

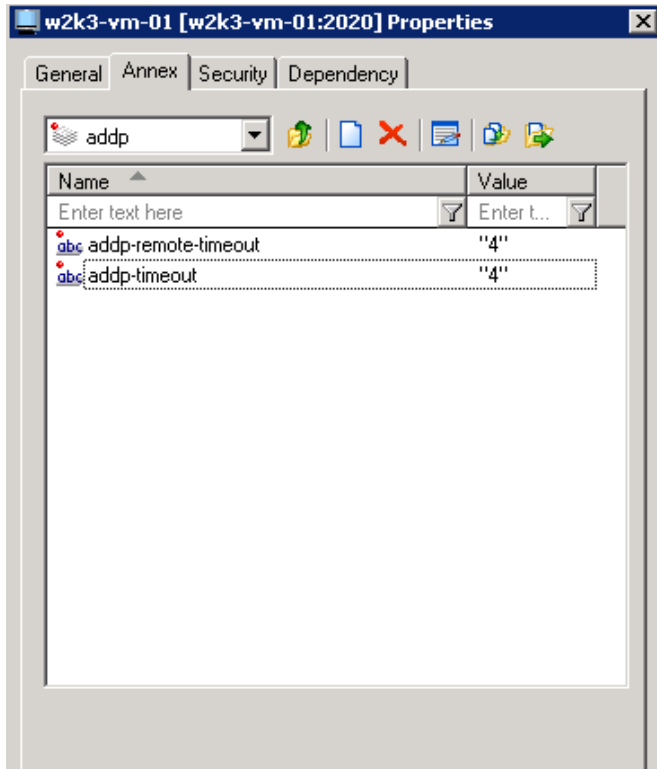


Genesys Deployment on VMware - Best Practices

Here are recommended best practices derived from configuration and testing of Genesys applications in a VMware virtual infrastructure environment:

1. For virtualized deployments of Genesys real-time voice applications, the initial deployment should always use the physical sizing per the Genesys Sizing Guide at a 1:1 ratio. If oversubscription is used, it should be implemented gradually while measuring performance to ensure desired voice quality and service levels can be maintained during peak traffic. Deploying initially into production using oversubscription with insufficient testing risks voice quality and service issues, and is NOT recommended.
2. When using Intel-based systems, ensure that the BIOS settings enable VT and EPT options on all ESX hosts. Hyperthreading should be enabled.
3. Configure the VMs and the VMkernel on a separate NIC on a separate vSwitch.
4. Use VMware paravirtualized vmxnet3 adapter for better network throughput.
5. Install VMware tools on the virtual machines. The VMware Tools package provides support required for shared folders and for drag and drop operations. Other tools in the package support synchronization of time in the guest operating system and the host, automatic grabbing and releasing of the mouse cursor, copying and pasting between guest and host, and improved mouse performance in some guest operating systems.
6. Consider using server-class network interface cards (NICs) for the best performance and configure paravirtualized vmxnet3 adapters for better network throughput.
7. Virtual machines dependent on each other should be configured on same ESX host and same vSwitch. This will reduce traffic flow through the wire and avoid unnecessary CPU and network overhead. An example would be having SQLSERVER and one of the APPS on the same ESX host.
8. Disconnect or disable unused or unnecessary physical hardware devices, such as:
 - COM ports
 - LPT ports
 - USB controllers
 - Floppy drives
 - Optical drives (that is, CD or DVD drives)
9. Disconnecting or disabling devices will help free up interrupt resources. For example, traditionally, some devices, such as USB controllers, operate on a polling scheme that consumes extra CPU resources. Some PCI devices reserve blocks of memory, making that memory unavailable to ESXi. HA Failover Architecture.

10. To reduce the number of the abandoned/unprocessed calls during Genesys HA recovery, ADDP parameters should be set for 4 seconds on the host object in CME, as shown below:



11. Genesys HA and VMware HA are complementary, and may be used together, provided that anti-affinity rules are followed (see #10 below).

- Genesys HA should always be used to provide application level protection, and ensure that calls and contacts in progress are not interrupted. (DRS anti-affinity required.)
- VMware HA adds an additional layer of hardware failure protection. If there is a physical server failure, VMware HA will restart any failed "Genesys resiliency HA VM's impacted by the server failure" on different servers automatically. Without VMware HA, the "Genesys resiliency HA VM's" would remain on the failed server, powered down, disabling Genesys HA's functionality.
- The combination of VMware HA, anti-affinity rules and Genesys HA allow Genesys HA to be brought back to full protection within a few minutes of a failed physical server that is hosting Genesys HA components, while at the same time facilitating the repair / replacement of the failed server.

12. Background Processing should be set to "True".

13. To respect anti-affinity rules when restarting virtual machines after a failure follow the instructions as per the following KB article:

http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2033250