

Backup & restore guide

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Chapter 1

About this guide

The AKIPS *Backup & restore guide* assists users to back up and restore AKIPS Networking Monitoring Software.

The following **Abbreviations** (see 1.1), **Text conventions** (see 1.2) and **Syntax** (see 1.3) are used throughout AKIPS's guides.

1.1 Abbreviations

3DES	triple data encryption standard
ADB	AKIPS database
AES	advanced encryption standard
AKIPS	Always Keep It Purely Simple :)
API	application programming interface
ARP	address resolution protocol
AS	autonomous system
BFD	bidirectional forwarding detection
BGP	border gateway protocol
CA	certificate authority
CBQoS	class-based quality of service
CGI	computer gateway interface
CIDR	classless inter-domain routing
CLI	command line interface
CPU	central processing unit
CSR	certificate signing request
CSV	comma-separated values
cURL	client url
DHCP	dynamic host configuration protocol
DN	distinguished name
DNS	domain name system
FQDN	fully qualified domain name
GB	gigabyte
GRE	generic routing encapsulation
GUI	graphical user interface
HTTP	hypertext transfer protocol
HTTPS	hypertext transfer protocol secure
IF-MIB	interface MIB
IP	internet protocol
IPFIX	internet protocol flow information export
ipsla	internet protocol service level agreement
IS-IS	intermediate system to intermediate system
LAN	local area network
LDAP	lightweight directory access protocol

MAC	media access control
MIB	management information base
NAS	network-attached storage
NDP	neighbour discovery protocol
NIC	network interface card
NMS	network-monitoring software
NTP	network time protocol
OID	object identifier
OS	operating system
PCRE	Perl-compatible regular expressions
PEM	privacy-enhanced mail
PFX	personal information exchange format
PKCS	public key cryptography standards
png	portable network graphics
POSIX	portable operating system interface
PSSH	parallel secure shell
QoS	quality of service
RADIUS	remote authentication dial-in user service
RAID	redundant array of independent disks
RAM	random-access memory
RTT	round-trip time
SAN	storage area network
SCSI	small computer system interface
SHA	secure hash algorithm
SMI	structure of management information
SMTP	simple mail transfer protocol
SNMP	simple network management protocol
SSH	secure shell
SSL	secure sockets layer
STARTTLS	start transport layer security
stderr	standard error
sysadmin	system administrator
TACACS+	terminal access controller access-control system plus
TCP	transmission control protocol
TLS	transport layer security
TOS	type of service

UID	user identifier
UDP	user datagram protocol
UTC	coordinated universal time
VLAN	virtual local area network
VM	virtual machine
WAN	wide area network

1.2 Text conventions

Menu names and options are in **bold**.

E.g. **Go to Admin > System > System Settings**

Bold is also used for emphasis or clarity.

E.g. The **backup server** must have double the disk space of the **production server**.

Bookmarks (active links to Contents, Index and shortcut items) are depicted as **red** boxes.

E.g. The following **Abbreviations** (see 1.1), **Text conventions** (see 1.2) and **Syntax** (see 1.3) are used throughout AKIPS's guides.

Bookmarks display (as red boxes) in pdfs but not hard copies.

Websites and email addresses are in **blue**.

If they have an active hyperlink, they will also be in a **cyan** box.

E.g. <https://www.akips.com>

Hyperlinks display (as cyan boxes) in pdfs but not hard copies.

Code is in **monospace**.

Further:

Command syntax is in **red**.

E.g. **{ddd} {hh:mm} to {hh:mm}**

Input (user) is in **blue**.

E.g. **tf dump last7d**

Output (AKIPS) is in **cyan**.

E.g. **cisco-74-1-1 sys ip4addr = 10.74.1.1**

1.3 Syntax

Syntax may be formatted across multiple lines due to layout constraints. You will need to run commands in a single line.

Parameters (fields expecting a substituted value) are contained within `{ }` (braces).

E.g. `{type} {value}`

Optional parameters are contained within `[]` (square brackets).

E.g. `[index,{description}]`

Optional parameters may be nested.

E.g.

`mlist {type} [{parent regex} [{child regex} [{attribute regex}]]]`

For values separated by a `|` (pipe), choose one option only.

E.g. `[any|all|not group {group name} ...]`

Multiple parameters will have an `...` (ellipsis).

E.g. `not group {group name} ...`

Chapter 2

Backing up AKIPS

AKIPS automatically backs up every 80 minutes. It transfers backups securely using the SSH protocol.

The backup copies the following data:

- ADB, configuration and log files
- system firewall rules
- password and group files.

Backups are incremental: to reduce network bandwidth and disk usage, AKIPS transfers only modified files.

2.1 Backup servers

Production server (source)

The **production server** is the server which you wish to back up.

This server requires a licence key.

For information about licence keys, refer to the AKIPS licence chapter in the AKIPS Install & upgrade guide.

Backup server (destination)

The **backup server** stores the backups. This has a standard installation of AKIPS, but is not configured to poll your network.

This server does not require a licence key.

Redundant server

The **redundant server** manually restores data to itself, thereby reducing downtime if the **production server** fails.

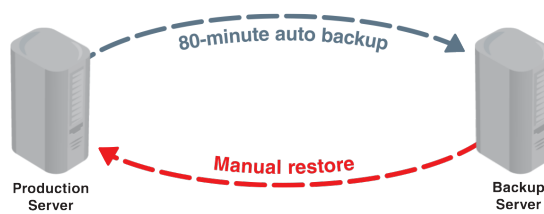
This server requires a licence key.

2.1.1 Scenario 1: restore from backup server to production server

If you lose data from your **production server**, you can recover it by restoring from the **backup server**.

The **backup server** must have double the disk space of the **production server**.

Scenario 1 Restore from Backup Server to Production Server



Production Server
data loss



2.1.2 Scenario 2: restore from backup server to new production server

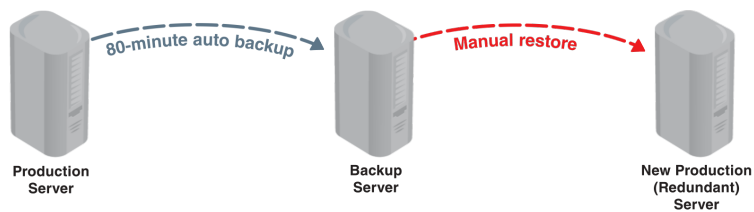
If your **production server** catastrophically fails, you can restore backup data to another server, which will then become your new **production server**.

You must first install AKIPS on the new server.

Do not further configure the software (e.g. do not perform a network discover).

The **backup server** must have double the disk space of the **production server**.

Scenario 2 Restore from Backup Server to new Production Server



Production server
catastrophic failure

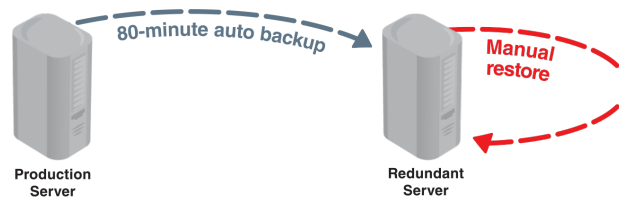


2.1.3 Scenario 3: restore from redundant server to itself

If your **production server** catastrophically fails, you can restore backup data by saving from the **redundant server** to itself, thereby continuing to monitor your network with minimal downtime.

The **redundant server** must have triple the disk space of the **production server** (x2 for the backup data plus an extra x1 to restore the data).

Scenario 3 Restore from Redundant Server to itself



Production server
catastrophic failure



2.2 Running a backup

To configure backup settings:

Log into AKIPS as the admin user on the server you wish to back up.

Go to **Admin > System > Backup**.

Change **Backup** from **Off** to **On**.

We recommend that you leave the backup **Schedule** as **Every 80 minutes**.

Specify the **Backup IP** of the destination server.

Type your password.

To save and test an authentication key:

Click **Save Authentication**.

AKIPS will connect to the **backup server** and copy the SSH authentication key.

Click **Test Authentication**.

AKIPS will display either **ssh test failed** or **ssh test passed**.

If the authentication test has failed:

Either the backup IP or password is incorrect.

Review and correct.

Click **Test Authentication**.

When the authentication test has passed:

Click **Save Authentication**.

To run a backup:

Select **Run Backup**.

The backup will queue and, after a short delay, will begin running.

To check the backup progress:

Select **Check Status**.

Chapter 3

Configuring a new server

3.1 Changing the new server's IP address

When restoring a backup to a new server, you must change the new server's IP address to match the production server's IP address.

To change the new server's IP address:

Shut down the production server by going to **Admin > System > System Shutdown**.

Click **Shutdown Server**.

On the new server, log into AKIPS as the admin user.

Go to **Admin > System > System Settings**.

Change the **IPv4 Address** and **IPv4 Netmask**.

Click **Save**.

Reboot the server by going to **Admin > System > System Shutdown**.

Click **Reboot Server**.

3.2 Setting the backup server's IP address

On the new server, set the backup server's IP address and authenticate the connection.

To set the backup server's IP address:

On the new server, log into AKIPS as the admin user.

Go to **Admin > System > Restore**.

In the **Restore From** text field, type the IP address of the backup server.

In the **Password** text field, type your password.

Click **Save Authentication**.

AKIPS will connect to the backup server and copy the SSH authentication key.

Click **Test Authentication**.

3.3 Restoring a backup

To restore a backup:

On the new server, log into AKIPS as the admin user.

Go to **Admin > System > Restore**.

Select **List Backups**.

AKIPS will display each backup with a timestamp.

Select **Restore** beside the backup which you wish to restore.

When AKIPS displays the warning prompt, click **OK**.

Depending on the size of the backup and your network speed, it may take AKIPS a few minutes or several hours to restore the backup.

When AKIPS has finished restoring the backup, it will reboot.

Click OK only if you are certain that you wish to proceed.

3.4 Testing the new server

To test the new server:

Wait for several minutes after AKIPS has rebooted.

Check the following tables:

- **Reports > Device > IPv4 Ping Statistics**
- **Reports > Interface > Statistics**

If the tables populate with data, then the new server is working.

You have now finished configuring the new server.

- If your aim was to create a new production server, **stop here**.
- If your aim was only to *test* configuring a new server, proceed to 3.5.

3.5 Destroying the test server

If your aim was to create a new production server, **do not** proceed with the following.

If your aim was only to *test* configuring a new server, proceed with the following to ensure that no duplicate copies of AKIPS monitor your network.

To destroy the test server:

Go to **Admin > System > Restore**.

Click **Destroy Database**.

Click **OK**.

Chapter 4

Expanding the virtual disk

AKIPS will display an alert in the top right-hand side of the screen when the disk capacity exceeds 80 per cent.

For best performance, keep the disk capacity below 80 per cent.

To expand the virtual disk:

Go to **Admin > System > System Shutdown**.

Click **Shutdown Server**.

Wait for the VM to completely shut down.

Expand the size of the current virtual disk by increasing the number of CPU cores, memory size and disk space.

Restart the VM.

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