



## Running Microsoft Exchange 2007 on Virtual Servers

Some of the most common questions we hear about Microsoft Exchange 2007 all have to do with server virtualization. People want to know: Can you run Exchange on virtual servers? When does it make sense to consider this option? And if we move ahead with virtualization, will it be supported by Microsoft?

These are all important issues, especially since in the past – back when everyone was running Exchange 2003 – virtualization was associated with some serious performance problems. Now, thanks to a number of technological advances, Microsoft Exchange 2007's performance on virtual servers is on a par with its performance on physical servers.

### *Technological Advances that Make Virtualization Work*

Some important things have changed that have eliminated the problems that we saw in the past...

- **Advances in Exchange:** As we've discussed in past articles, Microsoft Exchange 2007 has undergone a number of architectural improvements. Most relevant to this discussion, Exchange 2007 now runs exclusively on 64-bit hardware and requires a supported 64-bit Windows server operating system. This change allows effectively unlimited memory for the Database Buffer Cache, which results in dramatically reduced disk I/O workloads. The end result: Vastly improved performance in virtual environments.
- **Advances in Hardware:** Advances in server hardware, such as dual and quad-core processors, higher memory density, and improved storage technology, are far outpacing the performance requirements of today's applications, including Exchange. Virtualization is an effective way to leverage the full resources of these systems.
- **Advances in Virtualization Software:** In the last 12 months we've seen some significant improvements in virtualization software. Whereas in the past there were severe limitations on how much memory you could have on the box, with the new software virtual machines can support up to 64GB RAM and 4 CPU's – enough to run even the largest Exchange infrastructure.

### *Where Virtualization Makes Sense – and Where It Does Not*

Virtualization is a great option for all of the Microsoft Exchange 2007 periphery server roles (i.e. all of the servers that do not contain any user information or data), but it is not recommended for the Mailbox server. Why? Because Exchange virtualization is only supported in a "best effort" by Microsoft. This means that if you're having a problem, Microsoft may request that you reproduce the problem on a physical machine. While complying with this request is a simple matter for a periphery server, it could be real difficult if the problem is with your Mailbox server.

The key areas in which we're seeing customers utilize virtualization are:

- **Server Roles:** The client access, hub transport, edge transport, and unified messaging servers are all great candidates for virtualization. With a virtual infrastructure, each of these Exchange server roles can be deployed on its own virtual machine. These virtual machines can run on the same physical system or be spread across multiple physical systems, depending on your requirements. This approach allows you to maximize your utilization of server resources.
- **Development and Testing:** Virtualization greatly improves the speed and ease with which you can create realistic testing environments. For example, if your real-life environment includes 10 servers, you can easily create a test environment that includes 10 virtual servers – even though you may not have 10 physical servers available for testing purposes. With a virtual infrastructure you can build a logical environment that exactly mimics your production environment, but at a fraction of the cost.

### *The Benefits of Virtualization*

Out in the field we're seeing a lot of enthusiasm for virtualization. Companies are enjoying significant cost savings as they consolidate down from multiple physical servers to just one or two. Many of our customers are especially

excited about using virtual servers for their development and testing. They find the ease of recreating a known “good” environment after testing has occurred to be a big plus (no need to reload the operating system, reload Exchange, or recreate all the users – you essentially just take a snapshot and make a duplicate server).

The bottom line: If you’re looking to save resources and hardware costs it makes sense to consider virtualizing all of your periphery server functions. If you have any questions about how this might apply to your particular situation, please give us a call. We’re here for you.