

# EYE

## QUICK INSTALLATION GUIDE

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# Installation Requirements: EYE

## Operating System Requirements

AIX 5.3 systems: *AIX 5300-07-03-0811* or higher, *bos.rte.libpthreads* (5.3.7.0)

AIX 6.1 systems: *AIX 6100-02-06-0943* or higher, *bos.rte.libpthreads* (6.1.2.1)

Linux systems: Ubuntu 10.04, OpenSUSE 10.2. Other compatibility packages available on request.

Other: Packages for other operating systems can be made available on request, where possible.

## Software Requirements

Perl (perl.rte) - included in base AIX installation.

OpenSSH v5.2 (access to *ssh* and *scp* utilities).

## Storage Requirements

*EYE Data Collector*

Data collector output location (default: */var/eye*): 256 -512MB of overall space.

*EYE Utilities*

Database output location (default: */usr/local/eye/db*): A minimum of 1GB free space. Use of a SAN disk file-system is recommended.

## CPU/Memory Requirements

*EYE Data Collector*

CPU: Data collection is based on gathering of files using operating system commands, and typically requires a negligible amount of processing overhead on systems for a limited amount of time.

Memory: 64MB of RAM.

*EYE Utilities*

CPU: The EYE system analyser is processor and I/O intensive in nature, due the compression and analysis of data. The software should be installed on a system where processor and I/O overhead will not impact user applications.

Memory: 512Mb - 1GB of RAM recommended; dependent on size of environment and system performance history databases.

# Quick Installation: Updating an existing EYE Installation

## Software Update

Follow these steps if you are updating the utilities of an existing installation within the same software release (i.e. from v5.1 to 5.2). Please refer to the EYE Installation Guide for instructions on upgrading to a different EYE release (from EYE v4.x to v5).

## EYE Utilities Update

### *Update steps for AIX systems*

1. Download the latest [EYE utilities BFF installation bundle](#) to any local temporary directory. Select the BFF package that is appropriate for your level of AIX.
2. Uncompress the bundle.  
`gzip -d eye.utils-5.x.x.x-aixyy.bff.gz`
3. Create a table of contents.  
`inutoc .`
4. Switch user to root or an account with software installation privileges.  
`su - root`
5. Run `smitty update_all` and select `eye.utils.rte`. Press Enter to update the software.
6. Use the following instructions to set the utilities to operate as a non-root user if desired. In the following example we configure the tools for a user named health:
  - i. Switch to the root user account: `su - root`.
  - ii. Run: `cd /usr/local/eye`
  - iii. Run: `./set_owner.sh`
  - iv. Enter `health` when prompted for a user-name.
7. The software update is complete.
8. Use the `iconfig` tool to adjust settings of any new features according to preference.

### *Update steps for Linux systems*

1. Download the latest [EYE utilities Linux tar-ball](#) to the directory that contains the EYE installation.
2. Unpack the bundle.  
`tar zxvf eye.utils-5.x.x.x-linuxyy.tgz`
3. Change ownership of the software to the account that will be used to operate the software. It is highly recommended that a non-root account be used.  
`chmod 750 /usr/local/eye`  
`chown -R health.health /usr/local/eye`  
`chown root.system /usr/local/eye/icol.exe`
4. The software update is complete.
5. Use the `iconfig` tool to adjust settings of any new features according to preference.

## EYE Collector Update

### *Installation Instructions*

1. Download the latest [EYE collector BFF installation bundle](#) to any local temporary directory. Select the BFF packages that are appropriate to the systems that require data collection.
2. If you require data collection and analysis of any agent-less or HMC systems, the collector also needs to be installed on the local (central monitoring) system.
  - 2.1. Uncompress the bundle.

*gzip -d eye.collector-5.x.x.x-aixyy.bff.gz*

2.2. Run: *inutoc .*

2.3. Switch user to root or an account with software installation privileges: *su - root.*

2.4. Run *smitty update\_all* and select *eye.collector.rte*. Press Enter to update the software.

2.5. Re-compress the BFF package if it is going to be installed on other remote systems: *gzip eye.collector-5.x.x.x-aixyy.bff*

2.6. If the collector is to be operated using a non-root user, follow the instructions detailed in [Non-root Data Collector Installation](#).

3. Use the *IDIST* tool to perform a concurrent software installation to all remote AIX systems.

3.1. Note that the *SSH Connection string* parameter of all NetHosts to be upgraded must be set to *root@host* to ensure successful installation.

3.2. Run *idist install -l /tmp/eye.collector-5.x.x.x-aix.bff.gz -g all*

Notes:

- In this example, the EYE data collector software will be updated on all AIX systems that have previously been configured as NetHosts.
- The *IDIST* utility is able to automatically select the appropriate AIX v5.3 or AIX 6.1 installation bundle depending on the AIX level of the target system, on condition that the alternate installation package is saved to the same directory that was specified with the *-l* option.

## Quick Installation: Performing a new EYE Installation

### EYE Utilities Installation

#### **Installation of EYE utilities on AIX systems**

1. Download the latest [EYE utilities BFF installation bundle](#) as well as the [EYE data collector installation bundle](#)<sup>1</sup> to any local temporary directory. Select the BFF that is appropriate to your AIX release.

2. Uncompress the bundles.

*gzip -d eye.utils-5.x.x.x-aixyy.bff.gz*

*gzip -d eye.collector-5.x.x.x-aixyy.bff.gz*

3. Create a table of contents.

*inutoc .*

4. Switch user to root or an account with software installation privileges.

*su - root.*

5. Run *smitty install\_all* and select *eye.utils.rte* and *eye.collector.rte*. Press Enter to install the software file-sets.

6. Perform the [steps to license the EYE utilities](#).

7. If agent-less data collection is required (for example, on HMC systems) - perform the steps to install the EYE data collector before continuing.

8. Use the following instructions to set the utilities to operate as a non-root user if desired.

In the following example we configure the tools for a user named health:

i. Switch to the root user account: *su - root.*

ii. Run: *cd /usr/local/eye*

iii. Run: *./set\_owner.sh*

---

<sup>1</sup> The data collector is required on the health check server to enable data collection in agent-less mode, such as against HMC systems. Other scenarios would only require remote data collector installation.

- iv. Enter *health* when prompted for a user-name.
9. The software installation is now complete and ready to be configured.

### **Installation of EYE utilities on Linux systems**

1. Download the latest [EYE utilities Linux tar-ball](#) to the directory that contains the EYE installation.
2. Extract the software bundle.  

```
tar zxvf eye.utils-5.x.x.x-linuxyy.tgz
```
3. Perform the [steps to license the EYE utilities](#).
4. If agent-less data collection is required (for example, on HMC systems) - perform the steps to install the EYE data collector before continuing.
5. The software update is now complete and ready to be configured.

### **Configuration of NetHosts**

Perform these steps to configure the hosts for which data collection, analysis and reporting must be performed.

#### *Adding a new NetHost to the EYE database*

1. Run *iconfig* and select *NetHosts -> Add NetHost*.
2. Communication Method:
  - a. *ssh:agent* - select this option for standard AIX systems.
  - b. *ssh:agentless* - select this option for HMC systems.
  - c. *none* - select this option for hosts for which data collection will be done manually (not using the *idist* tool).
3. SSH Connection String.
  - a. The default connection string is *root@hostname*.
  - b. On HMC systems, the string need to be changed to *hscroot@hmchostname*.
  - c. On systems that require non-root connections, the string should be changed to *username@hostname*.
4. Enabled?
  - a. Data collection, analysis and reporting will not take place for any disabled host. Use this option to suspend data collection and analysis, without removing any existing configuration and performance data for the NetHost.
5. Hostname Override.
  - a. Use this option to override the actual host-name in the data collector output.
6. Ping NetHost.
  - a. Use this option to prevent the program from performing a TCP ping test to check if the target host is up. It may be necessary to do so for HMC systems that are protected by packet filtering or firewall software. The option should not usually be disabled for clustered (HACMP) systems, unless they have been configured with persistent IP addresses that are always reachable over the network.
7. Remote collector directory.
  - a. The directory on the target machine where collector files should be retrieved from.
  - b. This setting should correspond with the *COLDIR* setting in the */usr/local/eye/icol.rc* configuration file on the destination server.
8. Collector / script timeout.
  - a. The maximum amount of seconds to wait for data collection or remote script execution to complete.
9. Primary group.
  - a. Any user-defined name that best describes the group that the NetHost belongs to.
10. Secondary group.

- a. A comma separated list of names that describes the secondary groups that the NetHost belongs to.

#### *Configuring Automatic (trusted-key) SSH Logins*

These steps allow for automatic data collection via the *iDist* tool.

1. Ensure that the local system (central monitoring server) has an existing SSH key-pair in `~localuser/.ssh`. The public key is normally named `id_dsa.pub` or `id_rsa.pub`. To generate a key-pair, run `ssh-keygen -t dsa`.
2. Log into the remote system that has been setup as a NetHost, using the user account name that was specified in the SSH connection string. This is normally `root`.
3. Change directory to `~username/.ssh`. If the directory does not exist, create it and set the permissions to `700`.  

```
mkdir ~user/.ssh  
chmod 700 ~user/.ssh
```
4. Add the public key from the central monitoring server to the `~username/.ssh/authorized_keys` file.
  - 4.1. Create the `authorized_keys` file if it does not exist, with permissions of `600`.
  - 4.2. Ensure that the key contained in `id_dsa.pub` is added as a single line to the `authorized_keys` file. Note that that copying and pasting may cause undesired line breaks.
5. At this point, logins by the `localuser` user on the central monitoring server to the remote server should occur without prompting of a password.
  - 5.1. Ensure that the first "`identify of host could not be established`" message is accepted before continuing to step 6.  

```
localuser@central> ssh root@remotehost
```
6. Repeat these steps for each NetHost.

#### ***Database and Report Directory Configuration***

Use the *iconfig* tool to configure the EYE software installation. The minimum configuration is described below. Refer to the installation guide for more information.

1. Run `./iconfig -> Configuration -> Global Defaults`.
2. Database Directory Location.
  - 2.1. This directory will be used to store SQLite3 configuration and performance databases for the configured NetHosts and can be expected to grow quite large (> 1GB) in size. Use high-performance (SAN) disk where possible.
3. HTML report output directory.
  - 3.1. Set the name of the directory where all of the EYE analysis reports should be stored. Ideally, the location should be set to a directory that is served by a web-server.

## **EYE iCol Data Collector Installation**

### ***Data Collector Installation***

1. Download the latest [EYE collector BFF installation bundle](#) to any local temporary directory. Select the BFF packages that are appropriate to the systems that require data collection.

2. If you require data collection and analysis of any agent-less or HMC systems, the collector also needs to be installed on the local (central monitoring) system.
  - 2.1. Uncompress the BFF installation bundle.  
`gzip -d eye.collector-5.x.x.x-aixyy.bff.gz`
  - 2.2. Create a table of contents.  
`inutoc .`
  - 2.3. Run `smitty update_all` and select `eye.collector.rte`. Press Enter to update the software.
  - 2.4. Re-compress the BFF package if it is going to be installed on other remote systems.  
`gzip eye.collector-5.x.x.x-aixyy.bff`
  - 2.5. If the collector is to be operated using a non-root user, follow the instructions detailed in [Non-root Data Collector Installation](#).
3. Use the `IDIST` tool to perform a concurrent software installation to the desired remote AIX systems.
  - 3.1. To install the data collector on all configured NetHosts, run:  
`idist install -l /tmp/eye.collector-5.x.x.x-aix.bff.gz -g all`

### **EYE Collector Configuration**

The EYE collector is normally installed to `/usr/local/eye`. An upgrade will preserve any existing configuration, and it is only necessary to perform customisation of the settings in `icol.rc` on a remote system in a few cases.

1. Login as the user that is used to operate the data collector.
2. Change directory to `/usr/local/eye`.
3. If `icol.rc` does not exist, copy the `icol.rc.sample` file as a template.  
`cp -p icol.rc.sample icol.rc.`
4. Modify the settings as desired. A few of the common options are described here.

### **Non-root Data Collector Installation**

As of iCol v4.15 it is possible to operate the collector as a non-root user. Note that it will still be necessary to install the EYE collector BFF package as the root user. Perform the below instructions if non-root data collection is a requirement.

1. Log onto the system on which the iCol data collector has been installed.
2. Ensure that the user account to be used for data collection has been created.
  - 2.1. On AIX, the `smitty mkuser` command can be used to create a new user.
  - 2.2. In this example, the user will be considered `eye` with a primary group of `health`.
3. Change the ownership of the collector program directory to the non-privileged user.  
`chown eye:health /usr/local/eye`
4. Secure the permissions of the collector program directory. This is to prevent unwanted information disclosure.  
`chmod 750 /usr/local/eye`
5. Change ownership of the collector output directory to the non-privileged user. This is to prevent unwanted information disclosure.  
`chown eye:health /var/eye`  
`chmod 750 /var/eye`
6. Update the server connection string for each remote host that has been customised for non-root data collection.
  - 6.1. Log onto the system that is used as the central monitoring server.

- 6.2. Run *iconfig* -> *NetHost* -> *Edit NetHost* -> *Enter the name of the NetHost*.
- 6.3. Select *Communication* -> *SSH Connection string*, and change it to *eye@hostname*.

## Quick Installation: Licensing EYE

### ***Licensing the EYE utilities***

1. Determine the system ID of the system that will be used to host the EYE utilities.
  - 1.1. On AIX: *uname -m*
  - 1.2. On Linux: *hostid*
2. Contact [Glacier Consulting](#) to request a new license, and provide the system ID. The license is normally valid for a 6 month period.
3. Copy the license file (*eye.lic*) to the program directory of the system that will host the utilities. The default location is */usr/local/eye*.

*Notice: Licenses are not transferable to other systems. The licensing process must be repeated for each server that will host the EYE utilities.*