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Document Revision Control

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Software Release</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Updated technical specifications on page 1, storage text page 2, new screen shots: step 5-pg 4, step 12, step 14-pg 6, table update step 16-pg 7, reorganisation of contents pg10-end, additional text regarding training</td>
</tr>
</tbody>
</table>

This guide supports all software releases subsequent to the last document revision.

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Web site: [https://www.akips.com](https://www.akips.com)

Guide Conventions

The following conventions are used to highlight key information.

- Additional information, examples.

- Tips and hints to aid in optimum performance and efficiency.

- Vital information you need to be aware of before continuing.

Navigational paths using menus and sub-menus are bolded and appear as `MenuName1 > SubMenuName`. Fields and buttons that you need to select are bolded. Hyperlinks are shown in blue ([ExampleHyperlink](#)).
Table of Contents

1 Platform Requirements .......................................................................................................................... 1
  1.1 VM .................................................................................................................................................. 1
    1.1.1 CPU ........................................................................................................................................ 1
    1.1.2 Storage ................................................................................................................................... 2
    1.1.3 VMware .................................................................................................................................. 2
  1.2 Physical Hardware.............................................................................................................................. 2

2 Downloading AKIPS ............................................................................................................................ 2

3 Installing AKIPS...................................................................................................................................... 3

4 Discovering Your Network................................................................................................................... 10

5 Verifying AKIPS is Working ................................................................................................................ 11

6 Additional Configurations .................................................................................................................... 12
  6.1 Syslog Configuration ...................................................................................................................... 12
  6.2 SNMP Trap Configuration ............................................................................................................... 12
  6.3 NetFlow ........................................................................................................................................ 13

7 Software Activation .............................................................................................................................. 14
  7.1 Request an Evaluation Licence Key ............................................................................................... 14
  7.2 Activate an Evaluation Licence Key ............................................................................................... 16

8 Using AKIPS Effectively ..................................................................................................................... 17
1 Platform Requirements

Before installing AKIPS ensure the minimum requirements shown below are met.

<table>
<thead>
<tr>
<th>Network Size</th>
<th>Interfaces</th>
<th>Minimum Platform</th>
</tr>
</thead>
</table>
| Small        | 50,000     | • Virtual Machine  
• 2+ CPU Cores  
• 8 GB RAM  
• 200 GB disk space |
| Medium       | 100,000    | • Virtual Machine  
• 4+ CPU Cores  
• 16 GB RAM  
• 500 GB disk space |
| Large        | 250,000    | • Virtual Machine  
• 8+ CPU Cores  
• 32 GB RAM  
• 1 TB disk space |

If you under specify the virtual machine, it is simple to expand it in the future.

For assistance with large networks contact the AKIPS technical support team by email: support@akips.com.

1.1 VM

AKIPS is engineered to scale within a VM environment. The majority of AKIPS deployments are running on VMs; deployment on physical hardware is a rare exception.

This section describes a few key points to ensure you obtain the best performance from AKIPS when deploying on a VM.

1.1.1 CPU

AKIPS requires dedicated CPUs.

CPU cores which are shared between VMs on a VM host leads to CPU resource starvation. This typically presents itself in AKIPS as jumps in time, gaps in polling and false device outage reports.
1.1.2 Storage
AKIPS requires:
- preallocated / thick provisioning, not thin provisioning
- eager zeroed, not lazy zeroed

AKIPS runs a real time database. Its performance depends on sequential read/write performance and expects minimal storage fragmentation and latency.

1.1.3 VMware
When configuring a VMware guest:
- Use an emulated LSI SCSI controller
- Lock the MAC address to the VM

1.2 Physical Hardware
AKIPS highly recommends installing and evaluating the application in a virtual machine environment before investing in any physical hardware.

All network environments are different (e.g. the number of devices, interfaces, traps, syslog, users, NetFlow, etc.) and a one-size-fits-all hardware specification is not appropriate.

AKIPS does not require specialised hardware to monitor up to 1,000,000 interfaces (e.g. SSD, 10G Ethernet). However, it may require a decent dedicated disk system instead of a SAN or NAS.

AKIPS runs on a FreeBSD Operating System so ensure your physical hardware is compatible. If you have queries relating to your physical hardware send an email to support@akips.com.

2 Downloading AKIPS
Installing AKIPS is quick and simple.

1. Navigate to the AKIPS website and select Download from the menu bar.
2. Select Download from the displayed options.
3. Select Install & Upgrade ISO (xxx MB) when the AKIPS Software Licence Agreement displays.
3 Installing AKIPS

1. Use the **AKIPS CDROM ISO** to boot your system either from a physical or virtual machine.

2. Press **Enter** to begin the installation at the **AKIPS Network Monitor** screen.

3. Select **Yes** and press **Enter** at the **RISK OF DATA LOSS** screen. The default is no and if selected the installation is halted.

4. Press **Enter** to select the default at the **Keymap Selection** screen. You can scroll to locate your preference.
5 Type a valid hostname.domain and press **Enter** at the *Set Hostname* screen.

Several examples are provided. Do NOT use an invalid Domain Name such as .home, .local, .test.

![Set Hostname](image1.png)

The operating system files are checked and extracted. There is a delay before checking begins.

![Archive Extraction](image2.png)

6 Key a **New Password** and press **Enter** when prompted to create a password for the “admin” user.

![AKIPS Network Monitor Installer](image3.png)

This newly created password is used for “admin”, “root” and “akips” accounts. If you later require shell access for any reason, login in as the “akips” user with this password.
7 Select a **Network Interface** to configure and press **Enter** at the *Network Configuration* screen.

8 Press **Enter** at the *IPv4 Configuration* screen.

9 Select **No** and press **Enter** at the *Network Configuration DHCP* prompt.

10 Complete the following fields using your environment details at the *Network Configuration (Static Network Interface)* screen:
   - IP Address
   - Subnet Mask
   - Default Router

   **Use the navigation keys (arrows) on your keyboard to navigate between fields.**
11 Select **OK** and press **Enter**.

12 Select **No** and press **Enter** at the **IPv6 Configuration** screen.

   ![Network Configuration](image)

You can configure IPv6 later if required by navigating to: Admin > System Settings and completing the IPv6 details including IP Address, Gateway and Nameserver.

13 Complete the **DNS** addresses at the **Network Configuration (Resolver Configuration)** screen.

14 Select **OK** and press **Enter**.

15 Complete a **NTP Server** address and press **Enter** at the **Network Time Protocol** screen.
16 Review the time at the Verify hardware clock screen.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation on physical hardware and the displayed date is incorrect</td>
<td>Halt the installation and rectify the time issue.</td>
</tr>
<tr>
<td>Installation on a VM and the displayed date is incorrect</td>
<td>Contact your VM administrator to correct the date and time on the VM host.</td>
</tr>
<tr>
<td>The current local time displays.</td>
<td>Select Yes and press Enter.</td>
</tr>
<tr>
<td>The current UTC time displays</td>
<td>Select No and press Enter.</td>
</tr>
<tr>
<td>A time zone other than local or UTC</td>
<td>Select Yes and press Enter.</td>
</tr>
</tbody>
</table>

17 Select the appropriate option and press Enter in the following screens.
Depending on your region a listing of Time Zones may display, make a selection.
Alternatively, verification of the time abbreviation may display.

Wait as the AKIPS Network Monitor Installer completes the installation.

![Australia Time Zones](image)

1. Lord Howe Island
2. Macquarie Island
3. Tasmania (most areas)
4. Tasmania (King Island)
5. Victoria
6. New South Wales (most areas)
7. New South Wales (Yancowinna)
8. Queensland (most areas)
9. Queensland (Whitsunday Islands)
10. South Australia
11. Northern Territory
12. Western Australia (most areas)
13. Western Australia (Eucla)

**AKIPS Network Monitor Installer**

Creating home filesystem...
ZFS NOTICE: Prefetch is disabled by default if less than 4GB of RAM is present; to enable, add "vfS.zfs.prefetch_disable=0" to /boot/loader.conf.
ZFS filesystem version: 5
ZFS storage pool version: features support (5000)
Installing pkg...
Installing ca_root_nss-3.45.txz...
Installing expat-2.2.6.1.txz...
Installing freetype2-2.16.0.txz...
Installing fribidi-0.19.7.txz...
Installing graphite2-1.3.13.txz...
Installing icu-64.2.1.txz...
Installing indexinfo-0.3.1.txz...
Installing jpeg-turbo-2.0.2.txz...
Installing libdnet-1.13.3.txz...
Press Enter to confirm a reboot of the server.

There is a short delay as the server reboots.

```
# root@akips6:~# reboot
Rebooting, give us a minute or two...
Waiting (max 60 seconds) for system process 'unira' to stop... done
Waiting (max 60 seconds) for system process 'bufdaemon' to stop... done
Waiting (max 60 seconds) for system process 'syncer' to stop...
Syncing disks, vnodes remaining... 0 0 done
All buffers synced.
```

A number of steps are performed as part of the reboot which does not require any action on your part.

During the reboot the FreeBSD screen displays.

```
FreeBSD
```

On completion the login prompt displays signifying the installation is complete.

```
Mon Aug 19 15:07:46 AEST 2019
FreeBSD/amd64 (dev12-10.akips.com) (ttyv0)
login:  
```

You can now access the server via a web browser.
4 Discovering Your Network

To discover all the SNMP capable devices within your network AKIPS performs a scan based on IP address ranges and SNMP parameters.

1. Point your browser to the AKIPS server and login as the admin user.

2. Navigate to Admin > Discover > Discover / Rewalk. The Discover / Rewalk panel on the left becomes active. Helpful information and examples to assist completing the details are shown on the right.

3. Ensure sections 2 - Ping Scan Ranges and 3 - SNMP Parameters are complete and accurate.

4. Select Save Changes.

5. Select Discover to perform a scan of the network. Typically, a discover executes for several minutes.

As the scan executes the devices are listed along with the number discovered. When the discover successfully finishes a message displays in green.
5 Verifying AKIPS is Working

To check that AKIPS is collecting data and working as intended, wait for five minutes after the discovery has finished (successfully).

The following reports will aid in determining if AKIPS is working:

- IPv4 Ping Statistics
- Interface Utilisation

1. Navigate to Reports > Device > Top N Tables > IPv4 Ping Statistics. A table displays the latest ping data.

```
<table>
<thead>
<tr>
<th>Device</th>
<th>RTT Graph</th>
<th>Avg</th>
<th>Lost</th>
<th>Duplicate</th>
<th>Lost/Dup</th>
</tr>
</thead>
<tbody>
<tr>
<td>swt0-5</td>
<td></td>
<td>6.0 ms</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>ups</td>
<td></td>
<td>2.0 ms</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
```


A table displays showing transmit and receive utilisation and any errors or discards.

```
<table>
<thead>
<tr>
<th>Device</th>
<th>Interface</th>
<th>Speed</th>
<th>Util % Graph</th>
<th>Bits/Sec</th>
<th>Bytes</th>
<th>Packets</th>
<th>Broadcast</th>
<th>Multicast</th>
<th>Errors</th>
<th>Discards</th>
</tr>
</thead>
<tbody>
<tr>
<td>gails-Mac-mini</td>
<td>en6</td>
<td>1 Gbps</td>
<td>&lt;1%</td>
<td>801 K</td>
<td>11 K</td>
<td>108 M</td>
<td>1.5 M</td>
<td>15 K</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>swt0-5</td>
<td>G12/0/35</td>
<td>1 Gbps</td>
<td>&lt;1%</td>
<td>417 K</td>
<td>18 K</td>
<td>56 M</td>
<td>2.4 M</td>
<td>47 K</td>
<td>18 K</td>
<td>3.5 K</td>
</tr>
</tbody>
</table>
```

When the tables populate with data, AKIPS is working as intended.
6 Additional Configurations

There are several configurations you may find useful when customising AKIPS:

- Syslog
- SNMP Traps
- NetFlow

6.1 Syslog Configuration

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

Consult your equipment vendor’s documentation for information on sending syslogs to a syslog collector (AKIPS).

Navigate to Tools > Syslog and select either Table or Top Talkers for the appropriate graph and details.

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Device</th>
<th>IPAddr</th>
<th>Description</th>
</tr>
</thead>
</table>
| Today 14:13| Cisco-105-0-1 | 10.105.0.1 | notice local4 1 2019-01-09T14:13:27
cisco-105-0-1 Default(lc)SyslogDl3 Messages Dropped |
| Today 14:13| Cisco-105-0-2 | 10.105.0.2 | notice local4 1 2019-01-09T14:13:28
cisco-105-0-2 Default(lc)SyslogDl3 Messages Dropped |
| Today 14:13| Cisco-105-0-3 | 10.105.0.3 | info local4 1 2019-01-09T14:13:29
cisco-105-0-3 SnmpTrap[1]Port State: DISCARDING on SID = 0 Port = 1.43 |

6.2 SNMP Trap Configuration

AKIPS supports the decoding of SNMPv2 and SNMPv3 traps. SNMPv1 traps are not supported.

1 Navigate to Admin > General > SNMP Traps when your devices are configured to send SNMP Traps to AKIPS.

2 Complete any additional SNMP trap parameters on the left using the examples and tips on the right.

3 Save your changes.
4 Navigate to Tools > SNMP Traps and click either Table or Top Talkers for the appropriate graph and details.

![Trap Reporter](image)

### 6.3 NetFlow

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

1. Wait for 10 minutes before checking the routers are sending data.
3. Define your report using the NetFlow Reporter parameters.
4. Select one of the following options:
   - Table
   - Bar Graph
   - Disk Usage
   - Unknown Ports

The report displays if the routers are configured correctly.

![NetFlow Reporter](image)

AKIPS supports NetFlow (versions 5 and 9), Netstream, J-Flow (versions 5 and 9) and IPFIX.
7 Software Activation

Request an evaluation licence key for access to all AKIPS features.

7.1 Request an Evaluation Licence Key

To access the full functionality of AKIPS a licence key is required.

1. Select the Software Activation link from the AKIPS splash page.

2. Select Request Evaluation Key at the Software Activation page.
3. Complete your **Contact Details**, ensuring all mandatory fields are completed (shaded):

- Name
- Work Email
- Work Phone - either a work or a cell / mobile number must be provided
- Cell / Mobile
- Organisation
- Address
- City / Town
- ZIP / Postcode
- State
- Country

4. Use the **Referrer Source** drop-down and select the option which best describes how your organisation discovered AKIPS.

5. Select **Request a Trial Key**.

### Evaluation Key Request

<table>
<thead>
<tr>
<th>Contact Details</th>
<th>Server ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>Work Email</td>
<td></td>
</tr>
<tr>
<td>Work Phone</td>
<td></td>
</tr>
<tr>
<td>Cell / Mobile</td>
<td></td>
</tr>
<tr>
<td>Organisation</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>City / Town</td>
<td></td>
</tr>
<tr>
<td>ZIP / Postcode</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td></td>
</tr>
</tbody>
</table>

**How did you find AKIPS?**

- AKiPS Direct Advertising

**Server ID**

- You need to install AKiPS Network Monitor before applying for an evaluation key.
- Your AKiPS server MUST be configured with a valid fully-qualified hostname (e.g. akips.example.com, akips.net.abcd.e.edu).
- Do not use an invalid domain name (e.g. something.local).

After installing the software, the Server ID is located in the "Admin" -> System -> Activation" menu.

A message displays indicating your request is being processed.

**Thank you for requesting an evaluation key. Your request will be processed within one business day.**
7.2 Activate an Evaluation Licence Key

1. Check your inbox for a response from AKIPS providing the key.

2. Copy the **Licence Key** provided in the email.

Here is an extended Eval key.

Server: Dev12-10 Gail
Server ID: 3f10a17d0661a171b409cc4f774884f462c592c9
Expiry: 2019-09-19

Please go to "Admin > System > Activation" menu and paste the following into the Licence Key box:

31aa3374bf49abbe786d282755d7ee173558dd9a058c20385841c024f98bb9c6
d65dafcc648848a76a023749794c921c46f24e1e8fb90354b36f76555a58
aa46a49dae6c7f93514790d7b3ab1888f33dd98c8bedde87992394f3aadd80dc3
1c3a633235792e43a10148d1d364a3255f348a2abf4439852b4adac962eb812

3. In AKIPS, navigate to **Admin > System > Activation** and paste the key in the **Licence Key** field.

4. Select **Activate Licence**.

The **Software Activation** page refreshes showing the Licence key has been successfully installed and the expiry details.

The AKIPS splash page is updated to display details of the Licence. You now have a full working copy of the software.
8 Using AKIPS Effectively

To fully utilise the features in AKIPS register for training on the AKIPS website. KLARITY, AKIPS training partner caters for time zones in both hemispheres.

Using Zoom take the opportunity to learn time saving tips and hints that you can use within your organisation, including:

- Grouping
- Alerting
- Site Scripts / Integration
- Config Crawler