Installation guide for UNIX
Unique Porting Kit
Unique Run Time
Unique XTRA
Unique CONCEPT

version 4.02

[Last updated: 27. December, 1995]

This document contains Installation for *Unique Xtra, Unique Run Time* and *Unique Concept*.

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Introduction.

This installation guide contains information and instructions on how to install the various modules of Unique, version 4.02 on the Unix Operating System.

The Guide is divided into nine sections. These are:

1) Before installation

The conditions which must be satisfied before installing Unique products are discussed here.

2) During installation

This section contains detailed instructions on what you must do during the installation procedure.

3) After running the installation program

Here is how you can check that the installation was successful after the installation procedure has been run.

4) Linking the object files

This section describes how to link the Unique object code to make executables. This is optional, and will normally not be necessary.

5) Installing the SECURITY module

This section describes how to install the Security system.

6) Installation problems

The most common problems which may occur during installation are listed here and what you can do to solve them.

7) 88000 supplement

Considerations for 88000 based machines.

8) Sparc supplement

Considerations for Sparc based machines (Sun).

1. Before installation.

1.1 Check that the contents of the Unique package is correct.

Have you received :

- the correct product(s)
- the correct version
- the correct medium (diskette, streamer, etc.)

1.2 Is the database system(s) which Unique will use installed ?

Check that the database is the correct version and is properly installed - Unique will need it during installation. See "Release Notes for Unique Concept" which will give you more information about the database systems.

1.3 Calculating space needed.

Check that you have enough space on the disk to install the Unique product. The space needed depends on what module you are installing and of what platform you are using. Here is the approximate figures for the various modules :

- Concept = 50Mb
- Runtime = 38Mb
- Xtra = 46Mb
- Porting Kit = 38Mb

1.4 Medium: diskette, tape (DC600, DC 6150, DAT, VIDEO-8, MAGTAPE, etc.), etc.

Which medium is to be used? Is it default or do you need to know the device name? Available devices are stored in the directory **/dev.**

1.5 Existing installation of Unique.

Unique's installation program will not overwrite any existing installation of Unique without prompting for a confirmation. If you have an existing installation, please take a backup prior to install a new version of Unique.
Also the directory $UNIQUE_HOME/install should be purged before installation.

1.6 Create user Unique.

Unique should be installed on directories owned by the user unique. If this user does not exist, you must create it prior to installing Unique. See your system administrator if you are unable to complete this task.

Define $UNIQUE_HOME as the home directory for this user (recommendation only). See next section about $UNIQUE_HOME.

1.7 Create $UNIQUE_HOME

Create a home directory for the Unique installation on a disk with enough space on it. This directory is called $UNIQUE_HOME and is defined in an environment variable called UNIQUE_HOME. Default value is /usr/unique if this environment variable is undefined. By manipulating this environment variable you may have more than one installation of Unique on the same machine. The directory $UNIQUE_HOME should be owned by user unique and all users should set this variable in their login script (unless the default value /usr/unique is used).

If $UNIQUE_HOME is set, the file **/etc./unique.equiv** must be created and updated to contain one line per legal value of the $UNIQUE_HOME variable. To ensure a safe and sound environment it is advisable that only the root user have write access to this file. This file should be maintained manually by the system supervisor (the installation procedures does not attempt to create this file).

Important: Remember to set access rights on $UNIQUE_HOME (default /usr/unique) as follows:
user: rwx group: rx public: rx
Example: **chmod 755 /usr/unique**

2. During installation.

FOR ULTRIX PLATFORMS: Use the sh5 shell when installing this product. This is done by typing :

sh5

2.1 Copy the installation program to the disk.

Log in as user root.

Create the user unique if it does not already exist (see previous section).

Change to $UNIQUE_HOME (see previous section) (default /usr/unique) directory. If $UNIQUE_HOME is not defaulting to /usr/unique, the environment variable UNIQUE_HOME must be set before continuing.

Example:	Bourne shell:	UNIQUE_HOME=/u0/unique export UNIQUE_HOME
	C shell	setenv UNIQUE_HOME /u0/unique

Example: *cd /usr/unique*

Put the medium i.e. diskette or streamer in the station and write:

if medium is default:	tar xv ./install
if medium is not default :	tar xvf <path for tape/streamer/diskette> ./install

Example, medium is not default: *tar xvf /dev/rmt0 ./install*

2.2 Run the root installation program.

Change to subdirectory install and run the root installation program as follows :

cd install
./install.root

This installation program prompts for what to install, copies from the media and changes ownership of all copied files to user unique.

Example:

```
========== Root installation UNIQUE CONCEPT/RUN TIME/XTRA =========

Copy files from media to $UNIQUE_HOME=/usr/unique

Operating system: ultrix       Unique Version: 40215

WARNING: Installation already exists !

Ok to continue ? (y/N) y

Give name of media (RETURN = default device) ()
Copy prelinked executables (approx. 6MB) ? (Y/n)
Copy object modules for linking (approx. 8 MB) ? (Y/n) n
Include Norwegian version ? (Y/n)
Include Swedish version ? (Y/n) n
Include Danish version ? (Y/n) n
Include German version ? (Y/n) n

Please wait. Copying from media...OK
Please wait. Changing file attributes.. OK

==================== Installation finished ========================

Log in as user unique and proceed with the installation.
Next step:  cd /usr/unique/install
            ./install.unique

Please read /usr/unique/install/read.me for release information !
```

2.3 Run the Unique installation program.

Log in as user unique and enter the UNIQUE_HOME (default /usr/unique) directory. If UNIQUE_HOME is not defaulting to /usr/unique, the environment variable UNIQUE_HOME must be set before continuing.

Change to the install directory and run the install.unique program as follows.

cd install
./install.unique

This installation program copies files to bin and setup directories ensuring previous files on these directories are not overwritten without confirmation. It also give you a choice of installing prelinked executables or link new executables as a part of the installation procedure.

If you intend to link your own executables, please read the chapter **Linking executables** prior to continuing.

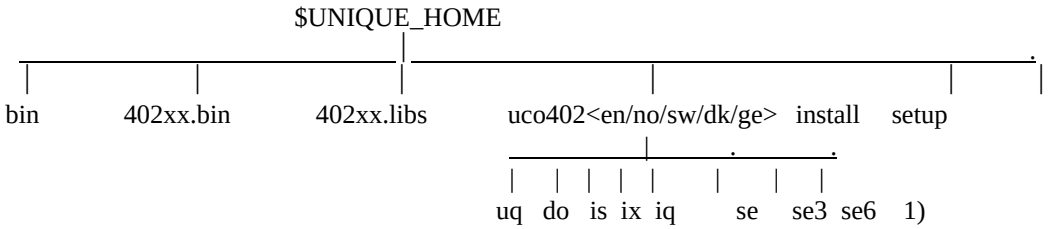
Example:

```
============== Installation UNIQUE CONCEPT/RUN TIME/XTRA ==============

$UNIQUE_HOME currently set to /usr/unique

Operating system: ultrix       Unique Version: 40215

Ok to continue ? (y/N) y

Creating default configuration file: /usr/unique/setup/uqconfig

Which is your main database (for creating sample uqconfig) ?

     1 = SIBAS/R client        2 = Techra
     3 = Unique Isam           4 = SYBASE
     5 = ORACLE                6 = INFORMIX C-ISAM
     7 = INFORMIX OnLine / SE  8 = Ingres

Give a number from the list above: 8
Creating default printer configuration: /usr/unique/setup/uqprint.ini
Creating default document configuration: /usr/unique/setup/uqdio.ini
Copying printer drivers ...
Copying terminal descriptions ...
Copying misc. system files ...
Creating Bourne shell login example: profile.add
Creating C shell login example: login.add

Use prelinked (including all DBMS interfaces) executables (Y/n) y
Moving uqst ...
Moving uqst.c ...
Moving uq4g ...
Moving uq4g.c ...

======================== Installation finished ========================
```

3. After running the installation program.

3.1 The Unique directory structure.

The installation procedure will create the following directory structure :



1) The occurrences of these directories will depend on what module you install. This example shows the directories created when you install Unique Concept.

Initially the files from the media are copied into the directories **install**, **402xx.bin** and **402xx.libs**. The installation procedure will then move files from these directories to the directories **bin** and **setup** which are used at run time. Existing configuration files will not be overwritten.

The 402xx.libs directory contain object modules for linking executables.
You will use this directory if you later on want to relink the executables, see the next chapter.

The uco402<ll> (ll=en, no, dk ,sw or ge) directory contains internal applications and language files. The <ll> means the language code used, see Release Notes for further information. The subdirectories are used by Unique at Run Time and should NEVER be changed after installation!

If you are running a language that does not have some files or applications translated, Unique will use the English applications in stead (you do NOT have to copy files to the other language directories!).

The Installation program defines the user unique to be the owner of all the files on the $UNIQUE_HOME structure.

If you want to save disk space you may delete the subdirectories **402xx.bin**, **402xx.libs** and **install** after the installation is finished and verified.

3.2 Release information.

After the installation you should read the Release Notes for this product.

3.3 System files.

The installation program copies system files to /$UNIQUE_HOME/setup.
After installation, it may be necessary to change some of them.

uqconfig - system configuration files.
uqprint.ini - defines available printers
uqdio.ini - document configuration file

3.4 Terminal configuration files - .UTD files.

Unique uses a .utd file to be able to work on different terminal types. There should be one .utd file for each

terminal type. In order for Unique to communicate with the terminal you are using, the environment variable TERM must contain the name of the .utd file (under the setup directory).

If the .utd file does not completely correspond with your terminal, use the **uqgetkey** program to find the correct values for your terminal. For more information see the 'Unique Terminal Description' chapter in the Unique CONCEPT Operations Guide.

It is strongly recommended to replace old .utd files with the new ones supplied with *Unique CONCEPT* 4.02. It is not recommended to edit the standard files. To be able to keep your environment variable TERM at e.g. vt220, but still being able to handle several almost identical terminal types in Unique, it is possible to make almost identical .utd files, and use the environment variable UQTERM to tell Unique which .UTD file to use at runtime.

3.5 The uqconfig file.

Note that the parameters necessary for describing databases vary with the dbms in use. Make sure that your databases are described correctly. See release notes and 'Unique Operations Guide' for details and examples.

Example for Techra :
```
database: UQUTIL
  db-type=TECHRA
  db-server=uniqbase
  db-user=uniquser
  db-password=unique
  db-name-prefix=u_
```

Example for Sybase :
```
database: UQUTIL
  db-type=SYBASE
  db-server=SYBASE
  db-user=sec_mgr
  db-password=
  db-name-prefix=u_
```

3.6 Integration with editors.

For information about integration with external editors see the sections 'Uqconfig' and ‘Uqdio.ini’ in the 'Unique Operations Guide' and the release notes.

3.7 Maintaining user profiles.

All users accessing Unique systems needs to update their logins as follows:

Environment variable UNIQUE_HOME must be defined (and exported in Bourne shell) unless /usr/unique is used.

Example:	Bourne shell:	UNIQUE_HOME=/u0/unique export UNIQUE_HOME
	C shell	setenv UNIQUE_HOME /u0/unique

The PATH variable must be updated to include $UNIQUE_HOME/bin (or /usr/unique/bin)

Example:	Bourne shell:	PATH=$PATH:$UNIQUE_HOME/bin export PATH
	C shell	setenv PATH ${PATH}:${UNIQUE_HOME}/bin

These setting may be done in personal login files or in system global login files. See your system administrator if you want to change the global login files.

4. Linking executables.

All Unique program are installed prelinked with all available dbms or linked at installation time.

4.1 When is linking necessary ?

The following examples show the most common reasons for doing a new link for the programs :

You have made "specials," i.e. 3gl code bits.

You need to use an updated version of a database library delivered from a third party distributor.

You want to use a special option in the linker, i.e. dynamic libraries.

You want to make a program with only one dbms interface (to reduce the size of the executable).

4.2 Special requirements for linking.

You need the development kit for this platform. This includes the linker program ld, and the system library files, which normally reside under /lib and /usr/lib.

NOTE: Special considerations for Sun OS and SCO UNIX machines:
For these platforms the ranlib program must be run first. Do the following before performing the steps in 4.3 :

```
cd $UNIQUE_HOME
ranlib 402xx.libs/*.a
```

4.3 Linking.

To link Unique Xtra do the following :

Log in as unique.
Change to directory $UNIQUE_HOME/install

Then start the link-program by typing :

./install.link

You will be prompted for module to link (Concept, Run Time or Xtra) and which database interfaces to be loaded. Note that some database systems require an environment variable defining a home directory for the current installation. ./install.link will test on these variables and only prompt for the database system if the variable is set correctly.

The following list shows the variables expected to be set for each database system:

SIBAS/R	$SIBAS
TECHRA	$TECHRA_BIN
SYBASE	$SYBASE
ORACLE	$ORACLE_HOME
INFORMIX C-ISAM	$INFORMIXDIR
INFORMIX OnLine	$INFORMIXDIR
INGRES	$II_SYSTEM

Example :

```
============= Unique Concept Link System ===================

Operating system: ultrix          Unique Version: 40215
============================================================
Module (c=Concept/r=Run Time/x=XTRA) (c) r

Select database interface(s) to be loaded
       (NOTE: database system must be installed prior to Unique!)

Include Techra local    (y/N) n
Include Techra client   (y/N) y
Include Unique Isam     (y/N) n
Include Sybase          (y/N) y
Include Ingres          (y/N) n

Linking Unique XTRA

Success!
-rwxr-xr-x  1 unique    1400832 Mar 17 13:18 ../bin/uq4g
Linking Unique Start ....

Success!
-rwxr-xr-x  1 unique     978944 Mar 17 13:18 ../bin/uqst
```

After linking, Unique Xtra will be named 'xtra', Start DBS Compiler 'uqst', Unique Concept 'uq4g' and they will be located in the directory $UNIQUE_HOME/bin.

The ld (linker) jobs used are copied into the files called **linkfile** and **linkstart** under the install directory. This file may be inspected if you want to see which link options are used. They may also be modified and run as a script if more advanced link options are wanted.

5. Installing SECURITY

5.1 The SECURITY system.

The purpose of SECURITY is to control access to a Unique system. It is possible to limit access to applications, data and Unique Concept/Xtra tasks.

SECURITY is activated for one system at the time. This is done in the global Uqconfig file using the system parameter 'access-database.'

Example : System: ACCOUNTS
available-database=UQUTIL
available-database=UQSLOG alias UQUTIL
access-database=<db>

SECURITY consists of a set of database tables and several applications written in Unique 4gl, all of which are stored under $UNIQUE_HOME/uco402<en/no/dk/..>/se. The tables contain information about users, systems, resources and access limitations, They may be placed in a separate database or in the system's own database. We recommend however using a separate SECURITY database which can be used by several systems on your machine at the same time, allowing the same user profiles to be used by all systems.

5.2 Installing the SECURITY database.

Depending on the database management system in use, there is some prerequisites before installing the SECURITY database.

SIBAS
- Make sure that the SIBAS server is installed, and has been confirmed to be up and running on a SINTRAN server.
- If the SECURITY database is to be put on a specific user area, this must be created prior to creating the SECURITY database.
- Unique START runs on every platform supported by Unique. Unique START will produce a SIBAS DRL file that can be executed automatically on SINTRAN, and must be moved to SINTRAN for any other platform and executed using SIBAS DRL tools (SIB-DRL).

TECHRA
- Make sure that the TECHRA server is installed and has been confirmed to be up and running.
- Create an user with total or system access.

SYBASE
- Make sure that the SYBASE server is installed and has been confirmed to be up and running.
- To create a database in SYBASE you will need the password of the System Administrator, normally the *sa* user.

ORACLE
- Make sure that the ORACLE server is installed and has been confirmed to be up and running.
- Create an user with dba privileges, or use the default dba users; sys or system.

UNIQUE ISAM
INFORMIX C-ISAM
INFORMIX STANDARD ENGINE
- Make sure that you have both read and write access to the path where you want to store the database.

INFORMIX ONLINE
- Make sure that the INFORMIX server is installed and has been confirmed to be up and running.

- If the SECURITY database is to be put on a specific db-space, this must be created prior to creating the SECURITY database, consult your INFORMIX Database Administrator's Guide for more information on how to create db-space.

INGRES

- Make sure that the INGRES server is installed and has been confirmed to be up and running, that is at least the iidbdb database can be accessed using **sql** or **isql**.
- If the SECURITY database is to be put on a specific location, this must be created using **accessdb** prior to creating the SECURITY database, consult your INGRES Database Administrator's Guide for more information on how to create locations.
- Create an user using **accessdb**, with at least the following permissions:

  Create Databases: y Set Trace Flags: n
  Update System Catalogues: n Super User: n

Before you install the SECURITY database, make sure that the file $UNIQUE_HOME**setup\uqconfig** is correct. The following is an example for a Sybase database:

```
database: UQUTIL
  db-type=SYBASE
  db-server=sybase
  db-user=sa                    *mandatory with Sybase databases
  db-password=
  db-name-prefix=u_             *mandatory with SQL databases

system: UNIQUE
   available-database=UQUTIL
   available-database=UQSLOG alias UQUTIL
   *access-database=UQUTIL      *As comment the first time
   *log-database=UQUTIL         *As comment first time
```

After these changes are made to the uqconfig file, generate the SECURITY database by running the START DBS Compiler.

- Type **uqst unique** to enter the START DBS Compiler
- Choose 'generate,' then 'Database' and give the name $UNIQUE_HOME/uco402en/uqutil.dbs when prompted for the .DBS file. For information on area usage please consult the START manual and Release Notes for the current version.

NOTE: It is strongly recommended that the usage of **db-name-length** on the UQUTIL database is avoided. This is due to the fact that the SECURITY applications are compiled with default settings on the UQUTIL database. Using the SECURITY applications against databases with **db-name-length** larger than default could result in serious problems.

5.3 Running the SECURITY system.

Start the SECURITY system by typing: **uq4g** or **xtra** <system name> and choose 'Security' from the main menu.

The main menu of the SECURITY system should appear. See the manual Unique CONCEPT Operations Guide chapter on SECURITY for further instructions.

6 Installation problems

General : Check that the conditions in chapter 1 are satisfied.

6.1 Not enough space.

During the installation procedure you may get a message that the installation has failed because of too little space.

Check that there is space in the file system by giving the command 'df '. If you have 0 KB/MB available or the file system is 100% used you must give the file system more space and then proceed with the installation.

6.2 The installation program fails.

You have to be at $UNIQUE_HOME/install when running the installation programs. Also remember to check the settings of this variable.

1. Check where you are: pwd
2. Check UNIQUE_HOME: echo $UNIQUE_HOME

6.3 Screen problems.

If your screen does not show graphic or language dependent characters correctly, Unique's terminal configuration file may be wrong. Your own screen setup may also be incorrect. Check that TERM is set to correct terminal type.

6.4 Printer problems.

First, check that the printer is connected, turned on and intitialized correctly. You should also check that the correct printer configuration file , i.e. .upd, is used.

If your printout does not show graphic or language dependant characters, but other characters appear correctly, Unique's printer configuration file may be wrong. Your own printer setup may also be wrong.

6.5 Integration problems.

If you have trouble accessing other products, the PATH you are using may be wrong, you may not have access to the product or the product may be missing altogether.

Trouble with certain characters when going between applications may lie in the setup or the way the screen itself is set.

7. Sparc Supplement

As Sparc based computers use different operating systems it is important that Unique CONCEPT is ordered for the correct combination of hardware and software. Available Sparc environments are:

- Sun SPARC, running SunOS (Solaris 1.x) (based on AT&T Unix V 3.2)
- Sun SPARC, running Solaris 2.x (based on AT&T Unix V 4.0)
- ICL DRS6000, running NX6 (based on AT&T Unix V 4.0)