

Smart Deployment Mercury and Mercury on Demand

Please read this document completely before purchasing any new hardware, installing, and configuring your network.

The purpose of this document is to provide you with deployment strategies recommended by Fidelity National Information Services (FIS). Use this document in conjunction with the System Environmental Requirements (SER) for Mercury. Together, these documents can help you plan your acquisition and deployment of computer and network components for your credit union's upcoming implementation. This document will help guide you in designing your credit union's network infrastructure for optimal performance. Smart Deployment is based on experience gained from the hundreds of implementations successfully completed by FIS.

As part of your Mercury implementation, you have received a number of hours of network and hardware consultation time with a Mercury System Migration Analyst. We recommend you take advantage of that time by contacting the Transition Services department during the following stages of your implementation:

- **Selecting a site expert**

It is the responsibility of the credit union to locate a network site expert for network configuration, setup, and support of the network infrastructure. This expert should be familiar with Microsoft Windows Server and Microsoft SQL Server. They should also have a working knowledge of TCP/IP networks utilizing Microsoft domains or workgroups. The site expert is not only important in setup, but in training your employees in the general use of Windows, the network and its components, and hardware. Selecting a site expert is one of the most important decisions you will make during your implementation. Give yourself plenty of time to locate the right site expert for your needs. It is very important to select a site expert that is experienced and professional. FIS can assist you with this decision in the following ways:

- ✓ Providing you with a list of site experts in your area.
- ✓ Providing you with a sample Request for Information (RFI) document that can be sent to the site experts you are considering. When the RFI is returned, it is easy to compare one site expert to another. If you are still not sure, send the RFI from each company to FIS and we will review them with you.
- ✓ Giving recommendations for site experts in your area that we have worked with before

- **Hardware specification and acquisition**

After you have received a quote on hardware from your site expert send it to the Transition Services department and we will review it with you. We can help you determine whether the price is fair, the quote includes everything you need, or the quote is missing things you should have.

Note: FIS will NOT negotiate prices

- **When your site expert is installing your network**

FIS is happy to work **with your site expert** if there are any questions or concerns about the hardware/network installation in regards to proper operation of our software.

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Provide your site expert with the applicable section(s) of this document

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Mercury

File Server

Required

- Microsoft ® Windows 2003 Server
Note: Small Business Server 2003 Premium Edition includes SQL Server 2000. The standard edition does not.
- SVGA compatible monitor
- SVGA compatible Video Card running at 1024x768 resolution & 256 color minimum
- Keyboard
- Mouse (or other pointing device)
- CDR or DVDR
- Ethernet 100Mbps or higher network interface card
- Uninterrupted Power Supply (UPS)
- Anti Virus software for server/network (McAfee, Norton or Inoculan are some highly recommended anti-virus software packages)
- Latest version of WinZip or WinRAR
- NTFS is the required file system

Recommended

Note: Perceived performance will be most affected by the server specifications. The following recommendations are for a typical full service credit union with 1,000 members and ten years of history. Adding more memory (RAM) usually improves responsiveness.

	1-2 Workstations	3-8 Workstations	9-20 Workstations	21+ Workstations
Client Licenses	5	5-10	10-20	Contact FIS for more details
CPU	Pentium IV 1 Ghz	Pentium IV 1 Ghz	Pentium IV 2 Ghz	
Memory (RAM)	2 GB	3 GB	4+ GB	
HDD total usable size	100 GB	150 GB	200 GB	

- RAID (Redundant Array of Inexpensive Drives)
 - ✓ Provides data redundancy across multiple drives
 - ✓ If a drive (or drives) fails, other drives will continue operations until failed drive(s) are repaired
 - ✓ RAID level 5, capable of hardware independent RAID, with 3+ hard drives
 - ✓ RAID 1, or Disk Mirroring, is also acceptable, but may incur downtime in the event of a hard drive crash
- Backups
 - ✓ The backup option in Mercury only backup the Mercury databases
 - ✓ The following files should also be considered in your backup process
 - Insurance files
 - EFT files
 - Images (member and credit union)
 - Custom credit union documentation, policies, or process procedures
 - ✓ The credit union and site expert should work with FIS and develop a process to backup the data to removable media that can be stored off site
 - ✓ FIS recommends the following
 - CDR or DVDR for **daily** Mercury backups
 - Tape drive for entire system backup
 - The frequency you backup your complete system should be determined by the site expert and credit union manager
 - You should ensure that your tape backup includes your Mercury backup
 - FIS cannot retrieve Mercury data from your tape drive, your site expert must extract the data



- ✓ Once your backup procedure is in place, it is **highly** recommended that you verify it is working properly. Review the contents of the backup on a regular basis to ensure disaster recovery.
- ✓ Other Disaster Recovery Options
 - Subscribe to the FIS Disaster Recovery program
 - Sending a backup of Mercury data to a workstation hard drive periodically

Workstations

Required

- Microsoft® Windows Vista Professional or XP Professional operating system
*Note: Mercury is **not** compatible with Home versions of Windows*
- If this workstation is at a branch
 - ✓ The workstation must be able to display a resolution of 1024x768
 - ✓ Perceived performance will be affected by processor speed, printer speeds, and **bandwidth**
 - ✓ Experience indicates poor user acceptance in bandwidths lower than broadband connectivity
 - ✓ The credit union is responsible for securing and maintaining Internet connectivity suitable to their needs
- SVGA or better monitor
- SVGA compatible video card running at 1024x768 resolution & 256 color minimum or better
- Keyboard
- Mouse (or other pointing device)
- CDR or DVDR
- Anti Virus software for Workstation(s) (McAfee, Norton or Inoculan are some highly recommended anti-virus software packages)
- Ethernet 100Mbps or higher network interface card
- NTFS is the required file system

Recommended

- Note: The following recommendations are for a typical full service credit union with 1,000 members and five years of history*
- Pentium 4, 1.0Ghz + Processor
 - 2 GB RAM
Note: More memory (RAM) usually improves responsiveness
 - 100 GB hard drive
 - 2 (minimum) USB ports
 - Microsoft® Office Suite (for word processing, spreadsheets, etc)
 - Workstations with software in addition to Mercury should meet or exceed the other software requirements for CPU, memory, and hard drive space. See your software manual or speak to your vendor for further information.

Single User File Server (NO workstations)

Required

- Microsoft® Windows 2003 Server
Note: Small Business Server 2003 Premium Edition includes SQL Server 2000. The standard edition does not. Small Business Server 2003 Premium Edition includes SQL Server 2000. The standard edition does not.
- Pentium IV 2.5Ghz processor or higher
- IDE or SATA hard drives
- SVGA or better monitor
- SVGA Compatible Video Card running at 1024x768 resolution & 256 color minimum or better



- 2 GB RAM
Note: More memory (RAM) usually improves responsiveness
- 100 GB hard drive
- Keyboard
- Mouse (or other pointing device)
- CDR or DVDR
- Anti Virus software for server (McAfee, Norton or Inoculan are some highly recommended anti-virus software packages)
- Ethernet 100Mbps NIC (for future use or to attach additional devices via a hub) or better
- Strongly Recommended
 - RAID (Redundant Array of Inexpensive Drives)
 - ✓ Provides data redundancy across multiple drives
 - ✓ If a drive (or drives) fails, other drives will continue operations until failed drive(s) are repaired
 - ✓ RAID level 5 systems include controller, capable of hardware independent RAID, with 3+ hard drives
 - ✓ RAID 1, or Disk Mirroring, is also acceptable, but will incur downtime in the event of a hard drive crash
 - NTFS is the required drive format
 - Backups
 - ✓ Mercury backups only backup Mercury data
 - ✓ The credit union and site expert should work with FIS and develop a process to backup the data to removable media that can be stored off site
 - ✓ FIS recommends the following
 - CDR or DVDR for **daily** Mercury backups
 - Tape drive for entire system backup*Note: The frequency you backup your complete system should be determined by the site expert and credit union manager.*
 - ✓ Once your backup procedure is in place, it is **highly** recommended that you verify it is working properly. Review the contents of the backup on a regular basis to ensure disaster recovery.
 - ✓ Consider sending a backup of Mercury data to a workstation hard drive periodically as another disaster recovery method.
 - Options
 - ✓ UPS (uninterrupted power supply)
 - ✓ Microsoft ® Office Suite (for word processing, spreadsheets)
 - ✓ Pentium® IV 2.5 GHz processor or faster
 - ✓ Minimum 1 GB memory (RAM) or bigger
 - ✓ 100+ GB hard drive or bigger

Network Security

- Staff members must be able to log on interactively to the network where Mercury or related applications are located
- FIS recommends the following as part of your security
 - Note: You should adjust security to meet your needs*
 - The site expert should have appropriate privileges, granted by the credit union
 - The FIS implementation team must also be temporarily granted similar permissions that can be removed at completion of the implementation. Please use the following login name and password:
 - ✓ Login Name: **mercury**
 - ✓ Login Password: **Mercury=#1**
 - Passwords
 - Note: Password complexity and appropriate security measures are highly recommended by FIS*



- ✓ It is the credit union management's responsibility to know all Windows' login information, including the Administrator logon name and password for the server
- ✓ Password information should be recorded and sealed in the vault (or similar space) for safe keeping
- ✓ You will also need the local workstation Administrator name and password for each workstation. Because of the security protections built into Windows, FIS has no way of knowing this information or determining it for you later.
- Firewalls for persistent Internet connections
- Use of a secure VPN (virtual private networking) for branch/remote connections made via the Internet to your system or point to point connections
- Other applicable security as needed
- ❑ Staff members must have group access to the Mercury applications and data file locations

Internet and Email

- ❑ At least one computer on the network where Mercury is installed must have Internet access
- ❑ A persistent broadband Internet connection is recommended
- ❑ Remote Connectivity
 - FIS requires remote connection capability via the Internet
 - This connectivity is to be used for remote diagnostics, training, and software upgrades
- ❑ Windows allows you to decide who can and cannot access your Internet connection from their workstation

Printers

- ❑ Ethernet print server (where needed)
 - Print servers allow easier administration of shared printers. They also allow the printers to be placed a distance away from a PC thus allowing for a more centralized location for multiple users.
 - We recommend HP JetDirect print servers
 - Note: USB versions of the Epson POS printers will not work on a JetDirect*
 - Note: HP recommends that Dot-Matrix printers installed on a JetDirect should be installed with a "Standard TCP/IP" port. The default is an "HP Standard TCP/IP" port. You should double check this after the JetDirect has been installed.*
- ❑ Report Printer
 - Mercury's reports are formatted to print on 8½x11" paper using the Windows printer API
 - Mercury's reports are designed to print within page margins set as follows:

Top	.22	Bottom	.24
Left	.25	Right	.25
 - Some information may be truncated when printed to printers with default page margins that are larger than the above specifications resulting in a smaller printable area
 - The reports use Arial Western and TimesNewRoman Western TrueType fonts installed with the printer driver
- ❑ Loan Documents
 - Laser
 - ✓ Printers must be HP PCL5 or PCL6 compatible
 - ✓ FIS recommends the HP4000 series (or its replacement as they are released by HP) or the HP2100.
 - Note: Inkjet printers are not compatible with Mercury Loan Documents or Applications*
- ❑ Loan Applications
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- ❑ Checks
 - Laser
 - ✓ Printers must be HP PCL5 or PCL6 compatible
 - ✓ FIS recommends the HP4000 series (or its replacement as they are released by HP) or the HP2100.
 - Dot-Matrix
 - ✓ The printer must be IBM ProPrinter compatible
 - ✓ FIS recommends the Okidata 320 Turbo printers with IBM Proprinter emulation
 - Note:** *The Okidata 100 series and other printers with no buffer capabilities are not usable with Mercury*
 - Note:** *SOME Okidata printers do NOT emulate IBM ProPrinter and can NOT be used with Mercury. Please verify with Okidata by calling 1-800-OKIDATA*
 - ✓ Cables
 - IEEE1284 cables are recommended for parallel port installations
 - If you will be using current printer cables, verify that all pins are intact. If any of the pins are missing, you will need to replace the cable.
 - Note:** *Cables used with DOS systems may have had pins removed for performance reasons. In Windows, this may cause a delay or cause the print job to halt in the middle of printing.*
- ❑ Receipts
 - POS/Thermal Receipts
 - ✓ Mercury supports Epson printers that conform to Epson's standard ESC/POS® (Epson Standard Code/Point of Sale) command structure that standardizes all printer control codes for the point of sale market
 - ✓ Some models that have been tested are the TM-U200, the TM-U325, and the thermal TM-88III
 - ✓ You can NOT use a JetDirect with a USB version of the Epson POS printers
 - Dot-Matrix
 - ✓ The printer must be IBM ProPrinter compatible
 - ✓ FIS recommends the Okidata 320 Turbo printers
 - Note:** *The Okidata 100 series and other printers with no buffer capabilities are not usable with Mercury.*
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Mercury on Demand

Overview

- Mercury On Demand is a subscription service
- Mercury is installed and operated on a secure server provided and maintained by FIS
- The credit union accesses their Mercury application and database via FIS managed VPN or point-to-point connection, utilizing the Windows Remote Desktop capability offered by Windows 2003 Server

Workstations

- Required
 - Microsoft® Windows Vista Professional or XP Professional operating system
 - SVGA monitor
 - SVGA Compatible Video Card running at 1024x768 resolution & 256 color minimum
 - Keyboard
 - Mouse (or other pointing device)
 - CDR or DVDR
 - Anti Virus software for Workstation(s) (McAfee, Norton or Inoculan are some highly recommended anti-virus software packages)
 - Ethernet 100Mbps or better network interface card
- Perceived performance will be affected by processor speed, printer speeds, and bandwidth
- Experience indicates poor user acceptance when using anything less than broadband Internet connectivity
- The credit union is responsible for securing and maintaining Internet connectivity suitable to their needs

Printers

- Recommended solution for credit union environments where more than 3 teller machines are used
 - Printers should be connected to the FIS Mercury on Demand network via TCP/IP
 - The VPN also provides an even more secure data transmission as well as a reliable printing solution
- Ethernet print server (where needed)
 - Allows you to include printers on the network that cannot be connected to a workstation
 - We recommend HP Jet Direct
 - Note: HP recommends that Dot-Matrix printers installed on a JetDirect should be installed with a "Standard TCP/IP" port. The default is an "HP Standard TCP/IP" port. You should double check this after the JetDirect has been installed.*
- Report Printer
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- Loan Documents and Loan Applications
 - Laser
 - ✓ Printers must be HP PCL5 or PCL6 compatible



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EFT

- Transmitting EFT files over the internet is the preferred method for sending and receiving all types of EFT files (Share Drafts, ACH, ATM, and/or PBF)
- FIS EFT Specialists can talk to these vendors for you if you like, as part of your consultation time
- The credit union is responsible for the hardware and software needed to receive and/or transmit information electronically
- If your current processor does not have capability to transmit files using the above methods, you should strongly consider changing EFT Processors to someone who does. Contact an EFT Specialist at FIS for recommendations on processors in your area.

Credit Bureau Inquiry

Digital Dialogue

- Digital Dialogue requires internet access on the machine from which you are pulling the credit report
- Internet must be connected prior to pulling the report through Mercury
- Internet security must be configured to work correctly to allow access to the Digital Dialogue site



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Remote Branching

- Machine setup
 - The terminal server option is built into Windows 2000/2003, but your site expert must configure it correctly. Make sure your site expert is aware of this need
 - The server must be configured to run Windows Terminal Services in Application mode
 - Branch Workstations must be configured with Windows Remote Desktop client
- Your site expert will be responsible for installing, configuring, and testing your branch connections before the credit union implements Mercury
- Branching may consist of a single dialup such as from home to a multi workstation office. Contact a FIS Transition Services consultant for information
- We strongly recommend a VPN or other secure connection

AccountFolio 6.1

See AccountFolio 6.1 Hardware Requirements Attachment

Frequently Asked Questions

Q. When should I buy?

- A. When you obtain pricing, make sure to calculate in when you actually want to buy. Prices can change greatly in the space of 60 days or less. Use quotes that you get now as a guideline. Re-price equipment when you get closer to your installation date. You may find that prices are lower OR you can get a faster machine for the same or less money. Always ask the vendor how much lead time they need to process an order for you. You may want to discuss payment arrangements as well.

Q. What do I ask?

- A. You should give the Mercury SER and this Smart Deployment document to your site expert. If you are a multi-workstation office, the vendor will need to know to quote you a Windows 2003 Server fileserver and the number of new Windows Vista or XP Professional workstations you wish to purchase.

Q. Can I use my existing equipment?

- A. Existing equipment will need to be evaluated on a case-by-case basis by you, your site expert, and FIS consultants. Please refer to www.microsoft.com for equipment compatibility requirements. Remember to consider other applications you may be using, they may have higher requirements.

Q. Who do I call for pricing?

- A. There are several national and local vendors that provide this service. A good place to start is to look in the Yellow Pages of your phone or online book under Computers. You may also have resources available through your sponsor company.

Q. Is the file server set up as a Domain Server or a Workgroup?

- A. The Mercury software will run on either, however we recommend you setup your network as a domain. Consult with your site expert for which is best for you. If you are going to connect to another network, such as with your sponsor company IT Department, you may want to involve the sponsor company site expert in your network setup decisions. There are several options for keeping your credit union's network completely separate from the other network but allow your workstations to use resources from both, giving you access and complete security as well.

Q. What do I ask a Site Expert Vendor?

- A. You can fax the request for information (RFI) to your vendor along with the SER document. If you are a multi-workstation office, the vendor will need to know to quote you a Windows2003 Server fileserver and the number of new Windows Vista\XP Professional workstations you wish to purchase. For single station users, you can use the Single Station User information attached for your needs.

Q. What type of lines do I need for my branch?

- A. You and your site expert should decide what is best for you. This decision will be based on what services are available in your area (normal phone lines, ISDN, DSL, cable, etc) as well as the load that will be placed on the line. Note that some phone companies require 60-90 days to connect some services so you should get this portion of the project started early.



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Frequently Asked Questions (cont.)

Q. **Where can I go for help?**

A. Call FIS at 1-800-998-4357

Visit www.mercurydelivers.com

Email the Mercury Transition Services department at slc-ts@fnis.com