



Rembrandt Lending System

# Hardware Environment/ System Requirements

June 2007

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### Version

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## Introduction

Please note that only those systems listed within this document are supported for use with the Rembrandt Lending System as of June 2007. There are a variety of other operating systems or operating system suites available for customers to purchase that are not compatible with the Rembrandt Lending System. For example, Rembrandt is not supported on Microsoft Small Business Server, or on Windows ME.

## Part A: Required Components and Recommendations

The following information outlines the required components and hardware of a 5 concurrent user Rembrandt Lending System deployment. All Microsoft components are recommended to be upgraded to the current service pack or version available from Microsoft at the time of the Rembrandt release.

Network (multi-user) installations of the Rembrandt Lending System require a Microsoft Domain network infrastructure. Your Rembrandt application server must be a member of your existing Microsoft domain, as must the client workstations intended for the Rembrandt client software installation. Workgroup membership alone is NOT sufficient. Rembrandt should not be installed onto a Domain controller primarily for security, performance and integration issues; Rembrandt should be installed to its own member server within an existing Microsoft Windows Domain.

Standalone (single user) installations of Rembrandt do not require a Microsoft Domain Network infrastructure.

All Rembrandt installations require the Microsoft TCP/IP protocol, Microsoft SQL Server (network installations) or MSDE (standalone installations), and Windows operating systems, including Internet Explorer. More detailed information regarding infrastructure requirements is provided later in this document.

Please note that any hardware used for Rembrandt must also be approved by Microsoft or listed on the Microsoft HCL (Hardware Compatibility List). The HCL can be found on the Microsoft web site in the following location: <http://www.microsoft.com/whdc/hcl/search.aspx>.

## Operating Systems

Note: Only those systems listed within this document are supported for use with the Rembrandt Lending System as of June 2007.

There are a variety of other operating systems or operating system suites available for customers to purchase that are not compatible with the Rembrandt Lending System. For example, Rembrandt is not supported on Microsoft Small Business Server, or on Windows ME.

## Server Operating Systems

- Windows 2000 - Server or Advanced Server
- Windows Server 2003

## Network Client Operating Systems

- Windows 2000 Professional
- Windows XP Professional
- Windows 2000 Terminal Services with or without Citrix
- Windows Server 2003 Terminal Services with or without Citrix
- Windows Vista Business Edition
- Windows Vista Enterprise Edition

## Stand-alone (Single User) Operating Systems

- Windows 2000 Professional
- Windows XP Professional
- Windows Vista Business Edition
- Windows Vista Enterprise Edition

## Database

Rembrandt Server and Standalone systems store the majority of data within a database. The database used for Network installations of Rembrandt is Microsoft SQL Server version 2000 or 2005. Microsoft SQL Server is not sold by Wolters Kluwer Financial Services. Customers looking to purchase Microsoft SQL Server should contact their hardware vendor or Microsoft directly. The database used for Standalone (single user) installations of Rembrandt is Microsoft SQL Server 2005 Express Edition. Microsoft SQL Server Express Edition is shipped to Rembrandt Standalone customers on the Rembrandt CD free of charge.

## Network Server Database

- Microsoft SQL Server 2000 (To be purchased by your organization)
- Microsoft SQL Server 2005 (To be purchased by your organization)

## Standalone Database (Single user only-no data sharing)

- Microsoft SQL Server 2005 Express Edition (Currently free of charge)

## Additional Required Components

- Microsoft Internet Explorer (required on client, server and standalone systems). Internet connectivity is not required for Rembrandt to function; however Rembrandt uses certain Internet Explorer files in the preparation of Lending documents.
- Microsoft TCP/IP must be installed and configured on each system that will be using or providing services to the Rembrandt software.

- Backup Software (i.e. ARCserve, Veritas Backup Exec™, Microsoft, etc.) and a solid backup methodology are recommended, if not required for all implementations. Third party backup software provides backup agents for Microsoft SQL Server and open files. Plan your backup strategy thoughtfully. Information regarding Rembrandt specific backup requirements can be found within the Rembrandt maintenance instructions document on the [www.Support.BankersSystems.com](http://www.Support.BankersSystems.com) website.
- Printers are required to be PCL-5 or PCL-6 compatible. Two physical programmable trays are required. One of the two physical trays must be capable of holding 8 ½" x 14" Legal paper. Printer drivers should be supported by your printer and your operating systems. Printer memory should be appropriate for the dots per inch (DPI) setting you intend to place on your printers and within your printer configurations. Generally, allow 8 MB of RAM for 300 DPI, 16 MB of RAM for 600 DPI, and 32 MB of RAM for 1200 DPI, and so on.
- Wide Area Network deployments of Rembrandt require a Windows Terminal Server for the Rembrandt Client software. Terminal Server is not fully discussed within this document. Anyone electing to deploy Rembrandt in a WAN configuration will be provided with specific configuration recommendations, based on several factors. The Rembrandt Client software must be installed to a separate server (terminal server) from the Rembrandt database and Rembrandt document engine.

## Recommendations

Important information regarding computer names: Avoid naming the server, standalone or client "Rembrandt." Avoid naming the server, standalone or client with all numeric names. In addition, computer names should not contain spaces, hyphens, underscores or any non-alphanumeric characters.

- Once Rembrandt is installed to a server or a standalone system, do not change the computer name; application failure, system downtime and data loss will likely result.
- We strongly recommended using a non-production or lab environment to test service packs, hot fixes and new releases of various software pieces before they are placed into your production environment. A lab or test environment is an invaluable tool in identifying and resolving software conflicts or problems before implementation in a production environment.
- Name resolution must be provided by your Microsoft network. Verify name resolution is accomplished via WINS, DNS, LMHOSTS files or HOSTS files.
- Virus scanning software is a very important element for keeping your data, applications and network available for your users.
- Network and data security must be carefully planned, deployed and maintained by your organization. Network installations of Rembrandt generally should not be installed directly onto a domain controller. Apply vendor deployed and recommended service packs to your production systems in a timely and thoughtful manner and after sufficient testing in a non-production environment.
- Network, server and client maintenance practices are vital to overall performance of your systems.

## Part B: Example Environment Information

Note: This is only an example. Your configuration will likely differ significantly.

The following information provides a brief overview of a simple Rembrandt installation or deployment. We provide limited details regarding server, client and standalone installation components as well as an example of hardware required for 5 concurrent users. Your specific configuration will depend primarily on the number of concurrent users, the number of loans you intend to do in a selected timeframe and the size of those loans or transactions. It is for these reasons we provide specific hardware requirements to each customer on an individual basis during a pre-implementation technology conference call.

### Components - Network Deployment

#### Rembrandt Server

- Microsoft Server Operating system with current service pack
- Microsoft SQL Server 2000 or 2005 with current service pack
- Internet Explorer with current service pack
- Microsoft TCP/IP static address
- Rembrandt server software

#### Rembrandt Client

- Microsoft Professional operating system with current service pack
- Internet Explorer with current service pack
- Microsoft TCP/IP provided by DHCP or static assignments with name resolution
- Rembrandt client software

### Standalone Deployment

#### Rembrandt Standalone PC

- Microsoft Professional operating system with current service pack
- Microsoft SQL Server 2005 Express Edition
- Internet Explorer with current service pack
- Microsoft TCP/IP provided by DHCP or static assignments with name resolution
- Rembrandt stand-alone software

### Hardware - Network Deployment (5 User Local Area Network Only)

#### Rembrandt Server

- 2.66 GHz Intel Pentium 4 Processor

- 1 GB RAM (minimum) 2 GB (recommended)
- CDROM Drive
- Three (3) SCSI hard drives configured in a RAID 5 array with a minimum of 2 partitions; the primary partition exclusively for the operating system, the secondary partition for database / application use
- Display resolution a minimum of 800 x 600 pixels
- Disk defragmentation software
- Backup software with appropriate agents

### Rembrandt Client

See hardware configuration for Rembrandt Standalone deployment below. Examples of Terminal Services/Citrix configurations are available upon request.

## Standalone Deployment

### Rembrandt Stand-alone PC

- 2.66 GHz Intel Pentium 4 Processor
- 512 MB RAM (minimum) 1 GB (recommended)
- CD-ROM Drive
- IDE or SCSI hard drive with ample free space for software installation

## Installation Options & Next Steps

Rembrandt can be installed in a number of ways to accommodate your specific needs in addition to maintaining the overall integrity of the software. The WKFS Installation/Technology Team will work with you to determine the installation strategy that is right for your organization.

The next step to be completed is the Rembrandt Hardware Analysis worksheet. It is important to fill out the Rembrandt Hardware Analysis worksheet completely PRIOR to having a conversation with a WKFS Installation/Technology Team member.

After you have completed the Hardware Analysis worksheet, fax it to your Technical contact at: (320)240-4252.

