

FELICS

Floating Extended License Services

Administrator's Guide

Version 3

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UniCon Software GmbH

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1 Before You Begin

1.1 Who Should Use This Manual

This manual is for system administrators responsible for installing, configuring and using the Floating Extended License Services (FELICS™). This manual assumes knowledge of:

- Installation, operation and maintenance of networks and client-server software
- The operating system (OS) on the server and client sides

1.2 About This Guide

This documentation presents step-by-step directions on how to install, configure and use FELICS. For convenience, the manual is divided into the following sections:

| Chapter | Description |
|--------------------|---|
| 1 Before You Begin | Manual conventions, overview of FELICS functions and features |
| 2 What is FELICS? | How to install FELICS server, FELICS Agent, FELICS Tools for Windows and UNIX, and log on to the FELICS Server |
| 3 Configuration | How to configure the FELICS Server and FELICS Agent |
| 4 FELICS Tools | Description of the two FELICS companion programs for entering licenses and monitoring license use, and how to use |

1.3 Conventions and Abbreviations

1.3.1 Conventions

The following are text formats and symbols that appear in the manual:

| Convention | Description |
|---------------|--|
| > | Move to a menu, tab, screen element or folder. |
| ⇒ | Refers to a procedure. |
| “ ... ” | Quotation marks refer to screen text and text in pop-up messages. |
| ALL UPPERCASE | Represents keyboard keys (for example, ENTER, F4, CTRL). |
| Bold | Indicates boxes and buttons, column headings, command-line commands and options, dialog box titles, tabs, icons, lists, menu names and menu commands, directories, subdirectories and folders, and new terms. |
| Courier New | The Courier New font represents entries you can type at the command line or initialization files. |
| <Italics> | Indicate a placeholder for information or parameters that you must enter. As an example, if the procedure asks you to type <IP address>, you must type the actual IP address. Italics can also refer to book titles. |

1.3.2 Commonly-Used Abbreviations

The following are terms that appear in the manual:

| Abbreviation | Description |
|--------------|--|
| GUI | Graphical User Interface |
| IP address | IP addresses are represented in four 3-digit groups separated by periods. <i>Example:</i> 192.45.85.1 |

1.4 Finding More Information

This manual contains conceptual information, and installation and configuration steps for FELICS. Additional information is available from the following sources:

- The *FELICS Administrator's Guide* for previous versions of FELICS

This guide as well as other FELICS documentation is available in Adobe PDF format. It can be found in the following locations:

- The product documentation library at www.felics.de

UniCon offers online technical support at www.felics.de. This includes the following:

- PDF versions of the documentation
- Downloadable software
- The latest updates and hotfixes for download
- A list of supported hardware

2 What is FELICS?

This chapter contains a description of the FELICS concept and FELICS license server components.

| Section | Description |
|---------------------------|---|
| 2.1 Description | Description of the Floating Extended License Services. |
| 2.2 FELICS Features | Software features. |
| 2.3 FELICS – The Concept | Network concept. |
| 2.4 FELICS Components | The different software components. |
| 2.5 Network Communication | Advantages and disadvantages to using TCP or UDP. |
| 2.6 License | The difference between node-locked and concurrent usage licenses. |

2.1 Description

Floating Extended License Services (**FELICS™**) is software used to manage a license pool. Using concurrent distribution, licenses are allocated from a central server to customer software adapted to FELICS on a first come, first serve basis. When an application closes, the license is freed and can be used by another user. This allows a company to save money. For example, if a company has 50 employees and only half of the employees are in the office at any point in time (for example, for shift work), only 25 licenses need to be bought. This reduces total costs.

2.2 FELICS Features

FELICS offers the following features:

- centralized administration of all functions
- demand-driven license management (floating license)
- easy to use user interface
- backup server
- scalable components

2.3 FELICS – The Concept

FELICS is based on client-server technology. The server component is the **FELICS License Server**, which assigns licenses. The license server can be installed on a machine running UNIX or Windows.

On the client side, the **FELICS Agent** is installed on the client workstation. The FELICS Agent communicates with the license server. Every client application that has been adapted to FELICS requests a license from this agent. The FELICS Agent should therefore be activated when starting the client workstation.

FELICS Tools allow you to comfortably manage and monitor the license server.

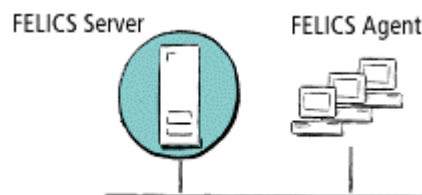


Figure 1: The FELICS Concept

2.4 FELICS Components

FELICS license management can be customized to your individual needs by scalable components..

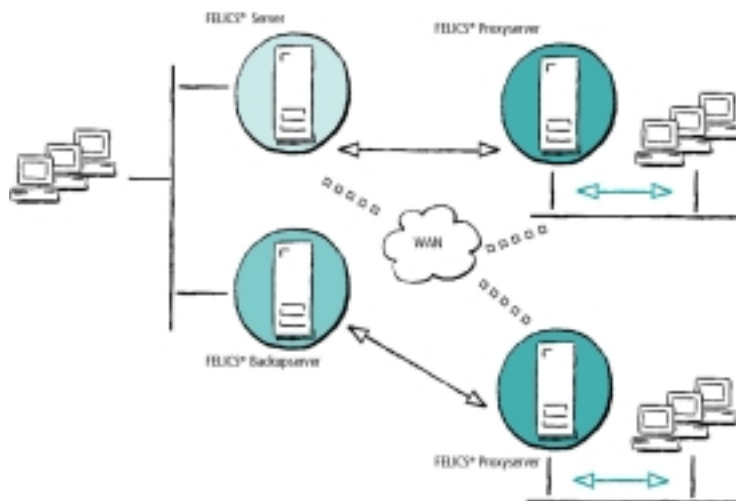


Figure 2: The FELICS Components

2.4.1 FELICS Server

FELICS allows you to install software in your network as often as you like without having to buy new licenses. All licenses are managed in a license database. When a program starts, it contacts the **FELICS License Server** and retrieves a license. The license is in use until freed by the application. It is then immediately made available within the network (“floating license”).

Thanks to the **FELICS Backup License Server**, the acquired licenses are available at any time, even if the primary license server fails. The backup license server takes over the tasks of the master license server until it is ready again.

The FELICS Backup Server can be integrated into your network as an additional server, so you have the most access using redundancy. Should the FELICS License Server become unavailable, the backup server automatically takes over. Up to 10 master servers can be protected by one backup server.

The **FELICS Proxy Server** makes licenses available in a wide-area network. The proxy server provides reliability of licenses in a company with a worldwide network. The proxy server cares for the control of the FELICS agents in a subnet, and optimizes the requests to the central license server.

2.4.2 FELICS Agent

The FELICS Agent is installed on every client machine. The Agent is responsible for managing a connection to the license server.

The most comfortable solution for license management is to use a central FELICS server. However, if a network is not available, another solution is to use a software dongle ("node licensing"). In this case, the FELICS Agent takes over license distribution and monitoring. Node licensing (software dongle) extends license management.

With node licensing, licenses are managed exclusively by the FELICS Agent and are not made available within the network. Licenses must be entered at each node using the FELICS tools. As it is a complicated and time-intensive procedure, we recommend the central license server solution.

2.4.3 FELICS Tools

This group of programs allows you to comfortably access information on the license server.

You can enter/delete licenses from the license database using the FELICS tool REMBRAND (Windows) or BRANDLI (UNIX). To enter a license, you must have a license key. This key is provided by your software supplier. To change the number of product license, you only need to enter a key. The license server is automatically updated with the correct number of new licenses and does not have to be rebooted.

The current license demand is provided by the tool WRAMON (Windows) and RAMON (UNIX).

2.5 Network Communication

Network communication takes place using the protocol UDP/IP or TCP/IP, by default the used ports are:

| Name | Value | Used | Remarks |
|-----------|----------------------|-----------------------------------|--|
| AGENTPORT | 12345/udp (or tcp) | Server ↔ Agent | The port can be configured to UDP/IP or TCP/IP |
| ADMINPORT | 12345 (or 12346)/tcp | Server ↔ Server Server ↔ Tools | If the agent port is configured on TCP the port is changed to 12346 to prevent conflicts |

If network communication is protected by a firewall software the appropriate ports must be opened.

FELICS Agent (AGENTPORT)

In general, we recommend using UDP, since less system resources are needed. TCP is preferred when a large number of licenses will be requested from a client (as in the case in multiple user systems like UNIX).

Network communication takes place (AGENTPORT) when licenses are requested or freed. The status of the licensed programs and client machines is constantly monitored. To detect the crash of a licensed program or the loss of a client machine (for example, when it is turned off), the license server requires all FELICS Agents to report at regular intervals (“keep alive” mechanism). This interval time can be configured by the administrator.

Backup Server (ADMINPORT)

The FELICS Backup Server is always in contact (ADMINPORT) with one or more masters and constantly monitors their state of operation. All information pertaining to license distribution is constantly transferred from the master to the backup server(s). The loss of a master FELICS server is automatically recognized within a set interval (this interval can be configured by the administrator). The backup server notifies all FELICS Agents and updates them with the new server address.

Proxy Server (ADMINPORT)

The FELICS Proxy Server is always in contact (ADMINPORT) with one master server. License distribution is performed by the master server only. To reduce traffic, the proxy server monitors the local subnet. It records “keep alive” mechanisms and status information locally and talks to the master server only with license-related messages (such as a freed license or license request from a client machine) or to report the loss of a client machine.

Tools (ADMINPORT)

The FELICS Tools, running on Windows, contact the FELICS Server on user demand (ADMINPORT) either to manage (REMBRAND) or monitor (WRAMON) licenses.

2.6 License Basics

License keys are created by the software vendor. License keys specify floating (concurrent) usage, node-locked (“software dongle”), or a combination of floating and node-locked. They contain information about the target server’s Host ID, the ID of the product/module to be licensed, the total quantity of licenses and optional information concerning product evaluation.

2.6.1 Floating Licenses

In the most common scenario, licenses are distributed by a central FELICS license server. A floating license means anyone on the network can use the application, up to the limit specified in the license file (also called “concurrent usage” or “network licensing”). By installing a FELICS license server, you benefit from the advantages of centralization (consolidation, remote management, reduced administrative costs).

2.6.2 Node Licensing (Software Dongle)

Node-locked licensing (so-called “software dongle”) means the licensed software can only be used on one client machine and cannot be shared in the network. Maintenance and administrative costs are higher in that case.

2.6.3 Mixing Node and Floating Licenses

With FELICS, you can mix node licenses and floating licenses in the same network. In this case the node licenses are prior to the floating licenses.

3 Licensing Procedure

This chapter contains a step-by-step description on how to use the FELICS server for distributing licenses.

| Section | Description |
|----------------------------|--|
| 3.1 Procedure | Hardware, operating system and access permissions needed to install FELICS Server, FELICS Agent and FELICS Tools |
| 3.2 License Server Host ID | Step-by-step instructions on using the InstallShield Wizard tool to install FELICS Server for Windows, add new FELICS components, update to a newer version of FELICS, and remove FELICS. How to start/stop the FELICS Server. |

3.1 Procedure

This chapter provides an overview of how to set up and use FELICS license server and components.

For installation procedures, see “Appendix 1” and “Appendix 2”.

The FELICS procedure is as follows:

1. Choose the license server machine. Install the FELICS Server component and record the host ID number. See chapter 6.2 FELICS Server – Windows.
2. Give the host ID to your software vendor and get the license keys in return. Consider that the license server itself needs a license key.
3. Install the FELICS companion programs:
 - ~ monitoring program (WRAMON/RAMON)
 - ~ license administration program (REMBRAND/BRANDLI)
 See chapter 6.2.5 Step 5: Select Components.
4. Enter the license keys using REMBRAND or BRANDLI.
5. Install the FELICS Agent component on each client running the application. See chapter 6.3 FELICS Agent – Windows.
6. Configure the application to request the license from FELICS. See the application manual for details.

These steps are discussed briefly below.

3.2 License Server Host ID

First, select the machine(s) to run your master license servers on and provide the host IDs of those machines to your software vendor.

You can determine the host ID of the server machine using the program UCHOSTID, located in the FELICS program directory on that machine.

Provide the host ID of your server machines to your software vendor. The vendor will issue you a license key, which is later entered on the FELICS master server to enable the application software.

4 Configuration

This chapter contains the information you need to configure the FELICS software.

| Section | Description |
|--|--|
| 4.1 FELICS Server (Master, Backup, Proxy) – Windows and UNIX | How to configure the client monitoring mechanism, backup function, proxy function, diagnostics, group management, additional logging, event notification |
| 4.2 FELICS Agent – Windows | How to configure the FELICS Agent – point of contact between requests for licenses from applications and the license server |
| 4.3 FELICS Agent – UNIX | Parameters for the Agent demon |

4.1 FELICS Server (Master, Backup, Proxy) – Windows and UNIX

To configure the license server, edit the configuration file felics.ini, a text file located in the FELICS program directory. Use the editor Notepad (for Windows) or vi (for UNIX). Changes of felics.ini take effect after FELICS Server restart.

The following parameters can be configured in section [FELICS]:

4.1.1 Network Parameter

FELICS Server and FELICS Agents may either communicate via UDP/IP or TCP/IP. Communication to the administrative components (WRAMON, REMBRAND, FELICS Backup Server, FELICS Proxy Server) is always performed via TCP/IP.

| | |
|-----------|---|
| TRANSPORT | <p>Name of the network protocol. Can be either tcp or udp. Default is TRANSPORT=udp.</p> <p>UDP/IP</p> <p>Advantage</p> <ul style="list-style-type: none"> • needs few system resources <p>Disadvantage</p> <ul style="list-style-type: none"> • no license requests via Internet • provides only a limited quantity of concurrent licenses via a FELICS agent (<50) <p>TCP/IP</p> <p>Advantage</p> <ul style="list-style-type: none"> • unlimited quantity of concurrent licenses per agent • license requests via Internet and Web Proxy <p>Disadvantage</p> <ul style="list-style-type: none"> • on terminal server platforms only available for services and applications running on session 0 • requires FELICS Agent Version 2.71 and later |
| AGENTPORT | <p>Network port number listening to Agents . Default is AGENTPORT=12345.</p> |
| ADMINPORT | <p>Network port number listening to WRAMON, REMBRAND, FELICS Backup Server and FELICS Proxy Server. Must not be identical with AGENTPORT when TRANSPORT=tcp . Default is ADMINPORT=12345.</p> |

Example: felics.ini

```
TRANSPORT=tcp
AGENTPORT=12345
ADMINPORT=12346
```


4.1.2 Client Monitoring Mechanism

To detect the crash of a licensed program or the loss of a client machine (for example, when it is turned off), the license server requires all FELICS Agents to report at regular intervals (“keep alive” mechanism). This interval time can be configured by the administrator.

`MAXALIVE` If this number of “alive” requests from an Agent remain unanswered, its license will be freed.
Default is `MAXALIVE=3`.

`ALIVEFREQ` Interval (in seconds) between “alive” requests sent to the client machine.
Default is `ALIVEFREQ =120`.

The maximum time FELICS requires to detect the loss of a machine is `MAXALIVE*ALIVEFREQ` (in seconds).

Example: felics.ini

```
MAXALIVE=3
ALIVEFREQ=180
DEBUG=0
```

4.1.3 Special Function

`PRIORITY` (Windows only). Set the process priority to 0 (high) or 1 (normal).
Default is `PRIORITY = 0`.

4.1.4 Backup Function

The master server is responsible for distributing licenses. It exists only once in the network (first instance).

The backup server guarantees that licenses will be available in the event that the master license server is unavailable. The backup server takes over the role of the master server until it is back on line. There can be more than one backup server in a network (second instance, third instance, etc.).

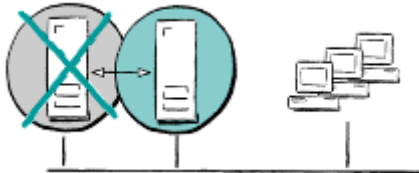


Figure 3: The FELICS Backup Function

The backup server is installed on a second server. The software is the same as for the master server. However, a special license (FELICSB license) designates the server as a backup server. The master server address must be entered in the backup server configuration file `felics.ini`. See chapter 4.1.3 Special Function.

The backup server is always in contact with one or more master servers (as entered in `felics.ini`) and constantly monitors their state of operation. All information pertaining to license distribution is constantly transferred from the master to the backup server(s). The loss of a master FELICS server is automatically recognized within a set interval (PONG parameter in `felics.ini`). The backup server notifies all running Agents and updates them with the new server address.

From this point in time, the Agents will make all license requests to the backup server. Agents that were not running when the transfer took place contact the backup server due to their local configuration: Upon start, the Agent contacts first the master server and if that fails, it automatically contacts the backup server.

The backup server now acts as a master license server: it controls license distribution and monitors the network. You can enter/delete licenses using the tool REMBRAND (Windows) or BRANDLI (UNIX).

When the backup server is acting as a master server, it is no longer available as a backup server for the other master license servers.

The backup server regularly monitors the status of the master server. When the backup server confirms that the master server is back online, it transfers all license status information is transferred, the Agents are informed, and the license server reverts to backup mode.

The backup server constantly monitors the state of the master server. Once it is back online, all information pertaining to license distribution is transferred from the backup server to the master. The backup server notifies all running Agents and updates them with the new server address. It then reverts to backup mode.

A backup server (FELICS Server with FELICSB license) must have the following additional parameters in its configuration file, felics.ini:

| | |
|-----------|--|
| MFELICS | Hostname of a FELICS master server to be monitored. The parameter can appear more than once – one backup server can protect up to 10 master servers. Use MFELICS1 for the second master server (up to MFELICS9). |
| PONG | Interval (in seconds) between checks for the loss of the monitored master server(s). Default is PONG = 60 . |
| RECONNECT | After the loss of master server, time interval (in seconds) between checks that the master server is back online. Default is RECONNECT = 60 . |

Example: felics.ini of the backup license server „ucfelics3“

```
MAXALIVE=3
ALIVEFREQ=20
DEBUG=0
MFELICS=ucfelics1
MFELICS1=ucfelics2
PONG=60
RECONNECT=60
```

4.1.5 Proxy Function

The proxy server is permanently connected to the master server via WAN. It assumes control of the agents in this subnet and filters absurd license requests. Thus the bandwidth via WAN connections is secured. The master server must be supplied with one license (FELICSP license) for each active FELICS proxy server.

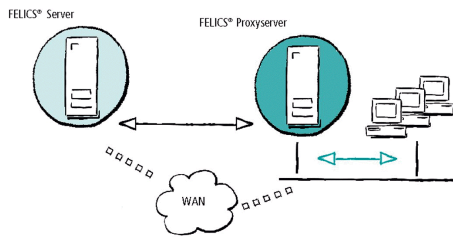


Figure 4: The FELICS Proxy Function

A proxy server must have the following parameters in its configuration felics.ini:

MFELICS Hostname of a FELICS master server to be monitored.
PROXY Value must be set to 1.

Example: felics.ini of the proxy server „ucfelics4“

```
MAXALIVE=3
ALIVEFREQ=20
DEBUG=0
MFELICS=ucfelics1
PROXY=1
```

4.1.6 Diagnostics

When the license server is running, all important data is logged in the text file felics.log, located in the FELICS program directory. When the file reaches its maximum size, it rewrites text starting at the beginning.

By default, only the most important events are recorded in the log file: license events (check-in/checkout) and errors. For diagnostics purposes, you can choose to extend the log file by recording status information. Do this by changing the parameter **DEBUG** in the file felics.ini:

DEBUG= 1: extended output to felics.log
0: no extended output (default setting)

LOGLINES maximum lines in the log file
 Default is **LOGLINES = 5000** .

LINELEN maximum line length
 Default is **LINELEN = 120** .

Windows

FELICS Server for Windows NT / 2000 / XP has the option of displaying the additional status information of the FELICS server in the FELICS GUI. When you start the service, be sure to allow desktop interactivity and enter the start parameter "show."

The status information appears as follows:

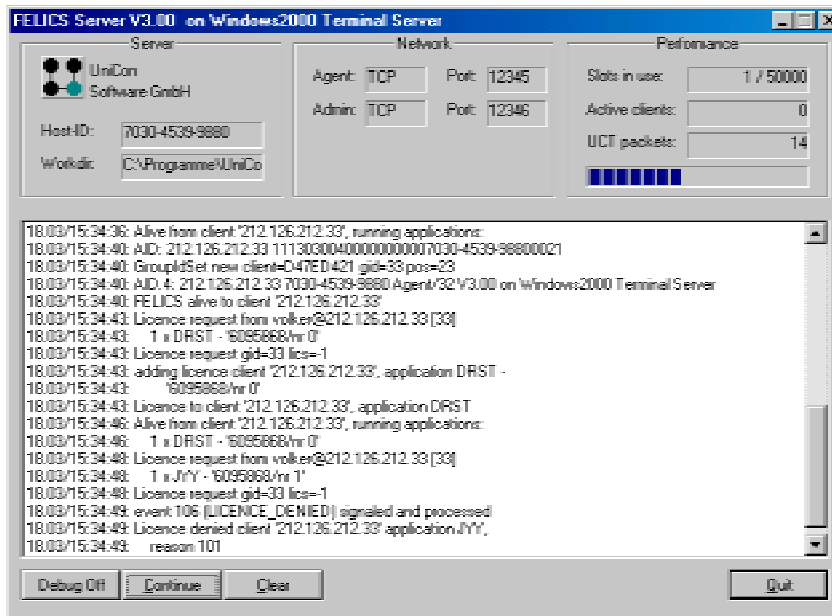


Figure 5: Status Information

The dialog has some useful functions:

Debug On / Debug Off

Switch on/off the verbose debug mode

Stop / Continue

Online output to the dialog is stopped/continued, output to the log file continues anyway

Clear

Clear the debug information list

4.1.7 Advanced Logging

With Advanced Logging only those events are recorded in a comma-separated file that are relevant directly for licensing. This file may be edited graphically by means of adequate applications (e.g. Excel). Following are the parameters for the FELICS logging function. The parameters should be entered in the [PROTOCOL] section of the configuration file felics.ini.

Extended logging can be configured using the following parameters:

| | |
|-----------------------------|--|
| [PROTOCOL] | |
| PROTOCOL=[True False] | “True“ activates Extended Logging. |
| WORKDIR=<Working directory> | Directory where the log files will be written. |
| FILE=<File name> | Name for the log file. |
| SHOWUSER=[True False] | Write user names to log file. |

In the log file, one event is recorded per line. Each line consists of 10 fields separated by semicolons.

The first 4 fields contain general data which are recorded with each event:

Line Format:

<date>;<time>;<event>;<client>; ...

<date> The date the event occurred in the format mm/dd/yyyy. mm is the two-digit month entry (01, 02, ..., 12), dd is the two-digit day entry (01, 02, ..., 31), yyyy is the four-digit year entry.

<time> The time the event occurred in the format HH:MM:SS. HH is the two-digit hour entry (00, 01, ..., 23), MM is the two-digit minute entry (00, 01, ..., 59), SS is the two-digit second entry (00, 01, ..., 59).

<event> Event indicator. The following events are logged:

| | |
|-------------|---|
| LIAC | License assigned |
| LIFR | License released |
| LIDE | License cannot be assigned (is denied) |
| UCON | Connection from a client is established |
| UOFF | Connection from a client is closed |

<client> IP address of the client (dotted notation).

The following fields depend on the the recorded events:

LIAC Event (License Acknowledge):

... <gid>;<product>;<count>;<user>;;

<gid> Group id according to the group definition (see group management).

<product> Id of the licensed product (numeric).

<count> Number of currently assigned licenses for this product.

<user> User name (must be activated with SHOWUSER option in felics.ini, see above)

LIFR Event (License Release):

... <gid>;<product>;<count>;<user>;<runtime>;<mode>

- <gid> Group id according to the group definition (see group management).
- <product> Id of the licensed product (numeric).
- <count> Number of currently assigned licenses for this product.
- <user> User name (must be activated with SHOWUSER option in felics.ini, see above)
- <runtime> Duration of license assignment in the format: HHH:MM.
- <mode> Release mode. "Normal" means the client has succeeded to release the license. "Abnormal" means the server has released the license due to an error condition. This happens for example if the client is unreachable.

LIDE Event (License Denial):

... <gid>;<product>;<count>;<user>;<runtime>;<reason>

- <gid> Group id according to the group definition (see group management).
- <product> Id of the licensed product (numeric).
- <count> Number of currently assigned licenses for this product.
- <user> User name (must be activated with SHOWUSER option in felics.ini, see above)
- <runtime> Duration of license assignment in the format: HHH:MM.
- <reason> Reason why the license was not assigned.
 NOFELICS The FELICS server is not licensed.
 NOPRODID The product is not licensed.
 NOLIC All licenses are currently in use.

UCON Event (Agent Connect):

... *****

UOFF Event (Agent Disconnected):

... *****

4.1.8 Event Notification

In the configuration file of the license server (felics.ini) scripts or commands can be entered for a number of pre-defined events. These scripts or commands are called whenever the according event occurs. Via environment variables the command can access the data of the event and thus react (e.g., send an e-mail). You find a template for such a routine (onevent.sh resp. onevent.cmd) in the FELICS program directory.

Configuration in felics.ini:

```
[EVENTS]
<event>=<command>, <latency>
```

<event> Name of the event to be monitored (see list below).
 <command> Command to be executed if event is signaled
 <latency> Time in seconds to be passed before the signaled event is reported again.

These are the event names and available environment variables:

| | | |
|----------------------|--|--|
| SERVER_START | | Signaled on license server startup. |
| SERVER_STOP | | Signaled on license server shutdown |
| LICDB_CHANGED | | Signaled if license database changed. Environment: FELICS_CLIENT_ADDRESS client which caused the event |
| LICENCE_DENIED | | Signaled if license request was denied. Environment: FELICS_PRODUCT_ID product id (numeric) FELICS_PRODUCT_NAME product name FELICS_PRODUCT_DESCR product description FELICS_PRODUCT_TEXT license id given by application FELICS_CLIENT_ADDRESS client which caused the event |
| LICENCE_THRESHOLD50 | | Signaled if issued licences reached a threshold of 50%, 60%, 70%, 80%, 90%, 100%. Environment: FELICS_PRODUCT_ID product id (numeric) FELICS_PRODUCT_NAME product name FELICS_PRODUCT_DESCR product description FELICS_PRODUCT_TEXT license id given by application FELICS_CLIENT_ADDRESS client which caused the event |
| LICENCE_THRESHOLD60 | | |
| LICENCE_THRESHOLD70 | | |
| LICENCE_THRESHOLD80 | | |
| LICENCE_THRESHOLD90 | | |
| LICENCE_THRESHOLD100 | | |
| LICENCE_TIMEOUT | | Signaled daily if a temporary license key is going to expire (starting 10 days before). Environment: FELICS_PRODUCT_ID product id (numeric) FELICS_PRODUCT_NAME product name FELICS_PRODUCT_DESCR product description FELICS_PRODUCT_DAYS days until expiration |

| | |
|-----------------|---|
| BACKUP_TAKEOVER | Signaled at the backup server if a master server failure has been detected and the backup server takes over control. |
| BACKUP_STANDBY | Signaled at the backup server if an activated backup server returns to standby mode because the master server is back in the arena. |

In addition the following environment variables are available on every event:

| | |
|------------------------|----------------------------------|
| FELICS_SERVER_WORKDIR | license server working directory |
| FELICS_SERVER_PLATFORM | server platform identification |
| FELICS_SERVER_ID | server host id |
| FELICS_SERVER_ADDRESS | server ip address |

Example: felics.ini

```
[EVENTS]
LICENCE_DENIED=/usr/felics/onevent.sh,0
```

4.1.9 Group Administration – group.ini

The group administration is an efficient tool to distribute the available licenses to groups.

Within the file group.ini (which must reside in the work directory of the license server) single clients, users or nets may be combined in groups. Then, licenses are assigned to the single groups by appropriate entries. group.ini is a text file which can be edited as you like. The license server takes note of any modification of this file within 10 seconds, and re-imports the file automatically. If an entry should be illegal either by syntax or semantics, it will be ignored and an error message will appear in the log file (felics.log). An extended message logging can be achieved by starting the license server in the debug mode (felics.ini: DEBUG=1).

MAIN Section

The general entries within this section are relevant for the entire file. For the time being, the following entries are supported:

| | |
|------------------------|---|
| [MAIN] | |
| Company=<company name> | The company name is arbitrary. |
| Name=<name> | Logical name of the definition (may not contain blanks nor special characters). |
| Descr=<description> | Description of Definition (arbitrary) |

GROUP Section

The general entries within this section are relevant for a certain group. The group is a numerical Id (0 < id < 1000) which is unique in the section name.

| | |
|-------------------------------------|---|
| [GROUP:<id>] | |
| Name=<group name> | Logical name of the definition (may not contain blanks nor special characters). The group name may only occur once within a group.ini. |
| Descr=<group description> | arbitrary description of the group |
| Client<id>=<client name> | Hostname (must be dissolvable) or IP address of a client belonging to this group. Each client can belong to one group only. By means of the client Id the entry must be unique within the group. |
| Mask<id>=<network mask> | IP address areas can be entered by network masks. The value must be given as a RE (Regular Expression). Within the group the entry must be unique by means of the Id. |
| User<id>=<user name> | The user name is transferred by the FELICS Agent, it is not case sensitive. |
| Licdef<id>=<quantity >,<product Id> | Defines the product license for this group. The license is defined by quantity and product Id. The quantity of product licenses to be distributed to the groups is limited to the number of purchased licenses entered into the license server. Entry must be unique by the given licdef Id within the group. |

GROUP:0 Section

If no group could be assigned due to a license request, the request is stored in the section [GROUP:0]. Therefore only license definitions should be entered into this group, i.e. no clients, users or networks.

Rules

- Maximum length of names or descriptive texts is 255 characters
- Unlimited number of groups and entries
- Products (product Ids), which are not represented in any group by a license definition (LICDEF entry), are not registered by group management, and thus any client is allowed to request a license.
- A client resp. a user name may belong to one group only.
- The quantity of product licenses to be distributed to the groups is limited to the number of purchased licenses entered into the license server. LICDEF entries exceeding this limit are ignored.
- Section names and key names (e.g. Client1) are not case sensitive.
- Text lines starting with ';' are read as comment lines
- A license request is assigned to a group in the following order:
 1. actual IP address of the client (CLIENT entries)
 2. IP address areas (MASK entries)
 3. User names (USER entries)
 4. Group Id being transmitted from the client

Example: group.ini - This sample shows how to assign 100 licences of product 4712 and 50 licences of product 4713 to several groups of workstations, user and networks. Client requests which are not matching any definition will be assigned automatically to the special group id 0.

```
[MAIN]
Company=FELICS Labs Ltd
Name=FELICSLAB
DESCR=FELICS Labs concurrent licences
```

```
[GROUP:0]
Name=Everybody
Descr=All other workstations
Licdef1=10,4712
Licdef2=5,4713
```

```
[GROUP:1]
Name=Support
Descr=Support Devision
Licdef1=10,4712
Licdef2=30,4713
Client1=192.92.1.1
Client3=pcsupport
User1=lotte
Mask1=192\.\92\.\2\.\[0-9]+
```

```
[GROUP:2]
Name=Marketing
Descr=Marketing Devision
Licdef1=80,4712
Licdef2=15,4713
Client1=pcmarket
Client2=192.91.1.2
Client3=192.92.1.17
User1=heinz
Mask1=192\.\91\.\1\.\[0-9]+
```

4.2 FELICS Agent – Windows

The Agent is the point of contact between requests for licenses from the applications and the license server. Configuration for an Agent takes place locally. It cannot be configured remotely. The configuration is saved to the file ucwatch.ini, located in the Windows directory.

There are two possible configurations for three network constellations:

- **Software dongle:** If your network does not have a license server, it is still possible to distribute licenses using software dongles.
- **License server present in net:** This is the recommended scenario. Floating licenses are managed centrally by a license server. This is the default setting for the Agent
- **Mix:** It is possible to mix a license server with software dongles (higher priority).

The functionality depends on the operating system. These configuration tabs may differ for different versions Windows.

4.2.1 Local Licensing

Software dongle allows local licensing. Licenses of this type are controlled directly by the Agent and are not managed by the license server.

⇒ To configure the Agent for local licensing (software dongle)

1. Open the FELICS Agent Administration (**Control Panel > FELICS-Agent Administration**). The **FELICS Agent Administration** dialog box appears.

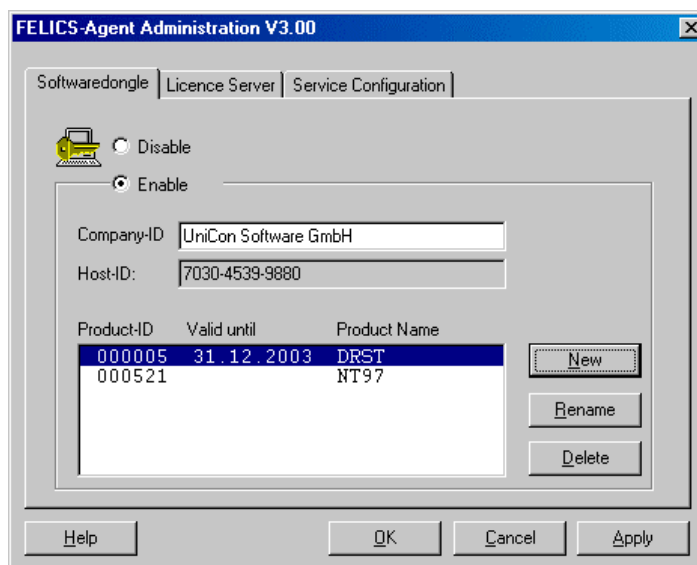


Figure 6: The FELICS Agent Administration (Software Dongle)

2. In the tab **Software Dongle**, click to select **Enable**.
3. Enter your company name and all available license keys

| | |
|-------------------|--|
| Company ID | Enter the full name of your company. |
| New | Enter a new local license by license key |
| Rename | Rename a locally licensed product |
| Delete | Delete a local license |
4. Click **Apply** and **OK**.

Your Agent is now configured for local licensing.

Note If terminal services are active on the machine, the software dongle function is only available on the console session.

4.2.2 Central Licensing

You can also configure your Agent for floating licenses (recommended). Licenses of this type are managed by the license server.

⇒ To configure the Agent for a central license server

1. Open the FELICS Agent Administration (**Control Panel > FELICS-Agent Administration**). The **FELICS Agent Administration** dialog box appears.

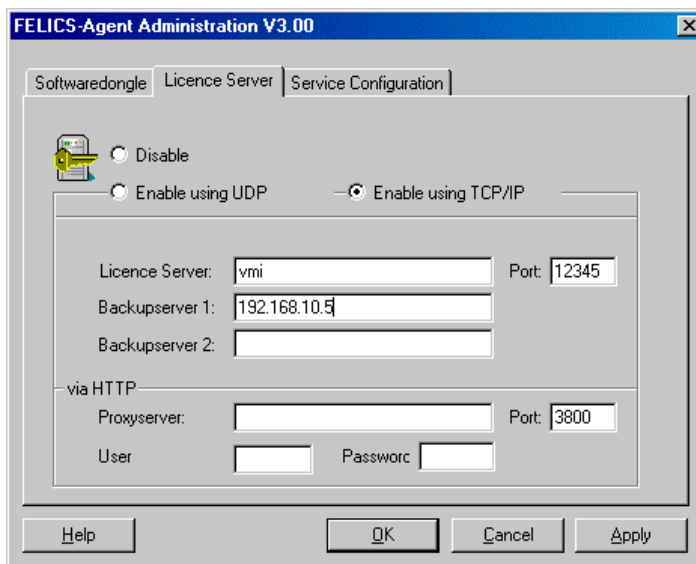


Figure 7: The FELICS Agent Administration (Central License Server)

2. Click on the tab **License Server**. Select the protocol:

| | |
|----------------------------|--|
| Enable using UDP/IP | Connectionless IP-based protocol, as defined by the server |
| Enable using TCP/IP | IP-based protocol, as defined by the server |

| | |
|------------------------|--|
| License server | Enter the license server IP address/name. Default is the parameter entered during the installation process. If you use a FELICS Proxy Server, enter this value. Port: Enter the value as defined on the server |
| Backup server 1 | (optional) Backup server IP address/name. Default is the parameter entered during the installation process |
| Backup server 2 | (optional) Backup server IP address/name. Default is the parameter entered during the installation process |

If you select TCP/IP, the FELICS Agent can establish the connection to the FELICS server via an HTTP proxy server. The HTTP proxy server must allow the connect method with simple user/password authorization:

| | |
|---------------------|---|
| Proxy server | Enter the IP address/name of the HTTP proxy server |
| Port | Enter the value as defined on the HTTP proxy server |
| User | User name on this server |
| Password | User password on this server |

3. Click **Apply** and **OK**.

Your Agent is now configured for central licensing.

Note If terminal services are active on the machine, the protocol TCP/IP is only available on the console session.

4.2.3 Mixing Node-Locked with Concurrent Licensing

You can choose to mix floating licenses with software dongles. In this scenario, some licenses are managed centrally by the license server (low priority) while others are installed locally on the Agent (high priority). The Agent remains the point of contact for applications for licenses.

Agent configuration is made locally at the workstation.

⇒ To configure the Agent for central and local licensing

1. Open the FELICS Agent Administration (**Control Panel > FELICS-Agent Administration**). The **FELICS Agent Administration** dialog box appears.
2. In the tab **Software Dongle**, click to select **Enable**. Enter local licenses as described in section “4.2.1 Local Licensing”.
3. In the tab **License Server**, click to select **Enable**. Enter server settings as described in section “4.2.2 Central Licensing”.
4. Click **Apply** and **OK**.

Your Agent is now configured for central and local licensing.

4.2.4 Debugging

For troubleshooting, there are two options:

- view the Agent status window (real-time)
- generate a log file

⇒ To view Agent status

1. Open the FELICS Agent Administration (**Control Panel > FELICS-Agent Administration**). The **FELICS Agent Administration** dialog box appears.

Select the tab **Service Configuration**

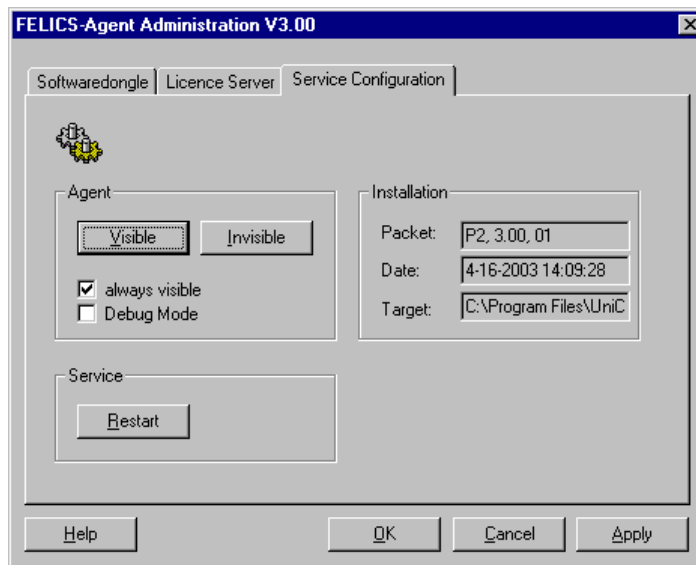


Figure 8: The FELICS Agent Administration (Agent Status)

2. To show or hide the Agent status window temporarily click **Visible** or **Invisible**
3. To show the status window at startup click **always visible**.
4. Click **Apply** and **Restart**.

Be aware that the status window can not be closed by the user, but only by stopping the FELICS Agent service.

By default the Agent does not write a log file. To generate a log file, you must switch the Agent to debug mode.

⇒ **To activate debug mode**

1. Open the FELICS Agent Administration (**Control Panel > FELICS-Agent Administration**). The **FELICS Agent Administration** dialog box appears.

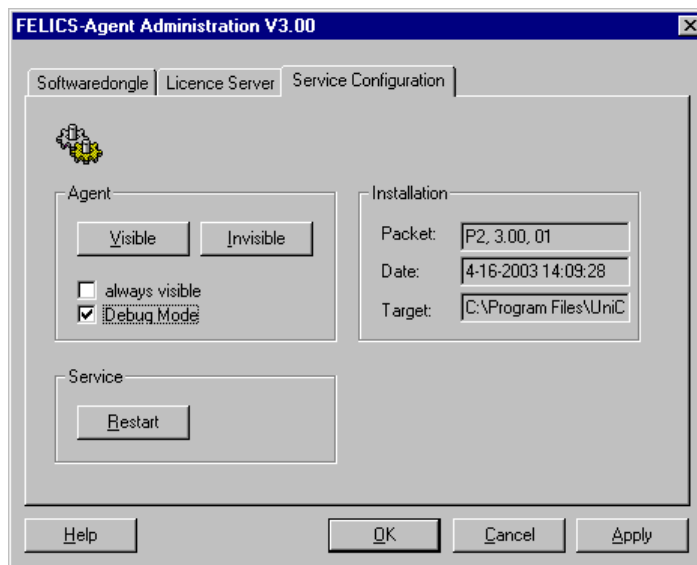


Figure 9: The FELICS Agent Administration (Debug Mode)

2. In the tab **Service Configuration**, click to select **Debug Mode**.
3. Click **Apply** and **Restart**.

The Agent restarts in Debug Mode.

As long as the Agent is running, it generates a log file ntfelclt.log, located in the FELICS program directory. This is a text file and can be viewed using Notepad or sent to your service provider for evaluation.

4. To stop log file generation, you must switch off Debug Mode. Re-enter the Agent configuration, deselect the **Debug Mode** check box, click **Apply** and **Restart**.

Warning The log file increases in size as long as the Agent is running! For this reason, we recommend running the Agent in debug mode only for a short period of time.

4.3 FELICS Agent – UNIX

The FELICS Agent is either automatically installed when installing a FELICS license server or as part of the application software.

The Agent performs all communication with the FELICS server. For this reason, we recommend activating the demon at system start (in /etc/rc).

Program parameters:

```
felicscltd -s <license server> [-t] [-k <message queue>] [-d]
```

- s Enter the host name of the master license server and any backup servers (for example, felicscltd -s ucfelics -s ucfelicsb)
- t (optional) The Agent should use TCP/IP to connect the FELICS Server. For a complete discussion about using UDP/IP or TCP/IP see “4.2.1 Network Parameter”.
- k (optional) Enter the message queue keys. By default, FELICS_MSQ is used.
- d (optional) Activates the Agent’s trace output. To configure trace data, modify the file /usr/felics/felicscltd.ini. Format:

```
TRACEFILE = <file name>
TRACELEVEL=<trace level 0 to 5>
TRACEFILE_COUNT=<maximum number of trace files>
TRACEFILE_SIZE=<maximum trace file size in bytes>
```

Example:

```
TRACEFILE = felicscltd.log
TRACELEVEL = 5
TRACEFILE_COUNT = 2
TRACEFILE_SIZE = 500000
```

The demon can be stopped using a Signal 15, if necessary.

4.4 Fail over mode

In this mode, the FELICS Agent has to retrieve only once a "fail over license" from a running and available license server to grant unlimited licenses to all attached applications without being connected with any FELICS Server after. Fail over mode ensures maximum availability of licenses, while not limiting the license usage in case that the FELICS Server is temporarily not available. If the FELICS Server becomes available again, all granted licenses are reported by the FELICS Agent.

How is fail over mode set up?

A special FELICS license key ("fail over license key") is required to be entered at the FELICS Server to permit "fail over mode". The Agent has to be started prior to any start of applications.

The fail over permission is requested by the Agent if

- Agent starts up
- or
- Application calls FELICS_Init()

The FELICS Agents holds the permission for its life time.

Do I have to modify my application?

Calls of FELICS API functions FELICS_Init(), FELICS_getlicence() or FELICS_GetLicenceEx() are not affected. Even if the license server is temporarily not available, the license request will still be successful if the fail over permit has been previously granted. The function FELICS_Init() initializes the interface and checks if the license server is available. If the license server is not available, the function returns FELICS_OK (= 0) if a fail over permission has been granted, all the following license request will therefore be satisfied.

When should this feature be set up?

Normally the reliability of licenses is granted by the FELICS Backup Server, which supervises the FELICS Master Server and takes over control as soon as its loss is detected. All license requests coming from FELICS Agents are refused by the FELICS Backup Server as long as the FELICS Master Server is available. For example, assume that the network between FELICS Master and FELICS Backup is reliable but the network between Agents and Server is not (WAN).

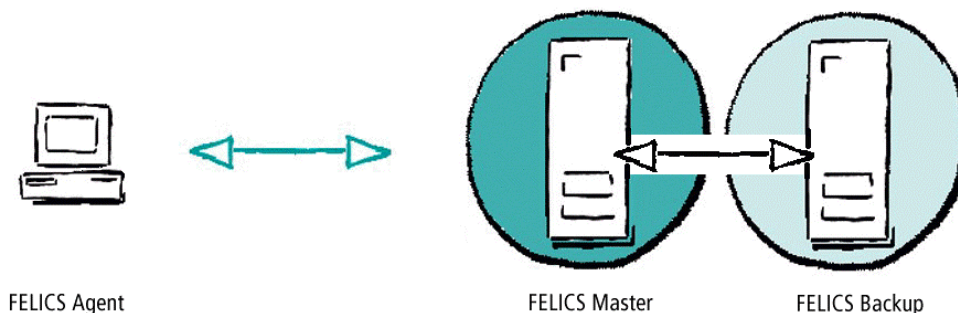


Figure 10: FELICS Agent (fail over mode)

If the FELICS Server becomes unavailable, no licenses can be granted to the applications attached to this Agent. Even if the FELICS Backup Server is available for the FELICS Agent, it will not answer any license request as long as the FELICS Master is perceived to be alive. In this case, the fail over mode can help.

What are the risks of this feature?

Since the FELICS Agent grants unlimited licenses on its own, the license server data is out of date until the FELICS Agent is able to synchronize with the server. The synchronization process can then lead to an over-licensing.

5 FELICS Tools

This chapter provides instructions on how to use the FELICS companion software bundled in the package “FELICS Tools.”

| Section | Description |
|--|--|
| 5.1 Introduction | An overview of the companion programs |
| 5.2 REMBRAND – Licensing under Windows | How to use the FELICS licensing program for Windows |
| 5.3 BRANDLI - Licensing under Unix | How to use the FELICS licensing program for UNIX |
| 5.4 WRAMON – Monitoring under Windows | How to use the FELICS monitoring program for Windows |
| 5.5 RAMON – Monitoring under UNIX | How to use the FELICS monitoring program for UNIX |

5.1 Introduction

“FELICS Tools” are two companion programs that allow you to easily and comfortably maintain server license data.

- Administration: Entering licenses in the FELICS Server
Program name: REMBRAND (WINDOWS), BRANDLI (UNIX)
- Monitoring: Displaying licenses currently in use
Program name: WRAMON (Windows), RAMON (UNIX)

Requirements: A running license server.

The password for the administration programs (REMBRAND/BRANDLI) differs from the password for the monitor programs (WRAMON/RAMON).

5.2 REMBRAND – Licensing under Windows

Operating system: Windows

Administration program name: REMBRAND

Function: Managing licenses

From your Windows workplace, this program is used to remotely manage the licenses entered on various master license servers. Only one REMBRAND instance may be connected to a license server at the same time.

Procedure:

1. Confirm that the license server is running.
2. Start REMBRAND by double-clicking the program symbol in the program group **FELICS Tools**.
3. First you must establish a connection to the license server. The **Connection** dialog box appears. Enter the IP address/name of the master server and port and the FELICS administration password. The password will be saved to the server and authorizes you to change license entries. Click **Connect**.

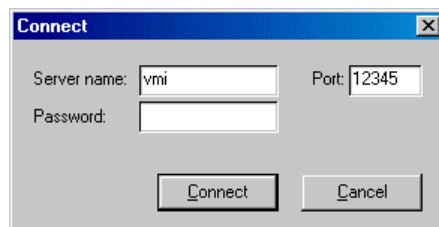


Figure 11: The Connection Dialog

4. When a connection is established, the REMBRAND main screen is displayed. All licenses currently in use are shown.

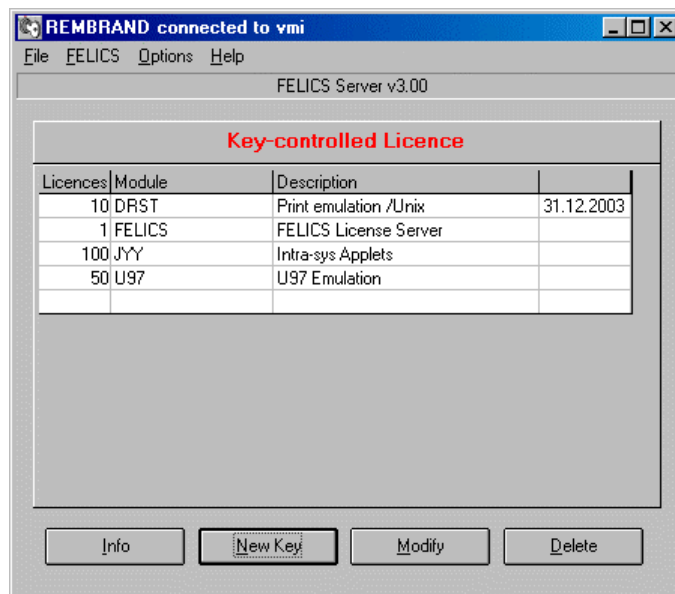


Figure 12: The REMBRAND main screen

5.2.1 Changing Password

To prevent unauthorized access to license data, the FELICS server asks for a password. The correct administration password must be entered in order to change the view or a license entry. By default, no administration password might be set at FELICS server. The first time you log on, you should set this password using REMBRAND (strongly recommended).

Options > Change password

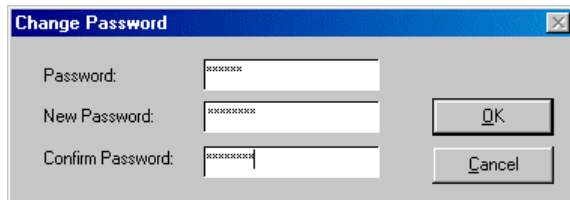


Figure 13: REMBRAND - Change Password

Enter the current administration password.

Enter the new password, confirm the password and click **OK**.

The administration password is also valid for BRANDLI.

5.2.2 Entering Licenses

Mandatory licenses are licenses that you received from your software provider in the form of a license key (such as the key for the FELICS license server).

⇒ To enter a new license

1. In the REMBRAND window, click **New Key**.

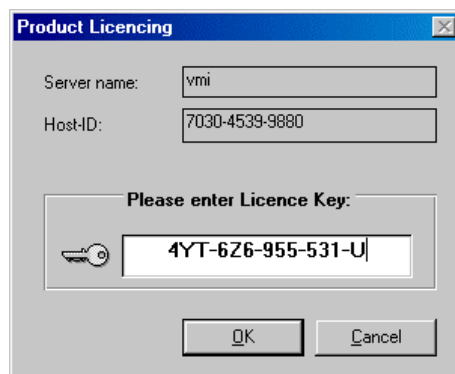


Figure 14: REMBRAND – The window “Product Licencing”

2. In the Product License dialog box enter the software key from your software provider. Click **OK**.
3. The **License Information** dialog box appears.

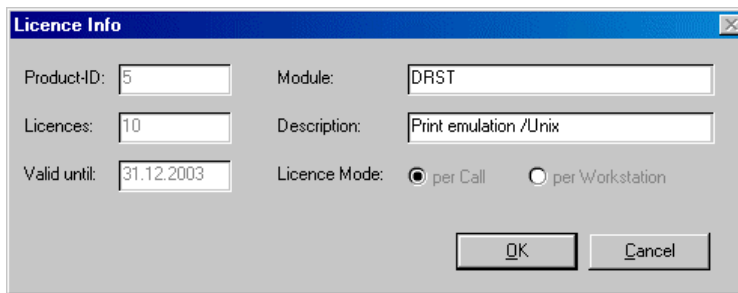


Figure 15: REMBRAND - The License Information Dialog

4. Enter a module name (do not use blanks or the character "#") and description (arbitrary).
5. Click **OK**. The license is entered in the license database and is immediately available.

⇒ Changing a mandatory license

1. Connect to the running license server.
2. In the REMBRAND window, select on the mandatory license you would like to change. Click **Change**.
3. Change the name and description and click **OK**.

With a mandatory license you can only change the name and description. A new license key is required to change the number of licenses. In this case see "To enter a new mandatory license" above.

5.2.3 Deleting Licenses

Deleting a mandatory license

1. Connect to the running license server.
2. In the REMBRAND window, select on the mandatory license you would like to delete. Click **Delete**.
3. Click **OK**. The license is removed from the license database.

Note To reactivate a deleted license, re-enter the license key.

5.3 BRANDLI - Licensing under Unix

Operating system: UNIX

Administration program name: brandli

Function: Managing licenses

BRANDLI is a powerful UNIX program that allows you to comfortably enter licenses in the license server running on the same server.

Call: `/usr/felics/brandli [-lang=en] [-lang=de]`

optional parameters:

| | |
|-----------------------|---------|
| <code>-lang=en</code> | English |
| <code>-lang=de</code> | German |

If the FELICS program directory differs from `/usr/felics` the environment variable `FELICSENV` must be set to this directory before starting BRANDLI (`export FELICSENV=<directory>`).

Access to license data is password protected. When you enter the correct administration password, the following dialog is displayed.

```
BRANDLI v3.00 - BRAND Licence (c) 2003 UniCon Software GmbH Karlsruhe

Main menu
HostID: 7753-2912-8750
[L] Add licence
[D] Show licences
[H] Help
[Q] Quit
```

Figure 16: BRANDLI main menu

5.3.1 Changing Password

The so called administration password protects the license from unauthorized access. The first time you log on, you should set this password using BRANDLI (strongly recommended).

Call: `/usr/felics/brandli [-lang=en] [-lang=de] -pw`

This function is only available for the root user.

You will be asked to enter the new password:

Please enter new admin password: *****

You will then be asked to confirm the password:

Please re-enter new admin password: *****

The administration password has been set. It is valid for this server and also for REMBRAND.

5.3.2 Entering Licenses

Entering a Mandatory License

Mandatory licenses are licenses that you received from your software provider in the form of a license key (such as the key for the FELICS license server).

⇒ To enter a new license

1. To license a product, start BRANDLI.
2. In the main menu, choose **L**. The following mask appears:



Figure 17: BRANDLI - Entry of product key

3. Enter the license key. The following mask appears:

```
BRANDLI v3.00 - BRAND Licence (c) 2003 UniCon Software GmbH Karlsruhe

PRODUCT LICENCING
Product successfully licenced:
  Produkt id: 000005
  Product name: DRST
  Licences: 10
  valid until: 31.12.2003

Press any key
```

Figure 18: BRANDLI - License confirmation

The license update is immediately transmitted to all license servers currently in operation.

5.3.3 Display Licenses

In addition, BRANDLI is able to display license database entries.

⇒ To view all licenses

1. Start BRANDLI.
2. In the main menu, choose **D**. The following mask appears:

```
BRANDLI v3.00 - BRAND Licence (c) 2003 UniCon Software GmbH Karlsruhe
```

| Entry | Product id | Product name | Licences | Valid until | Mode |
|-------|------------|--------------|----------|-------------|-----------------|
| 1 | 000005 | DRST | 5 | - | per call |
| 2 | 000005 | DRST | 10 | 31.12.2003 | per call |
| 3 | 000064 | FELICS | 100 | - | per workstation |
| 4 | 000577 | AIOALL | 100 | - | per workstation |

H-Main menu **E**-Erase **Q**-Quit

Figure 19: BRANDLI - Product overview

5.3.4 Delete Licenses

BRANDLI is able to delete license database entries.

⇒ To delete licenses

1. Start BRANDLI.
2. In the main menu, choose **D** to display the license entries.
3. Enter **E**. The following mask appears:

```
BRANDLI v3.00 - BRAND Licence (c) 2003 UniCon Software GmbH Karlsruhe
```

| Entry | Product id | Product name | Licences | Valid until | Mode |
|-------|------------|--------------|----------|-------------|-----------------|
| 1 | 000005 | DRST | 5 | - | per call |
| 2 | 000005 | DRST | 10 | 31.12.2003 | per call |
| 3 | 000064 | FELICS | 100 | - | per workstation |
| 4 | 000577 | AIOALL | 100 | - | per workstation |

Which entry do you want to remove? 2

Figure 20: BRANDLI - Delete license

4. Input the entry number (shown in the first column) which should be removed and press **ENTER** to confirm the removal.

5.4 WRAMON – Monitoring under Windows

Operating system: Windows

Status program name: WRAMON

Function: Evaluate license use

From your Windows workplace, WRAMON (**W**indows **R**unning **A**pplication **M**ONitor) is used to monitor running applications. In so doing it allows you to evaluate license demand.

Procedure:

1. Confirm that the license server is running.
2. Start WRAMON by double-clicking the program symbol in the program group **FELICS Tools**.
3. Enter the monitoring password. To prevent unauthorized viewing of the license data, the monitor password must be entered. By default, the monitor password might be empty.
The main window appears:

5.4.1 Change Password

The first time you log on with WRAMON, you should set a password (highly recommended) which is stored at server side. The monitor password is also valid for RAMON.

File > Change password

Enter the connection password.

Confirm the password and click **OK**.

5.4.2 Settings

To improve the overview of the license entries the list can be sorted and filtered.

⇒ To set preferences

1. Start WRAMON.
2. In the main dialog, choose **Preferences**. The following dialog box appears:

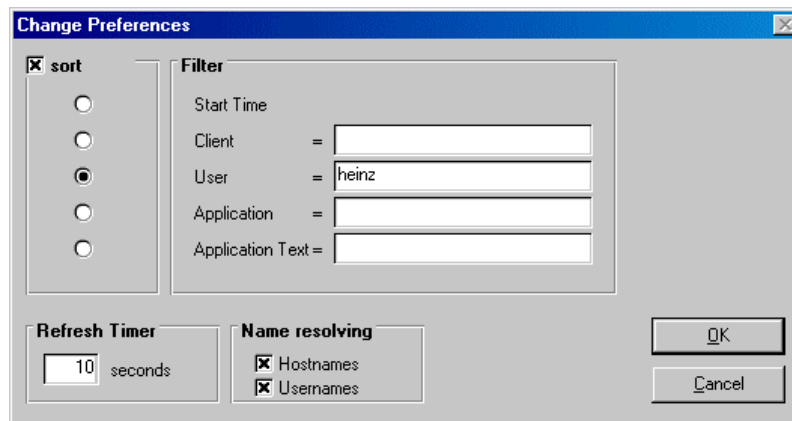


Figure 21: WRAMON - Change Preferences Dialog

- Sort:** (optional) You can choose to display entries in the main window according to one of the columns (start time, client, user, application, application text).
- Filter:** Enter a value for one or more columns. Entries in the main window are displayed according to this filter. One wildcard ("*") is allowed.
- Update interval:** Interval between refreshing the main window. Minimum value: 10 seconds.
- Name resolution – machine name:** (optional) To display the IP name of the FELICS Agents, time critical network functions must be called by the FELICS server. Therefore, name resolution is optional and may slow down the server.
- Name resolution – user name:** (optional) User names can only be displayed, when the FELICS server is appropriately configured and when the installed FELICS Agents support this function. 4.1.3 Special Function.

5.5 RAMON – Monitoring under UNIX

Operating system: UNIX

Status program name: ramon

Function: Evaluate license use

RAMON is a UNIX program running on the same server as the license server do. It inform you constantly over the current license demand. The programs require a running license server.

Enter the following command:

```
/usr/felics/ramon [-lang=en] [-lang=de] [-p <refresh rate>]
```

optional parameters:

```
-lang=en           English
-lang=de           German
-p <refresh rate> Refresh rate in seconds (Default is 5)
```

If the FELICS program directory differs from **/usr/felics** the environment variable FELICSENV must be set to this directory before starting RAMON (`export FELICSENV=<directory>`).

The following mask appears:

```
RAMON - Running Application Monitor          (c) UniCon Software GmbH Karlsruhe
-----
                RAMON
Version: 3.00  ProcessId: 20396  UserId: volker(423)
Started:      27.05.2003 - 09:56:07
Last Update:  27.05.2003 - 09:56:12
-----
                FELICS
Version: 3.00  ProcessId: 20344  UserId: volker(423)
Started:      27.05.2003 - 09:52:39
Last Update:  27.05.2003 - 09:54:39
Licences in use: 3

-  H- Help  M- Monitor  Q- Quit
```

Figure 22: The RAMON Monitor Mask

Use the command **m** to begin monitor in mode "All Products".

RAMON refreshes automatically every 5 seconds.

To change the monitor mode or to set filter values, select options **o**:

```
RAMON - Running Application Monitor (c) UniCon Software GmbH Karlsruhe
View Mode
* A All Licences
  B All Products

Filter
  C Host =
  D Application =
  E User = heinz
  F Group =

User: heinz_
```

Figure 23: The RAMON Monitor Mask - Filter

After having changed the view mode or specified a filter value press “m” to return to the monitor view.

Currently there are two view modes available:

All Products

This mode is to show the total of the single product licenses and calculates the license usage based on the licenses available or active, respectively.

All Licenses

In this mode the monitor shows all licenses which have been granted actively.

```
RAMON - Running Application Monitor (c) UniCon Software GmbH Karlsruhe
Product In use/Registered Usage 1- 2/ 2
AIOALL 1 /100 1 %
DRST 2 / 5 40 %

[H]-Help [I]-Info
```

```
RAMON - Running Application Monitor (c) UniCon Software GmbH Karlsruhe
Licenced Product Host User 1- 3/ 3
27.05-10:03 AIOALL 10224258/nr 0 vmi.unicon-ka.~ Gates
27.05-10:03 DRST 10224258/nr 1 vmi.unicon-ka.~ Smith
27.05-10:03 DRST 10224258/nr 2 vmi.unicon-ka.~ Heinz

[H]-Help [I]-Info [O]-Options [Q]-Quit
```

Figure 24: The RAMON Monitor Mask – All Licenses

Use the command **q** to quit.

5.5.1 Change Password

To prevent unauthorized view to license data, the monitor password must be entered. By default, the monitor password might be empty. The first time you log on with RAMON, you should set a password (highly recommended) which is stored at server side. The monitor password is also valid for WRAMON.

Call: `/usr/felics/ramon [-lang=en] [-lang=de] -pw`

This function is only available for the root user!

You will be asked to enter the new password:

Please enter new monitor password: *****

You will then be asked to confirm the password:

Please re-enter new monitor password: *****

The administration password has been set. It is now valid for this server and also for WRAMON.

6 Appendix 1 – Installation for Windows

This chapter contains a step-by-step description on how to install FELICS Server, FELICS Agent and FELICS Tools for Windows.

| Section | Description |
|-----------------------------|--|
| 6.1 System Requirements | Hardware, operating system and access permissions needed to install FELICS Server, FELICS Agent and FELICS Tools |
| 6.2 FELICS Server – Windows | Step-by-step instructions on using the InstallShield Wizard tool to install FELICS Server for Windows, add new FELICS components, update to a newer version of FELICS, and remove FELICS. How to start/stop the FELICS Server. |
| 6.3 FELICS Agent – Windows | Instructions on how to install FELICS Agent for Windows as stand-alone |
| 6.4 FELICS Tools – Windows | Instructions on how to install FELICS Tools for Windows as stand-alone |

6.1 System Requirements

FELICS Server has the following minimum system requirements:

- System: 128-MB main memory (for small installations)
- Microsoft Windows NT Workstation version 4.0 with Service Pack 3
Windows NT Server or NT Terminal Server
Microsoft Windows 2000 and the Windows 2000 family
Windows XP Professional

To install FELICS on Windows platforms, you must have full administrator rights and be connected to a TCP/IP network.

A detailed list of supported platforms, as well as additional information, is available at www.felics.de.

FELICS Agent has the following minimum system requirements:

- System: 64-MB main memory (for small installations)
- Microsoft Windows 95/98/Me
Microsoft Windows NT Workstation version 4.0 with Service Pack 3
Windows NT Server or NT Terminal Server
Microsoft Windows 2000 and the Windows 2000 family
Windows XP Professional

For Windows, FELICS Server, FELICS Tools and FELICS Agent can be installed separately.

The installation procedure depends on the operating system. It is also possible to use FELICS in a mixed network, where different components are installed on machines running different operating systems. UNIX installations are described separately.

System Resources and Limits

For small numbers of licenses (under about 100), system limits on the workstation are usually not a problem. For larger numbers of licenses, please take the following limits into account.

Memory

The FELICS Server needs about 4 MB of memory

Diskspace

A complete installation of FELICS needs about 2 MB disk space. The FELICS Server creates a log file which is limited in size (default is 600 KB). When the file reaches its maximum size, it rewrites text starting at the beginning.

Network Bandwidth

You can choose from the following two protocols:

- UDP/IP
- TCP/IP (starting with Agent version 2.71 and later)

In general, we recommend using UDP, as less system resources are used.

TCP is preferred when a large number of licenses will be requested from a client (as in the case in multiple user systems like UNIX).

By default the ports are 12345 (used by FELICS Agents) or 12346 (used by FELICS Tools, FELICS Backup Server and FELICS Proxy Server).

6.2 FELICS Server – Windows

Windows NT / 2000 / XP

You can choose from the following two installation packages:

- P1 Server (FELICS Server, FELICS Agent and FELICS Tools)
- P2 Agent (FELICS Agent only)

To begin the FELICS installation procedure, run the program **Setup.exe** in the corresponding folder on your CD-ROM. Installation is performed using the **Install Shield Wizard** tool.

6.2.1 Step 1: Choose Setup Language

Choose the language you want for the installation procedure and for FELICS screen elements.

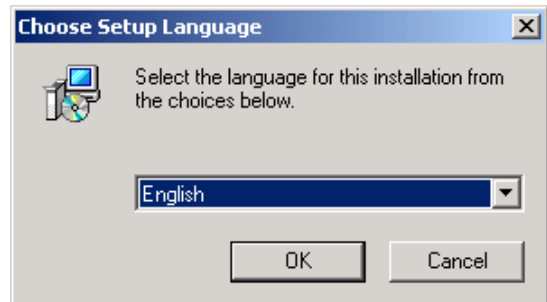


Figure 25: FELICS installation, Choose Language

6.2.2 Step 2: Welcome

Click **Next** to continue.

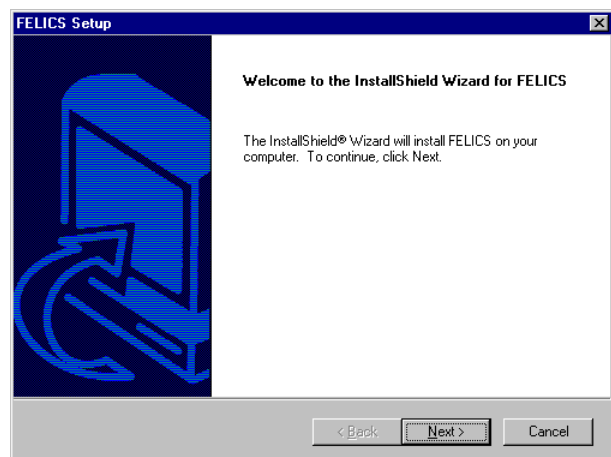


Figure 26: FELICS installation, Welcome

6.2.3 Step 3: License Agreement

To use FELICS, you must read and accept the license agreement.

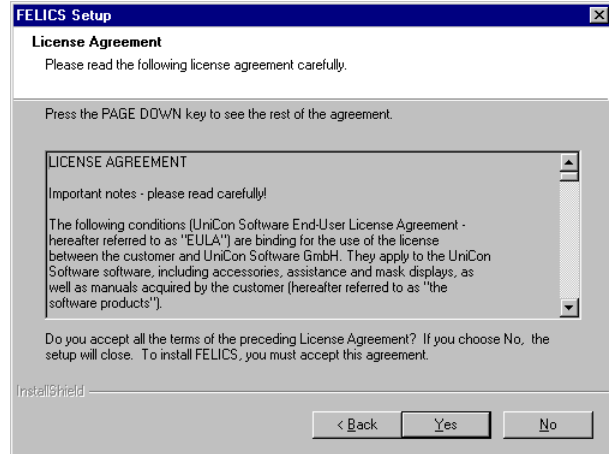


Figure 27: FELICS installation, License Agreement

6.2.4 Step 4: Choose Destination Location

Enter the directory where you want the files to be installed. You can use the suggested directory or click **Browse** to select another.

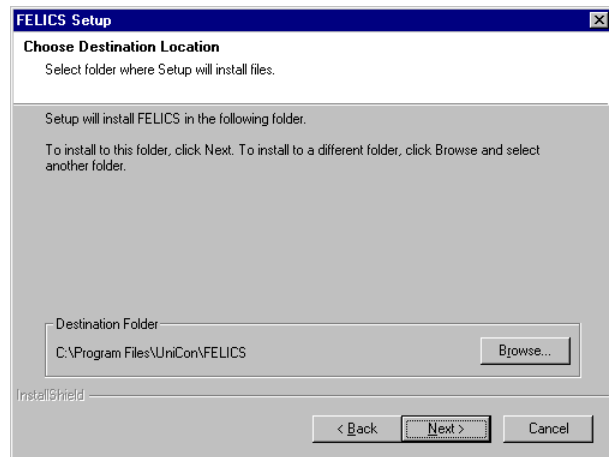


Figure 28: FELICS installation, Choose Destination Location

6.2.5 Step 5: Select Components

You can install the following components:

- FELICS Server**
- FELICS Agent**
- FELICS Tools**

You are given the option of choosing which components to install. For example, you can choose to install just the server and Agent and install the Tools on a separate workstation.

Required memory and space available is displayed.

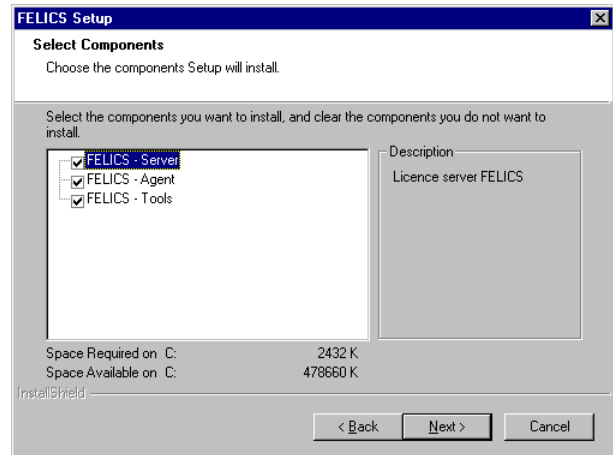


Figure 29: FELICS installation, Select Components

Attention The following dialog box appears only if you are installing FELICS Server. If you are not installing FELICS Server, go to step 7.

6.2.6 Step 6: Server Information

Select which type of FELICS server to install:

Master

Backup: Enter the IP address or IP name of the master server.

Proxy: Enter the IP address or IP name of the master server.

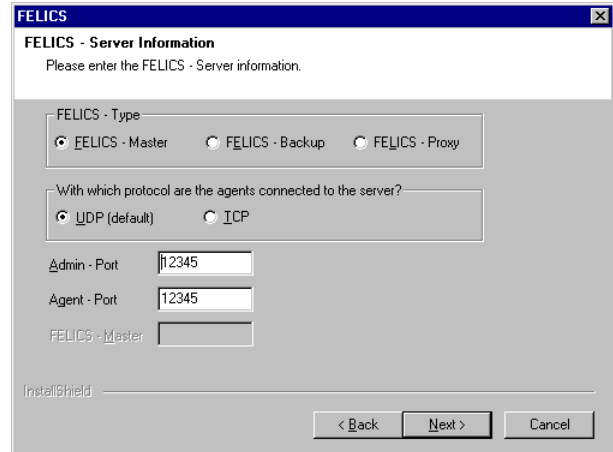


Figure 30: FELICS installation, Server Information

Select the protocol for the Agent

UDP: Recommended. Enter the administration and Agent port. Port numbers can be the same.

TCP: Enter the administration and Agent port. Important: Use different port numbers! In case of doubt, enter 12346 for the administration port.

We recommend using UDP. TCP might be useful when a large number of licenses will be requested by a client. Requirement: Agent version 2.71 or later.

Attention The following dialog box appears only if you are installing FELICS Agent. If you are not installing FELICS Agent, go to step 8.

6.2.7 Step 7: Agent Information

Choose the type of licensing.

Server: Central licensing on the license server. Enter the following:

Protocol: Choose between UDP and TCP.

Master server: IP address or name

First backup server: (optional) IP address or name

Second backup server: (optional) IP address or name.

Server port: where the server listens to the clients (default: 12345)

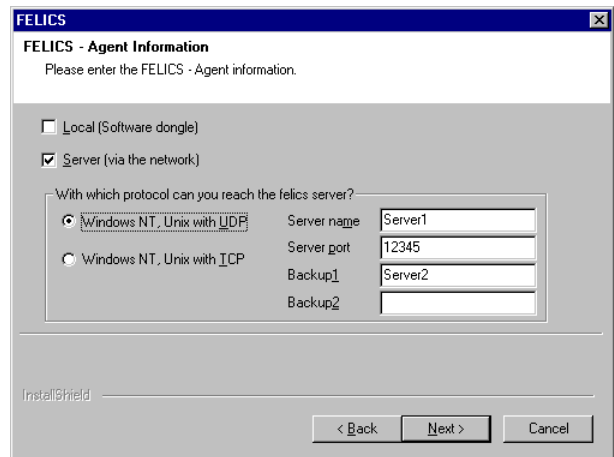


Figure 31: FELICS installation, Agent Information

Local: Local licensing using software dongle (“node licensing”). We recommend using a license server to take advantage of the benefits of centralization. However, if you do not have a server, it is still possible to use local licensing. This method is more complicated and less easy to use.

Attention The following dialog box appears only if you are installing FELICS Tools. If you are not installing FELICS Tools, go to step 9.

6.2.8 Step 8: Tools Information

Enter the server IP address or name to which the FELICS Tools should connect by default. The server can be a master, backup or proxy.

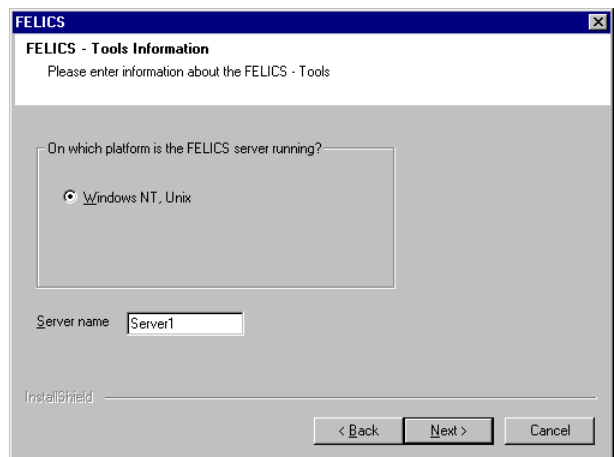
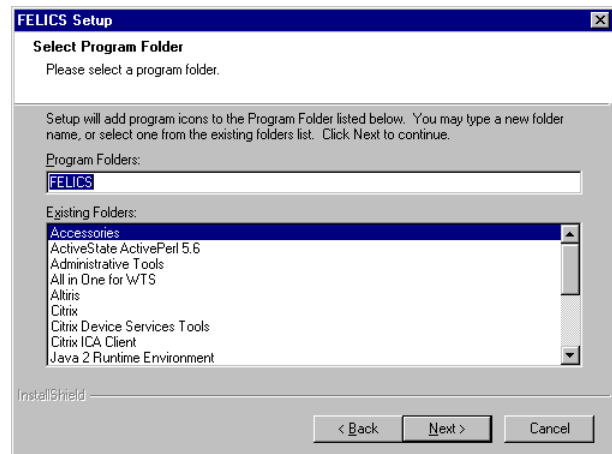


Figure 32: FELICS installation, default server for Tools

6.2.9 Step 9: Select Program Folder

You can use the default folder name or type one of your choosing.



6.2.10 Step 10: Install Shield Wizard Complete

Click **Finish** to complete the installation procedure.

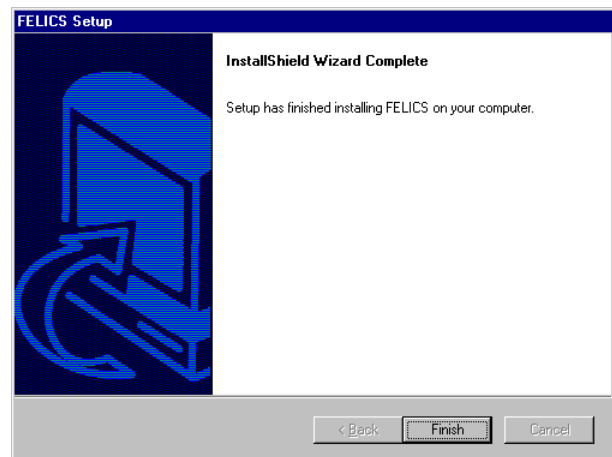


Figure 33: FELICS installation, Finish Installation

6.2.11 Modify, Repair, Remove

Once FELICS has been installed, run the program **Setup.exe** at any time to modify, update or remove FELICS. InstallShield Wizard displays the following dialog box.

Modify: Add or remove single program components.

Repair: Update the software. A new version of the FELICS software is required.

Remove: Remove all program files, except for automatically created files.

Attention License files are also deleted!

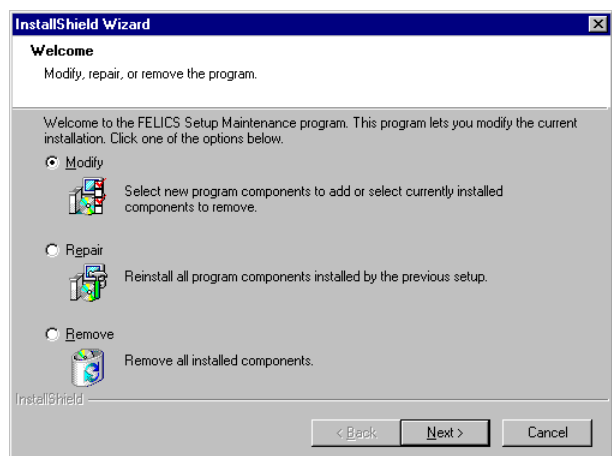
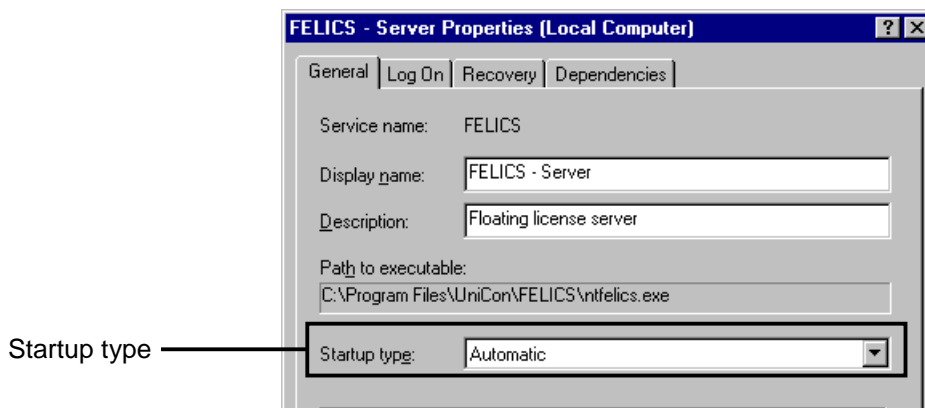


Figure 34: InstallShield Wizard > Modify, Repair, Remove

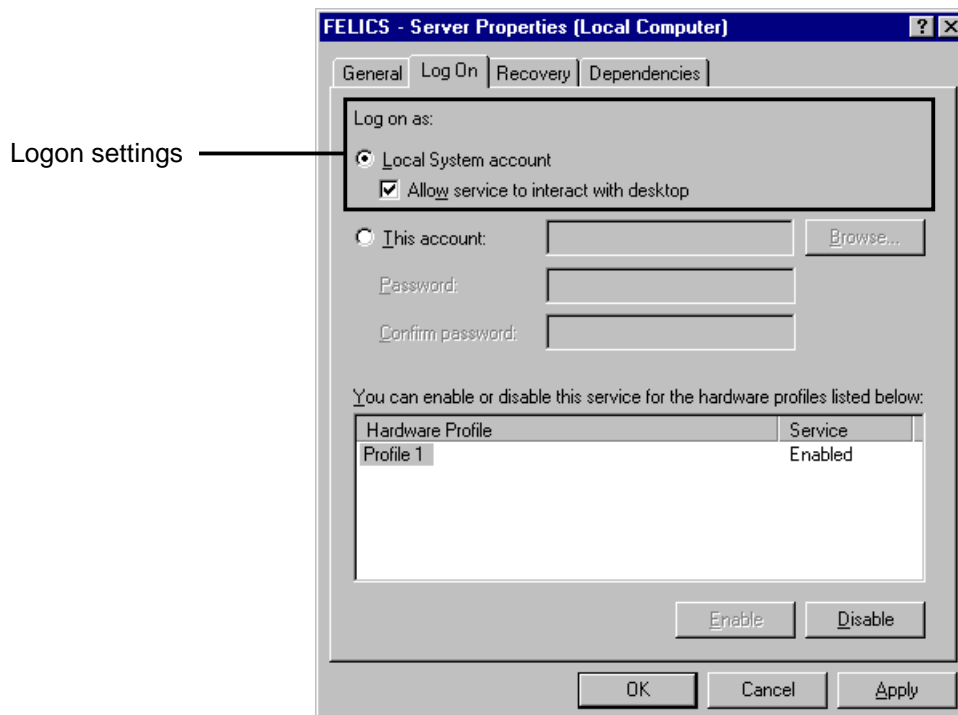
6.2.12 Start and Stop FELICS Server

After successfully completing the installation procedure, the license server FELICS is entered as a service on your server. Open the Services Manager for Windows to check that it is configured correctly.

1. Go to **Control Panel > Administrative Tools > Services**. The Services Manager for Windows opens.
2. Confirm the following settings:
Status: "Started"
Startup Type: "Automatic"
Log On As: "LocalSystem"
3. If this is not the case, click with the right mouse button on the service **FELICS**. In the context menu, select **Properties**. The **FELICS Server Properties** dialog box appears. In the **General** tab, for "Startup type" select **Automatic**.



4. In the **Log On** tab, in the "Log on as" section, click to select the **Local System account** option and the **Allow service to interact with desktop** check box.



In the **FELICS Server Properties** dialog box, click **Apply** and **OK**. This returns you to the Services Manager for Windows.

- If the FELICS Server is not started, click with the right mouse button on the FELICS service. A context menu appears. Select **Start**. The service is started.

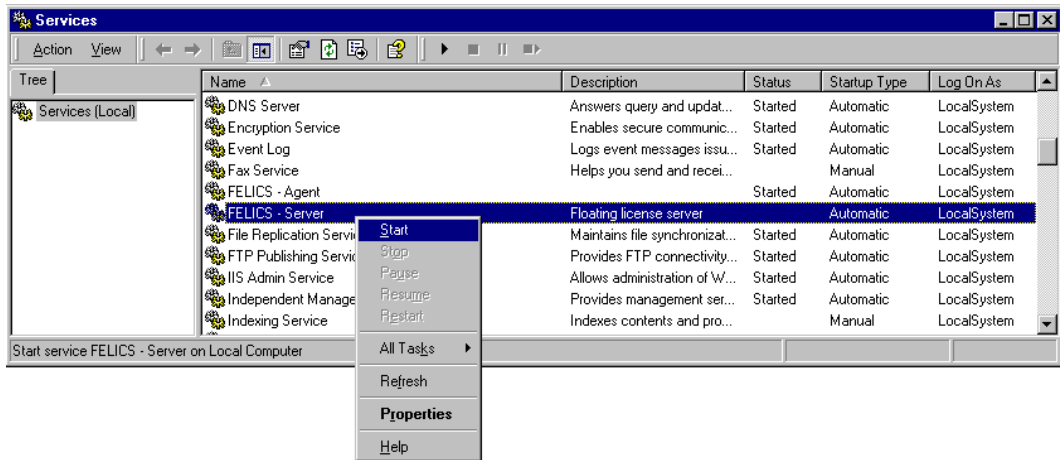


Figure 35: Services dialog box > starting FELICS Server

To start or stop the FELICS server, use the Services Manager for Windows.

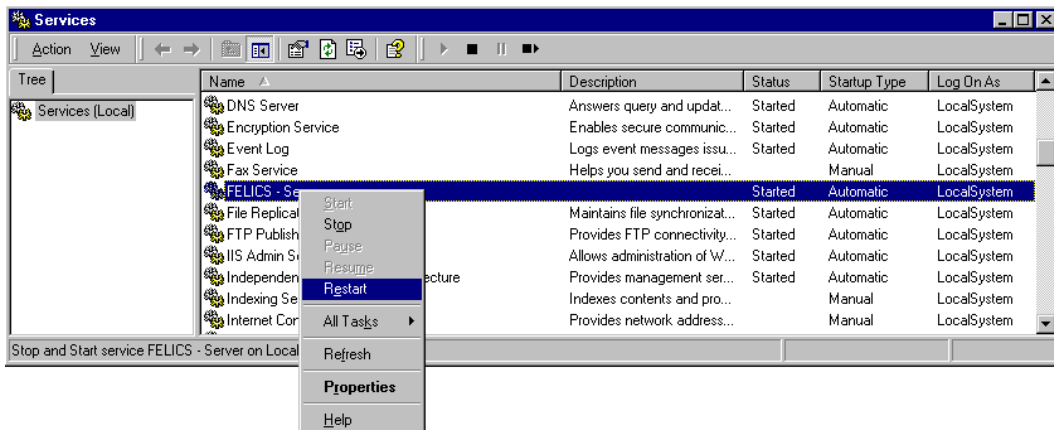


Figure 36: Services dialog box > restarting FELICS Server

When the license server is stopped, programs that have already received a license are unaffected. The license is not withdrawn from running programs.

The license server itself must be licensed, otherwise it runs in the so-called “administration mode.” To license the server, use the companion program REMBRAND to enter a license key . See 5.2 REMBRAND – Licensing under Windows.

6.3 FELICS Agent – Windows

Windows 95 / 98 / Me

To install the FELICS Agent on Windows NT / 2000 / XP, use the installation package “P1 Server” or “P2 Agent.” The procedure is the same as in section 6.2 FELICS Server – Windows.

If you use “P1 Server,” in Step 5: **Select Components**, select only the Agent. Click **Next**. The **Agent Information** dialog box appears. Enter the required information.

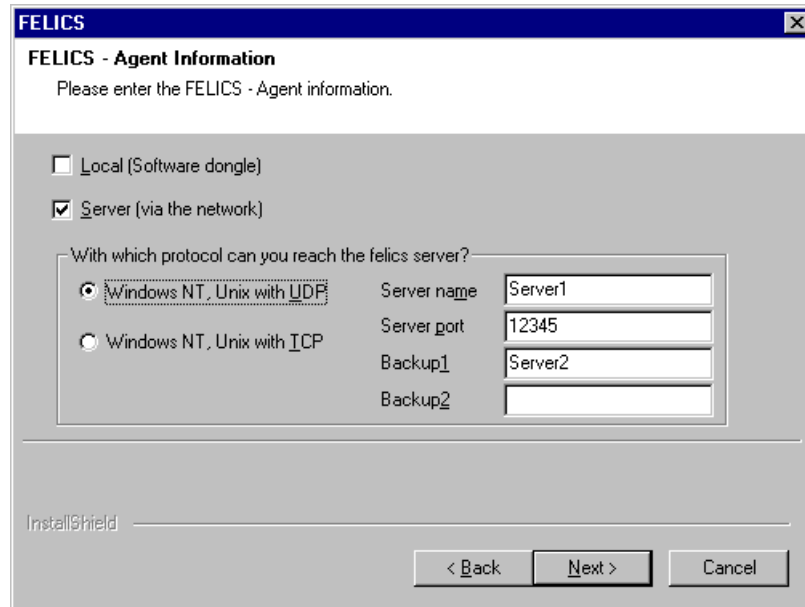


Figure 37: Installing procedure, FELICS Agent

FELICS Agent – Windows NT / 2000 / XP

To install FELICS on Windows NT / 2000 / XP, the procedure is the same as above. However, you need full administrator rights.

Configuring Service

After successfully completing the installation procedure, the license server FELICS is entered as a service on your server. See section 4.1 FELICS Server (Master, Backup, Proxy) – Windows and UNIX for the required configuration.

6.4 FELICS Tools – Windows

Windows 95 / 98 / Me / NT / 2000 / XP

FELICS Tools are installed using the installation package “P1 Server.” The procedure is the same as in chapter 6.2 FELICS Server – Windows. In Step 5: **Select Components**, select only Tools. Click **Next**. The **Tools Information** dialog box appears. Enter the required information.

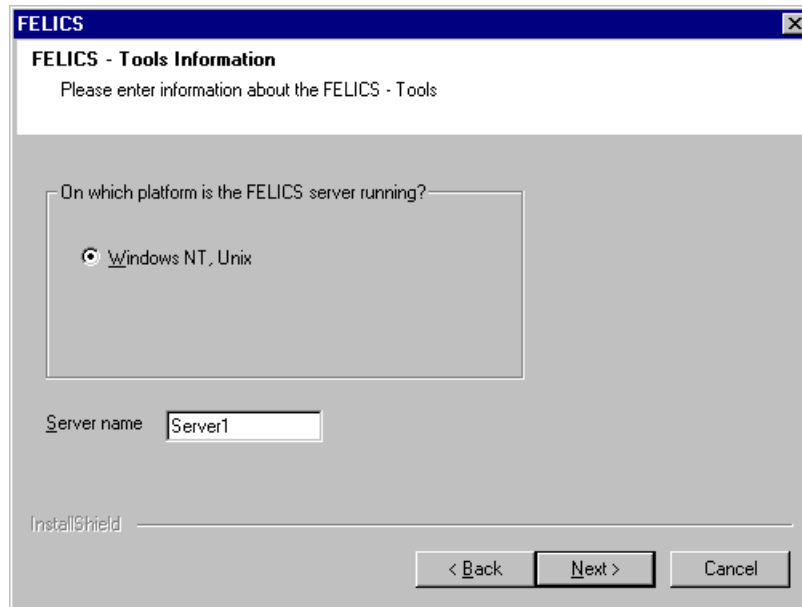


Figure 38: Tools Information

7 Appendix 2 – Installation for UNIX

This chapter contains a step-by-step description on how to install FELICS Server, FELICS Agent and FELICS Tools for UNIX.

| Section | Description |
|--------------------------|---|
| 7.1 System Requirements | Hardware, operating system and access permissions needed to install FELICS Server, FELICS Agent and FELICS Tools |
| 7.2 FELICS Server – UNIX | Instructions on how to install FELICS Server, FELICS Agent and FELICS Tools on a UNIX machine. How to start/stop the FELICS Server. |
| 7.3 FELICS Agent – UNIX | Instructions on how to install FELICS Agent for UNIX |
| 7.4 FELICS Tools – UNIX | Instructions on how to install FELICS Tools for UNIX |

7.1 System Requirements

FELICS Server has the following minimum system requirements:

- System: 128-MB main memory (for small installations)
- various UNIX operating systems including: AIX, SUN Solaris, HP-UX, Linux, SINIX, SGI Irix

To install FELICS on Windows platforms, you must have full administrator rights and be connected to a TCP/IP network.

A detailed list of supported platforms, as well as additional information, is available at www.felics.de.

FELICS Agent has the following minimum system requirements:

- System: 64-MB main memory (for small installations)
- various UNIX operating systems including: AIX, SUN Solaris, HP-UX, Linux, SINIX, SGI Irix

For UNIX platforms, the FELICS Server, FELICS Tools and FELICS Agent are installed automatically.

The installation procedure depends on the operating system. It is also possible to use FELICS in a mixed network, where different components are installed on machines running different operating systems. Windows installations are described separately.

System Limits

Memory

The FELICS Server needs about 3 MB of static, unswapable memory

Diskspace

A complete installation of FELICS needs about 2 MB disk space. The FELICS Server creates a log file which is limited in size (default is 600 kB). When the file reaches its maximum size, it rewrites text starting at the beginning.

Network Bandwidth

You can choose from the following two protocols:

- UDP/IP
- TCP/IP (starting with Agent version 2.71 and later)

In general, we recommend using UDP, as less system resources are used.

TCP is preferred when a large number of licenses will be requested from a client (as in the case in multiple user systems like UNIX).

By default the ports are 12345 (used by FELICS Agents) or 12346 (used by FELICS Tools, FELICS Backup Server and FELICS Proxy Server).

7.2 FELICS Server – UNIX

The UNIX installation package installs the FELICS Server, FELICS Agent and FELICS Tools. You can choose from the following format:

- tar format: for UNIX machines with a floppy drive
- DOS format: for UNIX machines without a floppy drive

After installation, all files are located in the directory **/usr/felics**.

DOS-Format (for example, after downloading)

Send the archive file in binary format to your UNIX machine.

On the UNIX machine, enter the following commands:

```
uncompress 12330001.tar
cd /
tar xvf 12330001.tar
```

The felics.install script must be executed to complete the installation.

```
cd /usr/felics
./felics.install
```

The script sets the passwords for the administration programs REMBRAND/BRANDLI and the monitoring program WRAMON/RAMON.

If desired, you can choose to start the license server at this point.

Otherwise you can start the license server later. To start the license server automatically when the system starts, enter the FELICS server start command manually in the corresponding rc files (see chapter 7.2.2 Start and Stop FELICS Server .

If the target directory differs from the default /usr/felics, the environment variable FELICSENV must be set (`export FELICSENV=<directory>`) before starting any FELICS program.

Proxy and Backup

If you would like to install the FELICS Backup Server or FELICS Proxy Server, perform the installation as described above. You must then modify felics.ini. See section 4.1 FELICS Server (Master, Backup, Proxy) – Windows and UNIX.

7.2.1 Permissions and rights

By default, the files in the installation archive are owned by the user root. Feel free to change the owner/group settings after installation. If you do so, modify all files in the program directory in the same way. We do not recommend to change the permissions of a single file in the FELICS program directory.

7.2.2 Start and Stop FELICS Server

The license server can only be started/stopped with appropriate authorization. By default, the license server is located in **/usr/felics**. If the installation directory differs from the default, the environment variable **FELICSENV** must be set to the directory before starting the server.

To start the FELICS Server:

```
cd /usr/felics
./felics
```

To end the FELICS Server:

```
cd /usr/felics
./felics end
```

To restart:

```
cd /usr/felics
./felics restart
```

When the license server is stopped, programs that have already received a license are unaffected. The license is not withdrawn from running programs.

The license server itself must be licensed, otherwise it runs in the so-called “administration mode.” The following message is displayed at start:

```
(c) UniCon Software GmbH Karlsruhe
FELICS v3.00 - Floating Extended License Server

HOSTID 0612-2666-7329

Server not licensed, entering administration mode
```

The license server displays the so-called “host ID” for this server. The host ID identifies the server. Write down the server host ID and give it to your software supplier when requesting license keys. To enter the license key use either the program REMBRAND (see section 5.2 REMBRAND – Licensing under Windows) or BRANDLI (see section 5.3 BRANDLI - Licensing under Unix) .

7.3 FELICS Agent – UNIX

The UNIX installation package installs the FELICS Agent automatically. If you have not yet installed the FELICS Server, do so now.

7.4 FELICS Tools – UNIX

The UNIX installation package for the FELICS Server includes the companion software FELICS Tools for maintaining license data (brandli) and monitoring active licenses (ramon). If you have not yet installed the FELICS Server, do so now.

8 Appendix 3 - Cluster systems

Running FELICS Server on such systems can cause problems. Please check if your system comply with the following requirements:

Same host ID

The validity of FELICS license keys depends on the unique host ID. This host ID is created by system characteristics like system serial number or hard disk controller id. If any of this attributes changes, the host ID may change as well and the licence keys become invalid. This can be the case if the FELICS Server software is executed on different systems sharing the FELICS program directory.

Different IP addresses

This affects the FELICS Backup Server. It monitors the FELICS master server running on an other system (with a different IP address). After having noticed the loss of this server, the FELICS Backup Server monitors the master coming up again. You have to ensure that:

1. FELICS Master and FELICS Backup Server are both up and running in normal mode. The Backup Server gets informed by every license operations. The loss of the Master Server will be detected if its IP address is unreachable or if the service can no longer be contacted.
2. The IP address of the FELICS Master must be different from the FELICS Backup Server. In fail over mode the FELICS Backup Server tries to reconnect the master. If the system running FELICS Backup Server would get the same IP address as the system running FELICS Master Server, the Backup Server would contact itself.
3. In fail over mode the FELICS Master IP address must be the same as in normal mode. Otherwise it cannot be found and reconnected by the restarting FELICS Backup Server.

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