

Infopark CMS Fiona



Installation

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1

1 Introductory Comments

This document is designed for system administrators who would like to install Infopark CMS Fiona on a Unix or Microsoft Windows based System.

Some of the components of Infopark CMS Fiona described or mentioned in this document can only be used with a separate license key or after they have been licensed separately.

More information about the components of which Infopark CMS Fiona consists can be found in the [System Administration / Development](#) guide.

2

2 CMS Installation Requirements

2.1 Server-Side Requirements for Infopark CMS Fiona

The CMS Fiona components have been tested on systems with the following combinations of hardware/operating systems. It is possible, however it cannot be guaranteed, that the components will work with other hardware or operating systems without any problems.

Please take notice of the following points before installing Infopark's products:

- For running rails applications based on [Rails Connector for Infopark CMS Fiona](#) productively, a Linux system is compulsory. However, Rails applications can also be developed on Mac OS X.
- The Rails Connector requires a 64 bit MySQL database.
- Installing Infopark CMS Fiona on remote storage devices is expressly not supported.
- Infopark CMS Fiona communicates over the network via IP v4. IP v6 is not supported.
- Infopark does not support simultaneous access to the same database by two or more equally named instances of Infopark CMS Fiona. This applies to the Content Management Server as well as the Template Engine. Such a situation may occur if test installations are run in parallel to a productively used CMS, or after migrating a CMS instance. As a consequence, database access may produce errors, or the server applications may behave eratically.

2.1.1 Server-Side requirements: PC under Linux

- x86 compatible prozessor with at least 2 GHz clock frequency, 64 bit.
- At least 2 GB RAM (recommended: 4 GB).
- Free disk space: 50 GB.
- Operating system SuSE Linux Enterprise (SLES) 11 SP 1, 64 bit.
- The database-specific 32-bit compatibility libraries for 64 bit systems.
- The 32-bit versions of the system libraries.
- Sun Java Development Kit JDK 1.6, at least update 5 (<http://java.sun.com>)
- To use Infopark's tool that determines the data required for obtaining a license file (LicenseTool) on a 64-bit system, the 32-bit version of the `libgcc` library is required and needs to be installed if it is missing.
- Installing Infopark CMS Fiona on remote storage devices is expressly not supported.

From Version 6.5.0

For operating Infopark CMS Fiona, you require third-party software (OpenSource libraries and applications), for example the openSSL library.

This software is included in the Infopark CMS Fiona installation package. We provide this software as it is, i.e. without liability for its being up-to-date or its operativeness. From version 6.7.1, this software is always installed.

From version 6.5.0 to 6.7.0, the setup procedure will ask you to install this software if one of the prerequisites is not met. If you choose to install and maintain the required software yourself (to stay up-to-date, for example), please refer to the following table for the detailed list of required packages. If your distribution does not include one or more packages in the required version, please download this software from the source specified and observe the installation notes. With some packages it might be necessary to compile the software.

The following packages are required for being able to operate Infopark CMS Fiona:

Package	Version
ImageMagick: http://www.imagemagick.org	at least 6.0
Tcl: http://www.tcl.tk If the file <code>libtcl.so</code> does not exist, please create a symbolic link with this name pointing to <code>libtcl8.x.so</code> .	at least 8.4.9
TclLib: http://tcllib.sourceforge.net	at least 1.9
TclCurl: http://personal1.iddeo.es/andresgarci/tclcurl/english/	at least 0.15
Curl: http://curl.haxx.se	at least 7.15
libxml2: http://www.xmlsoft.org/	at least 2.6.23
TclTLS: http://tls.sourceforge.net	at least 1.5
zlib: http://www.zlib.net	at least 1.2.3
OpenSSL (from version 6.7.0): http://www.openssl.org	0.9.7

2.1.2 Server-Side Requirements: Sun Solaris

Up to version 6.7.2, Infopark CMS Fiona is also available for Sun Solaris. However, from version 6.7.3, Solaris is no longer supported.

- Sun Sparc, processor with at least 1.5 GHz, 32 or 64 bits
- At least 2 GB RAM (recommended: 4 GB)
- Free disk space: 50 GB
- Operating system: Solaris 10
- Sun Java Development Kit 1.6, at least update 5, including the operating system patches recommended for it (<http://java.sun.com>)
- Up to version 6.0.3: GNU tar; iconv 1.8 or later (<http://www.sunfreeware.com>)
- Installing Infopark CMS Fiona on remote storage devices is expressly not supported.

From Version 6.5.0

For operating Infopark CMS Fiona you require third-party software (OpenSource libraries and applications), for example the openSSL library.

This software is included in the Infopark CMS Fiona installation package. We provide this software as it is, i.e. without liability for its being up-to-date or its operativeness. From version 6.7.1, this software is always installed.

From version 6.5.0 to 6.7.0, the setup procedure will ask you to install this software if one of the prerequisites is not met. If you choose to install and maintain the required software yourself (to stay up-to-date, for example), please refer to the following table for the detailed list of required packages. If your distribution does not include one or more packages in the required version, please download this software from the source specified and observe the installation notes. With some packages it might be necessary to compile the software.

The following packages are required for being able to operate Infopark CMS Fiona:

Package	Version
ImageMagick: http://www.sunfreeware.com	at least 6.0
Tcl: http://www.sunfreeware.com If the file <code>libtcl.so</code> does not exist, please create a symbolic link with this name pointing to <code>libtcl8.x.so</code> .	at least 8.4.9
TclLib: http://tcllib.sourceforge.net	at least 1.9
TclCurl: http://personal1.iddeo.es/andresgarci/tclcurl/english/	at least 0.15
Curl: http://www.sunfreeware.com	at least 7.15
libxml2: http://www.sunfreeware.com	at least 2.6.23
TclTLS: http://tls.sourceforge.net	at least 1.5
iconv: http://www.sunfreeware.com	at least 1.8
lib_gcc oder gcc: http://www.sunfreeware.com	at least 3.3
zlib: http://www.zlib.net	at least 1.2.3
OpenSSL (from version 6.7.0): http://www.openssl.org	0.9.7

2.1.3 Server-Side Requirements: PC under Windows

- x86 compatible processor with at least 2 GHz, 32 Bits
- At least 2 GB RAM (recommended: 4 GB)
- Free disk space: 50 GB
- Microsoft Windows Server 2003 operating system

Other versions of Microsoft Windows are not expressly supported. However, there are no technical reasons known to us that might prevent Fiona from running on Microsoft Windows Server 2008.

- File system: NTFS
- [Oracle Java](#) Development Kit JDK 6 (32 bit), Update 5 or later. On Windows x64, the 32-bit version of Java must be used, too, since the Trifork server does not fully recognize the 64-bit version.

- Installing Infopark CMS Fiona on remote storage devices is expressly not supported.

2.1.4 Database Requirements

Required Databases

For the Content Management Server a database is required. You also require a database on the live side if it includes the Template Engine or the Portal Manager.

During installation, the free SQLite database, which is included in delivery, is installed. SQLite is not suited for productive use and not supported by Infopark in this respect.

Supported Database Products

If Infopark CMS Fiona is used together with the [Rails Connector for CMS Fiona](#), only MySQL is supported. Otherwise, the following operating systems/database combinations are supported:

Database	Windows	Linux, Solaris
Microsoft SQL Server	2008	-
Oracle (up to Fiona 6.0.x)	8.0.x, 8.1.x (8i), 9i (with 8i adapter)	7, 8.0.x, 8.1.x (8i), 9i (with 8i adapter)
Oracle (Fiona 6.5.0 to 6.7.0)	10g Please observe the important notes below this table	
Oracle (from Fiona 6.7.1)	10g, 11g Please observe the important notes below this table	
Sybase Adaptive Server Enterprise (Fiona 6.5.0 to 6.7.2)	-	15 Please observe the important notes below this table
MySQL (from Fiona 6.6.0)	-	5.0.x from version 5.0.80 Please observe the important notes below this table
SQLite	The version included in the product package	

Infopark recommends using an Oracle or MySQL database.

Further Database Requirements

Oracle

The version of an Oracle 10g database needs to be at least 10.2.0.4. If required, an update can be obtained from Oracle's support.

MySQL

The MySQL Database must be operated on a 64 bit system. Otherwise, large BLOBs (binary large objects) cannot be managed. Please also observe the [notes on MySQL in the integration documentation](#).

Sybase

After version 6.7.2, Infopark CMS Fiona no longer supports Sybase databases.

From Infopark CMS Fiona 6.6.0 it is required to operate the database server with a page size of 4096 Bytes. Ignoring this might cause loss of data. If your server is currently operated with a page size of 2048 bytes (which is the default), first migrate it to a server with a page size of 4096 Bytes, then migrate to CMS Fiona 6.6.0.

Sybase 15.0.2 has a bug that makes it impossible to create a field named `path` in a database table. However, in CMS Fiona 6.7.0 to 6.7.2, this field is required to be present. Therefore, if applicable, please update your Sybase installation using a Sybase update package prior to installing or migrating CMS Fiona. This bug has already been fixed in the first update package (ESD 1) for this version.

In Infopark CMS Fiona 6.7.1 and 6.7.2, the CMS databases require the `select into` option to be enabled. This can be done by means of the following commands in the ISQL client:

```
use master
go
sp_dboption DatabaseName, "select into", true
go
use DatabaseName
go
checkpoint
go
```

2.2 Client-Side Requirements

On client machines, the HTML user interface (GUI) is compatible with the following browsers:

Microsoft Windows

- Microsoft Internet Explorer 6 und 7
- Firefox 3.5.x and 3.6.x

Linux

- Firefox 3.5.x and 3.6.x

Mac OS X (from 10.4)

- Safari 4
- Firefox 3.5.x and 3.6.x
(without support for the *edit-on pro* HTML editor)

It is required that the browser does not block the Content Navigator's popup windows. If you use a popup blocker, it needs to be configured accordingly.

Furthermore, Javascript must be enabled in your browser, and cookies need to be accepted. In addition, cookies from third parties must be accepted in order to use the HTML editor (EOP) with Firefox.

If you wish to use Java applets such as the HTML Editor or a local application, you require Sun's Java plugin, version 1.4.2_06 or later, which can be downloaded from [Sun's website](#). Furthermore, Java must be enabled in the browser.

With Internet Explorer, the following options need to be activated for the security zone to which the GUI belongs:

- Run ActiveX controls and plugins
- Script ActiveX controls marked safe for scripting

If clients cannot establish connections to Infopark's website for accessing the live online help, a PDF reader such as Adobe Acrobat Reader is required to use the documentation.

3

3 Installation on a Single Computer

This section describes how to install Infopark CMS Fiona on a single computer. If you wish to install the CMS components on several different computers, we recommend to read this section first and then proceed as described in section [Installation on Several Computers](#).

When upgrading from a version prior to 6.7.0 to 6.7.0 or newer, you require a new license. On all license matters please contact Infopark, for example via e-mail to csc@infopark.de. To create your license file, Infopark requires information about the target systems. This information can be determined by means of a tool which can be downloaded as a package from the [download area](#) of Infopark's website.

Infopark expressly recommends installing the CMS on dedicated machines and running on them only the software components required for operating Infopark CMS Fiona.

A complete CMS Fiona package contains at least the following components:

- Content Management Server (for the editorial system)
- GUI for the Content Management Server (including the Tomcat Application Server)
- Infopark Template Engine for the dynamic export
- Infopark Search Server for searching content
- Tcl Client for automation (jobs etc.) and direct data access via a shell

The Content Management Server and the Template Engine automatically create an SQLite database during the installation process. If required, a different database can be integrated into the CMS.

Please note: the collections of the Search Server must not be located on NFS devices.

3.1 Sun Solaris / Linux

It is not required to install Infopark CMS Fiona as the `root` user. However, the user installing the CMS needs to have write permission in the installation directory. It is recommended to install the CMS as the user who starts it later on. Infopark CMS Fiona should only be started as the `root` user if port numbers less than or equal to 1024 are used. The user who starts the CMS requires write permission in the installation directory hierarchy as well.

To install Infopark CMS Fiona, please run the script `setup.sh`. The script first queries information such as the destination directory and then installs the CMS components.

From version 6.5.0 to 6.6.1: If you do not use Java 1.6 (as is required) but Java 1.4 instead, the web applications cannot be successfully deployed into the Infopark Trifork Application Server. In this case,

please unpack the archive `server.lib.endorsed.zip` into the installation directory of the Infopark Trifork Application Server. Then deploy the web applications using `rc.npsd_deploy`.

From version 6.7.0, Java 1.6 is mandatory.

After the installation a welcome page is displayed in the browser. From here, the login page can be reached. By default, you can log-in to the Content Management Server as the user `root` using the empty password.

For security reasons, the [passwords of the CMS applications and the Trifork Application Server should be changed](#) after installation.

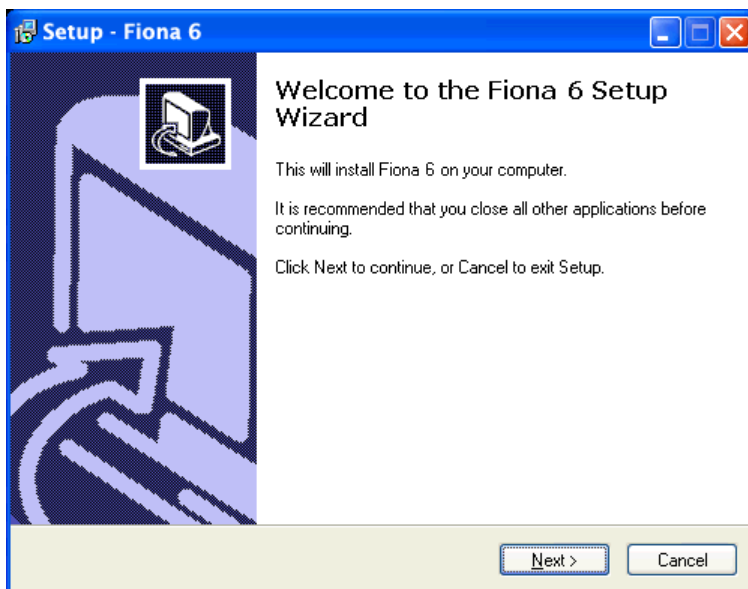
3.2 Microsoft Windows

Under Windows, Infopark CMS Fiona can only be installed on an NTFS partition because of the need for symbolic link support.

The user installing Infopark CMS Fiona must have administration permissions. The CMS is later started as a service by the `LocalSystem` user.

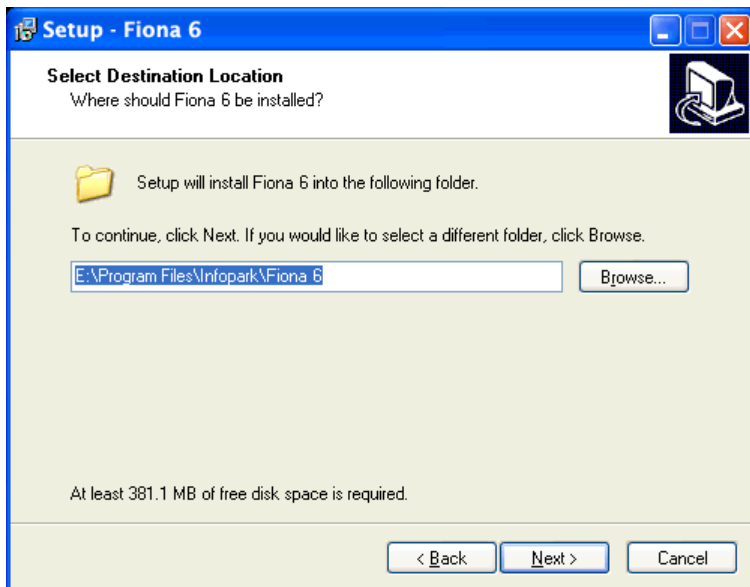
To install Infopark CMS Fiona, first run the `Infopark-CMS-Fiona-x.y.z-Windows-Setup.exe` (up to version 6.0.x: `NPS-x.y.z-Windows-Setup.exe`) program (x, y, and z stand for the version number). When Fiona is installed from a CD-ROM and Windows' `autorun` function is enabled, the setup program is started automatically.

The program first displays a welcome message:



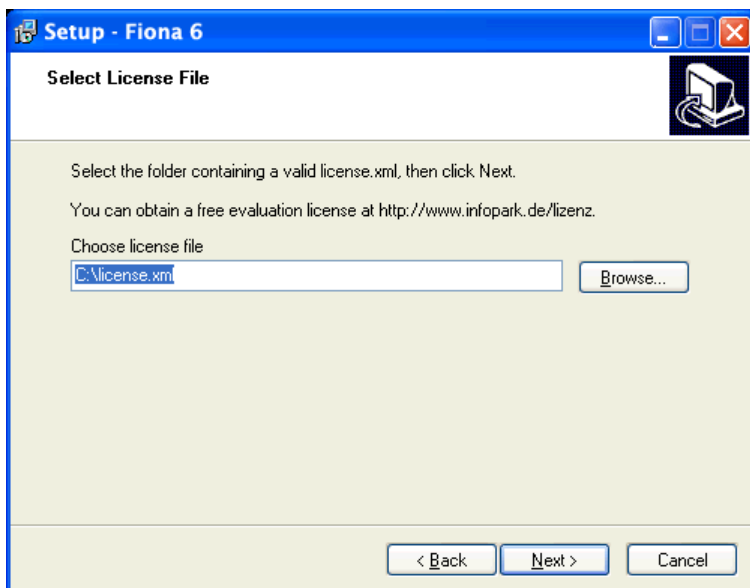
Here, and in the following dialogs, click *Next* to move to the next dialog, click *Back* to move to the previous dialog, and *Cancel* to cancel the installation.

Click *Next* to move to the next dialog where you can specify the directory to which the CMS components are to be installed:



You can change the default target directory (*Destination Folder*) by clicking the *Browse* button. Navigate to the target directory using the directory selection dialog that appears, select the directory and then click *OK*.

Click *Next* to specify the location where the licence file to be used by the setup program can be found:



If you do not have a licence file, please contact Infopark, either via E-Mail (Communication Center, cc@infopark.com) or by using the [request form on our website](#).

Afterwards, the setup program installs Trifork Application Server, ImageMagick, and CSDiff, unless they have already been installed on your system.

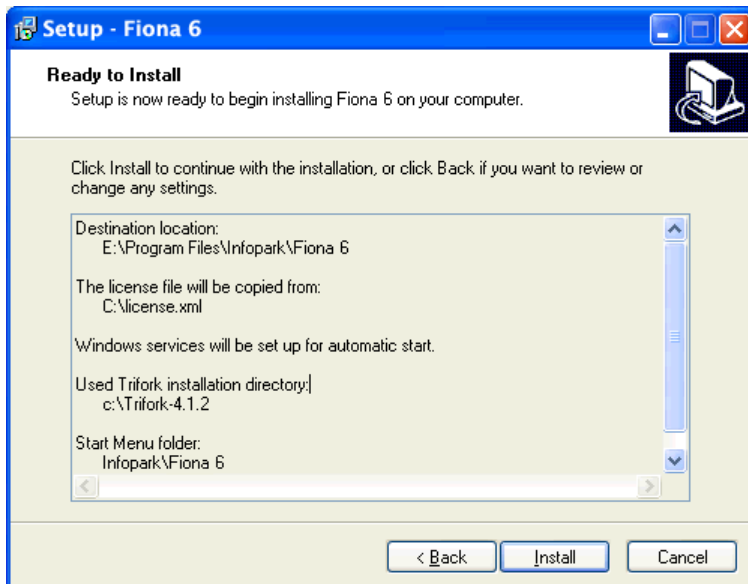
Trifork Application Server is required by the CMS for the GUI which runs as a web application in this server:

ImageMagick is a software program for editing images. It is used for creating thumbnails (miniature images) and can be used in wizards to create and manipulate images.

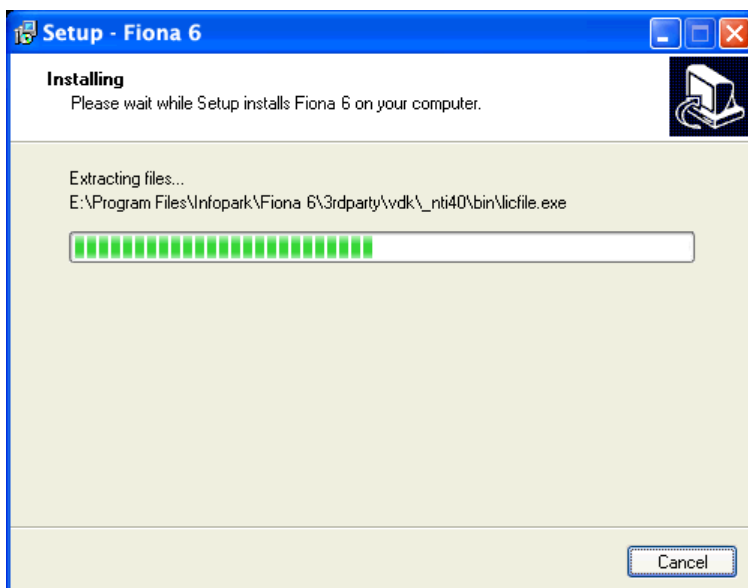
CSDiff determines the differences between files and is also used in Wizards.

Up to version 6.0.x: For installing Trifork Application Server, please refer to section [Installation of Trifork Application Server](#).

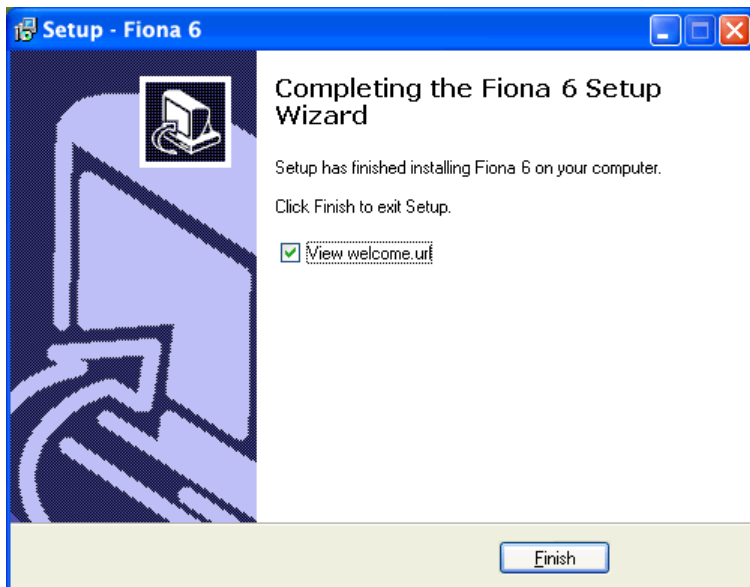
After Trifork Application Server and ImageMagick have been installed, you can choose on the following two pages whether you want Infopark CMS Fiona to be started when Windows starts and in which directory the CMS application shortcuts are to be created. Then an overview of the selected options is displayed:



Click *Install* to start the installation. The setup program then displays the progress of this process:



Afterwards, the applications are initialized. This mainly happens in the shell. Furthermore, the Trifork server is started. Klick *Finish* when the final message is displayed:



After the setup process is complete, a welcome page is displayed (at :8080/) unless you removed the check from the corresponding check box in the last dialog.

By default, users can log-in to the HTML user interface (GUI) and other CMS applications using the credentials given on the welcome page.

For security reasons, the passwords of the CMS applications and the Trifork Application Server should be changed after installation. For details, please refer to section [Changing Passwords](#).

If you intend to use Infopark CMS Fiona productively, please replace the SQLite database with one of the [supported database products](#).

3.2.1 Uninstalling Infopark CMS Fiona

If additional CMS instances have been created after the installation, it is required to manually remove their services prior to uninstalling the CMS via the Windows' control panel. If this is not done, the setup program will fail to delete the directory in which Infopark CMS Fiona was installed.

Up to version 6.0.x

To remove the services of an instance created subsequently, please execute the `uninstallServices.bat` batch file located in the `bin` directory of the instance concerned.

From version 6.5.0

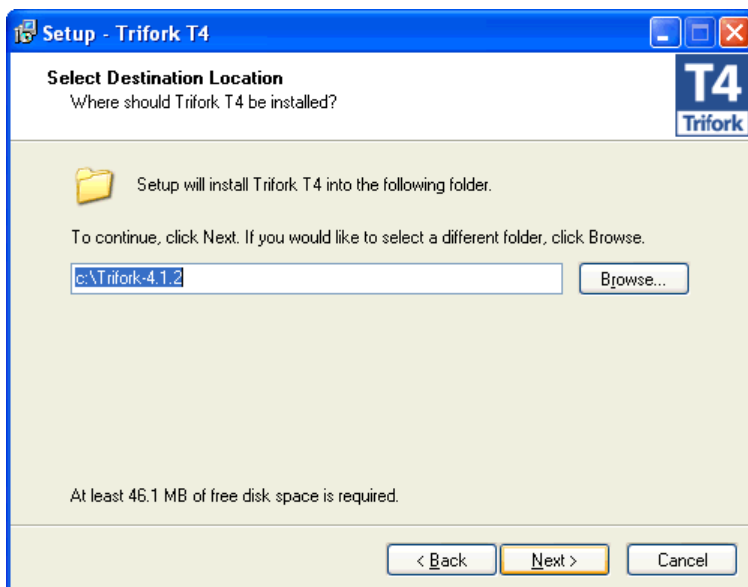
To remove the services of an instance created subsequently, please execute the `rc.npsd.bat` `uninstallService` batch file located in the `bin` directory of the instance concerned. This will remove the services for the configured standard applications. If you have installed services for other apps by executing `rc.npsd.bat installService application`, you should remove these by executing `rc.npsd.bat uninstallService application`.

3.2.2 Installing Trifork Application Server

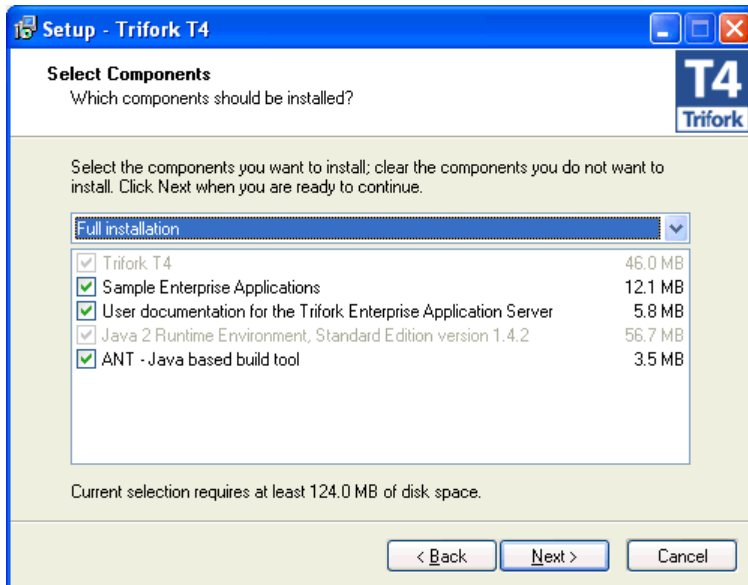
Up to and including CMS Fiona 6.0.x, the setup program for Trifork Application Server is run by the Fiona setup program:



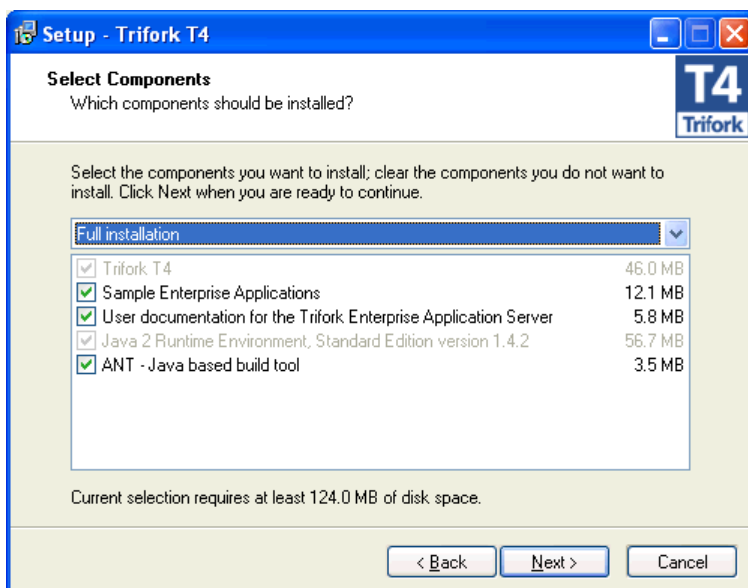
After having accepted the terms of licence for the Trifork Server, please specify the location where the Trifork software is to be installed. The path must not contain spaces:



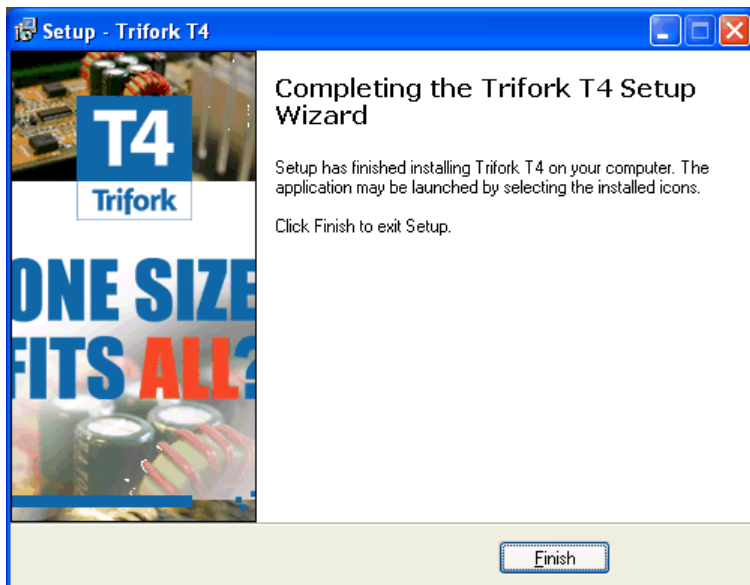
Afterwards, please specify the required Trifork server components. Infopark CMS Fiona only requires the server itself plus the Java Development Kit (even if it is already present on your system), i. e. the other components of the system can be unselected, if desired:



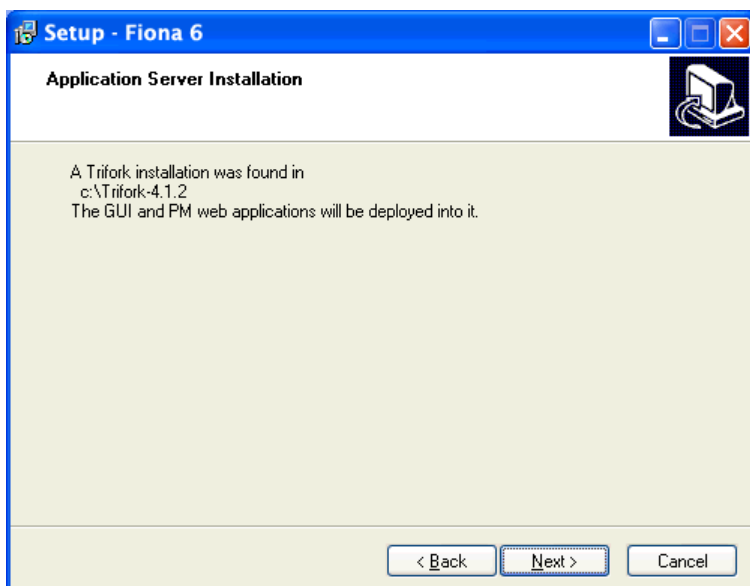
Specify, if required, in the next two dialogs a program group for the Trifork software and whether a trifork icon is to be created on the desktop. Clicking on *Next* will then display an overview of the actions to be performed:



Klick *Install* to install the Trifork server and on *Finish* on the last page to finish the installation:



Now click *Next* in the CMS setup program to [continue installing Infopark CMS Fiona](#).



3.3 Starting and Stopping CMS Applications

Normally, the setup program starts the Content Management Server, the Search Engine Server, and the Trifork server after the installation has been completed. On all platforms, the CMS applications can be started, stopped, and restarted using the supplied start script `rc.npsd` which can be found in the instance-specific bin directory (i. e., for example, `NPS/instance/default/bin`). The calling scheme is:

```
rc.npsd (start | stop | restart | status) applications
```

`applications` is optional and can be one or more of the following shortcuts (standing for CMS applications): `trifork`, `CM`, `SES`, `TE`. Examples:

```
rc.npsd start CM SES
rc.npsd restart trifork
```

If no application is specified, all applications are started whose shortcuts have been specified in the APPS script variable of the `rc.npsd.conf` configuration file. Please note that [the Template Engine needs to be integrated into the system](#) in order to receive and to export content.

Apart from `start` and `restart` the commands `stop` and `status` are available for stopping the servers concerned or to query the current status (running / stopped), respectively.

Additionally, the Windows services corresponding to the CMS applications can be started and stopped via the services administration in the control panel. By means of the following commands the services can also be installed and uninstalled:

```
rc.npsd installService {manual|automatic} applications
rc.npsd uninstallService applications
```

When installing, `manual` and `automatic` refer to the starting mode, meaning that these keywords determine whether the respective service needs to be started manually (i. e. via the control panel) or is started automatically on demand.

Starting and stopping web applications

Analogously to the applications, the web applications can be started, stopped and restarted using the following commands:

```
rc.npsd deploy webapplication
rc.npsd undeploy webapplication
rc.npsd restart webapplication
```

By default, the following web applications are specified in the `rc.npsd.conf` file: GUI, PM, PM-PL. These web applications contain the following Java applications:

Web Application	Contents
GUI	HTML user interface
PM	Portal Manager
PM-PL	General Infopark Portlets and Playland (Demo Content) Portlets

Retrieving the names of the configured applications and web applications

By means of the commands

```
rc.npsd apps
rc.npsd webapps
```

the names of the applications and web applications specified in the `rc.npsd.conf` configuration file can be output.

Executing Trifork Commands and Specifying the Time Zone

Special commands can be passed to the Trifork Application Server using

```
rc.npsd trifork command
```

The list of available commands is output if no command is given. Please refer to the Trifork documentation for the meaning of the individual commands (*command line tools*). The documentation can be found in the `documentation` directory below the Trifork directory (`/opt/trifork` on Unix and `C:\Trifork` on Windows machines).

The Trifork startup parameters can be set in the `config/rc.npsd.conf` file. If you use Java Server Pages you need to add the `-devel` option to the `triforkArgs`.

To make the Trifork server (and thus the GUI) use a particular time zone, assign the zone to the environment variable `TZ` in your start script (e.g. `rc.npsd`). Example:

```
export TZ="GMT"
```

HTML User Interface

If the Content Management Server and the GUI are running, you can open the following URL to connect to the HTML user interface (please adapt host name and port according to your environment):

```
http://my.server.name:8080/NPS
```

The parameters (host and port) of the connection between the GUI and the Content Management Server as well as between GUI and the Portal Manager can be set in the file `instance/instanceName/webapps/GUI/WEB-INF/basicConfig.properties` where `instanceName` represents the name of the instance concerned (the default name is `default`). In older versions, `basicConfig.properties` is located in `WEB-INF/config`.

To change the port used for connections to the Content Navigator (i.e. to the HTML user interface) laufen, first open the Trifork administration console using `http://host.company:8090/console`. You can now change the HTTP and HTTPS ports in the `HTTP > DEFAULT_ENDPOINT` section.

Using WebDAV

The WebDAV service which allows you to access objects under Windows via web folders, can be accessed with the following URL:

```
http://my.server.name:8080/NPS/DAV
```

In a standard installation you can log-in with `root` as user name and the password `demo`. If you do not use the demo content, the password is empty. If your WebDAV client does not support empty passwords, give the user (for example via the GUI) a different one.

`my.server.name` in the URLs above stands for the server on which the GUI has been installed. The browser needs to accept cookies.

Displaying the GUI in a frame

For the CMS GUI, including the integrated preview, to run inside a frame (this is useful for integrating CMS into a portal), the parameter `npsguiiframe` needs to be specified. Assign to this parameter the name of the enclosing frame. Example:

```
<iframe
```

```
src="http://myserver:8080/NPS/Login?npsguiframe=aFrameName"
name="aFrameName"
height="80%"
width="80%" frameborder="1">
iframes do not work!
</iframe>
```

If this parameter is missing, the links inside of frames will destroy the preview display. The parameter is only recognized in the URL of the starting page.

Log Files

Errors, warnings, etc. produced by the CMS applications are logged in the CMS directory.

The logs of the Trifork server can be found in `/domains/default/log/default` below the Trifork directory. For logging [Log4J](#) is used which can be configured by means of the file `instance/instanceName/webapps/GUI/WEB-INF/log4j-config.xml`. The log level can be specified in the file `instance/instanceName/webapps/GUI/WEB-INF/basicConfig.properties`. In older versions, `basicConfig.properties` is located in `WEB-INF/config`.

3.4 Command-Line Arguments

The Content Manager, the Template Engine and the Search Engine Server are normally started by means of a start-stop script. However, you can start the CMS applications from an operating system shell and enter command-line arguments to perform special functions. If you do not enter any command-line arguments, each application is started in the background as a server. Applications started this way can be stopped by means of a script.

Please note that a running Content Management Server must be shut down prior to starting it on the command line for the purpose of saving or restoring data, for example. Otherwise inconsistent data could be generated or CMS data could be destroyed.

-dump (CM)

Using this argument, data can be saved in such a way that it can be restored later using `-restore`.

-license (CM, TE, SES)

If a CMS application is started with this argument, it tests the license key. The key is displayed, and in test versions the date from which the key becomes invalid is also shown. The application then quits.

-migrate (CM, TE, from version 6.5)

The existing database can be migrated to the current scheme using the `-migrate` argument. The existing database must be part of an Infopark CMS Fiona 6 installation, meaning that older versions of the CMS are not supported.

-railsify (CM, from version 6.7.0)

The `-railsify` command creates and populates database tables for use with the Infopark Rails Connector as well as activating the content synchronization for these tables.

-removeInvalidXmlCharsFromTextBlobs (CM, from version 6.7.0)

The `-removeInvalidXmlCharsFromTextBlobs` command removes invalid characters (such as non-UTF-8 characters or characters which are not valid XML) from all main contents (bodies) and custom fields.

-restore (CM)

Data exported using the `-dump` command-line argument can be imported using the `-restore` argument.

-single (CM, TE, SES)

Enter this argument to start the Content Manager or the Template Engine in the command-line mode and not as a server. A user who has started the Content Manager in command-line mode has global administration permissions there, i. e. he or she is the `root` user.

In command-line mode, you can enter Tcl commands. The CMS applications can therefore be started in shell scripts and controlled using Tcl commands. You can thereby give the Content Manager an export command. This is done by using a *pipe* symbol:

```
echo "obj withId 2001 exportSubtree filePrefix /tmp" | ./CM -single
```

-unrailsify (CM, from version 6.7.0)

The `-unrailsify` command deletes Infopark Rails Connector-relevant content from the database and deactivates the content synchronization.

-version (CM, TE, SES)

Using this argument, you can start the CMS applications to obtain the version numbers. After the version number has been output, the application quits.

4

4 Installation on Several Computers

Sometimes it might be necessary, for security or performance reasons, to install CMS components on different machines:

- If a large amount of content is to be exported very often, the Template Engine should be installed on a separate computer.
- If many editors work with the editorial system or the editorial system is to be physically separated from the Content Management Server, provide a separate machine for the GUI.
- If the Portal Manager receives a large amount of requests, it should be installed on a separate machine.
- At high load due to frequent content updates or many search requests, the performance of the Infopark Search Cartridge can be increased by running it on a separate machine.

Infopark expressly recommends installing on the machines no other software than that required by the CMS components.

4.1 Basics

For operating individual components of Infopark CMS Fiona separately, it is required to first completely install the CMS on the machines to be used. The installation procedure is described in section [Installation on a Single Computer](#). Afterwards, the components that are not required are removed from the start scripts and the configuration of the individual components are adapted to ensure that they are able to communicate with each other.

Thus, please install Infopark CMS Fiona on all machines on which CMS components are required. Then switch to the CMS installation directory and stop the CMS server, the GUI and the Portal Manager using the following command:

```
instance/default/bin/rc.npsd stop
```

Infopark CMS Fiona mainly consists of four server components:

- CM (Content Management Server)
- TE (Template Engine)
- SES (Infopark Search Cartridge)
- Trifork Application Server with individual web applications for
 - the GUI,
 - the Portal Manager (PM) and

- the Portlets of the Demo Content (PM-PL)

Thus, there are six components in total, three of them are individual servers (CM, TE, SES) and three are web applications running in the Trifork Server.

According to this categorization, the following values can be assigned to the `APPS` and `WEBAPPS` variables in the `rc.npsd.conf` file. This file is located in the `bin` directory of each instance.

```
APPS="CM TE SES trifork"
WEBAPPS="GUI PM PM-PL"
```

First remove from this file the applications and web applications that are not required. If, for example, only the GUI of a CMS installation is to be used, the variables need to have the following values:

```
APPS="trifork"
WEBAPPS="GUI"
```

If the Portal Manager and the Playland portlets are to be used as well, you can leave the `WEBAPPS` variable untouched:

```
APPS="trifork"
WEBAPPS="GUI PM PM-PL"
```

If the Trifork Application Server but not all web applications are required, remove the unused web applications by means of the `rc.npsd undeploy` command. For the Portal Manager and the Playland portlets execute:

```
rc.npsd undeploy PM PM-PL
```

Since the applications are running as services under Windows, the services not required need to be uninstalled. This can be done using the `rc.npsd uninstallService` command. If only the Trifork service is required, run the command for the CM, the TE, and the SES in the following way:

```
rc.npsd uninstallService CM TE SES
```

Afterwards, the configuration files need to be adapted on all machines so that the components can communicate with each other. The following examples describe the changes required for separately operating the GUI, the Template Engine, and the Search Engine Server.

4.2 Operating the GUI Separately

To be able to operate Infopark CMS Fiona's GUI on a different computer than the Content Management Server, you first require a complete installation of the same CMS version on the dedicated computer. Afterwards, the CM and the GUI need to be configured so that the GUI is able to reach the CM.

For this, first open the Trifork console on the computer where Fiona was originally installed (use `administrator` as login and `trifork` as password):

```
http://mein.nps:8090/console/
```

Switch to the *JDBC/Datasources* section and click the database type you use. Write down all parameters to be found in the input mask. Later, these parameters need to be entered on the GUI machine.

Now, on both machines, make the changes to the `rc.npsd.conf` file as described above so that the GUI is not started on the original machine, whereas it is started on the other machine when `rc.npsd start` is executed.

Afterwards, the configuration files are adapted on the CM machine and then deployed to the other machines. Please proceed as described below:

1. On the CM machine, adapt in the `server.xml` file located in the instance-specific configuration the connection parameters `server.cm.httpHost`, `server.cm.httpConnectHost`, and `server.cm.httpPort` so that the GUI can reach the CM on its machine. The CM waits for connections on the `httpHost` (leave empty for all host names assigned to the machine). It can be reached on the `httpConnectHost` by other CMS components.
2. On the GUI machine, adapt in the `basicConfig.properties` file located in the instance-specific directory `webapps/GUI/WEB-INF` (`webapps/GUI/WEB-INF/config` in Fiona 6.0.x) the connection parameters `cmHost` and `cmHttpPort` so that the GUI can reach the CM on the `httpHost` and `httpPort` stored in the `server.xml` file.
3. If you need a dynamic preview, for PHP pages for example, please adapt the `dynamicPreviewUrl`, `dynamicPreviewDirectory`, and `dynamicPreviewExtensions` parameters on the CM machine. They can be found in the `gui.xml` file located in the instance-specific configuration directory.
4. Please adapt the `export.guiUrl` entry in the `export.xml` system configuration file located in the instance-specific configuration directory of the CM machine so that the GUI on the GUI machine is connected:

```
<guiUrl>http://guiServer:8080/NPS</guiUrl>
```

5. Start the CMS components (replace `instanceName` with the actual name of the instance):

```
instance/instanceName/bin/rc.npsd start
```

6. On the GUI machine start the Trifork Application Server:

```
instance/instanceName/bin/rc.npsd start
```

7. As described above, open the Trifork administration console and configure the data source. Then again restart the Trifork-Server using `rc.npsd restart`.

4.3 Operating the Template Engine and the Search Engine Server Separately

If you also wish to run the Search Engine Server or the Template Engine on individual machines, proceed as follows after installing Infopark CMS Fiona and making the changes to the `rc.npsd.conf` files as described above.

1. On one of the machines (if the CMS was already running: on the original machine) adapt the `server.app.httpConnectHost` and `server.app.httpPort` entries in the instance-specific

`server.xml` configuration file. The CMS applications (*app*) read this entry to determine the connection parameters of other CMS applications. The Template Engine, for example, sends its indexing requests to the machine specified in the `server.ses.httpConnectHost` entry.

2. If the Template Engine is operated separately and a database other than SQLite is used, [configure the database](#) first.
3. If the Template Engine has not been integrated into the CMS before and it is to be operated on a separate machine, please [integrate the Template Engine](#).
4. If the Search Engine Server is to be operated separately as well, collections that were created in addition to the ones provided by the system must also be created on the new computer and the indexing must be configured in the `indexing.xml` file.
5. Place the instance-specific directories `script` and `config` located on the machine where you made the changes on all other machines on which CMS components are to be operated. Please note that the directories need to be synchronized again after changes have been made to the commonly used scripts or configuration files.

4.4 Starting the System, Indexing and Exporting Files

After the installation and configuration of the CMS on the machines has been completed, proceed as described below to start the system.

1. If the Template Engine is used, execute the CM in single mode from the instance-specific `bin` directory and reset the incremental export:

```
instance/instanceName/bin/CM -single
incrExport reset
exit
```

2. Start the CMS on all machines:

```
instance/instanceName/bin/rc.npsd start
```

3. If you use the Template Engine, connect to the CM using a Tcl shell and start the publication job. If you use the SES, re-index all CMS files:

```
job withName systemPublish exec
indexAllObjects
exit
```

Further information on using the Tcl client and on the Tcl commands can be found in the [Tcl Reference](#).