

MIRA

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MIRA Installation Checklist



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Summary Checklist

Description	Value
<p>1) Name of dedicated Windows station for the MIRACR module. (Please provide DNS name, IP address, hardware type, Operating System + Version)</p> <p>Notes :</p> <ul style="list-style-type: none"> - must be Windows NT 4.0 SP6 or 2000 Pro or XP Pro or 2003 Pro - "workstation" version ok, "server" not required - must have 1 USB port available, for USB key software protection (pure software protection also available on special request) - disk space is not important, but a fast CPU (2Ghz+)and sufficient RAM (512MB+) improve the processing speed of documents - this station potentially runs 24h/day, 7d/week - this station does not store vital data, so it does not require special backup procedures 	
<p>2) Windows domain user-id (& password) for running the MIRACR Service.</p> <p>Notes :</p> <ul style="list-style-type: none"> - must be added to Local Administrators Group on the MIRACR station - must be allowed to "run as service" - password should not time out - must have access to shared network directories (MIRACR cannot run as "LocalSystem" for that reason) 	
<p>3) Host on which the MIRAFiler & MIRAServer services/daemons will be installed (Please provide DNS name, IP address, hardware type, Operating System + Version)</p> <p>Notes :</p> <ul style="list-style-type: none"> - can be Unix or Windows - must have sufficient disk capacity for document storage - requires regular backup - can be same as STAR server 	

<p>4) Host on which the MIRALoader service/daemon will be installed (Please provide DNS name, IP address, hardware type, Operating System + Version)</p> <p>Notes :</p> <ul style="list-style-type: none"> - can be Unix or Windows - can be same as STAR server 	
<p>5) user-id under which the MIRAFiler & MIRAServer services/daemons will be running</p> <p>if MIRAFiler & MIRAServer run on a Windows host, this user-id :</p> <ul style="list-style-type: none"> - must be added to Local Administrators Group - must be allowed to "run as service" - password should not time out - must have access to shared network directories ("LocalSystem" does not have network access) 	
<p>6) user-id under which the MIRALoader service/daemon will be running</p> <p>if MIRALoader runs on a Windows host, this user-id :</p> <ul style="list-style-type: none"> - must be added to Local Administrators Group - must be allowed to "run as service" - password does not time out - must have access to shared network directories ("LocalSystem" does not have network access) 	
<p>7) Shared network directories for MIRA Services use</p> <p>Please provide a short description of where these directories could be located on the network, and how the sharing is organised.</p> <p>Note : if the various services (MIRACR, MIRAFiler,...) run on different systems with different OS, this may require the setup of SAMBA or smbfs directory mounts or similar</p>	
<p>8) Shared network directories for user (and scanner) drag-and-drop functionality</p> <p>Please provide a short description of where these directories could be located on the network, and how the sharing is organised.</p> <p>Note : users and/or network-capable scanners must be able to read/write to such directories, and the MIRACR service also</p>	

<p>9) if the "email drag-and-drop" functionality is desired, please provide :</p> <ul style="list-style-type: none">- the DNS name, IP address, type and version of an existing IMAP server that can be used <p>or</p> <ul style="list-style-type: none">- the DNS name, IP address, OS type and OS version of a host where Courier-Imap can be installed and used <p>Also provide the approximative number of users for which this functionality is initially required (additional users can be added later)</p>	
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Introduction

Before discussing the installation checklist, an understanding of a few basic concepts of MIRA is essential :

- ➔ The MIRA suite has been designed to be very flexible, but simple to use from the customer point of view. The customer should not be aware of the inherent complexity of what happens in the background. This means that much of the complexity resides in the programs themselves, and in their setup and configuration. In addition, because the product is flexible and complex, it is often not possible for the user to describe accurately and precisely in advance all the circumstances and applications in which they will use the MIRA suite. Consequently, installing MIRA involves not only installing the programs and settings in a standard way, but also having a dialog with the user during the installation, configuring the system incrementally on-the-spot, running some examples, modify settings, etc...

- ➔ The MIRA suite is composed of various software modules, which can run on separate host computers as background processes and which communicate through files that they write and read on shared disk directories. This means that the user-ids under which these modules run must have R/W access to these shared directories. It also means that the files written by one module must be readable by the next module in the chain, and that this next module must be able to erase the files when it is done with them. Because the host computers on which the various modules of MIRA are running may have different Operating Systems, with different kinds of user-id's and different ideas about networks, shared directories and permissions, the setup of this may be quite complex and require the intervention of several system or network administrators at the customer site.

→ A number of requirements (or pre-requisites) exist for the installation and running of the MIRA modules, of which some are common to all modules (e.g. Perl), and some are specific to some modules or user configuration of the MIRA Suite. For instance, the MIRACR module always runs on a Windows platform as a Windows “service” process, which triggers certain requirements in terms of setup, user-ids and permissions. Other parts of MIRA may also run on Windows hosts, with similar requirements.

→ Unfortunately, there does not exist at this point a general, easy-to-use MIRA installation program or process that can be executed by a local system administrator or user. In the future, we will try to create such a tool, to allow the installation of a simple standard MIRA application. But for the time being, the MIRA installation is composed of a series of discrete steps to be executed on the various target hosts by a qualified “MIRA installation specialist”.

In summary thus, the good news is that MIRA can be installed and configured on almost any customer system and network setup. The dark side of this flexibility is that the installation is consequently variable and generally complex. Quite understandably, the users and system administrators we are dealing with are not MIRA specialists, so it is often difficult for them to understand what information we need in advance, and even sometimes to answer our questions in a way that allows us to plan an orderly setup. Instead, we generally have to adapt to the circumstances we find on-site, during the installation. Nevertheless, let's try our best with the following checklist.

General requirements & pre-requisites

Summary

General Requirements :

- Installation permissions : "root" and/or "local Administrator"

- Shared/shareable network directories

- Windows domain user-id's : MIRA user-id, domain+service

- Adequate disk space/partitioning for original document storage

Additional requirements to avoid installation delays :

- Perl 5.8.1+ installed on all hosts

- Up-to-date hosts systems

- Access to the Internet : for when we're missing something

- local access to the hosts consoles

- Practical working environment

Per-module specific requirements :

- MIRACR

- MIRAFiler

- MIRALoader

- MIRAMap

- other modules

General Requirements

Installation permissions

The person installing the MIRA suite will need “local administrator” rights to each host on which a MIRA module must be installed.

Under Unix and Linux, this means the “root” user, or any user with numeric user-id 0; under Windows, this means at least a user-id which is a member of the “local Administrators” group on the target machine.

There is no exception to this requirement. No matter what the customer, or their system or network administrators may think about special “power users” or “developer” user-id's, or about company policies, **it does not work**, and MIRA cannot be properly installed if this requirement is not met.

MIRA is composed of many software parts, some of which we obtain from external sources and do not totally control. Particularly under Windows, when some of these parts are installed by a user without local Administrator rights, problems arise in terms of program sharing and/or file permissions, causing unpredictable application behaviours, some of which may only appear after the MIRA technician has left the customer premises.

The only technical alternative to the MIRA technician having Administrator access is to have, during the entire installation process, a system administrator present, with the appropriate access rights. But by experience, this causes a lot of problems and a loss of time, so in that case the normal MIRA installation timeframe will not be met, and the customer should be informed of the extra time will be needed for the installation.

Be also aware that in large organisations, responsibilities may be spread between different physical persons and/or locations. It is not unusual nowadays to have different teams of people responsible for Windows workstations, Windows servers, Windows network, Unix servers, Unix network, etc... Because many times MIRA implicates all these different aspects, you may need to talk to several people in advance, and coordinate their availability at the time of installation.

Shared/shareable network directories

As mentioned in the introduction, MIRA modules use shared disk directories to communicate with one another. When the MIRA modules are running on different hosts, these directories need to be shared network directories. If the MIRA modules run on different hosts with different Operating Systems (typically, Windows and Unix or Linux), then some shared network directories are needed that the different hosts and OS'es recognise and can access.

Also, if (human) users are to be able to file documents to the MIRA system by using the "drag-and-drop" or "save as" methods, there will be a need for such shared network directories, accessible (R/W) both by the users and by the MIRA modules.

There must thus exist such directories, or the possibility of creating them. This can be a complex theme, specially if there are both Windows and Unix/Linux hosts involved. It is not certain that the same userid's can be used in both "domains", or even that these two kinds of systems can "see" one another without special setups (think shared directories, Samba, NFS, DNS, domains and that kind of stuff).

Note : this is also linked to the item : domain user-id's

Windows domain user-id

The MIRACR module always runs on a Windows platform, as a Windows "service" (background task), usually continuously 24h/day, 7 days/week. This service runs on the MIRACR host under a Windows user-id, and this user-id must thus have sufficient rights to "run as service". The MIRACR service also needs access to some of the shared network directories mentioned earlier. In most customer networks, this means that the user-id under which the MIRACR service runs, must be a valid domain user-id which has the following characteristics :

- access to the network shared directories (“shares” in Windows-speak)
- password does not change over time
- permissions as required to run as a Windows SERVICE on the MIRACR platform

Other MIRA modules may also run on Windows hosts. If so, they will also require as a minimum a user-id that has the rights required to “run as a service”, and in addition, if they need to access network directories, this user-id must also be a valid Windows domain user-id. In most cases, the same domain user-id can be used to run the various MIRA services on different hosts.

MIRA services running on Unix hosts do not run as “root” and do not generally need special privileges.

Adequate disk space/partitioning for original documents

A main function of MIRA is to store original documents and provide access to them. MIRA-controlled documents are stored as normal files, but organised in “repositories” or “volumes”, which are special directory hierarchies that must be located on one or more disk areas. Because original documents can use up a lot of disk space, because backup requirements for these repositories are different than for usual data files, and because of access permission considerations, it is recommended that the MIRA repositories be located in their own “filesystem” or “logical disk”. Because of the access schema used by MIRA, only the user under which the MIRA modules are running needs access to these repositories (normal users do not need direct access). If correctly set up, this can provide a high level of security.

For example, under a Unix-like system the root of the MIRA repositories could be a filesystem mounted as “/MIRA” and owned by the user “mira”; under Windows, an extended NTFS partition with a single top directory “MIRA” would be appropriate.

The size of this partition/filesystem should be sufficient to accommodate the expected space required by approximately 2 years worth of document acquisition. Our recent experience shows that one should count on average approximately 250 KB per document; but be aware that this can vary from a couple of KB for simple text email documents, to 1 or 2 MB for scanned multi-colored documents stored as PDF files.

Check Company, Network, System policies

The basic MIRA software modules run as background tasks (called “daemons” under Unix, and “services” under Windows), generally on a 24h/day, 7 days/week base. Per se, on Windows platforms, the MIRA modules do not require any “server license” and can run perfectly well on simple workstations dedicated to that purpose (in other words, not also used by human personal).

However, it is possible that official policies in effect at the customer location dictate for instance that whatever software process that runs in permanence, must run on a “server” located in the “server room”, and/or subject to special support conditions.

Please make sure that you check such internal rules in advance, so that it does not come as a complete surprise to your system administrators that they cannot just reformat the MIRA server's disk drive, restore the previous day's disk image to it, or reboot it without warning. Make sure also that the office cleaning staff knows not to turn off this station at night, or use the plug for the vacuum-cleaner.

Additional requirements to save installation time

Perl 5.8+

All modules of MIRA require an operational version of Perl version 5.8.1 or higher. Although the MIRA installation technician will install Perl on the machine if it is not yet present, this is mentioned as a pre-requisite for the following reasons :

- none of the MIRA modules will run without an operational Perl version 5.8.1 or higher
- it gains time for the installation if Perl is pre-installed
- Perl 5.8.x may conflict with another already-installed version of Perl on the same host. Perl is now generally installed on all Unix-like systems, as part of the basic OS installation. However, the version of Perl so installed is not necessarily sufficient for MIRA, and installing an additional Perl version may conflict in some cases with running applications. This can occasionally be a problem if the system already has an older version of Perl which is used by other applications.
- For Windows hosts, there exists a standard Perl package, available from “www.activestate.com”; for Unix-like hosts however, the situation is more complex : depending on the platform, there may exist a “standard package” available from the host supplier (e.g. HP). In that case this is probably the version preferred by the system administrator, and if it is the required version, the system administrator should be asked to install it before the MIRA installation starts. In other cases, a suitable binary version of Perl can be found on the WWW (e.g. for Solaris www.sunfreeware.com or www.activestate.com). The last option is to install a new Perl interpreter from the source at www.cpan.org. But this last option also requires the prior installation of a GNU-C compiler and additional libraries, so it is a lot more complex and time-consuming.

Local access to the target installation hosts

We have noticed several times that on Windows platforms, access through a “remote console” or similar services, did not allow some installations to execute properly, or resulted in incorrect permissions or accesses to some programs or files. This is not a systematic problem, but it does happen and causes time losses. On Windows platforms, MIRA software should be installed directly from the system console.

This is specially true for the Windows host running the MIRACR service (OCR etc..). The OCR engine and its USB protection key will not install or run properly through the Remote Desktop for instance.

Practical working environment

Installing MIRA can be a 2-to-3 day process. This is no fun if the only working environment is a cold and noisy computer room, with only standing facilities. This installation of MIRA also generally involves the installation of software and the configuration of parameter files on multiple host computers. It is thus highly impractical if the different computers must be accessed using consoles that are very distant from each other, or if the only usable CD-Rom drive and the system console are 300 m apart.

Do not smile, such things happen.

Up-to-date hosts systems

MIRA is a dynamic product, and the software modules comprising it are regularly updated in function of new customer requirements, new operating systems and software versions, security issues etc... To keep up with these circumstances, the MIRA development systems are kept up-to-date with whatever levels are "current" for the average of our customer base. It is thus possible that in order to install the current MIRA application, some customer host systems would have to be upgraded (OS version or basic software or patches). In case the customer system is up-to-date, but MIRA components are not, the burden is ours, and we will work at our cost to bring MIRA in-line with the system requirements. In case it is the customer system that is not up-to-date, and this would have a significant impact on the MIRA installation, the installation technician may have to stop the installation process and ask for rescheduling at a later date, after the customer system is brought up-to-date by the customer's technicians.

Access to the WWW

The MIRA installation CD (?) contains all the software that is normally necessary for a successful installation on a choice of host systems. However, it is practically impossible to cover in advance all combinations of operating systems, versions, patch levels, and configurations. Therefore, the MIRA installation technician may need access to the WWW during the installation, to download whatever specific versions of basic software is required by the installation of MIRA on a specific host system.

Sometimes this requires special "www proxy" user-id's and passwords. If so, they should be available for the installation.

Per-module additional requirements

I) MIRACR module

- A dedicated Windows NT 4.0 SP6, Windows 2000 pro, Windows XP pro, or Windows 2003 workstation (preferably) or server (only if local policies oblige it)

- fast CPU, preferably 512MB+ RAM, disk space available min. 2 Gb

- installed copy of MS-Word and MS-Excel (workstation license). The packages are used locally by the MIRACR software, under the userid under which the MIRACR service runs (see below)

- FineReader 6.0 SE (included in MIRA installation) + either USB hardware key or software key

- one available USB port, if the OCR software is USB-key protected (preferable)

- Windows domain user-id having access to shared network drives, with a password that does not run off, and member of Local Administrators on the target machine

- ActivePerl 5.8.x minimum, plus additional library modules (to be installed by the MIRA technician)

II) MIRAFiler module

This module can run under Unix or Windows, and can share a host with the Star system, the Web server, the Tomcat server, etc... The main requirement derives from the fact that this will also be the host for the document repositories, so it should have enough disk space available for that function.

If the host is a Windows system :

- A Windows NT 4.0 SP6, Windows 2000 pro, Windows XP pro, or Windows 2003 work station (preferably) or server (only if local policies oblige it), not necessarily dedicated
- no special requirements for CPU or RAM; disk space : see above
- ActivePerl 5.8.x minimum, plus additional library modules (to be installed by the MIRA technician)
- Windows domain user-id having access to shared network drives, with a password that does not run off, and member of Local Administrators on the target machine

If the host is a Unix/Linux system :

- No special hardware or OS requirements, other than being relatively up-to-date
- no special requirements for CPU or RAM; disk space : see above
- Perl 5.8.x minimum, plus additional library modules (to be installed by the MIRA technician)
- user-id having access to shared network drives, with a password that does not run off. This userid is used to run the MIRAFiler service, and can be the same as for other MIRA-related services.

III) MIRALoader module

This module can run under Unix or Windows, and can share a host with the Star system, the Web server, the Tomcat server, etc... (but does not have to). The MIRALoader module communicates with the Star server via Star XML, so it requires an installed Star XML module, and TCP communication with it (which is automatic if they share the same host).

If the host is a Windows system :

- A Windows NT 4.0 SP6, Windows 2000 pro, Windows XP pro, or Windows 2003 work station (preferably) or server (only if local policies oblige it), not necessarily dedicated
- no special requirements for CPU, RAM or disk space
- ActivePerl 5.8.x minimum, plus additional library modules (to be installed by the MIRA technician)
- Windows domain user-id having access to shared network drives, with a password that does not run off, and member of Local Administrators on the target machine
- Star (on same or separate host)
- StarXML (on same or separate host)

If the host is a Unix/Linux system :

- No special hardware or OS requirements, other than being relatively up-to-date
- no special requirements for CPU or RAM; disk space : see above
- Perl 5.8.x minimum, plus additional library modules (to be installed by the MIRA technician)

- user-id having access to shared network drives, with a password that does not run off. This userid is used to run the MIRAFiler service, and can be the same as for other MIRA-related services.
- Star (on same or separate host)
- StarXML (on same or separate host)

IV) MIRAServer module

The MIRAServer module is the module that, on request of applications, accesses the document repositories and returns original documents. It can run under Windows or Unix, but it should always run on the host containing the repositories, in other words the same host as the one running the MIRAFiler module.

For simple cases, the MIRAFiler module has no special requirements (other than Perl), but if some of the sophisticated reformatting capabilities are used, it might require the presence of external additional software packages (such as ImageMagick if real-time image reformatting is used).

Requirements : the same as MIRAFiler

Note : applications generally communicate with MIRAServer via a WWW cgi-bin script, which runs on a HTTP server (web server). This is generally the same server as the Star WEB server, but does not have to be.

V) MIRAB and MIRABi modules (optional)

- Apache 2.x web server required

VI) MIRAMap (optional)

The MIRAMap module is in a class of it's own. It does not have very special requirements of it's own (Perl mainly), but it requires the availability of a special type of email server, called an "IMAP server", and the possibility of defining "user accounts" and "folders" on the IMAP server.

There exist several IMAP server packages available for Unix and Linux systems in the Open Source world. The one we tend to prefer, because we have the most experience with it, is a package called "Courier-Imap".

MIRAMap can be installed on a Windows or Unix/Linux host, and it can work in principle with any installed IMAP server that it can access through the network, independently of the host on which this IMAP server is located. MIRAMap uses only TCP/IP – and the IMAP protocol – to exchange data with this IMAP server, and does thus not need any shared directories with it. On the other hand, MIRAMap communicates with the MIRACR module through shared directories, and with STAR through TCP/IP and the Star XML interface.

Most of the setup of MIRAMap is done in STAR, and it is relatively complex. Fortunately, there are scripts to make this easier.

As a checklist item, we will thus merely say here that you need to have :

- an IMAP server available

- the capability to create new user accounts and folders on the IMAP server

- a host on which to run MIRAMap (Windows or Unix/Linux)

- a STAR and STAR XML host accessible from the MIRAMap host

MIRA

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