R

Release Information for BoKS Version 4.1

NOTE *It is essential that you read the sections in this chapter which concern the installation of BoKS as it contains information required for installing version 4.1.*

NOTE *If you are upgrading from BoKS Version 4.0 to BoKS Version 4.1 it is essential that you read this chapter, particularly the section "Upgrading from BoKS Version 4.0 to 4.1" before un-installing your BoKS Version 4 licence.*

NOTE *This chapter refers to files found under the /boks directory, for example /boks/etc/Boot. The location of this directory is arbitrary. The location is selected when BoKS is installed (through the Setup program). Please bear this in mind when reading and implementing the information in this chapter.*

R.1 Outline

The aim of this chapter is to supplement the *BoKS Administration* and *BoKS Getting Started* manuals. The lay out of this chapter is such that it is easy to use in conjunction with the other chapters in these manuals.

The chapter is divided into the following four sections:

1. *Installation*

   This section contains information on new configuration possibilities and extended and additional functionality available when installing BoKS. Before installing BoKS, it is advisable to read this section as it supplements the *BoKS Getting Started* manual.

2. *Administration*

   This section contains additional information on new administration functionality in BoKS Version 4.1 and supplements chapters 2-14 in

the manual.

3. *Configuration*

   This section contains information on new parameters which can be defined at installation or when BoKS is initialised. It also contains new functionality which effects system access and networking. This section supplements the *Configuration* chapter in the *BoKS Administration* manual.

4. *Trouble Shooting*

   This section contains information on potential issues which have not previously been covered in the *Trouble Shooting* chapter in the *BoKS Administration* manual.

R.2 Installation

This section is a supplement to chapter 2, *Installing BoKS* in the *BoKS Getting Started* manual and should be used together with this chapter.

This chapter has the following sections:

- Supplement to the prerequisites for installing BoKS.
- Explanation of how to un-install BoKS.
- Explanation of how to upgrade from BoKS V4.0 to V4.1.
- Steps to take when upgrading the operating system on a machine where BoKS is installed.

R.2.1 Pre-requisites for Installing BoKS

SunOS 4.x Type Kernel

As supplied by SUN, Sparc Station 2 machines contain a "GENERIC_SMALL kernel". This does not have the ability to support IPC semaphores which BoKS requires. In order to install BoKS, a "GENERIC kernel" must first be installed (or an equivalent which supports IPC semaphores). Please refer to your UNIX System Administration manuals for details on how to do this.

R.2.2 Un-installing BoKS

The following section explains how to un-install BoKS Version 4.

NOTE *If you are un-installing BoKS Version 4.0 to upgrade to BoKS 4.1, you must first save the database in machine independent format by running the program dumpbase (1B).*

Save the database in a suitable place, with a suitable name (the database only needs to be saved on the BoKS standalone machine or on the BoKS master-server). The sample name given below is BOKS4.0DB.

To un-install BoKS Version 4, take the following steps:

1. Log in as `root` or *su*(1B) to `root` having logged in under another identity.

2. Change directory to the BoKS product directory. To find out which directory this is, enter:

```
# boksadm -S 'echo $APPLPATH'
# grep APPLPATH /boks/etc/ENV
```

3. Execute the un-install program *Uninstall*(1B), by entering:

```
# ./Uninstall
```

4. Confirm that you wish to continue the un-install procedure. Enter **y** to continue, **n** to abort.

5. You are asked if you wish to save the database to the file specified with the program *Setup*(1B).

NOTE *If this is an un-install before upgrading to version 4.1, you do not need to save the database as this you should already have done this with dumpbase.*

We recommend that you save the database so that you have the option of re-installing the database at a later date. Enter **y** to save the database and **n** to destroy it.

6. The messages from the un-install procedure are stored in the logfile specified, this is usually the file called *LOGFILE* in the APPLPATH directory.

R.2.3 Upgrading BoKS Version 4.0 to 4.1

WARNING **You can not mix 4.0 and 4.1 licences in the same BoKS domain. If you upgrade a BoKS 4.0 licence, all machines in the BoKS domain must be upgraded to 4.1.**

BoKS Network Licence

The steps for upgrading a BoKS network licence are:

1. Uninstall all BoKS clients and BoKS slave-servers, following the steps outlined in the section *Uninstall BoKS*

2. Follow the steps outlined in *Upgrading BoKS master-server or BoKS Standalone* to upgrade the BoKS master-server or to BoKS Standalone.

3. Install the new BoKS 4.1 licence on all slave-servers and clients as outlined in the *BoKS Getting Started* guide.

Upgrading BoKS master-server or BoKS Standalone

Follow the steps outlined below to upgrade a BoKS master-server or BoKS Standalone 4.0 licence to 4.1.

1. Log in as `root` or change identity to `root` using the *su*(1B) program.

2. To set the correct environment, start the BoKS shell, by entering:

```
# boksadm -S
```

3. Save the database in machine-independent format by running the program *dumpbase*(1B). Save the output to an appropriate file. For example:

```
BoKS> dumpbase >BOKS4.ODB
```

4. Uninstall BoKS 4.0 as outlined in the section *Un-installing BoKS.*

5. Remove the old product directory.

6. Read in the new 4.1 licence from the distribution media.

7. Install BoKS 4.1 by running the program *Setup*(1B) and then *Install*(1B). Please refer to the steps outlined in the *BoKS Getting Started* guide.

8. Stop the BoKS daemons using the command

```
# /boks/etc/Boot -k
```

9 Delete all the data files under */boks/data*.

```
# rm /boks/data/*.dat
```

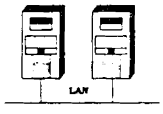
10 Recreate the database, using the command *restbase*(1B), using the file which was generated by *dumpbase*(1B).

```
# restbase < BOKS4.ODB
```

11 Re-start the BoKS programs.

```
# /boks/etc/Boot
```

BoKS has now been upgraded to version 4.1.



Install BoKS 4.1 on all slave-servers and client nodes to complete the upgrade.

Installing Servers/Clients in a Sub-network

This section exlpains how to install servers or clients in a sub-network which is seperated from the rest of the network by a router.

NOTE *The distribution of the bcastaddr (4B) file only applies to those machines running BoKS.*

1 When installing a BoKS server or client the file can be copied from a machine with the correct addresses in.

2 Alternatively the *Setup*(1B) menu can be used prior to installing the server or client and the remote addresses entered in the *Other Parameters* menu choice.

NOTE *The advantage to this method is that the addresses are saved if BoKS is uninstalled on these machines.*

R.2.4 Upgrading the Operating System

File /boks/etc/orgmodes

If you upgrade the operating system, check that none of the programs specified in the file */boks/etc/orgmodes* are replaced by the operating system's equivalent programs. Examples of the programs replaced by BoKS and which should not upgraded by a new operating system release are: *login*(1B) *su*(1B) *passwd*(1B) *rshd*(1B) *ftpd*(1B) *rexecd*(1B) *xdm*(1B) and *pcnfsd*(1B).

If you suspect that some of these programs might be replaced during the operating system upgrade, the following steps are recommended:

Steps to Take During Operating System Upgrade

3. Uninstall BoKS and save the BoKS database.

4. Upgrade the operating system.

5. Re-install BoKS by executing the program *Install*(1B) and read-in the database you saved previously.

R.3 BoKS Administration

This section supplements the *BoKS Administration* manual and describes new functionality in BoKS 4.1 and how to administer this functionality. The following sub-sections are grouped in the same structure as the manual chapters, 4-14.

This section covers the following topics:

- Defining "secure" access routes where a password is not required for access.
- Changing a password when logging in via *ftp*(1) and *xdm*(1B)
- Alternative way of entering system passwords from the password prompt.
- Root-user disabling screen lock.
- New-module: locking character-based terminals automatically as a result of inactivity or by calling the *tlock*(1B) program manually.
- An alternative and more effective way of blocking all menu choices for a user.

R.3.1 User Administration

System Access With Silent Authentication

Access routes can be set up which has the same effect as the UNIX *rhosts*-function. The format is as follows:

```
RLOGIN:<user>@<from_machine>-><to_machine>
```

The above illustrates how users can be setup to use the program *rlogin*(1) without entering a password when gaining system access. This format can also be used to allow access to users other than the owner of the login account.

NOTE *The from_machine must exist as a host in the BoKS database (please refer to the chapter "Host Administration" in the "BoKS Administration" manual).*

The requirements are the same for *su, rexec* and *rsh.* Please note that the *Remote Shell* command is called *rsh* in some versions of UNIX and *resh* or *remsh* in others. All of these access methods in BoKS are always called RSH.

```
SU:<user>@<terminal>-><to_user
```

This allows access via *su*(1B) without a password being entered.

NOTE *An access route setup with the arguments '*->*' does not setup access routes without authentication. If you wish this to be included, insert a wild card (*) on both sides of the "@".*

The example below illustrates this syntax:

```
<access_method>:*@*-><to_location>
```

Adding an Access Route for XDM

X-terminals which entered into access routes using the access method XDM, must first be defined in BoKS. This is done with the menu choice *Add/Modify* in the *Host Admin* menu. Enter the Xterminal as a NONBOKSHOST.

R.3.2 Password Administration

Expired Passwords

Within the permitted password grace period, the password can be changed using *ftp*(1) and *xdm*(1B). During the grace period after the password has expired, users may log in to change their password.

To change the password at login, when prompted for password, enter:

```
<old_password>#new_password>#<new_password>
```

This means that the *hash-mark* (#) can not be used in the password.

Enter System Password

User password and system password can now be combined during login via the access methods which normally have not historically supported 2 levels of passwords. This applies to access methods which typically only allow one password challenge, for example *ftp*(1) and *xdm*(1B).

If the access route has been setup to require the two password levels, log in and system password is entered together with the user password at the password prompt. The two passwords are entered as follows:

```
<user_password>/<system_password>
```

As a result of this the password can not contain a *forward strike* "/."

R.3.3 Background Monitoring/Supplementing Old Functionality

Root-user Can Unlock Screen-lock

Screen-lock can now be un-locked by all users with user identity *zero*, this means users with so-called *root*-privileges (UID=0). Un-lock the screen-lock by instead of entering the user password, enter the name of the UID 0 account (for example *root*), and a "/" followed by the UID 0 account's password. For example:

```
root/<rootusers-password>
```

File Monitoring

The program for file monitoring logs changes which have been made to those files and directories which are monitored by the file monitoring program.

The previous and current owner of group of the file as well as the permission settings are now shown in the log messages.

R.3.4 Background Monitoring/New Functionality: Terminal -Locking

NOTE *Terminal locking is a module for BoKS 4.1 which is only supported on SUN Sparc machines 1,2 and 10 sunos 4.1.x with sun4, sun4c and sun4m kernels.*

Introduction

This section explains the usage and functionality of the *tlock*(1B) program.

The *tlock*(1B) program enables screen locking of terminals: automatically after a period of inactivity or manually by starting the terminal locking program.

In older versions of BoKS, users working on character based terminals were *logged out* after a period of inactivity. With *tlock* the administrator can choose between logout and locking.

With terminal locking, inactivity is defined as:

- No input from the key-board.

This means that the terminal is locked when the key-board is not in use for a defined period (even if the user is using CPU time or the screen is being updated).

Configuring Terminal Lock

Administrators can choose if the lock function is the default for inactivity. The default is defined in the menu choice *Parameter Configuration, Define Timeout Limit*

The entry in the field *Action at Inactivity* specifies if a user is to be logged out (LOGOUT) or if the terminal is to be locked (LOCK) as a result of inactivity.

This can also be defined on a per-user basis with the menu choice *User Admin/Automatic Timeout/Change User Timeout Limit*.

Automatic Timeout

The *boks_bksd*(1B) daemon continuously checks if logged in users are inactive (provided that background monitoring has been enabled).

If a user's inactivity period has been reached, the *boks_bksd* process checks in the BoKS database to see if the user is to be logged out or if the terminal is to be locked.

If the lock program is called, the terminal is locked.

When a terminal is locked the lock program waits for key-board input (note that nothing happens before the user presses a key). When a key is pressed, the screen is cleared and the password is requested. The user enters the user password to unlock the terminal.

Root User to Unlock the Terminal

Terminal locking can be unlocked by all users with a UID of zero, users with so-called *root*-privileges. Unlock the terminal by entering the name of a UID 0 account, a "/" and the UID 0 account's password at the password prompt.

Manual Enabling of the Terminal Lock

To manually enable terminal locking, enter:

```
# tlock
```

User with so called *root*-privileges can manually lock another user's terminal by entering *tlock* with a number of arguments. Please refer to the reference manual page for *tlock*(1B).

Unsuccessful Login Attempt Action

Tlock allows 5 failed login attempts. After this the number of seconds between permissible login attempts is squared each time a failed login attempt is made.

R.3.5 Menu Configuration

This section describes the new functionality in the *Menu Configuration* submenu.

Block Menu Choice for All Users

The menu choice to block menu choices for *all users* uses a new and quicker method.

When the blocked menu choices are listed, an asterisk (*) indicates which menu choices have been blocked for all users.

Old "mlock-files" can still be used, but can also be converted to the new format using the program *mlconv*(1M). Further information on this feature is located in the "README"-file which accompanies MENUETT.

R.4 BoKS Configuration

This section supplements chapter 15 in the *BoKS Administration* manual.

The section explains the following functions:

- Configuration of the install procedure where new parameters for administering several BoKS domains, specific IP addresses for BoKS servers and more flexible administration of the *xdm* program are now supported.
- Explanation of how to specify BoKS server IP addresses.
- How users themselves can define some BoKS Display Lock parameters.
- How BoKS administers logging in via HP Vue.
- Information on support for */etc/login/defaults* under System V release 4.
- Configuring the size of shared memory required by BoKS.
- How to define the action taken after the inactivity period has been exceeded.
- How BoKS can be configured to update the `passwd`-map in the NIS database.
- How BoKS can be configured to execute an arbitrary program during login.

R.4.1 Configuring the Install Procedure

This section is to be used with chapter 15, section 3 of the *BoKS Administration* manual.

The program *Setup*(1B) is used to configure the installation procedure. This program is menu driven and provides you with the possibility of adapting the installation procedure to your particular environment.

New Input Fields on Setup

The fourth menu option in the *Setup* menu enables you to configure a number of parameters. In this menu choice the following functionality has been added:

- `BoKS Domain`

  Specify which BoKS domain the machine belongs to. If several BoKS master-servers exist in the same subnetwork, they must operate within separate BoKS domains.

A maximum of 10 BoKS domains can exist in the same logical network. Enter a domain number between 0 and 9, where 0 is the default.

- `Remote Addresses`

  Enter the IP-addresses for the BoKS servers which are included in the BoKS domain but which are not located in the local network. For example this machine might be located on a particular subnetwork or network segment which communicates via a router. Several addresses can be entered, separated by spaces. Please see the section entitled *Network Configuration Supplement* for further details.

- `Replace xdm program (y/n) <y>`

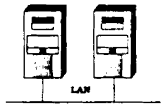
  Enter **`y`** to replace *xdm*(1) with *xdm*(1B) or **`n`** to abort the replacement. Please note that the default is to replace the program. If you elect to exchange *xdm* you are asked for the location of *xdm* in the file system.

NOTE *When* `xdm`*(1) has been replaced, the BoKS variant of the program must be started. This means that the original xdm must be stopped and the BoKS one be started.*

WARNING **If *xdm* is stopped and started all users who are currently logged in via *xdm* are logged out.**

NOTE *On Hewlett-Packard systems vuelogin which is the HP variant of xdm is not replaced.*

R.4.2 Network Configuration Supplement



This section describes additional functionality for BoKS network support.

Specific IP addressing when using several sub-networks

Typically BoKS uses "broadcast" a mechanism through which a BoKS client establishes contact with a BoKS-server. The advantage with this is that the client does not need to know which machines are servers. However typically "broadcast" does not work between subnetworks separated by *routers*. To address this problem it is now possible to specify direct IP-addresses for the BoKS-servers which are known to a BoKS-node.

A list of all these addresses are stored in the file */boks/etc/bcastaddr*(4B) on all machines in the BoKS domain which can communicate with these BoKS-servers. It suffices to create the file on one of the nodes and then distribute it to the others. To achieve this, take the steps outlined below.

Format of the Address File bcastaddr

The file */boks/etc/bcastaddr*(4B) contains the internet addresses of all the machines which are called directly in addition to the machines which are broadcast to automatically in the local network when a server is required.

The format of the file is:

<KEY_WORD>

ADDRESS_LIST

(Addresses, only one per line, for example 130.240.0.23).

In addition to the IP-addresses, the file can contain the key word DONT_BROADCAST. This disables the "broadcast-mechanism" and only the specific machines listed are communicated with.

The initial entries for this file are made during the installation procedure (please refer to the section entitled *Configuring the Install Procedure* for further information). Additions to this file can be made by editing the */boks/etc/bcastaddr* file. Sample entries are as follows:

```
DONT_BROADCAST
ADDRESS_LIST
192.73.45.103
192.73.45.104
192.73.45.105
192.73.45.106
```

In this example BoKS does not use "broadcast" and the BoKS-servers are located at IP addresses 192.73.45.103 to 192.73.45.106.

NOTE *Any changes to this file are not picked up by the BoKS daemons until they have been restarted. The easiest way to re-start the BoKS daemons is to execute the following on the respective BoKS machines:*

```
/boks/etc/Boot
```

Distribution of the Address File

When a new host is added to the BoKS domain and BoKS has been installed, the broadcast file can be distributed to the new host.

If the file exists on the BoKS master-server, the simplest way to do this is as follows:

```
# boksadm -S
BoKS> distaddr -h <host>
```

To distribute the file to all UNIXBOKSHOST machines in the BoKS-domain, enter the following from the command line at the BoKS-master:

```
# boksadm -S
BoKS> distaddr
```

R.4.3 Configuring BoKS X Display Lock

The default parameters for BoKS X display lock are defined by the system administrator with the menu choice *Background Monitoring*, *Define/Modify Lock Parameters* . These parameters can be loaded into the Xserver using the mechanism specific to that particular version of X. In some versions, for example, users can themselves define these values by creating a file called *.Xdefaults* in their home directories (or by supplementing an existing file).

Users most frequently modify the following parameters:

- Transparent display, this defines if the display is transparent or opaque when the display is locked. This parameter is labelled as: `Boks.Transparent`. This value can be either `yes` for transparent or `no` for opaque.
- Bell volume. This parameter is labelled as: `Boks.Volume` The interval can be between `0` for disabled to `100` for maximum volume.
- Inactivity period (this can only be shorter than the one set by the system administrator). This parameter is labelled as: `Boks.Timeout`.
- The text under the key hole icon can be altered. This parameter is: `Boks.Message`.

The file below shows the configuration settings for an opaque display lock, maximum bell volume and the lock text "BoKS Secures My Machine".

```
Boks.Volume:100
Boks.Transparent:no
Boks.Message:BoKS Secures My Machine
```

NOTE *The X server does not know of any changes to .Xdefaults before the new values have been loaded. Typically this is done at log in. Alternatively the program xrdb(1X) can be run as follows:*

```
xrdb -merge .Xdefaults
```

R.4.4 Configuring BoKS Related Operating System Specific Features

This section covers the new functionality in BoKS Version 4 which is related to a specific variant of the operating system.

HP Vue Login

HP Vue login is administered in the following way. The files *Xstartup*(4), *Xsession*(4), *Xfailsafe*(4) and *Xreset*(4) are modified during install with the result that BoKS validates all parameters with the exception of the user

password which is validated against the */etc/passwd*(4) file.

NOTE *Logging in via Vuelogin does not work if password updating in /etc/passwd(4) has been disabled or if you are not using the /.secure/etc/passwd(4) file (the system shadow file).*

System V Login Defaults

UNIX System V *login* parameters can be customised by changing those found in the file */etc/defaults/login*(4).

The parameters which BoKS currently supports are: *login*: `PATH`, `HZ` and `ULIMIT`.

HP UX, DEC OSF/1: Remote Login Control

In order to obtain complete control of remote logins with *rlogin*(1), *rlogind*(1) is replaced with a BoKS-equivalent.

R.4.5 New Parameters

Configuring the Amount of Shared Memory Requiring BoKS

The size of the shared memory segment used by BoKS is configured by altering the variable SHM_SIZE located in the script */boks/etc/Boot*(4B). The default setting is 300 Kb may currently only be raised.

R.4.6 Configuring Inactivity Monitoring

When the inactivity monitor detects an inactive terminal, the default action is to lock the terminal or to log the user out. The system administrator can configure the action taken when the inactivity period has been exceeded. To do this, specify the program to be run before the lock program or log out function starts. The program's *exit status* determines what subsequently occurs. This is useful if, for example the method used for logging a user out does not entirely meet your needs or if extra controls need to be put in place before the display/screen is locked.

The action taken is specified by defining a variable in the */boks/etc/ENV* file (please see below). The variable defines the program to be run. The program is executed with "root" privileges, this means that the process called has a user identity equal to *zero* (UID = 0) . The program's full path name needs to be specified.

The following explains the 3 possible variables for inacitivity action:

- Inactivity leading to an X display lock (variable = T_XLOCK)
- SUN OS 4.1.X only: Inactivity leading to a terminal lock (variable = T_TLOCK)
- Inactivity leading to termination of the login session (variable = T_LOGOUT)

Configure the Action Taken due To Inactivity (display locking with xdl)

Default action under X Windows - if a user logged in via BoKS - is to start `xdl`(1B). To see which program is started when display lock is activated, check the */boks/etc/ENV* file for the variable T_XLOCK. If this is set the program used is specified. If this program has a exit status of *zero* then the display is not locked, otherwise the display is locked as usual.

The program is called with the following arguments:

1. `username` Log in name for the current user.
2. `display` name of the logical device in the format *host:display* for example: `jupiter:0`.

The recommended name for this program is */boks/etc/t.xlock*.

Configure Action Taken with Screen Lock (tlock)

Typically when the inactivity period is exceeded and a user has logged in via *login*(1B), and if the screen lock *tlock*(1B) is used, the terminal is locked. This can be further configured by setting the T_TLOCK parameter. This parameter specifies the name of the program which is executed when the inactivity period has been exceeded. This variable is defined in */boks/etc/ENV*(4B). If the exit status is *zero* the screen is not locked. Otherwise the screen is locked as normal.

The program is called with the following arguments:

1. `username` Login name of the inactive user.
2. `tty` The terminal port the user is logged in on. This is specified relative to the directory */dev*.
3. `pid` Login process number.
4. `sig` This value is always 0 (zero).

The program's environment settings are the same as the one's BoKS creates when a user is logged in. It is recommended that the program is called */boks/etc/t.tlock*.

Configure Action Taken at Timeout

Typically the action taken on timeout when a user logs in via *login*(1B) and the screen lock *tlock*(1B) is not used, is that the user is logged out. This can be configured further by setting the parameter T_LOGOUT which sets the name of the program executed when the inacivity period has been exceeded. The parameter is defined in the */boks/etc/ENV*(4B) file.

The program is called with the following arguments:

1. `username` Login name of the user who is inactive.
2. `tty` Terminal port on which the user has logged in. The entry is relative to */dev*.
3. `pid` Process number of the login program.
4. `sig` Number of the signal which caused the logout. The signal SIGUSR1 is used to time the user out. SIGHUP disconnects the login session.

The program's environment is the same as the one BoKS creates when a user logs in. BoKS (bksm (1B)) takes different action, depending on the exit

status:

0 - User is logged out as usual.

1 - Logs which user has been logged out and then terminates. This means that *bksm*(1B) does *not* try to terminate sub-processes as it assumes the program has already done this.

2 - No action taken. The user is left logged in.

The recommended name for this program is */boks/etc/t.logout*.

R.4.7 Different Character Sets

This section describes the changes which have been made to text presentation in the BoKS menu system. This section should be read in conjunction with chapter 15, section 5.1 in the *BoKS Administration* manual.

MENUASCII Variable

The variable MENUASCII is no longer set by the *boksadm* program.. Instead the variable is set through MENUETT depending on the setting of the TERM variable. For further information, please refer to the *menuett/README* file.

R.4.8 Improved NIS Support

Updating the NIS Password Map

Updating of the NIS password table is now supported. It is possible to link a host(group) to a NIS-master and specify the source file for the password table, "shadow"-table (if appropriate) and execute the command to modify the NIS-table. Users created for the this host(group) have their password stored in the NIS table instead of the */etc/passwd* file on the host(s).

Worked Example: SunOS 4.1.x

For example: the host `bigbox` is an NIS -master. The source file is the password table */etc/passwd.users* and the source file for the "shadow"-table is */etc/shadow.users*. The sequence of commands for building the NIS password table is:

```
cd /var/yp && make passwd
```

The BoKS hostgroup `NISGROUP` exists in the BoKS domain and its members are `bigbox` and `littlebox`.

To define this table in the BoKS database, enter:

```
# boksadm -S
# BoKS> modnismap -a -h NISGROUP -n bigbox -f /etc/passwd.users \
  -s /etc/shadow.users -c 'cd /var/yp && make passwd'
```

This means that when users are created to the hostgroup `NISGROUP` the file */etc/passwd* on the machines `bigbox` and `littlebox` are not updated. The NIS master's source file is updated instead.

To show all current entries, enter:

```
# boksadm -S
# BoKS> modnismap -l
```

To remove an entry, enter:

```
# boksadm -S
# BoKS> modnismap -h <host(group)>
```

If there are many attempts at the same time to update the NIS table, these commands are run at most every 30 seconds. The time interval between updates can be set as follows: *modnismap -a -w <seconds>* and the command is completed as shown previously:

```
boksadm -S
BoKS> modnismap -a -w <seconds> -h <hostgroup>
```

R.4.9 BoKS User Start-up Files

This section covers BoKS start-up files functionality.

Altering the User Profiles

When a user setup is altered with the menu choice *Modify User*, the contents of some of the user's startup files in their home directory are checked. This is done to ensure that certain important lines still exist. The files typically checked, are: *.profile* and *.login*.

Files which are checked by this process, can be configured by altering the *$APPLPATH/etc/profiles2patch* file on each BoKS node (this means all the machines running the *boks_clntd* program).

Remove the file's name if it is no longer to be checked when a user is modified.

profile2patch File Format

Each line in the *profiles2patch* contain three fields.

- The name of the file to be checked. This is entered relative to the user's home directory.
- Modification action to be taken: *append* or *prepend.*
- Name of the template file from which alterations are made. The file name is entered relative to *$APPLPATH/etc*.

Checking the user start-up file occurs as follows:

- The first 20 characters of the first line in the *template* file are used as a *search string* when checking the *start-up* file in the user's home directory.
- If the line is found and corresponds with the the template file the start-up file is regarded as updated and no action is taken.

- If the line is not found the contents from the template file is added to the beginning or the end of the start-up file, depending on the modification action specified.

Running an Arbitrary Program at Login

If the executable program */boks/etc/profile*(4B) exists, this is executed before the user's shell is started when the user logs in. The file is executed in the same environment as the user's. This is used to re-set tty settings, for example by adding appropriate *stty*(1) calls. The program is run as a separate process and is not part of the user's login-shell.

R.5 Troubleshooting

Can not Un-lock Display Lock

A common cause for a user being un-able to un-lock a display, is that the CAPS LOCK key is depressed. Check this is not the case, other wise case mis-matching occurs.

SunOS 4.1.x:List of host machines not full

If you are using DNS (Domain Name System) as your host database together with NIS (Network Information Service) the file */etc/resolv.conf*(4) must be both on the BoKS master-server and on the NIS-servers. Note that the file must contain valid reference to a name-server.

NOTE *Using DNS with NIS is carried out by entering -b in the file /var/yp/Makefile (4). Please refer to your system documentation for details on how NIS is to be setup.*

BoKS Getting Started

Version 4.0

Dynamic Software AB

Revision number for chapter files

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BoKS Getting Started

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T

Table of contents

1

Introduction

1.1 Outlook

The purpose of this manual is to provide all system administrators using the BoKS product the information needed to install and configure the product effectively with as short a learning curve as possible.

1.2 Audience

To use this manual you should have an understanding of the essential UNIX concepts.

1.3 Structure of the Manual

This guide is divided into 3 chapters. This guide has the following structure:

Chapter 1 *Introduction*
Introduction to the manual and the product

Chapter 2 *Installation*
Describes how to install BoKS.

Chapter 3 *Getting Started*
Describes how to initially configure BoKS so that new users can log in.

1.4 Important Terms

In this chapter you encounter the following terms:

BoKS Domain

System that is controlled and administered by a single licence of BoKS. This can be one machine (standalone version of BoKS) or several machines (network version of BoKS).

BoKS Client

A machine in the BoKS network that is administered through BoKS but does not have a copy of the database. There can be one or more clients in a BoKS domain.

BoKS-Server

There are two types of BoKS server in a BoKS network:

- Master-Server
- Slave-Server

Both types of servers control system access to machines in the BoKS domain.

A BoKS-server is a machine in the BoKS domain which can answer requests from the clients in the domain, for example validating a request to access the system from a potential user on a client.

NOTE *Technically speaking all nodes in the BoKS network are clients. In addition some clients are servers.*

BoKS Master-Server

The master-server contains the original BoKS database in the BoKS domain. There is only one master database in a BoKS domain. It is from this machine that all BoKS administration is carried out.

BoKS Slave-Server

A slave-server has a "read-only" copy of the BoKS database. Whilst there is only one Master-Server in the BoKS domain there can be several slave-servers active in a BoKS domain. BoKS can not be administered from a slave-server, all BoKS administration must occur from the master-server.

NOTE *As long as one BoKS server is active in the BoKS domain, users are able to access the system.*

Diskless Clients

A diskless-client is a client in the BoKS domain which is without a hard disk. As it is without its own hard disk it uses the hard disk of another machine which is also in the BoKS domain.

Network Version of BoKS

A version of BoKS which is installed into a computer environment which consists of several machines connected in a network. BoKS controls access to all machines in the network and administrate the network users.

Standalone Version of BoKS

BoKS Standalone is a version of BoKS which is installed into a computer environment with only one machine. BoKS administers both machine access and the user community.

1.5 Two Types of BoKS

BoKS can be supplied as both a standalone product and a network product. This guide clearly marks what is relevant for each type of BoKS. Please follow these instructions as carefully as possible to ensure a smooth installation and setup of BoKS.

1.6 Documentation Conventions

1.6.1 Font and Style Guide

This manual uses the following style and font conventions:

Screen Representations

The `courier` font is used when when displaying the output of a screen. The text is displayed on a grey background in a rounded rectangle. Data to be entered into the screen is displayed in **`bold courier`**.

An example of data-display screen-shot is as follows:

```
Date   Terminal    Host          User Name
-----  --------   ---------     ------------
930203 tty12      bigbox        dougal
```

An example of a data-entry screen-shot is as follows:

```
Host                          bigbox
Terminal                      tty12
User Name                     dougal
Days of Week                  12345
```

Referring to Parts of a Screen

When parts of a screen are referred to in the text, the `courier` font is always used. When data entered into the screen is referred to the **`bold courier`** font is used. In some cases the grey background is also displayed.

For Example:

Dougal can be restricted to accessing the system to a certain number of days. This is done using the field `Days of Week`.

For Example:

Enter **`12345`** in the field `Days of Week` if you want to enable the user to log every week day.

Alternatively:

Enter the following to enable users to log in every week day:

```
Days of Week      12345
```

Pressing a Key

When referring to a particular key on the keyboard, the key is surrounded by a box.

For Example:

Use the [Space Bar] to select your choice and then press [Return] to go back.

Parts of the System

When referring to parts of the system within text the `courier` font is used. System objects include hostmachine names, terminals, users and hostgroups. There is a convention of putting the names of hostgroups in upper case. This is so that hostmachine names and hostgroup names are not confused.

For example:

The new Director of Northern Europe Sales, Simon Sharpe, has the account name `simon`. He is able to log in on the machine `littlebox` from the terminal `tty08`. He might need access to the marketing machine `colourbox` at some point in the future. The simplest way of enabling access to both machines is to assign the user `simon` to the hostgroup `SALES` which comprises both `littlebox` and `colourbox`.

Chapter and Manual References

References to other chapters in the manual and to other manuals in general are made in *italic* script.

For Example:

For further information please refer to the *Parameter Configuration* chapter in this manual. If you require further technical information, please refer to the *BoKS Reference Manual*.

Files and Directories

References to files and directories are made in *italic* script.

For Example:

These programs are usually located in the directory */usr/bin*.

Program

References to programs are made in *italic* script followed by a reference to the chapter in brackets.

For Example:

/bin/getty(1) - UNIX reference manual chapter 1.
/etc/passwd(4) - UNIX reference manual chapter 4.
su(1B) - BoKS reference manual chapter 1.
user_profiles(4B) - BoKS reference manual chapter 4.

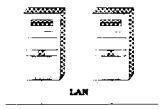
1.6.2 Icons

The following icons are used:

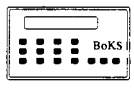
This is an example of an example. The text is in italics and there is a vertical line in the margin.

The explanation of the example starts here.

Information on the *BoKS Screen Lock* function is flagged by this icon in the margin. Text which belongs to this module is marked by the vertical line in the margin.



Information specific to the *BoKS Network Licence* is flagged by this icon in the margin. Text which belongs to the network description is marked by a vertical line in the margin.



Information on the *BoKS Password Generator - S220* module is flagged by this icon in the margin. Text which belongs to this module is marked by a vertical line in the margin.

1.6.3 BoKSADM - Menu Tools

The BoKSADM (BoKS Administration) menu system is composed of a series of sub-menus. Each sub-menu can contain both a further sub-menu and menu choices. Each menu choice enables you to perform a system administration task.

The menu system is intuitive and has a consistent structure making it easy to navigate and quick to learn. Figure *1.1* gives an overview of the principal menus and add-on module menus in BoKSADM.

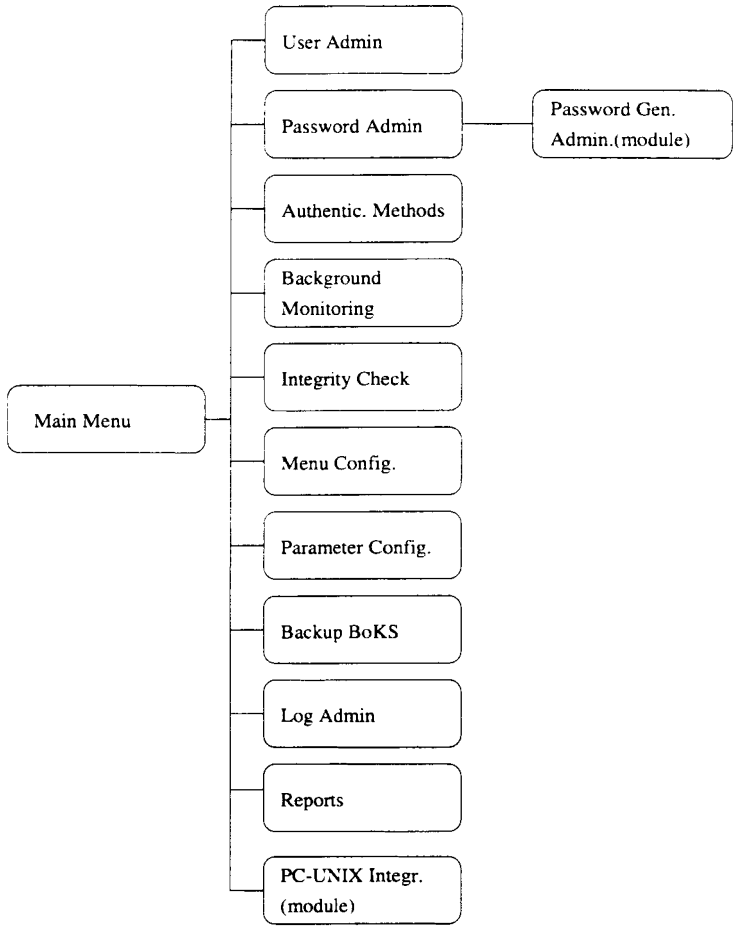


Figure 1.1 Principal Menus and Add-on Modules in BoKSADM

The Design

A "+" sign before a menu choice means that the menu choice calls a sub-menu. A "-" sign before a menu choice means that the menu choice executes a particular task.

The menu choices can be executed either by moving the cursor key to the menu choice and pressing [Return] or by pressing the letter in front of the menu choice. This letter is referred to as the *direct choice.* The action of using a direct choice is called *pick and point.*

Menu Help

Each menu choice has both background help and context sensitive help. To activate the background help for both menus and data-entry screens, press the function key labelled *Menu Help* on the bottom of the BoKSADM menu.

To activate context sensitive help for the data-entry field or menu choice, press the function key labelled *Help* on the bottom of the BoKSADM menu.

In most cases each input field has a list in a popup box which provides a list of alternatives that can be entered into this field. To call up the popup list, move to the relevant field and press the [Help] function key. Move the high-light bar down to the appropriate alternative and press [Return] This action

is referred to as *picking and pointing* a value.

Function Keys

Throughout BoKSADM the same four function keys are used to carry out certain actions. These actions are listed below:

Go Back	Quits you from your current screen without executing the command and takes you back to the previous screen/menu.
Help	Displays the context sensitive help for the current field or menu choice.
Menu Help	Displays the general, background menu help for the current menu or data entry screen.
Execute	Executes the current command.

NOTE *Please note that on some terminals the function keys used are slightly different but the actions are always the same.*

Direct commands are also available. They can be executed from any keyboard and provide exactly the same functionality.

Pick and Point

Pick and point is the term for making a direct choice either from the menu or from the [Help] popup box.

To make a direct choice from the menu, press the letter before the "+" or "-" signs which are in front of the menu choice.

To pick and point from the [Help] popup box, move to the relevant data-entry field, press the [Help] function key. Enter the first letter/group of letters at the beginning of the appropriate alternative in the list. This selects the alternative you require and places it in the data-entry field.

Using the Mouse

If you are running BoKS in an X-environment you can use your mouse to pick and point the menu choices. The mouse buttons have the following functionality:

Mouse Button	Function
Left Mouse Button(1)	One click moves the marker. Double click selects an object, for example a menu choice
Middle Button(2)	Popup Help
Right Mouse Button(3)	Go back

Selecting a Menu Choice with a Mouse

To select a menu choice with a mouse, move the marker over the desired menu choice and click mouse button *1*.

Using a Function Key with a Mouse

To use the function keys with a mouse that are listed at the bottom of the BoKSADM menu, move the marker to the function key label on the screen and click mouse button *1*.

Changing Directory and Output Device with a Mouse

To change current directory and the output device when in the BoKSADM menu using a mouse, move the marker over the desired function key label at the bottom of the screen and click mouse button *1*. The screen prompts for the name of the directory you wish to change to or for the name of the output device if you have requested a change in output device. Enter the name of the directory or the output device and press Return.

If you wish to quit from either of these tasks and retain the old values, click on function key label 1.

Go Back from a Menu Using a Mouse

To go back a menu using a mouse, click mouse button *3* from anywhere within the menu.

Multi-Pick

Multi-pick is a feature used for selecting several items as opposed to pick and pointing one item. It is similar to using pick-and-point in a popup box. Move to the relevant field, you press the Help function key. If the data-entry field supports the multi-pick feature, a popup box appears on the screen with a list of alternatives. The difference between a multi-pick popup box and a pick-and-point popup box is that multi-pick enables you to select more than one alternative.

To select several items from the popup box, do the following:

- Move to the item with a cursor key
- Press the space bar
- A plus sign appears to the left of the item
- Move the cursor key to the next appropriate item and repeat the process

If you make a mistake and select an item by accident, move to the selected item and press the space bar again. This de-selects the item and the plus sign disappears.

When you have finished selecting the items press return and the popup box will disappear and the items will have been selected.

The data-entry fields that support the multi-pick feature are specified in the relevant functionality descriptions in the *BoKS Administration* manual

1.7 BoKSADM - Direct Commands

BoKSADM has a number of predefined direct commands which can be used wherever you are in the menu tree. They are called direct commands because they can be used directly rather than going through the menu. Most of these direct commands are Ctrl sequences and work as follows:

1.7.1 Direct Commands for Administering the Menu System

Generate a List of Direct Commands

Ctrl G enables you to generate a list of direct commands and each command has a brief description.

Redraw the Screen — Ctrl L enables you to redraw the screen if for some reason the output display has become corrupted.

Go Back — Ctrl Z or Ctrl A 1 both enable you to go back a menu/screen.

On-line Help — Ctrl A 2 enables you to call up on-line help if you are in a field, even if your function keys do not work.

Menu Help — Ctrl A 3 enables you to call up menu help even if your function keys do not work.

Execute — CTRL A 4 enables you to execute a menu choice or command even if your function keys do not work.

Screen Dump — To save an image of the current screen in a file or send it to a printer first use Ctrl U to change output to the desired device and then press Ctrl P to dump the contents of the screen to that device.

Exit from BoK-SADM — Ctrl C Ctrl C enables you to quit from the menu tree altogether, regardless of where you are in the menu tree.

1.7.2 Direct Commands to Move within a Screen/Menu

Move to Previous field/menu choice — Ctrl F U enables you to move to the previous field if in a data entry screen or to the previous menu choice if in a menu.

Move to Next Field/menu choice — Ctrl F D enables you to move to the next field if in a data entry screen or to the next menu choice if in a menu.

Move to First Menu Choice — Ctrl F H enables you to move to the first field if in a data entry screen or to the next menu choice if in a menu.

Go to End of Line — Ctrl E enables you to go to the end of the data in a data entry field.

1.7.3 Direct Command to Edit Field Contents

Erase Input Field — Ctrl K enables you to erase a line of data in an input field.

Erase Character Forward — Ctrl D enables you to erase the next character in an input field.

Erase Character Backwards — This enables you to erase the previous character in an input field.

Erase Character Backward — This enables you to erase the previous character in an input field.

1.7.4 Direct Command to Change a Factor Outside the Menu System

Change Current Directory

Ctrl B enables you to change your current directory just as you would at the system prompt. Both relative and absolute directory names are permissible.

Change Output Device

Ctrl U enables you to change where the output of a command is sent to. Normally the output is sent to the screen but it can be redirected to a printer or a file. The current output device is displayed at the bottom right hand corner of the screen.

View the Contents of a Directory

Ctrl V enables you to view a list of files and subdirectories in the current directory. A "*" beside a file indicates that it is executable and a / after the name indicates that it is a directory.

Execute a Shell Command

Ctrl X enables you to execute a shell command from within the *BoKS Administration* menu system.

1.8 Related Documentation

We suggest you have access to the following documentation:

- *BoKS Administration Guide*

  Administration manual that accompanies this product.

- *BoKS Reference Manual*

  Those who wish to extensively configure BoKS or need to supply technical support for BoKS should have access to the *BoKS Reference Manual* which provides an entry for each of the BoKS commands with a syntax listing and a description.

- UNIX reference material.

  A reference book on the particular UNIX variant that you are running. At points through the manual you are referred to an entry in a UNIX reference manual so that you can check which circumstances apply to your operating system.

2

Installing BoKS

2.1 Outline

This chapter explains how to install BoKS. The chapter explains the following issues:

- Pre-installation requirements
- Installation command for installing BoKS standalone
- Installation command for installing the BoKS Master-Server
- Installation command for installing BoKS Slave-Server
- Installation command for installing BoKS Clients
- Installation command for installing BoKS diskless Clients
- Installation procedure after entering the installation command

2.2 Outlook

BoKS works in a number of UNIX system environments ranging from a standalone UNIX machine to heterogeneous networks including diskless and DOS clients. Installing BoKS is simple and intuitive. We provide both a menu-driven installation procedure and installation configuration tool.

2.3 What You Will Need to Know

Before using this chapter you need to know how to do the following under UNIX:

- Log in as `root`
- Create a directory

- Move to a particular directory in the file system
- Find out where you are in the file system
- Load media into the machine
- Read data from the media into the machine
- Find out how much disk space is available

NOTE *If you are not sure about any of the above please refer to your UNIX manual or contact your UNIX support desk.*

2.4 Pre-Installation Tasks

Before installing BoKS check and, if necessary, correct the following:

BoKS Environment

Make sure that you know what configuration of BoKS you are installing, this means establishing whether you are installing BoKS Standalone or a BoKS network. If you are installing a network version of BoKS make sure that you know how many clients and servers you need to install.

NOTE *If you are in any doubt please refer to the "Configuration" chapter of the BoKS Administration Guide or contact your BoKS vendor.*

Installation Media

Make sure that you have received the correct media and make sure that the load command is correct for your UNIX platform.

Kernel Configuration

Make sure that your UNIX kernel is configured for using both semaphores, message queues and shared memory. Check this by entering:

```
ipcs
```

on the command line, or the command for your platform which lists the kernel configuration of a machine.

Sample output from the *ipcs* command is as follows:

```
IPC status from bigbox as of Wed Jan 14 13:00:45 1993
T     ID KEY       MODE        OWNER  GROUP
Message Queues:
q      0 0x64000022   -Rrw------- tracey  staff
Shared Memory:
m      0 0x000f840a   --rw-r----- root    dba
Semaphores:
s      0 0x000007ac   --ra-ra---- root    wheel
```

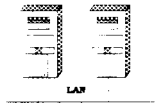
NOTE *If the kernel is not configured for one or any of these features then please refer to your UNIX system manual or to your UNIX support desk for details on reconfiguring the kernel.*

Disk Space

BoKS requires approximately 10 megabytes of disk space of which 2 megabytes must be on the root partition. Make sure that you have this amount of space available. The *df* command can be used to show the amount of space available for all mounted file systems.

NOTE *The BoKS database and the important system programs are normally placed under the directory "/boks" on the root partition. If there is not enough room on the root partition you can specify another directory using the program "Setup" (please refer to the "Configuration" Chapter in the BoKS Administration Guide).*

Broadcast Mask



When installing BoKS in a network environment the broadcast mask on all nodes in the BoKS domain must be the same. Typically the following command can be entered to check the broadcast on each machine:

```
ifconfig <interface_name>
```

Where *interface_name* is the interface for the network address (typically le0). This provides network interface information which includes the broadcast setting, for example: `broadcast 176.183.129.0` of which the broadcast mask is the final column. This must be the same on all nodes in the BoKS domain.

Root Password

Make sure that root has a password otherwise the installation procedure aborts.

2.5 The Installation Commands

The following sections explain how to install the different BoKS modules. Please select the relevant module and follow the procedure carefully. If you are unsure about the implications of some of the steps outlined below refer to the *BoKS Administration Guide* or your BoKS vendor.

NOTE *If you have BoKS version 3 already installed, please refer to the "Configuration" chapter of the "BoKS Administration" Guide. The "Configuration" chapter describes how to create a dump of the BoKS version 3 database and how to convert this database into version 4 format.*

2.5.1 Installing BoKS

The following section gives a step-by-step guide to installing BoKS. This section applies to:

- BoKS Standalone
- Master-Server
- Slave-Server
- Client

NOTE *If you are uncertain about which module to install, please refer to the "Configuration" chapter of the "BoKS Administration" Guide or your BoKS vendor.*

It is advisable to read the installation procedure outlined below before running the installation script because you might wish to tailor the script to your system's needs. If this is the case please refer to the *Configuration* chapter in the *BoKS Administration* Guide for details on how to configure the installation scripts using the *Setup* program.

To install BoKS carry out the following:

1. Insert the media into the relevant device.

2. Log in as root into the appropriate machine.

3. Create the directory structure under which BoKS is to be installed. For example if you would like BoKS to reside in a directory under a directory entitled */usr/dynprods*, create the directory *dynprods* underneath */usr*. (Provided the directory does not already exist.)

4. Move to the directory you have just created. For example:

```
cd /usr/dynprods
```

5. Load the data from the media onto the system using the load command specified on the media. For example:

```
tar xvf /dev/rmt0
```

The directory `boks` is created under your current directory when the data is loaded onto the system.

6 Change directory to `boks` using the command,

```
cd boks
```

7 At the prompt enter:

```
./Install
```

NOTE *You may also enter* **`./Install <module_name>`** *at the system prompt, where* `module_name` *can be:*

- `STANDALONE`
- `MASTER`
- `SERVER`
- `CLIENT`

Entering the installation command in this manner this means that installation begins straight away without displaying the menu described below.

After pressing **Return** to execute the command, the following menu is displayed:

BoKS Standalone

```
Select the Appropriate Module:
--------------------------

1 -    BoKS Standalone
```

Network Version of BoKS

```
Select the Appropriate Module:
------------------------------

1 -    Master-Server
2 -    Slave-Server
3 -    Client
```

Select the appropriate module.

2.5.2 Installation Messages

When the installation command is executed the following occurs on your screen as the installation process unfolds.

List of Existing Settings

As BoKS starts to install your module, a list of existing settings is displayed. This list specifies:

- Modules (core module + add-ons) to be installed
- Location of the BoKS database
- Specification of which system setup files are modified during installation

If you agree with the list of installation tasks, press [y] when you are asked if you wish to continue with the installation. If you are not sure press [n] to abort and use the *Setup* program to check the installation tasks for your particular module. The *Setup* command is explained in the *Configuration* chapter in the *BoKS Administration* guide.

Installing BoKS Files

The following messages are displayed on the screen during the installation procedure when the BoKS files are being installed:

`Backing up system files......`
The files listed are copied as *filename..org*.

`Installing files......`
The directory */boks* is created and files are copied into it from the installation directory.

`Environment file /boks/etc/INFO created`
Information about this installation is stored in the environment file specified.

`Environment file /boks/etc/ENV created`
Host specific information used by the BoKS daemons is stored in the environment file specified.

`Boot code added to <filename>`
The boot script is copied to the boot directory/file in the system specified by <filename>.

WARNING **Please check that the correct additions have been made after the installation is complete. If the BoKS daemons are not started system access may be blocked.**

Installing the BoKS Database

The following happens during the installation procedure when the BoKS database is installed:

Depending on whether the install script finds an existing BoKS database one of the following occurs:

`If this is the first time you install BoKS there is no old database and it is OK to continue with the installation. A database will then be created.`

You see this message if you are installing BoKS for the first time or you removed the BoKS database when you last un-installed it. Enter **y** to continue or **n** to abort the installation. If you believe that the BoKS database should exist, refer to the *Troubleshooting* chapter in the *BoKS Administration* Guide.

`Use Saved Database from <filename> (y/n)?`

You see this message if the install program finds the BoKS database. If you want to use the data from this database, enter **y**. Enter **n** and a new database is created and the old one is overwritten.

Starting BoKS Daemons and Replacing System Programs

The following is displayed on the screen when the BoKS daemons are started and the existing system files are altered:

`Restarting Daemons...`

Background programs used by BoKS are started.

`Creating user root...`

User `root` is created in the BoKS database.

WARNING

Only root can log in on the console after BoKS has been installed. To create other users follow the instructions in the "Getting Started" chapter.

`Installing the boot script`

Boot script is copied to the appropriate directory.

`Replacing system programs.....`

The programs listed are replaced by the BoKS equivalents and the originals are copied to *filename..org*.

Installing the BoKSADM Menu and Completing Installation

The following is displayed on the screen when the BoKSADM menu is installed and the installation procedure is completed:

`Installing boksadm in <dir>`

The startup script for the BoKSADM menu is installed in *dir*. This directory must be in your PATH in order to use the `boksadm` command.

`Unpacking helpfiles...`

Help files are installed to provide the BoKSADM menu system's online help facility.

Additional Modules

If you are installing additional add-on modules the installation messages are displayed. These add-on modules include:

- X-lock and mouse support
- S220 - one time password generator

- PC Guard - UNIX integration

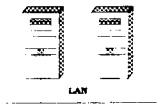
`Installation completed, log appended to <file>`

You have successfully installed BoKS and all the installation relevant information has been stored in the specified logfile.

2.6 Having Installed BoKS

Only root has been added to the BoKS database. Use the next chapter to help you to enable other users to be able to log in and to enable root to log in on terminals other than the console, if required.

For further information on the phases carried out by the install program, please refer to the *Configuration* chapter in the *BoKS Administration* Guide.



Once BoKS has been installed on the master-server and the initial configuration work has been carried out, BoKS must be installed on the other clients and servers in the BoKS domain.

Alternatively BoKS can be installed on the clients and servers before the master-server is setup. This is not normally the preferred route as it is usually of primary importance to let the master-server go live as soon as possible.

Please observe that only `root` can log in and can only log in on the console after installation and before system setup.

2.7 Installing the Menu Handler Menuett

BoKS is administered from a menu system. The menu system requires a MENUETT run-time licence to be installed. A MENUETT runtime licence is always installed after the BoKS licence has been installed.

This section applies to

- BoKS Standalone
- BoKS Master-Server

The machine with the original BoKS database is where MENUETT must be installed.

Install MENUETT as follows:

1. Make sure you are logged in as `root`.

2. Move to the directory where MENUETT has been loaded. The programs have already been loaded when you read the BoKS files in from the media. This is normally under the same directory that you

installed BoKS. For example:

```
cd /usr/dynprods/menuett
```

3 Execute the install program

```
./Install
```

4 The following messages appear:

`Installing files /usr/bin/menuett`
Installing the startup script for the menu handler in */usr/bin.*

`Creating TERMINFO-database.....`
MENUETT uses its own TERMINFO- database. It is located as *etc/terminfo.*

`Creating NLS (National Language Support) database`
MENUETT can run in different languages with different character sets. The map files for the different character sets are created under *etc/nls.*

`Installation completed, log appended to <file>`

Installation of MENUETT is completed. The information which is displayed on the screen during installation is stored in the file named in the message. \(:a.SK

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3

Getting Started with BoKS

3.1 Outline

This chapter explains the initial procedure after installing BoKS. Reading this chapter enables you to carry out the essential configuration of BoKS so that users can log in. This manual also enables you to add hosts to the BoKS database and assign users to these hosts if you are running BoKS in a network environment.

NOTE *This chapter is designed to be used in close conjunction with the on-line help facilities within BoKSADM (the BoKS Administration menu system). It is strongly recommended that you familiarise yourself with the help facilities available before you start to use this chapter.*

When using the menu choices specified in this chapter, please make sure that you refer to the help available for each field to ensure that the correct values are entered.

This chapter explains how to carry out the following in the standalone version of BoKS.

- Set the default values for user setup, password administration and the login process.
- Load existing users into the BoKS database
- Setup individual access routes
- Print configuration reports

This chapter explains how to carry out the following in the network version of BoKS:

- Setup user, password and login parameters on the master-server
- Add extra hosts to the BoKS database

- Group hosts together
- Setup user, password and login parameters on the slave-servers and clients if required
- Load existing users into the BoKS database
- Setup individual access routes
- Print configuration reports

3.2 Outlook

Once BoKS has been installed it is usually essential to make sure that the system is up and running as soon as possible. After installing BoKS only `root` is able to log in and `root` can only access the console. Therefore the first priority is to enable users to access the system.

Once users can access the system you have time to fine tune BoKS to meet your specific security requirements. For information on how to carry out this fine tuning, please refer to the *BoKS Administration* Guide.

3.3 Before You Start

To enable BoKS to work efficiently, it is important to configure it for your system. To make configuring BoKS quick and efficient you should consider the following points:

- System groups that users are to belong to
- Access rights for individual users
- Time of day after which users are to be granted system access
- Time of day after which users are to be denied system access
- Days of the week on which users are to be granted system access
- The shell users access on logging in, if desired
- The startup program users access on logging in, if desired

3.3.1 Before You Start BoKSADM

Prior to beginning initial configuration, check the following:

- You are able to log in as `root` on the console. Check this without logging out first.
- You are able to run the BoKSADM menu by entering **`boksadm`** at the prompt.

NOTE *The first time you start BoKSADM you are put into the Parameter Configuration menu so that you can immediately configure BoKS. In this context configuring BoKS means that you are setting up default values which can be*

overridden in individual cases, if desired.

The following should be set initially:

- *User parameters*
- *Password parameters*
- *Login parameters*

When you exit the "Parameter Configuration" menu, you must restart the BoKSADM menu to continue the rest of your initial setup tasks.

3.4 Initial Setup for the Standalone Version of BoKS

This section explains how to set the default values. How to load pre-existing users from the local password file into the BoKS database. These user accounts require little individual configuration before users can access the machine.

3.4.1 Setting Default Values and Parameters

This section explains how to set the following:

- user administration defaults
- password parameters
- login parameters

You can exit from each menu without setting any values by pressing the function key: `Go Back`.

User Defaults

To configure the user defaults, carry out the following:

1. Make sure you are logged in as `root`.

2. Enter **`boksadm`** from the system prompt.

3. Make sure that you are in the *Parameter Configuration* menu by looking at the top of the menu on your screen.

NOTE *If you are not in the "Parameter Configuration" menu, make sure you are in the main menu by checking the top of the menu and select the "Parameter Configuration" menu from there.*

4. Take the *User Admin Defaults* menu choice.

5 Enter the default values you require. Use the **Help** function key to help you at each field.

6 Execute the *User Admin Defaults* menu choice by pressing the **Execute** function key or pressing **Return** at the last field.

Password Parameters

7 Take the *Password Parameters* menu choice.

8 Enter the default values you require. Use the **Help** function key to guide you at each field.

9 Execute the *Password Parameters* menu choice by pressing the **Execute** function key or pressing the **Return** key at each field.

Login Parameters

10 Take the *Login Parameters* menu choice.

11 Enter the default values you require. Use the **Help** function key at each field to help you.

12 Execute the *Login Parameters* menu choice by pressing the **Execute** function key or pressing the **Return** key at the last field.

13 Go back to the main menu.

3.4.2 Loading Users into the BoKS Database in the Standalone Version

To load users into the BoKS database, carry out the following:

1 Make sure you are logged in as `root`.

2 If you are not running BoKSADM, enter **boksadm** at the command line.

3 Select the *User Admin* menu from the main menu.

NOTE *This menu choice is on the main menu and not the "User Admin Defaults" you have previously used on the "Parameter Configuration" menu.*

4 Take the *Get User Data* menu choice.

5 Enter the necessary information. Use the `Help` function key to help you.

NOTE *All of the following input fields have already had defaults set, either at installation time or after the "Parameter Configuration" menu has been used.*

6 Press the `Execute` function key to execute the *Get User Data* option.

7 If some users are reported as not being created, select the *Show Log from Get User Data* option for a list of the users that have not been created and the reason why.

8 Please refer to the *Troubleshooting* chapter in the *BoKS Administration* Guide for an outline of the steps to take in the event of users failing to be created. Alternatively please contact your BoKS support desk for advice in this situation.

3.4.3 Enabling Individual Users to Log in via an Asynchronous Terminals

To enable users to access the system via individual terminals, carry out the following:

1 Make sure you are logged in as `root`.

2 Enter **`boksadm`** from the system prompt.

3 Select the *User Admin* menu from the main BoKSADM menu.

4 Select the *Access Route Admin* sub menu.

5 Take the *Login Access Route* menu choice.

6 Enter the appropriate values. Use the Help function key to guide you.

7 Press the Execute function key to execute the *Login Access Route* menu choice.

NOTE *To enable users to log in via an X-terminal or a network, use the "Misc. Access Routes" menu choice.*

Logging in from a Remote Machine or via an X-terminal

To access the system through a network access command or via an X-terminal, use the *Misc. Access Routes* menu choice.

8 Take the *Misc. Access Routes* menu choice.

9 Enter as appropriate, using Help to guide you.

NOTE *Specify* **XDM** *for accessing the system through an X-terminal.*

NOTE *If you wish to specify access from a host other than the standalone machine, this host must first be registered in the BoKS database. Please refer to the section "Adding Hosts to the BoKS Database".*

3.4.4 Enabling Individual Users to Use SU (substitute user)

To enable individuals to adopt another user's identity (UID) their user accounts must be set up to use the command *su*. This is primarily done so that users can log in under their usual account names and then adopt a superuser's identity. If users are only able to gain access to administrator privileges in this manner all actions are logged to the login ID as opposed to the administrator ID.

To enable users to access *su* take the following steps:

1 Make sure you are logged in as `root`.

2 Enter **boksadm** at the system prompt.

3. Select the *User Admin* menu from the main menu.

4. Select the *Access Route Admin* sub menu from the *User Admin* menu.

5. Select the *Su Access Route* menu choice.

6. Enter the appropriate values. Use the **Help** function key to help you enter the correct values into the fields.

7. Press the **Execute** function key to execute the *Su Access Route* menu choice.

3.4.5 Creating an Access Route with Increased Security

To create an access route with an increased level of security, carry out the following:

1. Make sure you are logged in as `root`.

2. Enter **boksadm** at the system prompt.

3. Select the *Authentication Method* menu from the main BoKSADM menu.

4. Take the *Define Specific Setup* menu choice.

5. Fill out the fields with the appropriate values. Use the **Help** function key to help you.

6. Press the **Execute** function key to execute the menu choice.

3.4.6 Sending Configuration Reports to a Printer and to a File

To print out the configuration reports or send them to a file, carry out the following:

1. Make sure you are logged in as `root`.

2. Enter **boksadm** at the system prompt.

3. Select the *Reports* menu from the main BoKSADM menu.

4. Change output device by pressing Ctrl U and selecting the printer or file option.

5. Enter the name of the printer or file that the reports are to be sent to.

6. Select each of the reports options in turn, filling out the fields as appropriate. Use Help to help you.

7. After all the reports have been sent to the printer or file, press Ctrl U and select the screen option to send the output back to the screen.

3.5 Worked Example for the Standalone Version

The following is a worked example of a typical initial setup scenario for the standalone version of BoKS. Follow the steps methodically, making sure you follow the steps in the order laid out.

Tracey has installed BoKS on the machine `bigbox`.

Tracey takes the following steps to initially configure BoKS before loading existing users into the BoKS database:

1. She takes the *User Admin Defaults* menu choice from the *Parameter Configuration* menu and enters:

```
Host              bigbox
Parent Homedir    /home
Group             staff
Shell
Start Program     menusys
Umask             022
Access Route
Start Time        0900
Stop Time         1725
Days of Week      12345
Path              $PATH:$HOME:/usr/local/cmd
```

NOTE

The Shell field has been left empty as Tracey wants users to use the system default shell followed by the menusys in-house package on logging in.

The Access Route field has also been left empty as Tracey decides that it is more secure to grant individual access rights to users.

Tracey has added each users' $HOME directory and /usr/local/cmd directories to the $PATH setting.

2 Tracey selects the *Password Parameter* menu choice from the *Parameter Configuration* menu.

3 She enters:

```
Minimum Length                                  6
Password Format                                 2
System Default Life Span                        31
Time Limit for Expired Password                 31
Password History Length                         15
Minutes Between Password Changes                60
Update Password Information in /etc/password yes
```

4 She takes the *Login Parameters* menu choice from the *Parameter Configuration* menu.

5 She enters:

```
Failed Login Try Allowance          3
Login Response Mode                 v
Default Life Span for Users (days)  365
```

6 Tracey is now ready to load users into the database and goes back to the main menu and takes the *User Admin* option.

She takes the *Get User Data* menu choice and enters:

```
Host to Load Users from bigbox
Local or Remote Users   local
Type of Users           All
Host Group to Create as bigbox
Access Route
Start Time
Stop Time
Days of Week
```

7 The final task that Tracey has to carry out before the users can login is to allocate access routes on a user by user basis as she has not created any default access routes.

8 Tracey stays in the *User Admin* menu and takes the *Access Route Admin* sub menu.

9 Tracey takes the *Login Access Route* option and enters:

```
User          bigbox:dougal
From Terminal ttyl0
To Host       bigbox
Start Time    0900
Stop Time     1725
Days of Week  12345
```

10 She repeats this menu choice for the other users who are to log in via an asynchronous terminal.

11 Tracey takes the *Misc. Access Routes* menu to enable Alice Springs, Head of UK. Sales to log in via an X-terminal.

12 She enters:

```
User           bigbox:alice
Access Method  XDM
From Host      bigbox
To Host        bigbox
Start Time     0530
Stop Time      2330
Days of Week   1234567
```

13 In order for Dougal to be able to gain system administrator privileges, she takes the *Su Access Route* option and enters:

```
User           bigbox:dougal
From Terminal  tty10
To User        sysadmin
Start Time     0900
Stop Time      1725
Days of Week   12345
```

14 She repeats the same procedure to grant herself access to using *su*(1B) to gain access to the `root` account.

15 She increases security on the console by accessing the *Authentication Methods* menu on the main menu and selecting the *Define Specific Setup* menu choice and enters:

```
Access Route                LOGIN:console->bigbox
Authentication Method       6
Start Time                  0000
Stop Time                   0000
Days of Week                1234567
```

In this way Tracey has increased security by requiring that both the system and user password is used to access the console.

Tracey now feels that the system is ready for action. After the hectic installation period, Tracey settles down to read the *BoKS Administration* guide in peace.

3.6 Initial Setup for a Network

The following section explains the steps that need to be taken to initially configure the network version of BoKS. The following sections are applicable to:

- BoKS master-server
- BoKS slave-server
- BoKS client

NOTE *Remember the BoKS Administration menu is only accessible from the BoKS master-server. All machines in the BoKS domain are administered from the BoKS domain.*

Network Setup

To setup the network version of BoKS involves carrying out the following:

1. Planning the BoKS domain. This includes deciding which hosts are to be included in the BoKS domain and which host machines are to be grouped together into host groups.
2. Defining global parameters in the BoKS domain.
3. Setting up hosts in the BoKS domain. This includes creating users and adding access routes to the different users. It can also include adding hosts to the host groups.
4. Documenting the relevant BoKS configuration.

Network Specific Considerations

In a network version of BoKS users are granted access to one or more host machines. If users are to have access to more than one host machine they are assigned to a host group which includes all the machines they are to have access to.

The configuration of host machines in a host group has to be consistent. Users must have the following attributes:

- Same user ID on each machine
- Same group ID on each machine
- Two users may have, but should not have the same user ID

If users have different group and user IDs on different machines in the host group there are likely to be user ID and group ID clashes when the users are read into the BoKS database. If there are several users with the same user ID only the first one from the */etc/passwd*(4) file is created.

NOTE *System users (those with user IDs between 0 and 99) are created, regardless of whether other users exist with the same system user IDs.*

BoKS audits the results of reading users into the BoKS database. These results are reported and can be accessed through the *Read Log from Get User Data* menu choice on the *User Admin* menu.

3.6.1 Planning the BoKS Domain

Planning the BoKS domain is one of the most important elements in setting up BoKS. A rigorous, well thought-out plan makes administration easier in the future. The planning includes working through the */etc/passwd*(4) file on each of the host machines in the BoKS domain. At this stage it is important to see which users exist, which have to be created and which users are resident on which machines. If some users are to have access to several machines, administration can be simplified by grouping these host machines into host groups and assigning users to the host groups.

There are several ways to approach setting up a BoKS domain. The most common way is as follows:

- Create all system users (UID < 100) as resident on the host machines they are originally from.
- Assign the users with user IDs greater than or equal to 100 to the machine they are to access. If they are to access more than one machine, the users are assigned to the host group containing the relevant machines.

3.6.2 Entering the Setup Parameters for Machines in the BoKS Domain

To set the global setup parameters which apply to all the machines in the BoKS Domain, carry out the following:

1. Make sure that you are logged in as `root` on the master-server.

2. Enter **`boksadm`** at the system prompt.

3. Select the *Parameter Configuration* menu from the main menu.

Password Parameters

4. Take the *Password Parameters* menu choice.

5. Fill out the screen as required. Use the **`Help`** function key to help you.

6. Press **`Execute`** function key to execute the *Password Parameters* menu choice.

Login Parameters

7. Take the *Login Parameters* menu choice.

8. Fill out the screen as necessary, use the `Help` function key to help you.

9. Press the `Execute` function key to execute the *Login Parameters* menu choice.

3.6.3 Adding Hosts to the BoKS Domain

Once BoKS has been installed on the master-server, slave-servers and clients, the slave-servers and clients have to be added to the BoKS database.

Adding an Additional Host to the BoKS Database

To add slave-servers and clients to the BoKS database, take the following steps:

1. Make sure you are logged in as root on the master-server.

2. Enter **boksadm** from the command line.

3. Select the *Host Admin* menu from the main menu.

4. Add the host to the BoKS database by selecting the *Add/Modify* option.

5. Fill out the fields as appropriate. Use `Help` to guide you.

6. Press `Execute` to execute the *Add/Modify* option.

7. Repeat this procedure until all the hosts are added to the database.

Grouping Machines in the BoKS Domain Together

If users need access to more than one machine they are usually assigned to a group of machines called a host group. Each host group is treated as one entity which makes administration easier.

To group hosts together, take the following steps:

1. Make sure you are logged in as `root` on the master-server.

2. Enter **boksadm** at the command line.

3. Select the *Host Admin* menu from the main menu.

4. Take the *Create* menu choice under the *Host Group* column header.

5. Enter the appropriate values. Use **Help** to guide you.

6. Press **Execute** to execute the *Create* menu choice.

7. Repeat this sequence as many times as you need in order to create the host groups you require.

NOTE *A machine may belong to several host groups.*

User Admin Defaults for Individual Hosts

The *User Admin Defaults* menu choice on the *Parameter Configuration* menu must always be used for the master-server machine. Repeat this menu choice for each of your machines in the BoKS domain.

1. Check that you are logged in as `root` on the master-server.

2. Enter **boksadm** at the system prompt.

3. Take the *User Admin Defaults* menu choice from the *Parameter Configuration* menu.

4. Enter the appropriate values in the fields. Use **Help** to guide you.

5. Press the function key **Execute** to execute the *User Admin Defaults* menu choice.

6. Repeat this for all the additional hosts that require different user parameters than those setup on the master-server

Loading Network Users into the BoKS Database.

This section explains how to load network users which existed before BoKS was installed, into the BoKS database.

Users are typically loaded into the BoKS database in two phases:

- System users (UID < 100) are read in first.
- The rest of the user community is read in second and is assigned to the relevant host or host group (for certain users are to have access more than one machine). BoKS must be installed on all the relevant machines before loading the users.

Load the System Users

To load the system users into the BoKS database, take the following steps:

7. Select the *User Admin* menu from the main menu.

8. Take the *Get User Data* menu choice.

9. Enter the appropriate values. Use **Help** to guide you.

10. Press the **Execute** function key, to execute the *Get User Data* option.

Load the Rest of the User Community

To load the other users with user IDs greater than or equal to 100 in the */etc/passwd*(4) file into the BoKS database, repeat the steps outlined in the previous section as follows:

11. Select the *User Admin* menu from the main menu.

12. Take the *Get User Data* menu choice.

13. Enter the appropriate values. Use **Help** to guide you.

14. Press the **Execute** function key, to execute the *Get User Data* option.

    If some users are not created, carry out the following:

15. Select the *Show Log from Get User Data* option for a list of those users that have not been created.

16. Refer to the *Troubleshooting* chapter in the *BoKS Administration* guide for help in this situation. Alternatively please contact your BoKS support desk.

3.6.4 Adding Access Routes

This section explains how to add access routes for individual users which overrides any defaults you may have setup.

1. Make sure you are logged in as `root` on the master-server.

2. Enter **`boksadm`** at the system prompt.

3. Select the *User Admin* menu from the main menu.

4. Select the *Access Route Admin* sub menu.

Enable Users to Log in via a Specific Terminal

5. Take the *Login Access Route* menu choice.

6. Enter as appropriate. Use **`Help`** to guide you.

7. Press the **`Execute`** function key to execute the *Login Access Route* menu choice.

Substitute User (su) Availability

The substitute user facility (su) is used to enable users to adopt other user IDs once they have logged in. This is primarily used in conjunction with enabling users to adopt a system administrator ID.

8. Take the *Su Access Route* menu choice.

9. Enter as appropriate. Use the **`Help`** to guide you.

10. Press the **`Execute`** function key to execute the *Su Access Route* menu choice.

Logging in from the Network or via an X-terminal

To access the system through a network access command or via an X-terminal, use the *Misc. Access Routes* menu choice.

11. Take the *Misc. Access Routes* menu choice.

12 Enter as appropriate, using Help to guide you.

NOTE *Specify* **XDM** *for accessing the system through an X-terminal.*

3.6.5 Creating an Access Route with Increased Security

To create an access route with an increased level of security, do the following:

1 Make sure you are logged in as `root`.

2 Enter **boksadm** at the shell prompt.

3 Select the *Authentication Method* menu from the main menu.

4 Take the *Define Specific Setup* menu choice.

5 Fill out the fields as appropriate. Use Help to guide you.

3.6.6 Sending Configuration Reports to a Printer and to a File

To print out the configuration reports or send them to a file, carry out the following:

1 Make sure you are logged in as `root`.

2 Enter **boksadm** at the system prompt.

3 Select the *Reports* menu from the main menu.

4 Change output device by pressing Ctrl U and selecting the printer or file option.

5 Enter the name of the printer or file that the reports are to be sent to.

6 Select each of the reports options in turn, filling out the fields as appropriate. Use Help to help you.

7 After all the reports have been sent to the printer or file, press Ctrl U and select the screen option to send the output back to the screen.

3.7 Worked Example for Network Version of BoKS

The following is a worked example of a typical initial setup scenario for BoKS with network extensions:

Tracey has installed BoKS on five UNIX machines. These machines are:

bigbox	*Master-server used as the main machine.*
littlebox	*Slave-server used by the marketing department.*
colourbox	*Client used by the sales department.*
blackbox	*Slave-server used by the research and development department.*

The sales and marketing departments share the same information. All the marketing users have a home directory which is located on the sales machine, `colourbox`*, but is mounted so that it appears to the users as if it is on the marketing machine,* `littlebox`*.*

After installing BoKS and selecting `bigbox` *as the master-server, Tracey starts configuring the BoKS domain. She begins by planning the BoKS domain and decides the following:*

- *A hostgroup called SALES is to be created to include* `littlebox` *and* `colourbox`*.*
- *System users are to be created for their respective host machines.*
- *Users on* `littlebox` *and* `colourbox` *are to be assigned to the group SALES.*
- *Users on the other machines are to be assigned to their respective machines.*

Tracey begins by setting the global parameters as follows:

1 She selects the *Password Parameter* menu choice from the *Parameter Configuration* menu. She enters:

```
Minimum Length                                  6
Password Format                                 2
System Default Life Span                        31
Time Limit for Expired Password                 31
Password History Length                         15
Minutes Between Password Changes                60
Update Password Information in /etc/password    yes
```

2 She takes the *Login Parameters* menu choice from the *Parameter Configuration* menu. She enters:

```
Failed Login Try Allowance          3
Login Response Mode                 v
Default Life Span for Users (days)  365
```

3 Tracey selects the *Host Admin* menu from the main menu.

4 She selects the *Add/Modify* option and enters:

```
Host              bigbox
Type of Host      UNIXHOST
Parent Homedir    /home
Physical Homedir
```

Tracey leaves the field `Physical Homedir` blank as the */home* directory is not mounted on another machine but resident on the machine `bigbox`.

5 Tracey's next task is to define the default parameters that the user community assumes when added to the BoKS database.

6 She takes the *Parameter Configuration* menu choice from the main menu.

7 She takes the *User Admin Defaults* menu choice and enters:

```
Host                bigbox
Group               staff
Shell
Start Program       menusys
Umask               022
Access Route
Start Time
Stop Time
Days of Week
Path                $PATH:$HOME:/usr/local/cmd
```

NOTE

The Shell field has been left empty as Tracey wants users to execute the menusys in-house package on logging in.

The Access Route field has also been left empty as Tracey decides that it is more secure to grant individual access rights to users.

8 Once Tracey is satisfied with the way she has configured the basis of the BoKS domain, she is then ready to load the users which exist on `bigbox` into the BoKS database.

9 She takes the *User Admin* option from the main menu and then the *Get User Data* menu choice and enters:

```
Host to Load Users from bigbox
Local or Remote Users   local
Type of Users           All
Host Group to Create as bigbox
Access Route
Start Time              0900
Stop Time               1725
Days of Week            12345
```

She enters **`All`** in the *Type of Users* field because the entire user community, (system users and regular users) is to be created locally.

10 The final task that Tracey has to carry out before the users can login is to allocate access routes on a user by user basis as she has not created any default access routes.

11 Tracey stays in the *User Admin* menu and takes the *Access Route Admin* menu choice.

12 She takes the *Login Access Route* option from the *Access Routes Admin* menu and enters:

```
User           bigbox:dougal
From Terminal  tty10
To Host        bigbox
Start Time     0900
Stop Time      1725
Days of Week   12345
```

This means that the user dougal can log in from tty10 on the machine bigbox.

13 Tracey then enables Alice Springs, Head of UK. Sales to login. As Ms. Springs has a brand-new X-terminal on her desk, Tracey uses the *Misc. Access Routes* menu choice from the *Access Routes Admin* menu. She specifies the **XDM** access route as follows:

```
User           bigbox:alice
Access Method  XDM
From Host      bigbox
To Host        bigbox
Start Time     0530
Stop Time      2330
Days of Week   1234567
```

14 To enable herself to be able to *su*(1B) to `root`, Tracey takes the *Su Access Route* option from the *Access Routes Admin* menu and enters:

```
User           bigbox:tracey
From Terminal  *
To User        root
Start Time     0900
Stop Time      1725
Days of Week   12345
```

15 She increases security on the console by taking the *Authentication Methods* menu.

16 Selects the *Define Specific Setup* menu choice and enters:

```
Access Route                LOGIN:console->bigbox
Authentication Method       6
Start Time                  0000
Stop Time                   0000
Days of Week                1234567
```

In this way Tracey has increased security by requiring that both the system and user password is used to access the console.

Tracey has now setup the master-server in the BoKS domain. She now goes back to chapter 2 and installs the two slave-servers, `blackbox` and `littlebox`.

Having installed these machines, she is ready to set up these two machines.

1. She logs in as `tracey` on the master-server and then executes *su*(1B) to adopt the `root` ID.

2. She enters **boksadm** at the shell prompt.

3. She adds the two machines to the BoKS domain. To do this she selects the *Add/Modify* menu choice from the *Host Admin* menu.

4. She fills out the *Add/Modify* screen as follows:

```
Host                 littlebox
Type of Host         UNIXHOST
Parent Homedir       /home
Physical Homedir
```

5. Tracey repeats the same actions to add the machine `blackbox` to the BoKS database.

6. Tracey is now ready to read the users from `blackbox` machine into the BoKS database.

7. She goes back to the main menu and selects the *User Admin* menu.

8. She selects the *Get User Data* menu choice and enters the following:

```
Host to Load Users from blackbox
Local or Remote Users   local
Type of Users           All
Host Group to Create as blackbox
Access Route
Start Time
Stop Time
Days of Week
```

She enters **All** in the *Type of Users* field because the entire user community on the machine `blackbox` , (system users and regular users) is to be created locally.

9 Tracey now needs to grant system access to users.

10 She takes the *Login Access Route* option from the *Access Routes Admin* menu and enters:

```
User          blackbox:buzz
From Terminal tty10
To Host       blackbox
Start Time    0600
Stop Time     2300
Days of Week  12345
```

This means that the user buzz can log in from tty10 on the machine `blackbox`.

11 Tracey repeats this for the other users on the machine.

12 Tracey then has to refer to chapter 2 to install the client, `colourbox` before she can do anything else with the machine `littlebox` as these two machines are to go together to form a hostgroup.

13 Having installed `colourbox` she logs in as `tracey` on the master-server. She then executes *su*(1B) to adopt the `root` user ID.

14 She enters **boksadm** at the system prompt.

15 She adds `colourbox` to the BoKS database as follows:

16 *Add/Modify* menu choice from the *Host Admin* menu.

17 She fills out the *Add/Modify* screen as follows:

```
Host              littlebox
Type of Host      UNIXHOST
Parent Homedir    /home
Physical Homedir littlebox:/usr/exports/colourbox/home
```

Tracey fills out the `Physical Homedir` field because the */home* directory is mounted on the sales machine, `littlebox`.

18 Having added `colourbox` to the BoKS database, Tracey groups the sales and marketing machines together into a group called *SALES* because the sales and marketing departments need access to both machines.

19 Tracey takes the *Host Admin* option from the main menu.

20 She takes the *Create* menu choice and enters:

```
Host Group SALES
Member     littlebox colourbox
```

21 Tracey is then ready to add the users to the SALES hostgroup.

22 She returns to the main menu and selects the *User Admin* menu.

23 She selects the *Get User Data* menu choice and enters:

```
Host to Load Users from littlebox
Local or Remote Users   local
Type of Users           system
Host Group to Create as littlebox
Access Route
Start Time
Stop Time
Days of Week
```

She enters **system** in the *Type of Users* field because only the system users are to be assigned to the machine littlebox.

24 She selects the *Get User Data* menu choice again to add the system users for colourbox and enters:

```
Host to Load Users from colourbox
Local or Remote Users   local
Type of Users           system
Host Group to Create as colourbox
Access Route
Start Time
Stop Time
Days of Week
```

25 She selects the *Get User Data* menu choice again to add the rest of the users on colourbox assigning them to the hostgroup SALES.

26 She enters:

```
Host to Load Users from colourbox
Local or Remote Users   local
Type of Users           User
Host Group to Create as SALES
Access Route
Start Time
Stop Time
Days of Week
```

27 She selects the *Get User Data* menu choice one last time to add the rest of the users on littlebox assigning them to the hostgroup SALES.

28 She enters:

```
Host to Load Users from littlebox
Local or Remote Users   local
Type of Users           User
Host Group to Create as SALES
Access Route
Start Time
Stop Time
Days of Week
```

29 The final task that Tracey has to carry out before the users can login is to allocate access routes on a user by user basis as she has not created any default access routes.

30 Tracey stays in the *User Admin* menu and takes the *Access Route Admin* menu choice.

31 She takes the *Login Access Route* option from the *Access Routes Admin* menu and enters:

```
User           SALES:marcia
From Terminal  tty12
To Host        SALES
Start Time     0900
Stop Time      1725
Days of Week   12345
```

This means that the user `marcia` can log in from tty12 on the machines `littlebox` and `colourbox`.

32 Tracey then enables Simon Sharpe, Director of Northern Europe to remotely log in from machines in the SALES hostgroup.

33 To do this she takes the *Misc. Access Routes* menu choice from the *Access Routes Admin* menu and enters:

```
User           SALES:simon
Access Method  RLOGIN
From Host      SALES
To Host        SALES
Start Time     0530
Stop Time      2330
Days of Week   1234567
```

Tracey now feels that the system is ready for action. After the hectic installation period, Tracey settles down to read the *BoKS Administration* guide in peace.

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