

1 3.0 IC WebServices

1.1 Windows 2008 Hyper-V



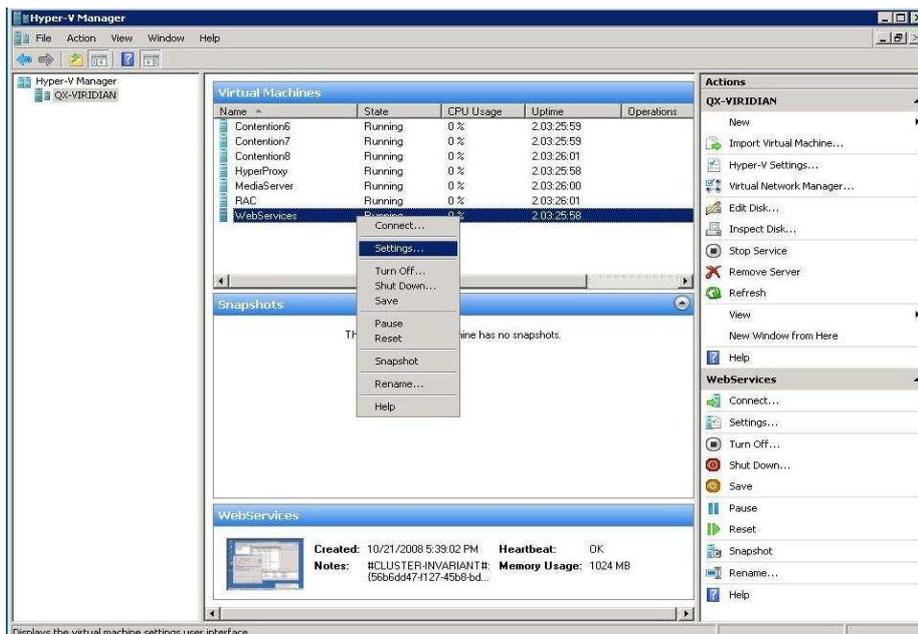
1.2 Introduction

Interaction WebServices 3.0 is installed and used on a web server (such as IIS or Apache) to allow users connecting via a browser to send Interactions (such as chats) to IC and thus onto an interfacing IC Client. The best performance required a reservation on the virtual machine.

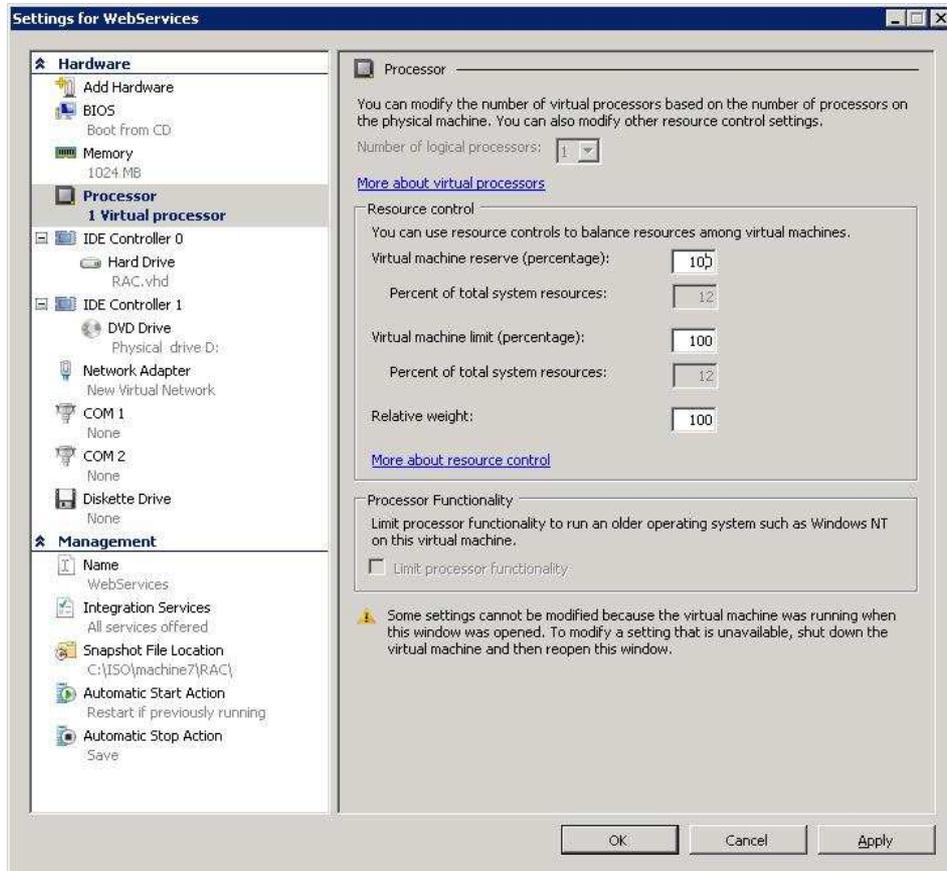
NOTE: At high CPU utilization (above 90%) and definitely at the 4800 user level the App pool gets overwhelmed and will throttle down to compensate. IIS 6.0 had the HTTP Keep-Alive specification enabled (that maintains client connectivity) and was also set to unlimited connections. Thankfully, with proper IIS configuration the Web Services default page is still reachable although slower to load.

1.3 Setup and Configuration

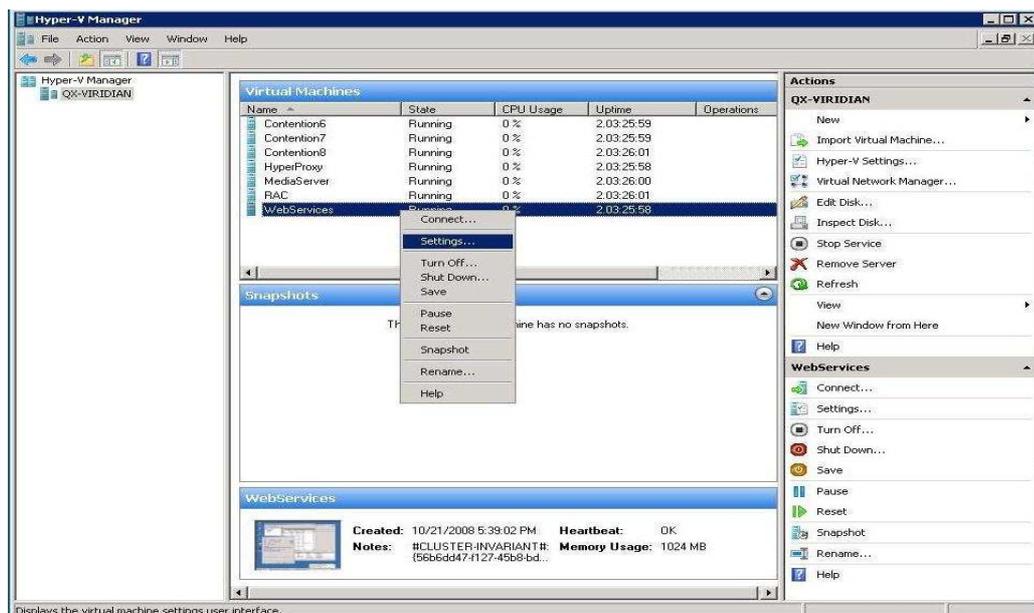
Use the Hyper-V Manager to set the reservation for the WebServices Server. Right click on the Server and select > Settings



In the Hardware Section, select CPUs. Only 1 Virtual Processor should be required for performance at up to 4800 users



In the Hardware Section, select Memory. The amount of memory can be set to as low as 512 but 1024 would be preferable.



1.4 Test Results

Testing Results with 3.0 IC WebServices on Windows 2008 Hyper-V

Testing was performed with multiple tools, including a Microsoft-issued IIS web stress tool, a Java Bulk Chatter, and the Multisession Sim and Controller. The Microsoft WAS web stress tool is designed to realistically simulate multiple browsers requesting pages from a web site. This tool is used to gather performance and stability information about our WebServices web application.

During a ten minute load test, specific monitoring of the W3WP.exe (IIS App pool) CPU and threads under serious load (both direct with the web stress tool, and indirect with server resource contention from other Virtual Machines) will be applied.

Max CAPS is defined as maximum Connection Attempts Per Second (generally html plus images) and **Current Connection Average** pertains to the number of simultaneous connections maintained by the service during the sample interval. Both are Web Services Object Counters in Perf Mon.

The testing range of browser-connected sessions starts at 1200 users and scales to 4800 in 1200 user increments.

Users	Reservation?	CPU Contention?	Java Bulk Chat	Ave. CPU	Max. CAPS	Current Connection Ave
1200	No	No	No	81.09	5868	1171
1200	Yes (Single Core 2.5 Ghz)	Yes	No	24.98	2228	486
1200	Yes	No	Yes	86.41	5219	1180

Users	Reservation?	CPU Contention?	Java Bulk Chat	Ave. CPU	Max. CAPS	Current Connection Ave
2400	No	No	No	99.57	26,278	2123
2400	Yes (Single Core 2.5 Ghz)	Yes	No	35.57	2798	1111
2400	Yes	No	Yes	99.73	79,229	2270

Users	Reservation?	CPU Contention?	Java Bulk Chat	Ave. CPU	Max. CAPS	Current Connection Ave
3600	No	No	No	98.54	87,723	2579
3600	Yes (Single Core 2.5 Ghz)	Yes	No	83.27	5029	1940
3600	Yes	No	Yes	96.9	50,997	2842

Users	Reservation?	CPU Contention?	Java Bulk Chat	Ave. CPU	Max. CAPS	Current Connection Ave
4800	No	No	No	100.00	89644	4388
4800	Yes (Single Core 2.5 Ghz)	Yes	No	86.97	5121	2767
4800	Yes	No	Yes	99.38	30,486	3694

1.5 Additional Information

The results above are a concise summary of many test runs and other analysis of performance.