



Virtualization of CBORD Odyssey PCS and Micros 3700 servers

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Introduction

Virtualization allows multiple operating systems to run on the same physical server yet remain logically distinct from one another. These “virtual machines” appear to other network nodes as independent physical systems, each with its own IP address, despite the fact that they are all sharing the same physical network interface card.

Consolidation of multiple physical servers through virtualization has become increasingly popular in the past few years due to the low costs and high performance of CPUs, RAM and hard drives. Rather than running 3 separate physical application servers at 10 percent utilization, these can be virtualized and aggregated on a single system that runs at 30 percent utilization. Consolidating three physical servers onto one saves on hardware, electricity, rack space and administration costs without decreasing performance of any of the systems.

Virtualization can be used as part of a disaster recovery plan because it provides application or system portability and flexibility across multiple hardware platforms. In the event of a disaster, virtual machines can be hosted anywhere and do not require that hardware be identical to the original site. Consolidating multiple logical servers onto fewer physical servers also reduces the costs associated with redundant hardware required at a disaster recovery location.

There are many solution providers in the virtualization business, each with a different approach to virtualization or server provisioning. VMWare and Microsoft account for over 70 percent of the market share with their Virtual Infrastructure (ESX server) and Virtual Server 2005 R2 products, respectively. VMWare ESX server installs directly on server hardware, utilizing a virtualization layer between the hardware and operating systems. Microsoft Virtual Server 2005, on the other hand, installs atop Windows 2003 server.

This white paper will discuss requirements, configurations and preparation for hosting your Odyssey PCS or Micros 3700 server on VMWare or Microsoft platforms.

Virtual server requirements

After extensive testing, CBORD approved VMWare technology for use with Odyssey PCS and Micros 3700 servers. CBORD has supported the use of VMWare virtualization technology for Odyssey PCS and Micros 3700 for over 2 years. We perform much of our product testing and QA on VMWare platforms.

Although VMWare is used extensively as a development and testing platform, neither VMWare nor Microsoft Virtual Server is regularly the subject of these tests. Both VMWare and Microsoft products are mature enough that they provide a stable and transparent platform for the Windows operating system upon which Odyssey PCS or Micros 3700 operates. Since a virtual machine guest operating system appears to CBORD applications as if it were installed on a physical machine, there exists only a small possibility that VMWare or Microsoft Virtual Server will adversely affect these applications. CBORD does test all Microsoft operating system patches and posts the results of these tests on our website.

Because VMWare ESX and Microsoft Virtual Server 2005 R2 make up most of the virtualization market, CBORD approves of the use of these products with Odyssey PCS and Micros 3700. If you wish to use a different virtualization product, please contact CBORD.

Host systems

CBORD does not publish specifications or requirements for VMWare or Microsoft Virtual Server host systems. Nor does CBORD support the hardware, virtualization software or host operating systems of virtual environments hosting CBORD Odyssey PCS and Micros 3700 servers.

It is the responsibility of our customer to provide adequate physical hardware resources to support the virtualized environment hosting CBORD applications. The patching and upkeep of this hardware, virtualization software and host operating systems is also the responsibility of our customer.

CBORD does not support the use of non server-class or free virtualization products for use with CBORD servers. These products include VMWare Workstation, VMWare Server, and Microsoft Virtual PC. While these tools are attractively priced, they do not include the advanced performance and resource optimization tools of their server-class counterparts.

Guest systems

Odyssey PCS and Micros 3700 require individual virtual machines. Each virtual machine must meet the minimum published requirements for the respective system in terms of:

- Operating System
- CPU capacity and allocation
- RAM allocation
- Storage space and I/O prioritization

Enhanced features of VMWare ESX and Microsoft Virtual Server allow for advanced resource management and prioritization that enable you to allocate, for instance, less RAM to a virtual machine upon startup, then allow it to increase RAM use as needed. CBORD has not tested many of these advanced features with Odyssey PCS and Micros 3700, but many other customers do use them successfully.

Each virtual machine's network card must be bridged to the network and the operating system must have a static IP on the network. Network Address Translation (NAT) configurations will not work with Odyssey PCS and Micros 3700.

Enterprise backup must be arranged for the virtual machines or for critical files within each of the virtual machines housing CBORD systems.

The Micros 3700 Server virtual machine will require a Micros major account license file instead of a USB hardware key. Lead time for obtaining this site specific file from Micros is 4-6 weeks, therefore the CBORD pre-installation representative needs to know ASAP that you intend to deploy Micros 3700 within a virtual server.

Remote access to the virtual machine operating systems is necessary for CBORD remote support of your systems. CBORD recommends Webex Remote Access, but supports other methods such as PC Anywhere.

Clustering

CBORD Odyssey PCS (Sybase version) and Micros 3700 do not support server clustering. However, any host server clustering method possible with VMWare Virtual Infrastructure or Microsoft Virtual server is acceptable so long as it is transparent to the operating systems running on the CBORD virtual machines.

Shared Storage (NAS, SAN)

CBORD Odyssey PCS (Sybase version) and Micros 3700 do not support NAS or SAN database storage. However, any host server shared storage method possible with VMWare Virtual Infrastructure or Microsoft Virtual server is acceptable so long as it is transparent to the operating systems running on the CBORD virtual machines.

Desktop Virtualization

CBORD has not tested desktop virtualization tools such as VMWare ACE or Virtual Desktop Infrastructure. These tools may not work with Micros 3700 because it leverages a proprietary client deployment and update utility called the Client Application Loader.

Virtualization software upgrades

Virtualization software upgrades are the responsibility of our customer and should be done during hours that will not affect business operations.

Preparation for your CBORD installation

Installation of Odyssey PCS or Micros 3700 server software on your virtual servers will be performed by CBORD technicians. It is important to prepare your virtual servers before this installation.

Virtual Machine Preparation

Please consult with your implementation representative to determine the minimum CPU, RAM, and storage requirements for your system. These specifications are based upon the number of point of sale terminals, client workstations and 3rd party interfaces.

CBORD recommends you allocate enough initial storage space (virtual disk space) to allow for the growth of the databases on your CBORD virtual machines. Virtual disk space does not have to be pre-allocated and can be stored in a single file or multiple files so long as the ultimate disk capacity meets or exceeds storage requirements for your size system. We do recommend that you configure system and data disks or partitions in your virtual machines so the Odyssey and/or Micros applications are not installed on the same drive as the operating system.

Preparation of the virtual machines includes:

1. Virtual machine creation and configuration
2. Operating system installation, patching and configuration.
3. Installation or configuration of remote access

Application Installation and Configuration

CBORD installers will need access to your virtual machines in order to install the Odyssey PCS and/or Micros 3700 applications. Installation and configuration of these applications will require:

- Console access to each virtual machine
- Administrative access to each virtual machine
- Mechanism for transferring files to and from the virtual machines
- Mechanism for installation of applications (via CD-ROM)

Application support

Support of your CBORD Odyssey PCS and/or Micros 3700 virtual servers will require the same remote access that is required for physical servers.