Network Storage Agent Installation
## http://webhome.central/RASAgent

The Network Storage Agent is used to remotely monitor Sun Microsystems Network Storage Devices. The information gathered by the agent is sent to the Network Storage Command Center (NSCC) using a SUN Microsystems approved transport mechanism.SRS and NetConnect are the vehicles for that transport. HTTP and Email are used internally for testing to transport the data to the NSCC.

The Network Storage Agent can monitor host message files for errors or connect directly to the "Out−Of−Band" Management Path (ethernet) of the T3 and SAN Switches as well as communicate on the "In−Band" Data Path of all Sun StorEdge device types in order to obtain status information about each device being monitored.

This package is installed on a host in the /opt/SUNWrasag directory. Solaris servers and Sun StorEdge are supported. The agent should be installed on a host that satisfies these conditions:

- The host has access to /var/adm/messages files where device logs are being sent.
- The host has access to /var/adm/messages.t300 where T3 device logs are being sent.
- The host has access to the T3 and/or SAN Switch over TCP/IP.
- The host has access to the data−path of the devices being monitored.
- The Master host can run a browser to complete and maintain the monitored configuration.

In cases where the host satisfies only some of these conditions, the administrator may choose to install the agent on multiple hosts and configure the agents to complement each other. *See the Network Storage Agent User's Guide* for additional information about a Master/Slave configuration. Configuring agents to compliment eachother would be most prevelent in cases where the T3 has an "In−Band" datapath attachment to one host but logs its messages to another host (Management Host). Another example case would be in a multi−path environment where more than one host has access to the same device(s) that another host access to.
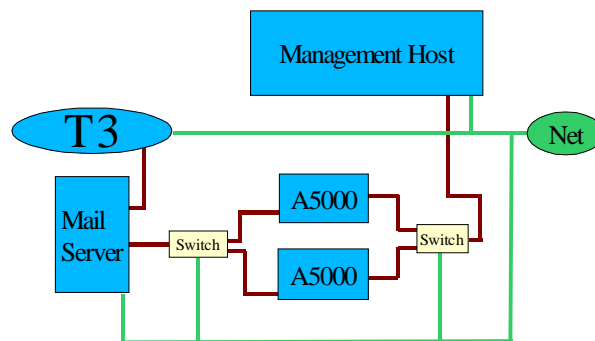
Chapter 1: Installation Process Overview

The Network Storage Agent software is installed with pkgadd. Here are the steps:
<filename> is an example. Use the full name of the file that was downloaded.

1. Download the latest compressed tar package to your server.
   NOTE: You may be required to enter a username and valid email address.

2. Move the package to a temporary working directory and uncompress the downloaded image.
   • 'uncompress PackageName.tar.Z'

3. Untar the package.
   • 'tar xvf PackageName.tar'

4. Install the SUNWrasag package by selecting it during the pkgadd.
   • 'pkgadd –d SUNWrasag'

5. Run the agent installation script to create the HTTP service needed for the admin gui, master/slave communications, agent type and invoking the cron.
   • '/opt/SUNWrasag/bin/ras_install'

6. Access the Admin GUI on the host where the Master was installed. Use the server name and port 7654 in the url space from a browser to set up the rest of the configuration.
   • http://<master_server.domain>:7654

7. Login using 'ras' with password 'agent'. If desired, change password (login will always be "ras").
   • Click on System –> Change Password

Chapter 2 : Network Storage Agent Configuration File

The Agent configuration information is located in the file /opt/SUNWrasag/DATA/rasagent.conf. Information entered from the Network Storage Agent Admin GUI about site location, hosts, devices, local notifications, etc., are stored here.   This file will remain on the system between upgrades so that previously entered configuration information will not be lost.

Chapter 3: Cron Information

The cron entry is added automatically to the cron facility, after the SUNWrasag package is added, by running the ras_install script as notified by the package upon completion. For testing purposes, it is possible to skip the cron activation during the installation and start the cron later by re–running the ras_install script.

Here is the text of the cron entry that executes every 5 minutes:

```
0,5,10,15,20,25,30,35,40,45,50,55 * * * * /opt/SUNWrasag/bin/rasagent -c >>
   /opt/SUNWrasag/log/cron.log 2>&1
```

It should be noted by the installer that the cron will start the rasagent program every five minutes, but there are two configuration options that affect its execution.
1. The agent will not run unless it has first been activated to do so from the Maintenance –> Start/Stop Agents option in the Admin GUI.
2. The Monitoring Frequency can be adjusted through the Maintenance –> Maintain Hosts option in the Admin GUI.

Chapter 4: Directory Structure

Here is the directory structure of the installation:

```
/opt/SUNWrasag/
DATA@                   Instrumentation and Logs
README                  Readme file
System/                 System files
bin/                    Executables
bin/ras_install         Installation & configuration program
bin/rasagent            Monitoring Agent
htdocs/                 HTML files for the Web Server
install/                Installation scripts
lib/                    Libraries
log@                    Logs
DATA/rasagent.conf      Configuration file.
rasagent.conf.mk        Configuration defaults
util/                   Utilities
man/                    Man pages
```

Chapter 5: Distributed Agents (Slave)

This option can be used when multiple hosts need to run the agent but only one host can or should run the providers. In this case, the secondary agents (Slaves) will send their findings to the primary host (Master) in the form of messages. Communication between Master and Slave agents is done by activating the HTTP service on port 7654. Configuring the agent as a slave is similar to configuring a master except for the following question while executing the ras_install script:

```
   **** Installing the RASAgent Server and Crons ****

 ? Are you installing a Master or a Slave RASAgent? (Enter M=master or S=slave):
```

In this case, answer 'S' for a slave installation.

See the *Network Storage Agent User's Guide* for additional information about configuring distributed agents and selecting providers.

Chapter 6: Network Storage Agent Admin GUI

Configuring the Network Storage Agent is done with the Admin GUI. It is accessed with a browser at port 7654 of the server where the agent configured as the Master is installed.
    http://<master_server>:7654

The default login for the Admin GUI is 'ras' with password 'agent'. The password can be changed using the GUI, if so desired. The login however, will remain 'ras'.

Once the Admin GUI is initiated, the following steps should be taken to properly configure the agent to monitor the desired devices.

1. Select the "*Maintenance –> Maintain Hosts*" links so the device types to be monitored can be selected along with entering required customer information. This first step will ensure proper tracking of the RAS information for the devices being monitored.

2. Select the "*Discovery*" link next. This will take the administrator to a window to allow rasagent to automatically probe the In–Band data paths of the A5K and A35K as well as the Out–Of–Band management paths for the T3 and SAN Switches.
    NOTE: T3's will be found by agents on hosts with a /var/adm/messages.t300 file only. The SAN Switch must be entered in the configuration file '/etc/fcswitch.conf' to be automatically detected.

3. Select the "*Maintain Devices*" link next so that additional devices can be manually added and unwanted devices can be deleted.   This window also allows the administrator to change the "human" name of the device being monitored as well as, in cases of a SAN Switch, which host is actually monitoring the device.

4. "*Email Notification*" is next if the administrator wants to configure certain types of events, for specific device types to trigger an automatic email to a list of user's email addresses. A pager is also an option to receive Event notification. This option can be fully customized to streamline notifications.

5. Select the "*Set Providers*" link next. The selections made here will instruct rasagent to use the appropriate protocal to send the device data collected by the agent modules back to SUN.
    NOTE: It is important that the ACTIVATE box is checked and the UPDATE button is used to finalize the selection(s).

6. Select the "*Push Configs*" link if any changes have been made that the Slave agents must know about. If this option is selected, an update will occur even though there is no information to be updated.

7. "*Start/Stop Agents*" is used to turn–on or turn–off agents from executing. For a Slave agent, this will only disable monitoring of those devices that that agent has been configured to monitor. If the Master agent is turned off, the Slaves will continue to run but if any events were to occur, they would not be picked up.

8. "*Start/Stop Devices*" is used to turn–on or turn–off the alert notification of an event for the device(s) selected. This function does not stop the monitoring of the device and the interface to the provider.

9. The "*Test Email*" link will instruct RASAgent to generate a canned email and send it to the list of recipients configured in an earlier step. This should be done by the administrator to confirm addresses were entered correctly.

10. When configuring is completed, select the "*Review Config*" link to verify all settings and, if necessary, follow the displayed instructions for those that have been missed or for those that should be double–checked.