had VMware tools version 9536 installed and running
- All Mailserver and Standby VMs had VMware tools version 8305 installed and running
- Ethernet adapter type set to vmxnet3 for all VMs (default vmxnet2)
- Logging was disabled for all VMs (default enabled)
- CD & floppy devices were removed on all VMs (default enabled)
- All VMs besides standby and deploy template used Paravirtual Controller (default LSI Logic)
- Cluster DRS Automation Level set to Fully Automated
- DrsMigrationThreshold set to level 2
- Logical CPU layout changed for all multi-cpu VMs to 1 socket with multiple cores. (default Single core per socket)
- All DS2DB VMs had CPU shares set to High (default Normal)
- Multiqueue is disabled in the vmxnet3 driver on all Linux VMs
- sched.mem.min and sched.mem.minsize were set to the VMs memory size for all VMs except deploy template (default 0)
- sched.mem.pin = TRUE set for all VMs except deploy template VM (default FALSE)
- sched.mem.maxmemctl = 0 set for all VMs except deploy template VM (default enabled)
- sched.mem.shares = high for all DS2DBs (default normal)

Advanced Settings:

- Config.HostAgent.log.level = warning (default info)
- Cpu.CreditAgePeriod = 1961 (default 3000)
- Cpu.HTWholeCoreThreshold =0 (default 200)
- DataMover.HardwareAcceleratedInit = 0 (default 1)
- DataMover.HardwareAcceleratedMove = 0 (default 1)
- Disk.ReqCallThreshold = 1 (default 8)
- Disk.IdleCredit = 64 (default 32)
- Disk.UseIOWorlds = 1 (default 0)
- Mem.BalancePeriod = 0 (default 15)
- Mem.CtlMaxPercent = 0 (default 65)
- Mem.SamplePeriod = 0 (default 60)
- Mem.ShareScanGHz = 0 (default 4)
- Net.MaxNetifRxQueueLen =1000 (default 100)
- Net.MaxNetifTxQueueLen =2000 (default 500)
- Net.MaxPortRxQueueLen = 160 (default 80)
- Numa.LTermFairnessInterval = 0 (default 5)
- Numa.MigImbalanceThreshold = 57 (default 10)
- Numa.PageMigEnable = 0 (default 1)

- Numa.PreferHT = 1 (default 0)
- Numa.RebalancePeriod = 60000 (default 2000)
- Numa.SwapLoadEnable =0 (default 1)
- Numa.SwapLocalityEnable =0 (default 1)
- Power.CpuPolicy = static (default balanced)
- Syslog.global.defaultSize = 112 (default 1024)
- VMFS3.HardwareAcceleratedLocking =0 (default 1)
- Vpx.Vpxa.config.log.level = warning (default verbose)

Server OS (VMware ESXi 6.0.0 U2 Build 3620759) was installed using VMware-ESXi-6.0.0-Update2-3620759-HPE-600.9.6.5.7-Dec2016.iso, which was preloaded with HPE device drivers. No driver upgrades were made after the OS was installed.

Server Notes

Server BIOS settings:

- HP Power Profile set to Maximum Performance (default: Balanced Power and Performance)
- QPI snoop mode set to cluster on die (default: Home Snoop)
- Thermal Configuration set to Maximum Cooling (default: Optimal Cooling)
- Memory Refresh Rate set to 1x Refresh (default: 2x Refresh)
- Intel Turbo Boost Enabled (frequency boost to 3.6 GHz) (default Enabled)

Networking Notes

ESXi				HPE OneView Server Profile			
vmnic	**vSwitch**	**Purpose**	**Speed**	**Physical Port**	**Requested Bandwidth**	**Allocated Bandwidth**	**Max Bandwidth**
vmnic0	vSwitch0	Service Console	20 Gb/s	Mezannine 2 Port 1	1 Gb/s	1 Gb/s	20 Gb/s
vmnic1	vSwitch3	DS2 workload	20 Gb/s	Mezannine 2 Port 2	20 Gb/s	20 Gb/s	20 Gb/s
vmnic2	vSwitch1	vmkernel vMotion	5 Gb/s	Mezannine 2 Port 1	5 Gb/s	5 Gb/s	5 Gb/s
vmnic3	vSwitch5	standby and deploy workloads	20 Gb/s	Mezannine 2 Port 1	14 Gb/s	14 Gb/s	20 Gb/s
vmnic4	vSwitch2	Olio workload	20 Gb/s	Mezannine 3 Port 1	20 Gb/s	20 Gb/s	20 Gb/s
vmnic5	vSwitch4	Mailserver workload	20 Gb/s	Mezannine 3 Port 2	20 Gb/s	20 Gb/s	20 Gb/s

Each HPE Synergy 3820C 10/20Gb CNA has 2 physical ports capable of 20 Gb/s. When combined with HPE Synergy Virtual Connect fabric modules, each physical port of the HPE Synergy 3820C NIC can be configured to have up to 4 virtual ports with configurable throughput speeds (the total throughput speeds of all virtual ports of a physical port cannot exceed 20 Gb/s). Virtual port configuration is achieved by configuring server profiles in the HPE OneView management software.

ESXi 6.0 U2 is identifying the max bandwidth from the HPE OneView Server Profile as the port speed for each vmnic.

Storage Notes

- ESXi was installed on two disks configured as RAID1 in the internal server storage bays on each SUT
- First HPE 3PAR storage device
  - HPE 3PAR StoreServ 7450c
  - Physical Configuration
    - 3PAR Operating System 3.2.1 (MU1)
    - 4 x HPE 3PAR StoreServ 7450c Controller Nodes
    - 16 GB of cache for controller node
    - 4 x drive cages
    - 80 x 480GB SAS SFF SSDs

        - 20 x SSDs in each drive cage
    - Virtual Configuration
        - All LUNs were configured as RAID1 and striped across all SSDs.
        - Total LUNs: 41
        - 8 LUNs (450 GB) for mailserver VMs
            - 1 LUN for tiles 0, 32, 64, 96
            - 1 LUN for tiles 4, 36, 68, 100
            - 1 LUN for tiles 8, 40, 72, 104,
            - 1 LUN for tiles 12, 44, 76, 108
            - 1 LUN for tiles 16, 48, 80, 112
            - 1 LUN for tiles 20, 52, 84, 116
            - 1 LUN for tiles 24, 56, 88,
            - 1 LUN for tiles 28, 60, 92
        - 8 LUNs (100 GB) for OlioDB VMs
            - 1 LUN for tiles 0, 32, 64, 96
            - 1 LUN for tiles 4, 36, 68, 100
            - 1 LUN for tiles 8, 40, 72, 104,
            - 1 LUN for tiles 12, 44, 76, 108
            - 1 LUN for tiles 16, 48, 80, 112
            - 1 LUN for tiles 20, 52, 84, 116
            - 1 LUN for tiles 24, 56, 88,
            - 1 LUN for tiles 28, 60, 92
        - 8 LUNs (475 GB) for OlioWeb VMs
            - 1 LUN for tiles 0, 32, 64, 96
            - 1 LUN for tiles 4, 36, 68, 100
            - 1 LUN for tiles 8, 40, 72, 104,
            - 1 LUN for tiles 12, 44, 76, 108
            - 1 LUN for tiles 16, 48, 80, 112
            - 1 LUN for tiles 20, 52, 84, 116
            - 1 LUN for tiles 24, 56, 88,
            - 1 LUN for tiles 28, 60, 92
        - 8 LUNs (275 GB) for DS2DB VMs
            - 1 LUN for tiles 0, 32, 64, 96
            - 1 LUN for tiles 4, 36, 68, 100
            - 1 LUN for tiles 8, 40, 72, 104,
            - 1 LUN for tiles 12, 44, 76, 108
            - 1 LUN for tiles 16, 48, 80, 112
            - 1 LUN for tiles 20, 52, 84, 116
            - 1 LUN for tiles 24, 56, 88,
            - 1 LUN for tiles 28, 60, 92
        - 8 LUNS (225 GB) for DS2Web VMs
            - 1 LUN for tiles 0, 32, 64, 96
            - 1 LUN for tiles 4, 36, 68, 100
            - 1 LUN for tiles 8, 40, 72, 104,
            - 1 LUN for tiles 12, 44, 76, 108
            - 1 LUN for tiles 16, 48, 80, 112
            - 1 LUN for tiles 20, 52, 84, 116
            - 1 LUN for tiles 24, 56, 88,
            - 1 LUN for tiles 28, 60, 92
        - 1 LUN (315 GB) for standby VMs
            - tiles 0, 4, 8, 12, 16, 20, 24, 28, 32 ,36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76, 80, 84, 88, 92, 96, 100, 104, 108, 112, 116
- Second HPE 3PAR storage device
    - HPE 3PAR StoreServ 7450c
    - Physical Configuration

        - 3PAR Operating System 3.2.1 (MU1)
        - 4 x HPE 3PAR StoreServ 7450c Controller Nodes
        - 16 GB of cache for controller node
        - 4 x drive cages
        - 72 x 480GB SAS SFF SSDs
            - 18 x SSDs in each drive cage
    - Virtual Configuration
        - All LUNs were configured as RAID1 and striped across all SSDs.
        - Total LUNs: 41
        - 8 LUNs (450 GB) for mailserver VMs
            - 1 LUN for tiles 1, 33, 65, 97
            - 1 LUN for tiles 5, 37, 69, 101
            - 1 LUN for tiles 9, 41, 73, 105
            - 1 LUN for tiles 13, 45, 77, 109
            - 1 LUN for tiles 17, 49, 81, 113
            - 1 LUN for tiles 21, 53, 85, 117
            - 1 LUN for tiles 25, 57, 89
            - 1 LUN for tiles 29, 61, 93
        - 8 LUNs (100 GB) for OlioDB VMs
            - 1 LUN for tiles 1, 33, 65, 97
            - 1 LUN for tiles 5, 37, 69, 101
            - 1 LUN for tiles 9, 41, 73, 105
            - 1 LUN for tiles 13, 45, 77, 109
            - 1 LUN for tiles 17, 49, 81, 113
            - 1 LUN for tiles 21, 53, 85, 117
            - 1 LUN for tiles 25, 57, 89
            - 1 LUN for tiles 29, 61, 93
        - 8 LUNs (475 GB) for OlioWeb VMs
            - 1 LUN for tiles 1, 33, 65, 97
            - 1 LUN for tiles 5, 37, 69, 101
            - 1 LUN for tiles 9, 41, 73, 105
            - 1 LUN for tiles 13, 45, 77, 109
            - 1 LUN for tiles 17, 49, 81, 113
            - 1 LUN for tiles 21, 53, 85, 117
            - 1 LUN for tiles 25, 57, 89
            - 1 LUN for tiles 29, 61, 93
        - 8 LUNs (275 GB) for DS2DB VMs
            - 1 LUN for tiles 1, 33, 65, 97
            - 1 LUN for tiles 5, 37, 69, 101
            - 1 LUN for tiles 9, 41, 73, 105
            - 1 LUN for tiles 13, 45, 77, 109
            - 1 LUN for tiles 17, 49, 81, 113
            - 1 LUN for tiles 21, 53, 85, 117
            - 1 LUN for tiles 25, 57, 89
            - 1 LUN for tiles 29, 61, 93
        - 8 LUNS (225 GB) for DS2Web VMs
            - 1 LUN for tiles 1, 33, 65, 97
            - 1 LUN for tiles 5, 37, 69, 101
            - 1 LUN for tiles 9, 41, 73, 105
            - 1 LUN for tiles 13, 45, 77, 109
            - 1 LUN for tiles 17, 49, 81, 113
            - 1 LUN for tiles 21, 53, 85, 117
            - 1 LUN for tiles 25, 57, 89
            - 1 LUN for tiles 29, 61, 93

        - 1 LUN (315 GB) for standby VMs
            - tiles 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57, 61, 65, 69, 73, 77, 81, 85, 89, 93, 97, 101, 105, 109, 113, 117
- Third HPE 3PAR storage device
    - HPE 3PAR StoreServ 7450c
    - Physical Configuration
        - 3PAR Operating System 3.2.1 (MU1)
        - 4 x HPE 3PAR StoreServ 7450c Controller Nodes
        - 16 GB of cache for controller node
        - 4 x drive cages
        - 72 x 480GB SAS SFF SSDs
            - 18 x SSDs in each drive cage
    - Virtual Configuration
        - All LUNs were configured as RAID1 and striped across all SSDs.
        - Total LUNs: 41
        - 8 LUNs (450 GB) for mailserver VMs
            - 1 LUN for tiles 2, 34, 66, 98
            - 1 LUN for tiles 6, 38, 70, 102
            - 1 LUN for tiles 10, 42, 74, 106
            - 1 LUN for tiles 14, 46, 78, 110
            - 1 LUN for tiles 18, 50, 82, 114
            - 1 LUN for tiles 22, 54, 86, 118
            - 1 LUN for tiles 26, 58, 90
            - 1 LUN for tiles 30, 62, 94
        - 8 LUNs (100 GB) for OlioDB VMs
            - 1 LUN for tiles 2, 34, 66, 98
            - 1 LUN for tiles 6, 38, 70, 102
            - 1 LUN for tiles 10, 42, 74, 106
            - 1 LUN for tiles 14, 46, 78, 110
            - 1 LUN for tiles 18, 50, 82, 114
            - 1 LUN for tiles 22, 54, 86, 118
            - 1 LUN for tiles 26, 58, 90
            - 1 LUN for tiles 30, 62, 94
        - 8 LUNs (475 GB) for OlioWeb VMs
            - 1 LUN for tiles 2, 34, 66, 98
            - 1 LUN for tiles 6, 38, 70, 102
            - 1 LUN for tiles 10, 42, 74, 106
            - 1 LUN for tiles 14, 46, 78, 110
            - 1 LUN for tiles 18, 50, 82, 114
            - 1 LUN for tiles 22, 54, 86, 118
            - 1 LUN for tiles 26, 58, 90
            - 1 LUN for tiles 30, 62, 94
        - 8 LUNs (275 GB) for DS2DB VMs
            - 1 LUN for tiles 2, 34, 66, 98
            - 1 LUN for tiles 6, 38, 70, 102
            - 1 LUN for tiles 10, 42, 74, 106
            - 1 LUN for tiles 14, 46, 78, 110
            - 1 LUN for tiles 18, 50, 82, 114
            - 1 LUN for tiles 22, 54, 86, 118
            - 1 LUN for tiles 26, 58, 90
            - 1 LUN for tiles 30, 62, 94
        - 8 LUNS (225 GB) for DS2Web VMs
            - 1 LUN for tiles 2, 34, 66, 98
            - 1 LUN for tiles 6, 38, 70, 102
            - 1 LUN for tiles 10, 42, 74, 106

        - 1 LUN for tiles 14, 46, 78, 110
        - 1 LUN for tiles 18, 50, 82, 114
        - 1 LUN for tiles 22, 54, 86, 118
        - 1 LUN for tiles 26, 58, 90
        - 1 LUN for tiles 30, 62, 94
    - 1 LUN (315 GB) for standby VMs
        - tiles 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 42, 46, 50, 54, 58, 62, 66, 70, 74, 78, 82, 86, 90, 94, 98, 102, 106, 110, 114, 118
- Fourth HPE 3PAR storage device
  - HPE 3PAR StoreServ 7450
  - Physical Configuration
    - 3PAR Operating System 3.2.1 (MU2)
    - 4 x HPE 3PAR StoreServ 7450c Controller Nodes
    - 16 GB of cache for controller node
    - 6 x drive cages
    - 68 x 920GB SAS SFF SSDs
    - 16 x 480GB SAS SFF SSDs
    - Each drive cage had:
      - 12 x 920GB SAS SFF SSDs
      - 2 x 480GB SAS SFF SSDs
  - Virtual Configuration
    - All LUNs were configured as RAID1 and striped across all SSDs.
    - Total LUNs: 59 LUNs
    - 4 LUNs (720 GB) for mailserver VMs
      - 1 LUN for tiles 3, 35, 67, 99
      - 1 LUN for tiles 11, 43, 75, 107
      - 1 LUN for tiles 19, 51, 83, 115
      - 1 LUN for tiles 27, 59, 91
    - 4 LUNs (630 GB) for mailserver VMs
      - 1 LUN for tiles 7, 39, 71, 103
      - 1 LUN for tiles 15, 47, 79, 111
      - 1 LUN for tiles 23, 55, 87, 119
      - 1 LUN for tiles 31, 63, 95
    - 4 LUNs (160 GB) for OlioDB VMs
      - 1 LUN for tiles 3, 35, 67, 99
      - 1 LUN for tiles 11, 43, 75, 107
      - 1 LUN for tiles 19, 51, 83, 115
      - 1 LUN for tiles 27, 59, 91
    - 4 LUNs (140 GB) for OlioDB VMs
      - 1 LUN for tiles 7, 39, 71, 103
      - 1 LUN for tiles 15, 47, 79, 111
      - 1 LUN for tiles 23, 55, 87, 119
      - 1 LUN for tiles 31, 63, 95
    - 4 LUNs (760 GB) for OlioWeb VMs
      - 1 LUN for tiles 3, 35, 67, 99
      - 1 LUN for tiles 11, 43, 75, 107
      - 1 LUN for tiles 19, 51, 83, 115
      - 1 LUN for tiles 27, 59, 91
    - 4 LUNs (665 GB) for OlioWeb VMs
      - 1 LUN for tiles 7, 39, 71, 103
      - 1 LUN for tiles 15, 47, 79, 111
      - 1 LUN for tiles 23, 55, 87, 119
      - 1 LUN for tiles 31, 63, 95
    - 4 LUNs (440 GB) for DS2DB VMs
      - 1 LUN for tiles 3, 35, 67, 99

        - 1 LUN for tiles 11, 43, 75, 107
        - 1 LUN for tiles 19, 51, 83, 115
        - 1 LUN for tiles 27, 59, 91
    - 4 LUNs (385 GB) for DS2DB VMs
        - 1 LUN for tiles 7, 39, 71, 103
        - 1 LUN for tiles 15, 47, 79, 111
        - 1 LUN for tiles 23, 55, 87, 119
        - 1 LUN for tiles 31, 63, 95
    - 4 LUNS (360 GB) for DS2Web VMs
        - 1 LUN for tiles 3, 35, 67, 99
        - 1 LUN for tiles 11, 43, 75, 107
        - 1 LUN for tiles 19, 51, 83, 115
        - 1 LUN for tiles 27, 59, 91
    - 4 LUNs (315 GB) for DS2Web VMs
        - 1 LUN for tiles 7, 39, 71, 103
        - 1 LUN for tiles 15, 47, 79, 111
        - 1 LUN for tiles 23, 55, 87, 119
        - 1 LUN for tiles 31, 63, 95
    - 1 LUN (315 GB) for standby VMs
        - tiles 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, 43, 47, 51, 55, 59, 63, 67, 71, 75, 79, 83, 87, 91, 95, 99, 103, 107, 111, 115, 119
    - 5 LUNs (10 GB) for deploy templates
    - 5 LUNs (10 GB) for deploy target
    - 5 LUNs (10 GB) for svMotion target

Datacenter Management Server Notes

VMware vCenter server 6.0 U2 was installed and configured to use Microsoft SQL Server 2008 Enterprise SP3 (x64) for the vCenter database.

Operating System Notes

- All mailserver VMs running Microsoft® Windows® 2008 R2 Enterprise SP1 (64-bit)
- All standby VMs running Microsoft® Windows® 2003 Enterprise SP2 (32-bit)
- All DS2DB, DS2WebA, DS2WebB, DS2WebC, OlioDB and OlioWeb running SUSE® Linux Enterprise Server 11 SP2 (64-bit)

Software Notes

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

Client Notes

Prime Client details

- Prime client functionality was split from the client0 driver and was run on a non-virtualized copy of Microsoft® Windows® 2008 R2 Enterprise SP1 (64-bit).
- Prime client operating system was updated via Windows Update.
- Prime client was running VMware vSphere PowerCLI 5.5 Release 2 Patch 1 build 1931983.

Client hosts

- All client operating system was updated via Windows Update.
- Each client host was configured with:
    - 1 x HPE Synergy 3830C 16G FC HBA (dual port)
    - 2 x HPE Synergy 3820C 10/20Gb CNA
    - 2 x 450 GB 15K SAS disk drive configured as RAID 1 for the OS

- Each client host had the following network configuration:
  -

ESXi				HPE OneView Server Profile			
vmnic	**vSwitch**	**Purpose**	**Speed**	**Physical Port**	**Requested Bandwidth**	**Allocated Bandwidth**	**Max Bandwidth**
vmnic0	vSwitch0	Service Console	20 Gb/s	Mezannine 2 Port 1	1 Gb/s	1 Gb/s	20 Gb/s
vmnic1	vSwitch3	Client Network 2	20 Gb/s	Mezannine 2 Port 2	20 Gb/s	20 Gb/s	20 Gb/s
vmnic2	vSwitch1	vmkernel vMotion	5 Gb/s	Mezannine 2 Port 1	5 Gb/s	5 Gb/s	5 Gb/s
vmnic3	vSwitch5	Client Network 4	20 Gb/s	Mezannine 2 Port 1	14 Gb/s	14 Gb/s	20 Gb/s
vmnic4	vSwitch2	Client Network 1	20 Gb/s	Mezannine 3 Port 1	20 Gb/s	20 Gb/s	20 Gb/s
vmnic5	vSwitch4	Client Network 3	20 Gb/s	Mezannine 3 Port 2	20 Gb/s	20 Gb/s	20 Gb/s

  - **NOTE**: ESXi 6.0 U2 is identifying the max bandwidth from the HPE OneView Server Profile as the port speed for each vmnic.
- Client VMs were distributed across the client networks as follows:
  - client network 1: client VMs for tiles 0-9, 40-49, 80-89
  - client network 2: client VMs for tiles 10-19, 50-59, 90-99
  - client network 3: client VMs for tiles 20-29, 60-69, 100-109
  - client network 4: client VMs for tiles 30-39, 70-79, 110-119
- All client VMs are stored on 4 x HPE P2000 G3 MSA storage arrays.
  - Each HPE P2000 G3 MSA storage array has the following configuration:
    - 24 x 146 GB SFF SAS disk drives
    - Two RAID 5 volumes striped across 11 disk drives with 1 additional disk drive configured as online spare.
    - Each volume was exported as a LUN.
  - Each client host has a fiber connection to each exported LUN.
- Client VMs were distributed across the client host as follows:
  - host 1: client VMs for tiles 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110
  - host 2: client VMs for tiles 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111
  - host 3: client VMs for tiles 2, 12, 22, 32, 42, 52, 62, 72, 82, 92, 102, 112
  - host 4: client VMs for tiles 3, 13, 23, 33, 43, 53, 63, 73, 83, 93, 103, 113
  - host 5: client VMs for tiles 4, 14, 24, 34, 44, 54, 64, 74, 84, 94, 104, 114
  - host 6: client VMs for tiles 5, 15, 25, 35, 45, 55, 65, 75, 85, 95, 105, 115
  - host 7: client VMs for tiles 6, 16, 26, 36, 46, 56, 66, 76, 86, 96, 106, 116
  - host 8: client VMs for tiles 7, 17, 27, 37, 47, 57, 67, 77, 87, 97, 107, 117
  - host 9: client VMs for tiles 8, 18, 28, 38, 48, 58, 68, 78, 88, 98, 108, 118
  - host 10: client VMs for tiles 9, 19, 29, 39, 49, 59, 69, 79, 89, 99, 109, 119

Other Notes

- Tile delay was set to 20 (default 60).
- STAF on the prime client was configured to use 300 threads (default 200).
- VMmark2-STAX.bat file used to start STAX modified as follows:
  - Original line: java -Xms512m -Xmx1024m -jar C:\STAF\services\stax\STAXMon.jar
  - Modified line: java -Xms1024m -Xmx2048m -jar C:\STAF\services\stax\STAXMon.jar

This result used 2 x HPE Synergy 12000 frames in a stacked configuration. Each frame can support up to 12 x HPE Synergy 480 Gen9 Compute Modules.

The systems used for SUT hosts, client hosts, and vCenters were intermixed across both frames.

Each HPE Synergy 12000 frame was configured with:

- 1 x HPE Synergy Composer Module running HPE OneView management software version 3.00.05-0271823
- 2 x Brocade 16Gb/24 FC Switch Module for Synergy

- 2 x HPE Synergy Virtual Connect SE 40Gb F8 Module
- 2 x HPE Synergy 20Gb Interconnect Link Module
- 11 x HPE Synergy 480 Gen9 Compute Modules
  - 5 SUT hosts
  - 5 client hosts
  - 1 vCenter server

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.

For information about VMmark and the rules regarding its usage visit www.vmware.com/products/vmmark.