

Backup & restore guide

nitoring Software

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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
CDP	Cisco discovery protocol
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	
LLDP	link layer discovery 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

CHAPTER 1. ABOUT THIS GUIDE

1.2 Text conventions

Menu 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**.

Links to other parts of this guide are shown 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.

Websites and email addresses are in blue.

If they are also hyperlinks, they are shown as cyan boxes.

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

Code is in monospace.

Further:

Command syntax is in **red monospace**.

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

Input (by the user) is in **blue monospace**.

E.g. tf dump last7d

Output (by AKIPS) is in cyan monospace.

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

1.3 Syntax

Syntax may be presented in this guide across multiple lines due to layout constraints. When using AKIPS, 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.

To view the video *Backing up AKIPS*, visit https://vimeo.com/manage/videos/515593967

CHAPTER 2. BACKING UP AKIPS

2.1 Backup servers

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

This server requires a licence key.

Refer to the 'AKIPS licence' chapter in the AKIPS Install & upgrade guide.

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.

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

This server requires a licence key.

Refer to the 'AKIPS licence' chapter in the AKIPS Install & upgrade guide.

2.2 Backup scenarios

To view the video *AKIPS backup scenarios*, visit https://vimeo.com/manage/videos/502901562

2.2.1 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**.



Graphic 1: restoring from the backup server to the production server

2.2.2 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.



Graphic 2: restoring from the backup server to the new production server

2.2.3 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).



Graphic 3: restoring from the redundant server to itself

CHAPTER 2. BACKING UP AKIPS

2.3 Running a backup

To configure backup settings:

Log into AKIPS with your admin account 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 $\ensuremath{\textbf{Schedule}}$ as $\ensuremath{\textbf{Every 80 minutes}}.$

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

Type your password.

To test and save an authentication:

Click Test Authentication.

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



Graphic 4: testing an authentication

If the authentication test fails:

Review and correct the backup IP and/or password.

Click Test Authentication.

When the authentication test passes:

Click Save Authentication.



Graphic 5: saving an 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

To view the video *Configuring a new AKIPS server*, visit https://vimeo.com/manage/videos/519764716

3.1 Setting the backup server's IP address

On the new server, set the backup server's $\ensuremath{\mathsf{IP}}$ address and authenticate the connection.

To set the backup server's IP address:

On the new server, log into AKIPS with your admin account.

Go to Admin > System > Restore.

In the $\ensuremath{\textit{Restore From}}$ 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.

CHAPTER 3. CONFIGURING A NEW SERVER

3.2 Restoring a backup

To restore a backup:

On the new server, log into AKIPS with your admin account.

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, if you are certain that you wish to proceed, click ${\bf OK}.$

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.

3.3 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.

If your aim was to create a new production server:

Stop here.

(Optional: You can also proceed to 3.4 to change the new server's IP address.)

If your aim was only to test configuring a new server:

Proceed to 3.5.

3.4 Changing the new server's IP address

Use the following procedure when:

- the old server no longer exists
- you would like the new server to have the old server's IP.

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 with your admin account.

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.

3.5 Destroying the test server

If your aim was to create a new production server, $\ensuremath{\textbf{do}}\xspace$ not proceed with the following.

If your aim was only to *test* configuring a new server (see 3.3), 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 this by expanding the virtual disk.

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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