

How to Better Manage the Capacity of Virtualized Sun Solaris Server Environments

Part 3 of 4

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TeamQuest

Solaris 10 Modeling Process

- Determine Capacity Requirements
- Determine Current Capacity
- Plan for the Future “What-if” Scenarios

Determine Capacity Requirements

- Growth for all zones 5% per month for 12 months
- Determine if there are any bottlenecks or constraints on the Sun Solaris E25K system
- Make recommendations to resolve any constraints

Determine Current Capacity

TeamQuest Model - [Model Description: Solaris Test.mdl]

File Edit Calibrate Modify What-if Predict Window Help

Model Title: Selection : <08/14/2007 06:00-18:00>

Frame Name: Growth of 5% per month for 12 months Frame 2 of 5

Systems		Active Resources				Workloads			Passive Resources				
User Notes		AR/WL Matrix				Steps			PR/WL Matrix				
	System Name	Active Resource	Equipment Name	Equipment Type	Discipline	Speed Factor	Number of Servers	Type	Path	Revolution Time	Load Dependent Server Capacitie	Calibration Disk Service Adjustment	Servers per String
1	AppServ01	CPU	E25K 1800MHz/32 M USIV+	CPU	PPRI	1.	32	MULT					
2	AppServ01	controller0	UltraSCSI2	Controller	FCFS	1.	1.						1.
3	AppServ01	c0t10d0	SUN 73 GByte 10000 FC	Disk Unit	FCFS	1.	1.		controller0	0.		no	
4	AppServ01	c0t8d0	SUN 73 GByte 10000 FC	Disk Unit	FCFS	1.	1.		controller0	0.		yes	
5	AppServ01	c0t9d0	SUN 73 GByte 10000 FC	Disk Unit	FCFS	1.	1.		controller0	0.		no	
6	AppServ01	controller4	Fibre-Chann el 2Gb	Controller	FCFS	1.	2	MULT					2.
7	AppServ01	c4t50060484489 4A4D2d0 c4t50060484489 4A4D2d100 c4t50	SUN 73 GByte 10000 FC	Disk Unit	FCFS	1.	111	LUMP	controller4	0.		yes	
8	AppServ01	controller5	Fibre-Chann el 2Gb	Controller	FCFS	1.	2	MULT					2.
9	AppServ01	c5t50060484489 4A4DDd0 c5t50060484489 4A4DDd100 c5t50	SUN 73 GByte 10000 FC	Disk Unit	FCFS	1.	111	LUMP	controller5	0.		yes	
10	AppServ01	THINK	THINK Queue		IS	1.	1.						
11	AppServ01	DELAY	DELAY Queue		IS	1.	1.						

Sun Solaris

E25K 1800Mhz 32 CPU

Active Resource Equipment Name is selected from the provided list.

Determine Current Capacity

TeamQuest Model - [Model Description: Solaris Test.mdl]

File Edit Calibrate Modify What-if Predict Window Help

Model Title: Selection : <08/14/2007 06:00-18:00>

Frame Name: Growth of 5% per month for 12 months Frame 2 of 4

	Systems	Active Resources	Workloads	Passive Resources		
	User Notes	AR/WL Matrix	Steps	PR/WL Matrix		
	System Name	Workload	Type	Measured Throughput	Throughput Adjustment Active Resource	Environment
1	AppServ01	OTHER	CLOSED	0.00002321	DELAY	PROCESS
2	AppServ01	zone01	CLOSED	0.45086	DELAY	PROCESS
3	AppServ01	zone02	CLOSED	9.6614	DELAY	PROCESS
4	AppServ01	zone03	CLOSED	1.8773	DELAY	PROCESS
5	AppServ01	zone04	CLOSED	0.90622	DELAY	PROCESS
6	AppServ01	zone05	CLOSED	9.5474	DELAY	PROCESS
7	AppServ01	zone06	CLOSED	0.61711	DELAY	PROCESS
8	AppServ01	zone07	CLOSED	11.666	DELAY	PROCESS
9	AppServ01	zone08	CLOSED	32.589	DELAY	PROCESS
10	AppServ01	zone09	CLOSED	0.79557	DELAY	PROCESS
11	AppServ01	zone10	CLOSED	0.72997	DELAY	PROCESS
12	AppServ01	zone11	CLOSED	0.72477	DELAY	PROCESS
13	AppServ01	zone12	CLOSED	1.7945	DELAY	PROCESS
14	AppServ01	zone13	CLOSED	0.25267	DELAY	PROCESS
15	AppServ01	zone14	CLOSED	0.68538	DELAY	PROCESS
16	AppServ01	zone15	CLOSED	0.24445	DELAY	PROCESS
17	AppServ01	global	CLOSED	1.3271	DELAY	PROCESS

15 zones plus the Global Zone

Workload name can be any 51 characters.

Determine Current Capacity

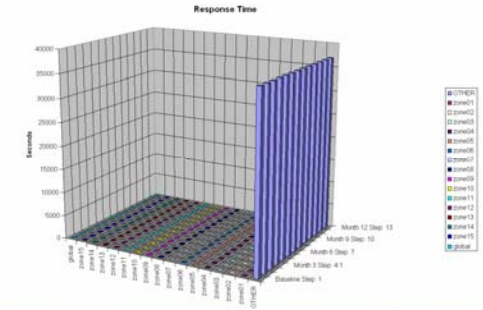
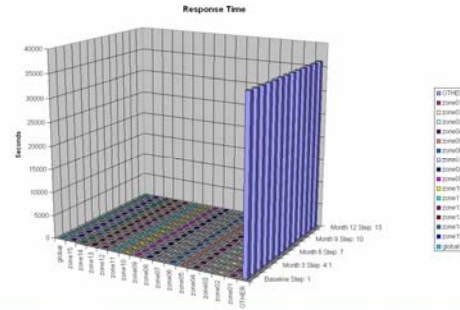
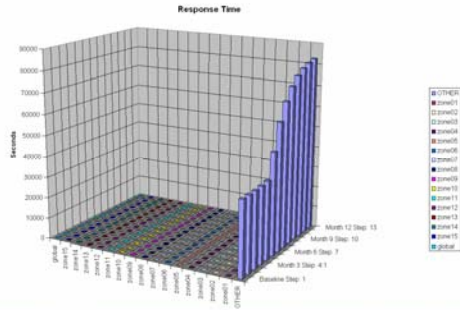
TeamQuest Model - [Model Description: Solaris Test.mdl]																
File Edit Calibrate Modify What-if Predict Window Help																
Model Title: Selection : <08/14/2007 06:00-18:00>																
Frame Name: Growth of 5% per month for 12 months															Frame 2 of 4	
Systems			Active Resources				Workloads						Passive Resources			
User Notes			AR/WL Matrix				Steps						PR/WL Matrix			
	System Name	Workload	Workload Growth Type	Baseline Step: 1	Month 2 Step: 2	Month 2 Step: 3	Month 3 Step: 4:1	Month 4 Step: 5	Month 5 Step: 6	Month 6 Step: 7	Month 7 Step: 8	Month 8 Step: 9	Month 9 Step: 10	Month 10 Step: 11	Month 11 Step: 12	Month 12 Step: 13
1	AppServ01	OTHER	Population:	7.23	7.2372	7.2444	7.2517	7.2589	7.2661	7.2733	7.2806	7.2878	7.295	7.3023	7.3095	7.3167
2	AppServ01	zone01	Population:	491.25	515.812	540.375	564.937	589.5	614.062	638.625	663.187	687.75	712.312	736.875	761.437	786.
3	AppServ01	zone02	Population:	2455.54	2578.31	2701.09	2823.87	2946.64	3069.42	3192.2	3314.97	3437.75	3560.53	3683.3	3806.08	3928.86
4	AppServ01	zone03	Population:	794.147	833.854	873.561	913.269	952.976	992.683	1032.39	1072.1	1111.81	1151.51	1191.22	1230.93	1270.63
5	AppServ01	zone04	Population:	483.512	507.687	531.863	556.039	580.214	604.39	628.565	652.741	676.917	701.092	725.268	749.443	773.619
6	AppServ01	zone05	Population:	1005.76	1056.05	1106.33	1156.62	1206.91	1257.2	1307.49	1357.77	1408.06	1458.35	1508.64	1558.93	1609.21
7	AppServ01	zone06	Population:	384.569	403.798	423.026	442.255	461.483	480.712	499.94	519.169	538.397	557.626	576.854	596.082	615.311
8	AppServ01	zone07	Population:	575.899	709.694	743.489	777.284	811.079	844.874	878.669	912.464	946.259	980.054	1013.85	1047.64	1081.44
9	AppServ01	zone08	Population:	3304.39	3469.61	3634.83	3800.05	3965.27	4130.49	4295.71	4460.93	4626.15	4791.37	4956.59	5121.81	5287.03
10	AppServ01	zone09	Population:	581.584	715.664	749.743	783.822	817.901	851.98	886.06	920.139	954.218	988.297	1022.38	1056.46	1090.54
11	AppServ01	zone10	Population:	312.135	957.742	1003.35	1048.96	1094.56	1140.17	1185.78	1231.38	1276.99	1322.6	1368.2	1413.81	1459.42
12	AppServ01	zone11	Population:	447.187	469.546	491.906	514.265	536.625	558.984	581.343	603.703	626.062	648.421	670.781	693.14	715.499
13	AppServ01	zone12	Population:	547.504	574.879	602.255	629.63	657.005	684.38	711.755	739.131	766.506	793.881	821.256	848.631	876.007
14	AppServ01	zone13	Population:	580.446	609.469	638.491	667.513	696.536	725.558	754.58	783.603	812.625	841.647	870.669	899.692	928.714
15	AppServ01	zone14	Population:	482.735	506.872	531.009	555.146	579.282	603.419	627.556	651.693	675.83	699.966	724.103	748.24	772.377
16	AppServ01	zone15	Population:	401.795	421.884	441.974	462.064	482.154	502.243	522.333	542.423	562.512	582.602	602.692	622.782	642.871
17	AppServ01	global	Population:	377.109	1025.96	1074.82	1123.68	1172.53	1221.39	1270.24	1319.1	1367.95	1416.81	1465.66	1514.52	1563.37

Growth for all zones
for 5% per month for
12 Months

Step population or rate can be any real positive number.

Please view the recording to see the demo.

Plan for the Future “What-if” Scenarios



	32 CPU		48 CPU		64 CPU		32-48 CPU's		32-64 CPU's		% Diff	
	Baseline	12 Month	Baseline	Month 12	Baseline	Month 12	Baseline	Month 12	Baseline	Month 12	48 vs 64 CPU's	
OTHER	35291.15	82934.02331	36146.5	36275.03653	36994.99	36995.18	2.366347	56.26036808	4.605586	55.39203	0.868336	
zone01	0.087851	2.952366	0.089535	0.090254	0.091609	0.091673	1.880829	96.9429942	4.102217	96.89493	0.048063	
zone02	0.114935	5.245504	0.116993	0.118017	0.119735	0.119747	1.75908	97.7501304	4.008853	97.71715	0.032981	
zone03	0.036067	1.077083	0.036773	0.037059	0.037622	0.037654	1.919887	96.55931808	4.13322	96.50408	0.055242	
zone04	0.056416	1.790131	0.057422	0.05806	0.058664	0.058908	1.751942	96.75666194	3.831992	96.70929	0.047371	
zone05	0.321374	11.115853	0.327576	0.330081	0.335235	0.335307	1.893301	97.03053828	4.134711	96.98352	0.047014	
zone06	0.054424	1.769535	0.055348	0.056054	0.056505	0.056833	1.669437	96.83227515	3.68286	96.78825	0.044023	
zone07	0.101561	5.153	0.103311	0.104281	0.105727	0.105749	1.693914	97.97630507	3.940337	97.94782	0.028488	
zone08	0.025596	0.866348	0.02609	0.026291	0.026699	0.026708	1.893446	96.96530724	4.131241	96.91717	0.048133	
zone09	0.075612	2.118906	0.077012	0.077804	0.078693	0.078985	1.817899	96.32810516	3.915215	96.27237	0.055736	
zone10	0.106462	3.590881	0.108393	0.109495	0.110796	0.111121	1.78148	96.9507483	3.911694	96.90547	0.045281	
zone11	0.067154	2.135702	0.068347	0.069115	0.069821	0.070121	1.745505	96.76382754	3.819768	96.71672	0.047104	
zone12	0.088482	3.994618	0.090021	0.090912	0.09208	0.092206	1.709601	97.72413783	3.907472	97.69174	0.032394	
zone13	0.190516	5.829247	0.194272	0.195701	0.198805	0.19887	1.933372	96.64277393	4.169412	96.58841	0.054364	
zone14	0.09653	3.811329	0.098205	0.099274	0.100378	0.100683	1.705616	97.39529177	3.833509	97.35832	0.036969	
zone15	0.075457	2.567621	0.076894	0.077525	0.07867	0.078736	1.868806	96.9806681	4.084149	96.9335	0.047164	
global	0.81395	15.396774	0.823461	0.844939	0.834972	0.852961	1.155003	94.51223354	2.517689	94.46013	0.052102	

For more discussion on this topic, please contact Jim Smith at: jim.smith@teamquest.com

To view demos on how to better manage the capacity of virtualized VMware ESX and IBM AIX server environments, simply close this video and return to the TeamQuest website

Thank you for joining us.

For Capacity Management solutions please call:

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