

# AKiPS™

Network Monitoring Software

## Install & upgrade guide



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# Chapter 1

## About this guide

The AKIPS *Install & upgrade guide* assists users to install and upgrade AKIPS Network 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

# Platform requirements

AKIPS is engineered to scale within a VM environment.

Before installing AKIPS, ensure that your platform meets the following minimum requirements:

*The majority of our customers deploy AKIPS on VMs.*

<b>Number of interfaces</b>	<b>Minimum requirements</b>
Up to 100,000	VM 2+ CPU cores 8 GB RAM 200 GB disk space
100,000 to 250,000	VM 4+ CPU cores 16 GB RAM 500 GB disk space
250,000+	VM 8+ CPU cores 32 GB RAM 1 TB disk space

*If you are installing AKIPS onto a backup server, double the disk space listed here. Refer to the Backing up AKIPS chapter in the AKIPS Backup & restore guide.*

## 2.1 Software

### 2.1.1 CPU

AKIPS requires dedicated CPUs.

CPU cores which are shared between VMs on a VM host will lead to CPU resource starvation.

This typically leads to:

- jumps in time
- gaps in polling
- false outage reports.

### 2.1.2 Storage

AKIPS runs a realtime database. Its performance depends on sequential read/write performance and requires minimal storage fragmentation and latency.

AKIPS requires:

- preallocated/thick (not thin) provisioning
- eager (not lazy) zeroed.

### 2.1.3 VMware

When configuring a VMware guest:

- use an emulated LSI SCSI controller
- lock the MAC address to the VM.

## 2.2 Hardware

We recommend installing and evaluating AKIPS in a VM environment before investing in any physical hardware.

AKIPS monitors 1,000,000+ interfaces without specialised hardware. However, it may require a dedicated RAID storage system instead of a SAN or NAS. In this case, contact [support@akips.com](mailto:support@akips.com) to discuss your specific configuration needs.

*All hardware must be compatible with our FreeBSD OS.*

## Chapter 3

# Installing AKIPS

### To install AKIPS:

Go to <https://www.akips.com>

In the menu bar, select **Download**.

Click **Download**.

Read the *AKIPS Software Licence Agreement*.

Click **Install & Upgrade ISO** only if you agree to the terms.

Create the VM and attach the installer disk image file (ISO).

Configure the VM settings and boot.

At the **AKIPS Network Monitor** screen, select **Install**.

At the **RISK OF DATA LOSS** screen, select **Yes**.

At the **Keymap Selection** screen:

- select **Enter** to select the default or
- scroll to select your preference and then select **Enter**.

*By downloading AKIPS, you are bound to the terms of the AKIPS Software Licence Agreement.*

At the **Set Hostname** screen, type a valid hostname.domain

Select **Enter**.

Enter a password.

Retype the password to confirm.

Select **Enter**.

At the **Network Configuration** screen, select a network interface.

Select **OK**.

At the **IPv4** prompt, select **Yes**.

At the **DHCP** prompt, select **No**.

At the **Static Network Interface Configuration** screen, complete the following text fields:

- IP address
- subnet mask
- default router.

Select **OK**.

At the **IPv6** prompt, select **No**.

At the **Resolver Configuration** screen, enter the DNS addresses.

Select **OK**.

At the **Network Time Protocol Configuration** screen, enter the NTP server address.

Select **OK**.

*This password is for the root, akips and admin accounts. For shell access, log in as the akips user.*

*You can configure IPv6 later by going to Admin > System > System Settings.*

Review the **Verify hardware clock** screen:

<b>Scenario</b>	<b>Action</b>
The date is incorrect	Contact your VM administrator to fix the date on the VM host
The current UTC time displays	Select <b>No</b>
Any timezone other than UTC displays	Select <b>Yes</b>

On the screens that follow, select your applicable timezone options.

Select **Yes** to confirm.

AKIPS will finish the installation.

Select **OK** to reboot the server.

AKIPS will run a number of processes which will not require you to take any action.

AKIPS will prompt you to log in with your admin account.

To finalise, click **Accept License**.

## Chapter 4

# Discovering your network

AKIPS runs its network discover based on IP address ranges and SNMP parameters.

### To discover your network:

Log into AKIPS as your admin user.

Go to **Admin > Discover > Discover / Rewalk**.

Using the guidance on the right-hand side, complete the **Discover / Rewalk** panel.

Ensure that you complete both:

- **2. Ping Scan Ranges**
- **3. SNMP Parameters.**

Click **Save Changes**.

Select **Discover**.

When AKIPS has finished discovering your network, it will display a message in green.

*This may take several minutes.*



Wait for five minutes, then check the following tables:

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

If the tables populate with data, then AKIPS is working.

## Chapter 5

# Additional configurations

### 5.1 Syslog

You can configure routers and switches to send syslog messages to AKIPS.

Consult your equipment vendor's documentation for guidance.

#### **To check the syslog:**

Go to **Tools > Syslog**.

Click either **Table** or **Top Talkers**.

## 5.2 SNMP traps

AKIPS supports SNMPv2 and SNMPv3 traps.

*AKIPS does not support SNMPv1 traps.*

### To set up SNMP traps:

Go to **Admin > General > SNMP Traps**.

Using the guidance on the right-hand side, complete the trap parameters.

Click **Save**.

Go to **Tools > SNMP Traps**.

Click either **Table** or **Top Talkers**.

## 5.3 NetFlow

You can configure routers to send NetFlow messages to AKIPS on ports 2055, 4739, 9995 or 9996.

AKIPS supports NetFlow v5/9, Netstream, J-Flow v5/9 and IPFIX.

*AKIPS does not support index or AS numbers for NetFlow v5.*

### To display NetFlow reports:

Go to **Tools > NetFlow**.

Define your report using the **NetFlow Reporter** parameters.

Select one of the following buttons:

- **Table**
- **Bar Graph**
- **Disk Usage**
- **Unknown Ports**

## Chapter 6

# AKIPS licence

### **To request an AKIPS licence:**

Log into AKIPS as your admin user.

On the homepage, click **Software Activation**.

Click **Request Evaluation Key**.

Complete all mandatory text fields.

Select **Request a Trial Key**.

AKIPS will display a message to confirm that we are processing your request.

**To activate an AKIPS licence:**

After the AKIPS team has emailed a licence key to you, copy the key.

Log into AKIPS as your admin user.

On the homepage, click **Software Activation**.

Paste the key into the **Licence Key** text field.

Click **Activate Licence**.

## Chapter 7

# Upgrading AKIPS

AKIPS recommends that you always upgrade to the latest version.

### To upgrade AKIPS:

Go to <https://www.akips.com/showdoc/download>

Select **Download**.

Click **Upgrade ISO**.

Save the file onto your computer.

The software will download, displaying the version number in the filename.  
E.g. akips-21.1-upgrade.iso

Log into AKIPS as your admin user.

Go to **Admin > System > Update**.

Browse to locate the downloaded file.

Click **Open**.

At the **Software Update** screen, select **Start Upgrade**.

After the upload has completed, AKIPS will automatically upgrade the software.

*After you have downloaded the file, upgrading is quick, often taking less than a minute.*

**If the upgrade is for the AKIPS software only:**

AKIPS will update the version details on the menu bar and resume monitoring your network.

**If the upgrade is for both the OS and AKIPS software:**

AKIPS will reboot your OS.

Refresh your browser to continue using AKIPS.



## Chapter 8

# Training

To fully learn how to use AKIPS, you can register for training via <https://www.akips.com/showdoc/training>

AKIPS's training partner, KLARITY, trains customers in both hemispheres.

Training provides timesaving guidance and tips, including for:

- grouping
- alerting
- site scripting
- your own network and specific queries.

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