

BoKS Manager 7.0

BoKS Manager 7.0 Release Notes

Revision: 20

- Important Notes
- Supported Platforms
- End-of-life Information
- What's New
- What's Changed
- Fixed Issues
- Known Issues
- Revision History
- Getting Support And Service

BoKS Manager 7.0 Release Notes

First published: This document contains information about BoKS Manager 7.0 from Fox Technologies.
04/21/2015

Updated:
12/11/2018

It includes the following sections:

- Important Notes
- Supported Platforms
- End-of-life Information
- What's New
 - SELinux Support on Red Hat 6 / 7
 - BoKS Licensing
 - BoKS Database Integrity Checking Tool
 - IPv6 Support
- What's Changed
 - Major Changes
 - Minor Changes
- Fixed Issues
- Known Issues
- Revision History
- Getting Support And Service

Important Notes

- All new and modified features, and fixed issues, described in this document are fixed or modified in relation to the release BoKS Manager version 6.7.
- Known and fixed issues on specific platforms are listed for the original package platform but may also affect other platforms where that package can be installed. For example, issues listed for Red Hat Enterprise Linux may also affect CentOS and Oracle Linux installations that use the same BoKS package.
- Fox Technologies has identified a problem in regards to installing BoKS on Solaris Sparc T3 servers. The base build of BoKS 7.0 uses OpenSSL 1.0.2a which has an issue detecting CPU capabilities, causing BoKS programs to stop responding. Fox Technologies recommends that you install BoKS 6.7.1 on Sun T3 servers. This issue will be resolved in BoKS 7.1 when released. See also FoxT Advisory Note **#13310**.
- As of 02/22/2017, the BoKS SELinux policy is available as a separate RPM that can be downloaded from the FoxT customer service website, named `boks-selinux-X.X-X.elY.noarch.rpm`, where `X.X-X` is the current version of the policy, and `Y` is the RedHat release number. In order to install the policy via the RPM you also need to apply the hotfixes **HFBM-0165** and **HFBM-0166**, also available from the FoxT customer service website.
- The BoKS Server Agent package for Red Hat Enterprise Linux 7 on Power8 Little Endian is available as of 12/20/2016.

Note: When the Red Hat Enterprise Linux 7 guest OS is running on the PowerKVM hypervisor and BoKS applications are communicating with an Active Directory server over IPv6, the hypervisor can stop responding, resulting in the hypervisor and all guest OSes on the machine needing to be restarted. This issue is caused by a bug in the Linux kernel used in some versions of PowerKVM. Before using the BoKS Server Agent in a PowerKVM environment, FoxT strongly recommends you upgrade to **PowerKVM V3.1.0.2 Update 4 or later** where the bug is fixed. Note that this update for PowerKVM is scheduled for release in January 2017. This issue has not been observed when running Red Hat Enterprise Linux 7 on the PowerVM hypervisor.

- BoKS Manager 7.0 uses RSA ACE library 8.5, with the exception of Server Agents on the following platforms which use RSA ACE library version 5:
 - Cumulus Linux 2.1
 - Red Hat Enterprise Linux 6 on PowerPC64
 - Red Hat Enterprise Linux 7 on PowerPC64 Little Endian

Note that RSA ACE library version 5 uses a UDP-based protocol and does not support communication via IPv6.

- The MRC package for Oracle Solaris 11 is available as of 01/21/2016. Any hotfix packages previously downloaded for Solaris 11 should **not** be applied on any new Master or Replica installation. Please download the **updated** hotfix packages from the FoxT customer support website, and apply the new hotfix packages as these have been updated to support MRC functionality.
- A Unix Group Migration Tool (separate download from the FoxT customer support website) is available as of 03/31/2016 to help with the migration of Unix groups and group assignments to users and User Classes from your old domain to the new domain when you upgrade to BoKS Manager 7.0. For more details of how the tool works, see the manual, *BoKS Manager 7.0 Unix Groups Migration Guide*, which accompanies the tool.
- When you upgrade to version 7.0, the format for messages in the BoKS audit log is set to “raw”, and the logs are not displayed in the FoxT Control Center audit log view.

This issue can be prevented if you apply the hotfix HFBM-0122, which is available for download from the FoxT customer support website, on your BoKS Master. The hotfix:

- sets log messages to “severity only” (the default setting for a new BoKS Manager 7.0 install) and also
- enables logs in “raw” format to be displayed in FCC.

If you have not yet upgraded, note that the hotfix should be applied after you upgrade to BoKS Manager 7.0 but **before** you restore the database, to avoid having some logs in the “raw” format. For more details, see the hotfix README.

If you have already upgraded, you should still apply the hotfix, as it enables logs in “raw” format to be displayed in FCC.

Additional Information

You can check what format log messages are in using the following CLI command on the Master:

```
# bokslogadm -V

Log redirection command: >/dev/console
Log file size limit before backup: 1024 kbytes
Absolute maximum log file size: 1152 kbytes
Log format: raw
Log synchronize frequency: never
Log synchronize interval: never
```

If the format is set to “raw” or “facility”, change it to “severity” and rotate the log as follows:

```
# bokslogadm -F s
# bokslogadm -n
```

This will start a new log file in “severity” format which will only contain messages that FCC can display even without hotfix HFBM-0122 applied.

It is also possible to convert old logs to the “severity” format using a script (note that you do not need to do this if you are only viewing logs in FCC or with **bokslogview**). Here is an example script in **ruby**:

```
$sev =
['emergency', 'alert', 'critical', 'err', 'warning', 'notice', 'info',
'debug']

$stdin.each_line do |line|
  if line =~ /^<([0-9]+)>1 (.+)/
    puts "#{$sev[$1.to_i & 7]} #{ $2}"
  else
    puts line
  end
end
```

Paste this script into a text file named **logconvert.rb**. This script will read logs from stdin and print the converted logs to stdout. To run it, redirect input and output to files as appropriate. For example:

```
# ruby logconvert.rb < input_filename > output_filename
```

Supported Platforms

BoKS Manager 7.0 is supported on the following platforms:

Table 1: Supported Platforms

Vendor	Platform	Comments
IBM	IBM AIX 7.1, 7.2	The supplied example AIX 7 xRBAC configuration was based on the AIX 7.1 RBAC configuration which differs from the AIX 7.2 RBAC configuration.
	IBM AIX 6.1	Server Agent only. AIX 6.1 requires Service Pack 2 (6100-00 Service Pack 2) or higher
Oracle	Oracle Solaris 11 on SPARC & x64	Oracle Solaris up to and including v 11.3 is supported. Oracle Solaris 11.4 is not supported.
	Oracle Solaris 10 on SPARC & x64	
	Oracle Enterprise Linux 7 on x64	Support for this platform is included in the package for Red Hat EL 7.0.
	Oracle Enterprise Linux 6 on x64*	Support for this platform is included in the package for Red Hat EL 6.0.

Table 1: Supported Platforms

Vendor	Platform	Comments
Red Hat	Red Hat Enterprise Linux 7 on x64, Power8 (Little Endian)	Power8 package is for Server Agent only.
	Red Hat Enterprise Linux 6 on x64, PowerPC	PowerPC package is for Server Agent only.
SUSE from Novell	SUSE Linux Enterprise Server 12 on x64 and zSeries	Server Agent only.
	SUSE Linux Enterprise Server 11 on x64	Server Agent only.
CentOS	CentOS 7 on x64	CentOS 7 support included in the BoKS Manager package for Red Hat Enterprise Linux 7 on x64
	CentOS 6 on x64	CentOS 6 support included in the BoKS Manager package for Red Hat Enterprise Linux 6 on x64
Cumulus	Cumulus Linux 2.1 (Debian-based)	Server Agent only. See the <i>BoKS Manager 7.0 Debian Release Notes</i> for specifics. This package is available at the Cumulus online repository - please contact your Fox Technologies representative for details.
Debian	Debian 7 on x64	Server Agent only.
	Debian 8 on x64	Server Agent only.
Ubuntu	Ubuntu 14 on x64	Server Agent only.
	Ubuntu 12 on x64	Server Agent only.
HPE	HPE Linux for Helion OpenStack on x64	Server Agent only. Support for this platform is for HPE Linux versions based on Debian 8 and is included in the package for Debian 8.

* BoKS Server Agent for Unix / Linux 7.0 has been qualified to operate on Oracle Red Hat Linux 6.8 using the Unbreakable Enterprise Kernel Release 4.

[Go to top](#)

End-of-life Information

- For information on the end-of-life schedule for this release, please see the BoKS Knowledge Base at <https://community.helpsystems.com>.

What's New

New features in this release. Note that the features described here are new in BoKS Manager as compared to the BoKS Manager 6.7 release.

For more detailed information on each feature, see the *BoKS Manager 7.0 Administration Guide* and *Installation Guide*, and where appropriate, BoKS man pages for relevant CLI programs.

Note: The old BoKS Administration GUI is no longer included in this release of BoKS Manager.

SELinux Support on Red Hat 6 / 7

SELinux is supported and enabled by default on BoKS hosts running Red Hat 6 / 7. For specifics on the implementation, see the *BoKS Manager 7.0 Installation Guide*.

Note: Only the targeted policy is supported. This is the default policy on Red Hat Enterprise Linux 6 / 7.

BoKS Licensing

BoKS Manager 7.0 includes a new licensing mechanism for BoKS hosts. The licensing system regulates the number of servers you can register per BoKS domain. Licenses are imported and managed using the new CLI program `$BOKS_sbin/bokslicense`.

For more details, see the BoKS man page `bokslicense` and the *BoKS Manager 7.0 Installation Guide*.

BoKS Database Integrity Checking Tool

BoKS Manager 7.0 includes the program `db_check`, which can be used to check a BoKS database dump produced using `dumpbase` for illegal characters and reference integrity.

For full details, see the BoKS man page `db_check`.

IPv6 Support

Support for IPv6 IP addresses in specific areas of the BoKS infrastructure is introduced in version 7.0. IPv6 addresses are supported for host and Host Group definitions, access methods and Access Route definitions. For more information see the *BoKS Manager 7.0 Administration Guide*.

[Go to top](#)

What's Changed

Changed features in this release. Note that the features described here are changed in BoKS Manager as compared to the BoKS Manager 6.7 release. This section includes detailed descriptions for major changes and a table listing minor changes in this release.

For more detailed information on each feature, see the *BoKS Manager 7.0 Administration Guide* and *Installation Guide*, and where appropriate, BoKS man pages for relevant CLI programs.

Major Changes

New Audit Logging Infrastructure and Message Format

BoKS Manager 7.0 features a re-designed audit logging system to produce more efficient and accurate logging of events in the BoKS domain. The new log message format is an RFC5424-based syslog format. The program used to manage logs is now called **bokslogadm** and the program used to view logs is now called **bokslogview**.

New Keystroke Log Transport Infrastructure

BoKS Manager 7.0 includes a new mechanism for handling keystroke log files. Logs are written directly to Replicas where possible and then forwarded to the Master, and otherwise can be stored encrypted on the host where the keystroke logging session takes place until they can be transferred to the Master. File naming format and default storage locations have changed. For more information, see the *BoKS Manager 7.0 Administration Guide*.

Unix Group Management

Unix group management has been updated so that Unix groups can now be provisioned to specific hosts and Host Groups. Previously in BoKS, Unix groups were stored as `name:gid` pairs, where each group name could map to multiple GIDs and vice versa. The Unix group object in BoKS now has the format `host/Host Group:groupname`. On a particular host or Host Group, there can only be one single group name to GID mapping.

To aid migration of Unix groups when you upgrade to BoKS Manager 7.0, a separate Unix Group Migration Tool is available - see “Important Notes” on page 2 for more information.

Pre-defined Host Groups and User Classes Removed

The pre-defined Host Groups `SSODT`, `SSOSRV` and `TRUSTED` have been removed and are no longer created in a new installation of BoKS Manager. The same is true for the pre-defined User Classes `ADMIN`, `STAFF`, `USERS`, `SSOUSERS`, `GUEST` and `NOACCESS`.

Note, however, that if you restore a database from an older version as part of an upgrade, the old predefined Host Groups, and User Classes with associated Access Routes may also be in your database.

The pre-defined Host Group `ALL` is still included.

Host Pre-registration and Host Timezone Data Moved to Database

The following data has been moved from storage in files to be stored in the BoKS database instead:

- Information about host pre-registrations and pre-registration types is now stored in the BoKS database instead of the files `$BOKS_var/prereghost.cfg` and `$BOKS_var/preregclass.cfg` where it was previously stored.
- Timezone information for hosts is now stored in the BoKS database instead of in the file `$BOKS_etc/timezones` where it was previously stored.

New Field Length for HOSTGROUP and USERCLASS Fields

The `HOSTGROUP` and `USERCLASS` fields in the BoKS database have been extended to the new length of 64 characters.

Other Removed Functionality

The following deprecated functionality previously included in the product has also been removed from this version:

- Group Encryption Key support, including the CLI program `gekadm`.
- Support for encrypted telnet / telnet SSO. Fox Technologies recommends that any encrypted telnet Access Routes are replaced with SSH Access Routes.
- Support for NIS+ has been removed, including the CLI programs `addusr_nisp`, `delusr_nisp` and `modusr_nisp`. Note that NIS support is still included in BoKS Manager.
- The following Access Route modifiers are no longer supported:
 - Standard Unix login (`stdlogin`)
 - System password (`syspsw`)
 - Log only (`logonly`)
- The `PCNFS` access method is no longer included

Access Routes that include deprecated modifiers and access methods may be safely removed / replaced with supported alternatives where required.

Minor Changes

The following table lists in detail minor changes to CLI programs, variables and configuration parameters.

Table 2: Minor changes

Change
<p>Changes to CLI programs in relation to new Unix group format:</p> <p>groupadm: group name format. <code>-d</code> now takes <code>-f</code> (force) flag, <code>-r</code> added to <code>-m</code> to change name of a unix group. The <code>-c</code> (add to user class) no longer accepts <code>-i</code> flag, UNIX group must be specified with <code>-n</code>.</p> <p>mkbks: <code>-g</code> only accepts a GID, not a name</p> <p>mkbks/modbks: <code>-m</code> and <code>-M</code> now only accepts new type UNIX group name</p> <p>classadm: <code>-g</code> and <code>-G</code> now only accepts new type UNIX group name</p> <p>lsbks: New output format of secondary group listing</p> <p>groupimport: changes needed to specify host/hostgroup to import groups to. See the BoKS man page groupimport for details.</p>
<p>The obsolete command kslogfile has been removed. The superceding command kslogview should instead be used to view keystroke log files.</p>
<p>New option to the kslogview program: <code>-L <lid></code>. kslogview now looks for keystroke log files in the new storage location for files.</p>
<p>The BoKS ENV variables <code>KSLOG_LEAVE_CLNT_FILES</code> and <code>KSLOG_INVALID_FILES_LOCATION</code> are no longer supported. For the latter, invalid files are now stored relative to the location specified by the variable <code>KSL_LOGFILE_FDLOCATION</code>.</p> <p>The variable <code>KSLOG_MASTER_LOGFILES_LOCATION</code> has been renamed to <code>KSL_LOGFILE_FDLOCATION</code>.</p>
<p>A new CLI command named acstatus has been added to check the status of the connection to RSA Authentication Manager.</p>
<p>The boksadm command alias keonadm has been removed.</p>
<p>The boksadm command is no longer used to manage the old BoKS Administration GUI, which is not included in this release. Therefore the options <code>-b</code>, <code>-v</code>, <code>-f</code> and <code>-d</code> are removed, and the option <code>-s</code> is no longer required.</p>
<p>The adsync command now respects the <code>LOGIN_SPECIAL_CHARS</code> variable, a new ENV variable for adding special characters to be allowed in Unix user names. For further details see the BoKS man page ENV.</p>
<p>kslogadm has new sub-commands, <code>listqueues</code> and <code>parsefile</code> - see the BoKS man page kslogadm for details.</p>
<p>The BoKS ENV variables <code>ERRLOG_CACHE</code> and <code>ERRLOG_CACHE_<program></code> are no longer supported.</p>
<p>In previous version, the <code>FromHost</code> part in XDM Access Routes is defined as <code><host>:<display number></code>. In version 7.0 and later, however, <code>:"</code> is used as a separator in IPv6 addresses, so XDM Access Routes should no longer contain the display number.</p> <p>When upgrading to BoKS 7.0, any XDM Access Routes that contain a display number must be updated and the display number removed.</p>

Table 2: Minor changes

Change
<p>In earlier BoKS versions boks_servc used an external daemon boks_hostlookupd to do host name/address lookup and the boks_hostlookupd daemon was restarted after a timeout.</p> <p>In BoKS 7.0 boks_servc by default uses an asynchronous name resolver library to be able to perform DNS lookup with timeout internally. However this library only supports the DNS protocol. If some other protocol is used for host name lookup, LDAP, NIS etc., boks_servc must be configured to do host lookup via boks_hostlookupd by setting the ENV variable <code>SERV_C_USE_HOSTLOOKUPD=on</code> on the BoKS Master and all Replicas.</p>
<p>The obsolete command keygen is removed in version 7.0.</p>
<p>The program logadm is renamed to bokslogadm, with some flags removed and some flags added. See the BoKS man page bokslogadm for details.</p>
<p>The program bkslog is renamed to bokslogview, with some flags removed and some flags added. See the BoKS man page bokslogview for details.</p>
<p>A new host type named <code>WINDYNIPLCLIENT</code> is supported, used for DHCP BoKS Server Agent for Windows hosts.</p>
<p>Labels for logs considered to be alarmlogs are now stored in the BokS database rather than the <code>\$BOKS_etc/alarmlogs</code> file.</p>
<p>The options <code>-a</code>, <code>-L</code> and <code>-s</code>, related to alarmlog processing, are no longer supported for bksdef.</p>
<p>Support is removed for older bridge crypto versions, supported versions are AES-256, AES-128 and RC5-128.</p>
<p>The ssltelnetproxy used for encrypted telnet is removed.</p>

Go to top

Fixed Issues

Issues that have been fixed in this release.

Table 3: Fixed Issues in BoKS Manager 7.0

Issue #	Title	Description
#8125, TFS071002- 161639	UNCLEAR ERROR MESSAGE ON boks_aced	When you booted a BoKS server and were not using RSA Authentication Manager, an unclear error message was generated about not being able to access the <code>sdconf.rec</code> file. More information has been added to clarify this message.
#8035, TFS130903- 014387	CLEAR TEXT PASSWORD NOT TRUNCATED ACCORDING TO BoKS POLICY	For FCC users logging in using the BCCASD protocol with password authentication, the clear text password was not truncated according to the <code>PSWMAXLEN</code> global security setting before being hashed.

Table 3: Fixed Issues in BoKS Manager 7.0

Issue #	Title	Description
#8003, TFS130626- 014284	DEBUG COULD SHOW USER PASSWORD IN CLEAR TEXT	When certain operations using client programs were performed with debugging enabled, user account details including passwords could be written in clear text to the debug output.
#8002, TFS10977	BOKS_SSH_FTL NOT IN ENV FILE	The BoKS ENV variable BOKS_SSH_FTL was not included in the BoKS ENV file, but had to be added manually.
#7964, TFS10889	adgroup MAN PAGE CLARIFICATION	The BoKS man page adgroup was not sufficiently clear that the option <code>adgroup -o</code> should be supplied with a Relative Distinguished Name (RDN) as input.
#7962, TFS10918	MISSPELLING IN pswadm OUTPUT HEADER	The header for the output to the command "pswadm" <code>regex -l</code> contained the misspelling "error" instead of "error".
#7953, TFS10415	KERBEROS AUTHENTICATION FAILURE	The <code>adjoin</code> call to Active Directory to set the host kerberos key sometimes failed, causing the <code>adjoin</code> operation to fail.
#7890, TFS10893	adsync FAILS IF CN INCLUDES PARENTHESES	If a user synchronized from AD using <code>adsync</code> has parentheses in the DNAME, <code>adsync</code> failed with the message "syntax error near unexpected token `("".
#7888, TFS10890	adsync FAILS TO DETERMINE DC WHEN DASH IN DOMAIN NAME	If the Active Directory name included a dash character ("-"), the adsync program was not able to determine the Domain Controller for the AD domain, and returned an error.
#7859, TFS10854	INSUFFICIENT INPUT VALIDATION WITH <code>cadm</code>	cadm did not properly validate input with the result that incorrectly constructed commands could for example overwrite database files on the Master.
#7847, TFS10589, TFS140514- 014854	ORPHANED <code>kslog</code> PROCESSES ARE NOT TERMINATED	On Linux, following a keystroke logged session, the kslog process continued to run even though the user's shell was gone.
#7763, TFS140320- 014687	FILE PERMISSIONS ISSUE WITH <code>upgrade_client</code>	The upgrade_client script did not set the correct file permissions for all restored files, which could cause issues with for example SSH authentication.
#7758, TFS140721- 015009, TFS140827- 015078	install PROGRAM FAILS IF BCASTADDR FILE HAS SECONDARY_ADDRESS_L IST DEFINED	The <code>install</code> program fails if it is given a <code>bcastaddr</code> file as an argument and the <code>bcastaddr</code> file includes the parameter <code>SECONDARY_ADDRESS_LIST</code> .
#7746, TFS140109- 014586	boksinfo SHOULD COLLECT INFORMATION FROM SMF ON SOLARIS	On Oracle Solaris 11, the <code>boksinfo</code> utility fails to collect output information from SMF, which is used instead of certain configuration files.

Table 3: Fixed Issues in BoKS Manager 7.0

Issue #	Title	Description
#7745, TFS100725- 259586	CAPTURING ERROR MESSAGES IN boksinfo	The package with output data from boksinfo did not include error messages. Now any error output is included in the file boksinfo_errlog.txt within the boksinfo archive.
#7742, TFS131210- 014555	modbks -G NEWHGRP DOES NOT ACCEPT OPTION -Q	The -Q option to the modbks program is obsolete, but under certain circumstances the BoKS admin server still called modbks with option -Q. However enhanced consistency checking in modbks meant the -Q option was no longer accepted by the program.
#7713	nslookup RUN IN BoKS SHELL GIVES ERROR REGARDING libcrypto.so	On Debian and Ubuntu, when in the BoKS shell, nslookup (and possibly other commands) fail, returning an error stating that \$BOKS_lib/shlib/libcrypto.so.1.0.0 has no version information available. This issue is caused by an incompatibility between the BoKS and system version of the libcrypto.so shared library. In the BoKS shell, the BoKS version of the library is found first. WORKAROUND: Either exit the BoKS shell, or temporarily unset <code>LD_LIBRARY_PATH</code> when running the command, e.g.: <code>BoKS # LD_LIBRARY_PATH= nslookup</code>
#7678, TFS120408- 013379	BoKS DATABASE SHARED MEMORY FRAGMENTS	Database shared memory would fragment when the database was initialized at Boot or when doing a garbage collection. This could cause a situation where BoKS was unable to initialize the shared memory after a Boot or garbage collection, making authentications fail.
#7679, TFS140626- 014961	REPORT_BOKS_SSH_VER SION SHOWS OPENS SSH VERSION	REPORT_BOKS_SSH_VERSION=on made boks_sshd show the BoKS and OpenSSH version, a new value "sshboksver" has been added, which makes boks_sshd only show the BoKS version number as the old value on did in pre-6.7 versions.
#7640, TFS140304- 014667	boks_sshd DUMPS CORE WITH "DOUBLE FREE OR CORRUPTION" ERROR	When reusing an SSH connection for multiple sessions with the <code>controlpath</code> option, boks_sshd dumped core and returned an error similar to the following: <code>glibc detected: ... double free or corruption.</code>
#7638, TFS140220- 014654	NO adsync SUPPORT FOR NON-BASE64 ENCODED WRAPPED LINES	The adsync script lacked support for non-base64 encoded wrapped lines in the LDIF data. I.e. LDAP attribute values folded onto multiple lines.
#7637, TFS140214- 014643	adsync AND NON-EXPIRING ACCOUNTS IN AD	The expiry date given in BoKS to non-expiring users from AD could be interpreted differently depending on the timezone, resulting in either Jan 17, 2038 or Jan 18, 2038.
#7623, TFS141017- 015167	WRONG PATH CAUSES "NO SUCH USER" ERROR	A wrong path to the nscd Unix Domain Socket in <code>clntd</code> could cause updates to user accounts not to be picked up, which can result in a "No such user" error when trying to access modified user accounts.

Table 3: Fixed Issues in BoKS Manager 7.0

Issue #	Title	Description
#7610, TFS130726- 014329	adjoin MAY FAIL IF HOSTNAME IS NOT FQDN	When performing an adjoin operation, if the hostname command did not return the FQDN, the operation could fail with the error message <code>adjoin: constraint violation</code> .
#7603, TFS110110- 012296, TFS141007- 015141	SUEXEC DUMPS CORE ON VERY LONG ARGUMENT LINE	On some platforms, the suexec program dumps core or creates incorrect logs when given a very long argument line.
#7586, TFS130912- 014407	clear_cache FLAG ALWAYS DISABLED FOR GET HOST KEY	When retrieving SSH host keys, the clear_cache argument is ignored and the function <code>get_hostkey()</code> is called with clear_cache hard coded to 0.
#7583, TFS130911- 014403	ON-DEMAND CREATION OF HOME DIRECTORIES FAILS	An issue in boks_sshd caused the on-demand creation of home directories to fail.
#7582, TFS130523- 014236	suexec, su AND klog DO NOT CHECK RETURN STATUS FROM setgid/setuid	A missing check in su (on non-PAM platforms), suexec and klog on the result from setuid/setgid meant that if the call failed, a user could gain root or root group id privileges when the intention was to give privileges as a non-root user.
#7550, TFS140922- 015112, TFS140924- 015121, TFS141023- 015183	clntd DUMPS CORE IF NIS PASSWD FILE DOES NOT EXIST	If you create a user in a Host Group mapped to NIS, but the NIS passwd file does not exist, clntd dumps core.
#7517, TFS100725- 2510871, TFS10866	suexec EVALUATION OF ACCESS PERMISSIONS DOES NOT RECOGNIZE SYM-LINKS	Definitions of program paths in suexec Access Routes do not recognize symbolic links, causing intended access to fail.
#7514, TFS140604- 014904	INTERPRETATION OF START AND END TIME FOR ACCESS ROUTES	The hour2sec function that is used by various CLI programs to parse start and end times for Access Routes did not fully support adding a colon as delimiter between hours and minutes, and did not include proper validation of inputted parameters.
#7497, TFS131001- 014458	INCORRECT WARNING IN checkdomain	The checkdomain program included an incorrect warning that flagged when the BoKS version on the Master and Server Agents were different, when this configuration is supported.
#7485, TFS130523- 014236	MISSPELLING IN bksdef MAN PAGE	The <code>bksdef</code> man page included a misspelling, in the description of the <code>-z</code> option, where "from -> too" was used instead of "from -> to".

Table 3: Fixed Issues in BoKS Manager 7.0

Issue #	Title	Description
#7472, TFS140723- 015017	boksinfo FAILS AFTER INCOMPLETE CLIENT SETUP	If you have run <code>setup client</code> on a Server Agent but the setup failed because the Agent could not contact a BoKS server, the <code>boksinfo</code> program should still be able to complete without failing.
#7437, TFS140428- 014800	SMALL BUFFERS MAKE TRANSFER OF FILES WITH cadm SLOW	The routines in <code>boks_clntd</code> for file transfer used small buffers, which caused file transfer to generate a lot of small network packets. This could make writing to and reading files remotely using <code>cadm</code> perform slowly.
#7432, TFS140623- 014954	bridge_master_s PERFORMANCE ISSUES ON ext4 FILE SYSTEM	The performance of the master send bridge on Replicas was worse on RedHat 6 using the <code>ext4</code> filesystem (default) than when using the <code>ext3</code> filesystem.
#7423, TFS140708- 014993	MAN PAGES LACK INFO ON KEYSTROKE LOGGING	The BoKS man pages <code>ttyadmin</code> and <code>routeadm</code> do not include information about the <code>kslog</code> modifier.
#7418, TFS140707- 014987	NAMESPACE RESTRICTIONS WHEN CREATING WINDOWS USER	When creating a Windows type user in BoKS, namespace character restrictions valid for Unix were applied to the username allowed, even though Windows has a more generous permitted namespace.
#7415, 120725-013 675	WRONG HOTFIX VARIABLE NAME IN ENV MAN PAGE	The ENV man page referred to the ENV variable <code>HOTFIX</code> but the correct variable name is now <code>PKG_HOTFIX</code> .
#7410, TFS140701- 014979	adsync CHANGES USERNAME WHEN PROVISIONING TO BoKS	The <code>adsync</code> program changed the username of users synchronized from AD to BoKS, which could cause SecurID and other authentication to break. Changes to usernames from synchronization have been minimized and can be configured using the <code>LOGIN_SPECIAL_CHARS</code> variable.
#7385, TFS140605- 014909	adsync DELETES ALL USERS WHEN UNABLE TO CONTACT AD	When the BoKS Master was not able to contact the Active Directory, the <code>adsync</code> operation deleted all previously synched user accounts from BoKS.
#7373, TFS140521- 014870	ERROR WHEN EXPANDING HOST GROUP BASIC DATA IN FCC	The API function <code>getHostGroup</code> does not return the <code>adsyncAccountType</code> attribute for AD-mapped host groups; if requested, it is simply missing from the response. This causes FoxT Control Center to report "An error occurred" when attempting to expand the Basic Data section for a Host Group that is mapped to Active Directory.
#7339, TFS140516- 014865	MAX LENGTH OF USER CLASS NAME NOT DOCUMENTED	The man page for <code>classadm</code> did not include information on the maximum length that can be entered for a User Class name. It now includes this information (the maximum length is 64 characters).

Table 3: Fixed Issues in BoKS Manager 7.0

Issue #	Title	Description
#7336, TFS140516- 014865	MAX LENGTH OF HOST GROUP NAME NOT DOCUMENTED	The man page for hgrpadm did not include information on the maximum length that can be entered for a Host Group name. It now includes this information (the maximum length is 64 characters).
#7319, TFS140514- 014853	hostadm -A MAY GENERATE BOGUS MESSAGES IN clntd BATCH QUEUE	When setting one of the <code>noclntd</code> or <code>nopswupdate</code> flags password file updates or other (xRBAC related) messages were stored in the <code>clntd bridge fque</code> , although typically the purpose of the command is to inhibit such messages.
#7240, TFS140411- 014779	INCORRECT LOG MESSAGE FROM CONSOLE LOGIN	When logging on to the console (<code>/dev/console</code> or similar), the message in the audit log was <code>login_ok2</code> rather than the correct <code>login_ok</code> .
#7196, TFS130726- 014329	FILE PERMISSIONS FOR BoKS ENV FILE INCONSISTENT	The BoKS ENV file was created such that the permissions were not definitively set but could be influenced by the current <code>umask</code> of any user opening the file.
#7175, TFS140214- 014643	NON-EXPIRING AD-SYNCED ACCOUNTS HANDLED INCORRECTLY	When user accounts are synced from Active Directory and do not have an expiry date in AD, the expiry date set for the user was not handled correctly, causing <code>modbks</code> changes every time <code>adsync</code> was run and writing messages similar to the following to the BoKS audit log: <pre>Enabling parameter loginvalidtime [380118] for username. Login expiration date changed to 01/18/38</pre>
#7138, TFS140109- 014585	kslog ON AIX CAN OVER-RUN LOG BUFFER	With keystroke logging sessions configured to log output from commands on AIX hosts, if the command generated large amounts of data within a very short time an internal buffer in the <code>kslog</code> program could overflow, causing the <code>kslog</code> program to stop responding with memory access violation, terminating the session.
#7062, TFS121031- 013879	FUNCTION <code>expand_host_flg()</code> FETCHES ALL HOSTS, SLOWING DOWN MASTER	The function <code>v4/boks/lib/admin/gethosts.c:expand_host_flg()</code> always fetched NAME, TYPE and FLAGS for all hosts in the BoKS database, which slowed down the <code>boks_master</code> process for operations where this function was used, including operations using <code>cadm</code> , <code>boksdiag</code> , <code>groupadm</code> and <code>mkhome</code> .

Table 3: Fixed Issues in BoKS Manager 7.0

Issue #	Title	Description
#7061, TFS120606- 013543	UID AND GID RANGE IN BoKS	<p>BoKS previously treated UID and GID as signed on Linux, which caused UID/GID to be written as a negative value if larger than 2147483647.</p> <p>BoKS now treats UID/GID on Linux as unsigned.</p> <p>Valid range for uid and gid differs for different platforms. Uid and gid can also be signed or unsigned depending on platform. BoKS stores uid and gid internally as signed 32-bit integers, thus supporting a range of -2147483648 to 2147483647.</p> <p>On platforms using unsigned uid/gid, boks_clntd converts signed to unsigned and vice versa when writing uid and gid from/to the local system files. For example, on AIX the nobody account can have both uid and gid 4294967294. When reading the /etc/passwd file with cadm the uid and gid are converted to the corresponding signed 32-bit integer -2</p> <pre>BoKS # cadm -l -f passwd -h aix71 grep nobody nobody:*:-2:-2:/:</pre> <p>Similarly to creating an account with a uid/gid larger than 2147483647 on the local system the uid/gid value in BoKS should be set to the corresponding (negative) 32-bit signed value. In BoKS a uid of -1 will result in local unsigned uid of 4294967295 etc.</p> <p>Note also that the valid uid/gid range on some platforms is less than the full range of a 32-bit integer.</p> <p>The BoKS ENV variable UIDRANGE can be used to limit the range of uid/gid values accepted by BoKS.</p>
#7060, TFS130422- 014188	hgrpadm ALLOWS ADDING A SPACE AS A MEMBER, WHICH MAKES servc FAIL	<p>hgrpadm did not include sufficient checks on strings entered as a Host Group member. For example you could add a single space as a Host Group member, and this caused servc to fail when trying to resolve a user on that Host Group.</p>
#6542	gunzip ERROR MESSAGE WHEN RUNNING UPGRADE	<p>When you run boks_upgrade setup for the first time, the following error may be displayed:</p> <pre>gunzip: is.gz: No such file or directory gunzip: /bin/gunzip: not in gzip format</pre> <p>This error can be safely ignored, as the upgrade procedure continues even though the error is displayed.</p>

[Go to top](#)

Known Issues

Issues identified in this release, with workarounds where appropriate.

NOTE: The addition of support for non-crypt Unix password hashes makes it possible to use longer password lengths than 8 characters. However, be aware that different services may impose limits on password length that are outside the control of BoKS Manager. For more details, see the Administration Guide.

Table 4: Known Issues in BoKS Manager 7.0

Issue #	Title	Description
#13310	INSTALL ON SUN T3 SERVERS	BoKS 7.0 installation programs stop responding on Sun T3 servers. See also Important Notes.
#8271	SELINUX ENFORCING WITH OFFLINE SUPPORT PREVENTS CONSOLE LOGIN	On Red Hat Linux 6 & 7, when SELinux is in enforcing mode and the host is configured for BoKS offline login support, console login does not work for either root or non-root users. A workaround is not to include <code>login</code> in the list of <code>OFFLINE_SERVICES_ROOT</code> specified in the BoKS <code>ENV</code> file. If <code>login</code> is not included, the fall-back mechanism which allows root to log in on the console when the machine is off-line is used instead.
#8205	ENV VAR PORT_RANGE CAUSES FATAL ERROR	The ENV variable <code>PORT_RANGE</code> , when set, causes the <code>boks_bridge</code> process to exit and write the following error to the BoKS error log: <code>FATAL ERROR: ENV:PORT_RANGE Incorrect, Success (0)</code> This ENV variable should not be used.
#8192	REMOTE KEYSTROKE LOG LIMITATION	The current implementation of the remote keystroke logging service in BoKS 7.0 has a limit of approximately 500 simultaneous sessions per Replica server. WORKAROUND: Alt. 1: Distribute the load to a larger number of Replica servers. Alt. 2: Configure keystroke logging sessions to log to a local file, or fall back to local file logging if a remote keystroke logging session cannot be started. Future versions of BoKS Manager will increase this limit.
#8136	HOST VIRTUAL CARD ISSUES WITH LOG FORWARDING DAEMON	If a Master where <code>fccsetup</code> has been run to create a host Virtual Card (VC) for the host does not have a FQDN in the BoKS database, the certificate in the VC will likely have been created with FQDN in the DN component in the certificate. If this Master is later converted to a Replica, the log forwarding daemon (<code>boks_blogrd</code>) will fail to connect to the Master. The solution to this is to either rename the host to have FQDN in the BoKS database, or to issue a new host VC to the host.

Table 4: Known Issues in BoKS Manager 7.0

Issue #	Title	Description
#8109	REPLICA BoKS RESTART SENDS KSLOG FILES TO MASTER ERROR DIR	If BoKS on a Replica handling kslog remote data is restarted, you will get the current kslog file(s) ending up in the error directory on the Master once BoKS on the Replica is restarted again.
#8102	SOME DEBIAN telnetd VERSIONS CAUSE ISSUES WITH BoKS	On Debian, some versions of telnetd cause authentication issues with BoKS, therefore to avoid issues ensure that you have openbsd-inetd and telnetd installed.
#8091	adgroup, adjoin CANNOT FIND DOMAIN CONTROLLER	On AIX 6.1 and 7.1, and Solaris 10 and 11, adgroup and adjoin fail to automatically locate the domain controller. Use the flag -K <domain controller> to work around this.
#8039	BoKS kinit FAILS ON SOLARIS WITH ksh	If run on a Solaris machine in the ksh shell, the BoKS kinit command stops responding after prompting for the password. WORKAROUND: Either use the system's native kinit command, or use another shell than ksh.
#8026	KEYRING NOT SUPPORTED IN krb5.conf	On some systems you can use the keyword KEYRING for default_ccache_name, default_client_keytab_name and default_keytab_name in the krb5.conf file. BoKS does not support the KEYRING keyword, so to make the system utilities compatible with the BoKS ones these should be commented out so that the default value with FILE is used.
#7828	REXEC NOT SUPPORTED FOR IPv6 ON LINUX	Using rexec to log in to a BoKS-protected server with an IPv6 address is not supported for Linux-based platforms. However it is supported for Oracle Solaris and IBM AIX.
#7729	AIX: NATIVE SSH DOES NOT FUNCTION WHEN BoKS PROTECTION ACTIVE	On IBM AIX, when BoKS protection is active on an AIX host, the native system SSH implementation does not function correctly and should not be used.
#7724	CONNECTION TO syslog SHUTS DOWN WITH ERROR	If BoKS is set up to log using TLS to an external rsyslogd , an error log similar to the following will appear in syslog every time BoKS is stopped: <code>netstream session <ID> will be closed due to error</code> This can be ignored.
#7720	DEBIAN & UBUNTU VERSIONS ASSUME DEFAULT inetd IS USED	Although on Debian and Ubuntu you can select which inetd daemon to use, for example you can use xinetd instead of the standard default openbsd-inetd , the BoKS Manager 7.0 version built for these platforms only works with the system default openbsd-inetd . If you have configured the system to use any other daemon, BoKS does not function correctly.

Table 4: Known Issues in BoKS Manager 7.0

Issue #	Title	Description
#7719	PROMPTING AND TEXT DISPLAY ISSUES WITH X LOGIN ON UBUNTU	<p>When logging in using X (unity) on Ubuntu, a user is normally always selected and a prompt is displayed requesting e.g. password. If the authentication method for that user changes, this is not reflected in the prompt.</p> <p>WORKAROUND: Select another user, then the first user again.</p> <p>In addition, text messages from BoKS are truncated and shown for a very short time.</p> <p>WORKAROUND: There is no workaround to this issue. This is caused by a limitation in the Ubuntu X-login client.</p>
#7717	STANDARD SYSTEM SCREENLOCK DOES NOT PROMPT FOR SECURITY PIN	<p>On Debian and Ubuntu, the standard screensaver (gnome screensaver) runs as the user logged in, and so cannot determine how the user authenticated when logging in, so will ask for password to unlock the screen even if e.g. an RSA SecurID token was used to log in.</p> <p>WORKAROUND: Configure the system to use the BoKS screenlock program <code>xdl</code>, which is located in the directory <code>\$BOKS_bin/X11</code>.</p>
#7635	SSH LOGIN TO SELINUX ROLE NOT SUPPORTED	<p>On Red Hat Linux, when you log in to a BoKS-protected host using SSH, it is not supported to choose an SELinux role using the <code>user/role@host.com</code> syntax.</p>
#6436	USER LOGON NAME REQUIREMENTS FOR AD BRIDGE PASSWORD SYNCH	<p>For password synchronization to function correctly between Active Directory and BoKS, the "User logon name" and "User logon name (Pre-Windows 2000)" must be identical for a user, and the "User Logon Name (Pre-Windows 2000)" must contain only ASCII characters.</p>
#6265, TFS130204- 014042	INCORRECT MESSAGE FROM FILMON	<p>If a file being monitored by BoKS file monitoring is removed during a scan, but recreated when filmon processes the old database to discover e.g. files that have been removed, filmon incorrectly reports that the actual monitoring configuration has changed and the file in question is no longer being monitored.</p>
#6127, TFS110706- 012754	BoKS FILE MONITORING ISSUES	<p>This report includes two issues where BoKS file monitoring does not function as expected:</p> <ol style="list-style-type: none"> 1. If a "top level" directory or file which is specified in the file monitoring configuration file is missing on the host, filmon fails with an error rather than logging the discrepancy and continuing with the scan. 2. If a "sub level" file or directory is missing, filmon returns the same error message but continues scanning without, however, logging the discrepancy.

Table 4: Known Issues in BoKS Manager 7.0

Issue #	Title	Description
#6123, TFS120809- 013704	LIMITATIONS IN modbks -G FUNCTIONALITY	The command modbks -G, used to change the Host Group part of a user account, has some limitations including lack of support for wildcard members added to Host Groups and lack of support to handle users with the same login name in different Host Groups.
#6115, TFS090821- 141531, TFS100725- 2510213	BROKEN DNS ENTRY CAUSES ACCESS ROUTES NOT TO FUNCTION	If a host has a broken DNS entry, so that its IP address can be mapped to a name, but the name cannot be mapped back to an IP address, Access Routes to the host that contain an IP address definition do not function correctly even if the variable HOSTUNKNOWNADDRESSOK is set to "on", in which case it might be expected that the Access Route would treat the host as an unknown host.
#6114, TFS120510- 013451	FULL DISK CAN CAUSE CORRUPTED ENV FILE	In the event of a disk becoming full on a running system, certain operations can cause the BoKS ENV file to become corrupted, for example bdebug and BoKS activation / deactivation operations.
#5750, TFS120723- 013671	adjoin DOES NOT DETECT IF HOST ALREADY JOINED TO KERBEROS SERVER	It is possible to join a host to an additional Active Directory even when it is already joined to another Kerberos server. This should be avoided as it could lead to unforeseen authentication behavior and is not a supported configuration.
#5586, TFS120514- 013475	HOSTNAME MAPPING TO EXTERNAL NETWORK ADDRESS MUST EXIST PRIOR TO BOKS INSTALLATION	RedHat Linux by default maps the hostname to the loopback address 127.0.0.1 in the /etc/hosts file at installation even if an external network address is configured for the machine. Similarly, SuSE Linux can append 127.0.0.2 to /etc/hosts for the hostname, and Debian uses 127.0.1.1. For BoKS to be installed correctly, the /etc/hosts file must map the external network address to the hostname registered on the BoKS Master and the loopback address 127.0.0.1, 127.0.0.2 or 127.0.1.1 must NOT be mapped to the hostname registered in BoKS. Before installing BoKS, check the /etc/hosts file and correct it if necessary to meet this requirement.
#061017-11 2910	PAM-BASED X-LOGIN ACCESS CONTROL MAY FAIL ON FIRST LOGIN ATTEMPT AFTER BoKS ACTIVATION/DEACTIVATIO N	PAM-based X-login using dtlogin/gdm/kdm/xdm is locked to a PAM configuration when displaying the login dialog and waiting for a login attempt. When BoKS is activated/deactivated the changed PAM configuration does not take effect until AFTER the first login attempt following a BoKS activation/deactivation. On the first login attempt after activation/deactivation the login may fail with an error message, or the user may be allowed to log in even if access should NOT be allowed according to BoKS access control rules. WORKAROUND: To avoid this issue, FoxT recommends always restarting the X Windows system after you activate or deactivate BoKS protection.

Table 4: Known Issues in BoKS Manager 7.0

Issue #	Title	Description
#5120	'CANNOT READ KEYTAB FILE' ERROR WITH SSH KERBEROS AUTHENTICATION	ssh login with Kerberos authentication fails and the boks_errlog file contains the message "cannot read keytab file". WORKAROUND: This error can be avoided by ensuring that the server uses the Fully-Qualified Domain Name as hostname. If the server uses a shorter version of the hostname, the OpenSSH daemon does not find the local key in the keytab file, since this is named after the FQDN.
#4876, TFS110420-012573	INTERPRETATION OF WILD CARDS IN PROGRAM GROUP DEFINITION	The man page for the pgrpadmin program does not state if / how wild cards and regular expressions can be used. Wild cards are allowed with pgrpadmin (* and ?), but not regular expressions (e.g. [a-z]).
#060825-163100	RLOGIN WITH SAFEWORD GENERATES "PAM AUTHENTICATION FAILED" MESSAGE	When a user performs rlogin and authenticates using a SafeWord token on Linux platforms, "PAM authentication failed" messages are written to /var/log/messages, even though the authentication is successful in BoKS.
	NON-CRYPT PASSWORD HASHING MAY REQUIRE ADDITIONAL OS SOFTWARE	Use of non-crypt password hash formats might require installation of additional system software packages or fixes on Oracle Solaris and IBM AIX. See the section "Unix/Linux Password Encryption" in the BoKS Manager Administration Guide for details.
	GROUP PASSWORDS ARE NOT SUPPORTED	Before installing BoKS any existing group passwords must be removed from the /etc/group file. If shadowed group passwords are in use i.e. an /etc/gshadow file exist, the entire /etc/gshadow file should be removed.
#061023-132719	BoKS DOES NOT START PROPERLY IF INSTALLED WITH A VERY LONG PATH	The BoKS base install paths (that have the default settings /opt/boksm, /etc/opt/boksm and /var/opt/boksm) should not be set to a path that is longer than 128 characters.
#4043	OLD SAFEWORD SERVERS MAY NOT WORK WITH OpenSSL TLSv1 PROTOCOL	The new OpenSSL version in BoKS manager 6.6.1 and later adds new extensions to the TLSv1 protocol. Old Safeword servers might not handle TLS extension negotiation correctly. To overcome this problem, a new configuration variable has been added to the BOKS_etc/safeword.cfg file named SSL_PROTO. The default value is "TLSv1" but the value can be set to "SSLv3" to make Safeword authentication work with old Safeword servers.

Table 4: Known Issues in BoKS Manager 7.0

Issue #	Title	Description
TFS041014-155307	FILES MUST BE TRANSFERRED MANUALLY AFTER UPGRADING REPLICA	<p>After you upgrade a Replica, or reinstall BoKS Manager on a Replica for any other reason, you must manually transfer a number of files to the Replica by running the following command on the Master:</p> <pre>BoKS# push_files <replica name></pre> <p>This ensures that the Replica has all the required files in the event that it must be converted to a Master. For details, see the BoKS man page <code>push_files</code>.</p>
TFS070921-083246	boks_upgrade HOTFIX INSTALL CANNOT DISTINGUISH PATCH LEVEL ON TARGET HOSTS	<p>When installing hotfixes remotely with <code>boks_upgrade</code> it is not possible to limit the installation to only hosts running a specific BoKS patch level. For example, if a hotfix intended for BoKS version 6.5.1 is installed using <code>boks_upgrade</code> and the target is a Host Group containing both 6.5.1 and 6.5.2 hosts, the <code>boks_upgrade</code> program will try to install the hotfix on all the hosts in the Host Group.</p>
	CANNOT CHANGE PASSWORD HASH ALGORITHM CONFIGURATION WHEN BoKS IS ACTIVE	<p>On Redhat Enterprise Linux 6, the password hash algorithm configuration can be changed via the utility <code>/usr/bin/system-config-authentication</code>. Changing the password hash algorithm configuration updates the parameter "crypt_style" in file <code>/etc/libuser.conf</code>, see <code>libuser.conf(5)</code> and the password hash option to the <code>pam_unix.so</code> modules in <code>/etc/pam.d/system-auth-ac</code>, see <code>pam_unix(8)</code>.</p> <p>When BoKS protection is active, <code>/etc/pam.d/system-auth-ac</code> is a soft-link to <code>/etc/pam.d/org/system-auth-ac</code> and this apparently prevents <code>/usr/bin/system-config-authentication</code> from updating the password hash option of the <code>pam_unix.so</code> module.</p> <p>Although the <code>pam_unix</code> module is not used for authentication when BoKS protection is active, it is important that the password hash option is correctly configured because this configuration is also used by BoKS to select hash algorithm when provisioning user accounts to the machine.</p> <p>WORKAROUNDS:</p> <p>ALT 1. Deactivate BoKS protection before changing the password hash algorithm with <code>/usr/bin/system-config-authentication</code>.</p> <p>ALT 2. Edit the password hash algorithm configuration manually using a text editor in the files <code>/etc/libuser.conf</code> and <code>/etc/pam.d/system-auth-ac</code>.</p>

Go to top

Revision History

Revision: 20

Date of this revision: 12/11/2018

Revision history:

Table 5: Revision History

Rev No	Date	Comments
1	04/21/2015	First version.
2	05/06/2015	Updated with known issue #8205.
3	05/20/2015	Updated RHEL 6 package to MRC status.
4	05/27/2015	Updated CentOS & Oracle Linux 6 packages to MRC status.
5	06/18/2015	Updated with new platform ports, known issue #8271.
6	09/15/2015	Added information about removed support for NIS+ (see the section "Other Removed Functionality").
7	01/21/2016	Availability of MRC package for Oracle Solaris 11.
8	03/31/2016	Availability of Unix Group Migration Tool.
9	05/16/2016	Added note about audit logs not displaying in FCC after upgrade (see "Important Notes" on page 2).
10	06/02/2016	Added information on hotfix for issue with audit logs not displayed in FCC after upgrade (see "Important Notes" on page 2).
11	07/05/2016	Added support for SuSE Linux Enterprise Server 12 on zSeries (Server Agent only).
12	08/31/2016	Added support for AIX 7.2 MRC, note on xRBAC support.
13	09/19/2016	Added support for Debian 8 / HPE Linux.
14	12/20/2016	Added support for RHEL 7 on Power8 (Little Endian).
15	02/22/2017	Added information about RPM for BoKS SELinux policy, plus hotfix HFBM-0166.
16	03/06/2017	Added information about applying hotfix HFBM-0165 for full SELinux compatibility.
17	03/27/2017	Added information about qualification of BoKS Server Agent on Oracle Red Hat Linux 6.8 using the Unbreakable Enterprise Kernel Release 4.
18	04/04/2017	Added information about installation issue on Sun T3 servers. See known issue #13310.
19	09/19/2018	Information about the end-of-life schedule is now published in the BoKS Knowledge Base.
20	12/11/2018	Added information about platform support on Solaris 11.

[Go to top](#)

Getting Support And Service

If you have a question about a specific item in this document, refer to the case number or title listed at the start of the item when you place your technical support call.

- Fox Technologies, company, products and sales ~ <https://www.helpsystems.com>
- Technical support login ~ Portal login via <https://community.helpsystems.com>

© 2018 Fox Technologies, a HelpSystems Company. All rights reserved