ArcSAP Quick Manager

USER's Guide

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1. ArcSAP Quick Manager

1.1 Overview

The Areca Single Admin Portal (ArcSAP) quick manager is a graphical-based device management program specifically designed for use in managing and configuring RAID unit implemented using any of Areca RAID controllers. The ArcSAP quick manager can scan for multiple RAID units in the local and remote systems and provide an effective mechanism to configure your RAID units. It also provides real-time reporting on the status of the complete disk array, thus making the task of monitoring disk arrays virtually effortless. For power users, the ArcSAP Command Line Interface (CLI) function also provides the scripting capability for automated tasks and customization.

1.2 Installing the ArcSAP Utility

You must have administrator permissions for the computer on which you are installing ArcSAP quick manager. Before this procedure began, we assume that the RAID unit and OS are installed and operational in your system.

1.2.1 Mac Users

This section describes detailed instructions for installing the Mac ArcSAP Quick Manager for the Areca RAID unit on your system. This can be done in just a few steps!
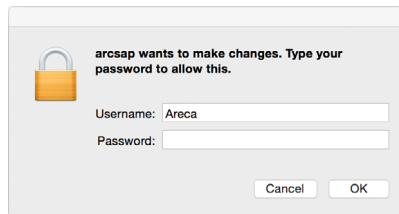
1. Download the ArcSAP installer from the website at "*http://www.areca.com.tw/support/s_thunderbolt/thunderbolt_mac.htm*", the file name begins with "arcsap" followed by the version control or insert the RAID unit software CD in the CD-ROM drive.

2. Double-click on the zipped file that comes from the website or resides at <CDROM>\packages\MacOS to add the installer on the Finder.

3. Double click the arcsap.dmg to make its content available (name will be shown up in the Finder sidebar), usually a window opens showing the content as well.

4. Drag the application from the arcsap.dmg window into Applications folder to install.

5. Wait for the copy process to finish.

Double click on the "**arcsap**" link from the Applications folder to start your ArcSAP quick manager. By default, the ArcSAP is locked to prevent unauthorized accesses to your RAID units. The ArcSAP password dialog box appears.

Type your Mac computer password into the Password field and click the "**OK**" Button to open it.


1.2.2 Windows Users

This section describes how to install the ArcSAP quick manager to your operating system. Follow the steps below to install the utility for Windows.

1. Download the ArcSAP installer from the website at "*http://www.areca.com.tw/support/s_thunderbolt/thunderbolt_win.htm*", the file name begins with "ArcSAP" followed by the version control or insert the RAID unit software CD in the CD-ROM drive.

2. Double-click on the zipped file that comes from the website or resides at <CDROM>\PACKAGES\Windows to unzip it. Double click on the "setup.exe" file for installing ArcSAP quick manager.
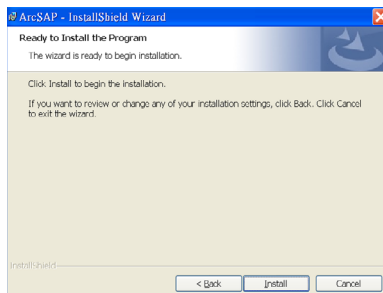
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3. The screen shows Preparing to Install.
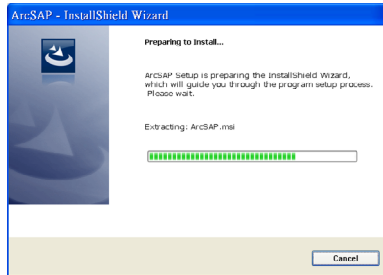
4. The InstallShield Wizard opens, preparing to install and click on the "**Next**" button to continue.
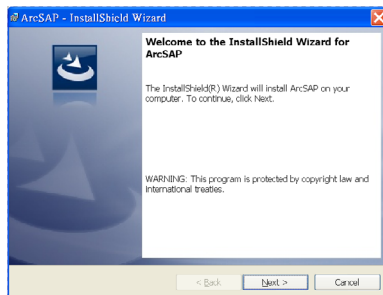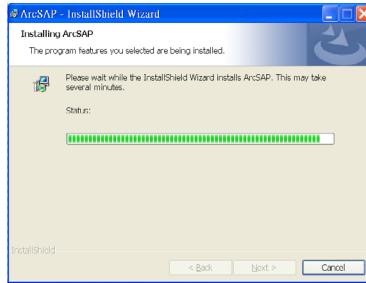

5. When you reach the installation page, click on the "**Install**" button to continue.
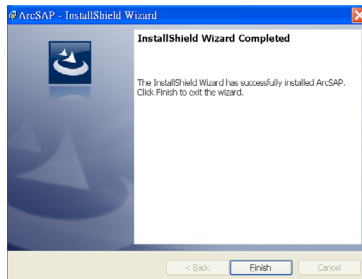
6. A Progress bar appears that measures the progress of the ArcSAP quick manager setup. When this screen completes, you have completed the ArcSAP quick manager setup.

7. After a successful installation, the "Setup Complete" dialog box of the installation program is displayed. Click on the "**Finish**" button to complete the installation.

There is one "**MRAID**" icon showing on your "**Programs**" folder for you to locate ArcSAP quick manager program file folder. The "**ArcSAP**" icon is for you to start up the ArcSAP quick manager. Click on the "**ArcSAP**" program icon to start the ArcSAP quick manager.

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1.3 ArcSAP Main Menu

After starting the ArcSAP quick manager, the main window appears on the screen. The ArcSAP quick manager window contains a Controller Hierarchy, Menu Bar, Raid System Console, and a Recent Tasks. The Controller Hierarchy tree lists all hosts — including IP addresses — with their connected RAID controllers, RaidSet, and Volume Sets. When you click on an item in the Controller Hierarchy tree, the Raid System Console shows additional information about the selection. All management operations pertaining to the RAID units will be performed within the main window. The figure 1-1 shows the elements contained on the main window.
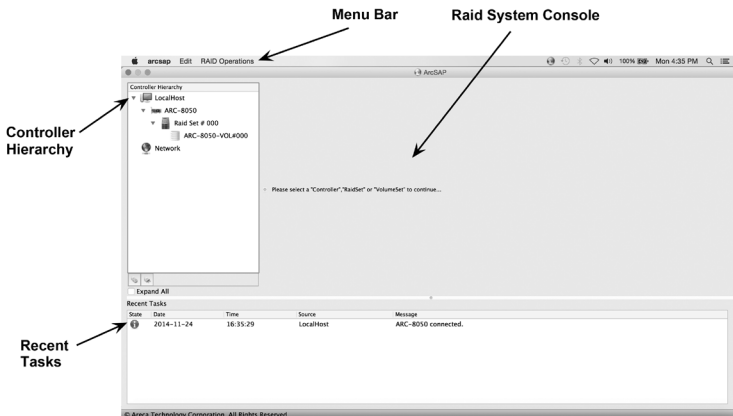

Figure 1-1, ArcSAP Quick Manager Main Window

- The "**Menu Bar**" displays the available menus. Except for Help, all menus provide a list of commands for invoking various RAID units and notification operations.
- The "**Controller Hierarchy**" window at the left of the display page lists localHost and remote hosts found on the network, as well as currently configured devices.
- The "**Raid System Console**" window in the right window pane provides information and options for a device highlighted in the controller hierarchy.
- The "**Recent Tasks**" displays events log about localhost and network in the system.

1.4 Controller Hierarchy

Let's assume you've put all Areca RAID units into a system. The ArcSAP automatically scans the localhost RAID units on the system and creates an individual RAID storage icon located on left column of the "Controllers Hierarchy" screen. The arcsap can see localHost RAID adapters only if the archttp service is running background. When you double click on a selected element in the Controller Hierarchy tree, child element belonged parent element appears. The Controller Hierarchy tree contains icons and text as visual indicators for the Localhost, Network, RAID Controllers, Raid Sets, and Volume Sets.
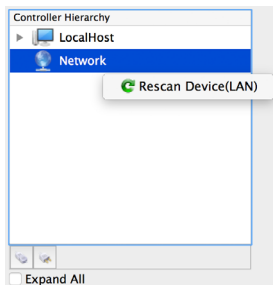

Figure 1-2, Controller Hierarchy Window

1.4.1 Rescan Device

Right click mouse on the host, this Rescan Device function allows you to rescan the network subnet, and find any new RAID units added or removed. Rescanning updates the list of available devices shown. For example, if you physically plug in a unit and want the ArcSAP to recognize the newly plugged in device, use Rescan Device.

ArcSAP default shows the controller name as the target host name on the Controller Hierarchy tree. User can change the host name for easy identification. In the SNMP configuration page, there have two OIDs called sysName and sysLocation which allow user to enter this host name. User can enter the controller identification on the "sysName" and "sysLocation" of "SNMP System Configurations". ArcSAP will use these two OIDs (if existed) to replace the host name.

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1.4.2 Add and Remove Host

The ArcSAP quick manager provides a feature that facilitates "**Add**" and "**Remove**" from RAID units. Before manager can be performed on a particular RAID unit, you need to add first a connection between your ArcSAP quick manager station and the target RAID unit. Once a connection is established successfully, manager can be started. "**Remove**" is used for breaking the link between the ArcSAP manager station and the RAID unit.

- Add Host

A host can be added manually by clicking on the " 🗨 " tab and entering the IP address of the local or remote host in the "Connect To Server" box.

- Remove Host

A host can be removed manually by clicking on the target host in the "Controller Hierarchy" window and clicking on the " 🗨 " tab.

1.4.3 Expand All

☑ Expand All

You can use the "Expand All" to open all folders at the same time to see the contents within. Once mouse click is completed your "Controller Hierarchy" window will look like this.
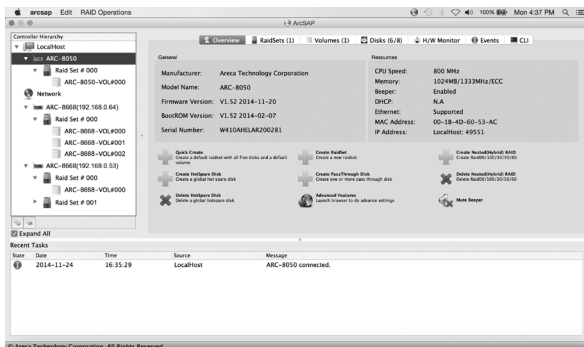

Figure 1-3, Expand All Controller Hierarchy

1.5 Raid System Console

ArcSAP quick manager security ensures that RAID configuration changes require password authorization. You are required to login to manage any host when you attempt to modify the RAID controller settings after turning on the ArcSAP quick manager or after the manager comes back from a period of inactivity. Under configuration modification, verify that you have administrator or root privileges for the selected RAID controller by entering the password you use to access the unit: In the Login box, type the login password on the RAID unit you selected.
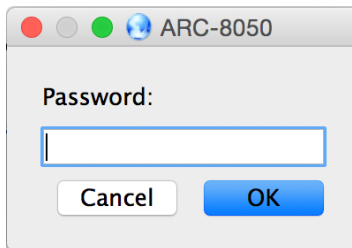
Figure 1-4, Login Box

The correct login gives you full control over the disk array; specifying otherwise, only allows you to view the current configuration of the RAID controller. If you highlight an element in the "Controller Hierarchy", tabs and panel display for that element shown on the Raid System Console.

1.5.1 Select a RAID Controller

The following tabs display in the "Raid System Console" window when you select a specific RAID controller in the "Controller Hierarchy" window:
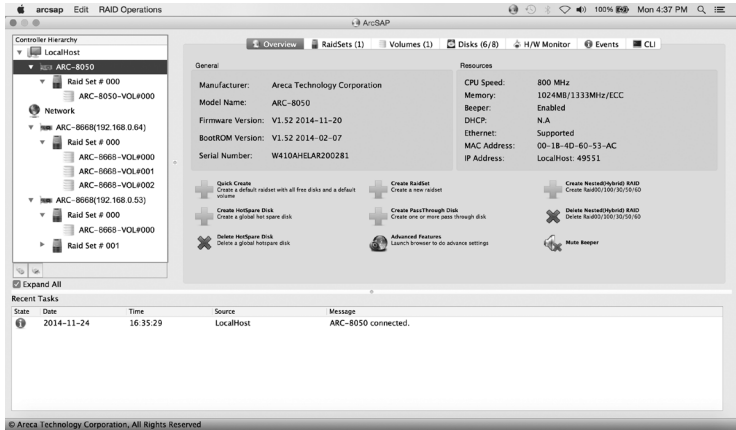
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Figure 1-5, Specify a RAID Unit

- Overview

The '**Overview**' tab provides general information about the RAID controller currently highlighted in the controller hierarchy. It shows the RAID operations options to configure the RAID controller.

(1). **Quick Create**: create a default configuration, which is based on the number of physical disks installed; it can modify the volume set Capacity, Raid Level, and Stripe Size.

(2). **Create RaidSet**: is used to create a Raid set. A Raid set is a group of disks containing one or more volume sets.

(3). **Create Nested (Hybrid) RAID**: is used to create a R00/100/30/50/60 Raid set. R00/100/30/50/60 is a combination multiple RAID x volume sets with RAID 0 (striping). Striping helps to increase capacity and performance without adding disks to each RAID x array. The operating system uses the spanned volume in the same way as a regular volume. RAID level 00, 100, 30, 50 and 60 can support up to eight RAID set.

(4). **Create PassThrough Disk**: is not controlled by the RAID controller firmware and thus cannot be a part of a volume

set. The disk is available directly to the operating system as an individual disk. It is typically used on a system where the operating system is on a disk not controlled by the RAID controller firmware.

(5). **Create HotSpare Disk**: is used to create the global hot spare for the selected controller.

(6). **Delete Nested (Hybrid) RAID**: is used to delete a R00/100/30/50/60 Raid se on the selected controller.

(7). **Delete HotSpare Disk**: is used to delete the global hot spare on the selected controller.

(8). **Advanced Features**: is used to launch the web browser-based McRAID storage manager. The firmware-embedded web browser-based McRAID storage manager is used to configure the advanced features. This Advanced Features is for user to launch the selected RAID controller web browser RAID manager. When you double click on the Advanced Features, the "Enter Network Password" dialog screen appears.
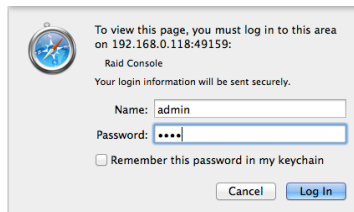
Figure 1-6, McRAID Manager Login Box

Type the User Name and Password. The RAID controller default User Name is "admin" and the Password is "0000". After entering the user name and password, click the button to access the McRAID storage manager. See the Web Browser-based Configuration on the user manual detailing the McRAID Storage Manager to customize your RAID configuration.

(9). **Mute Beeper**: is used to "Disabled" the RAID controller alarm tone generator.

- RaidSets
The '**RaidSets**' tab provides information about the RAID set information on the highlighted RAID controller.

- Volumes
The '**Volumes**' tab provides information about the volume sets information on the highlighted RAID controller.

- Disk
The '**Disk**' tab provides information about the disk information on the highlighted RAID controller.

- H/W Monitor
The '**H/W Monitor**' tab provides information about the Hardware monitor information on the highlighted RAID controller.

- Events
The '**Events**' tab provides information about the event log information on the highlighted RAID controller.

- CLI
The '**CLI**' tab allows experienced users to manage the RAID controller using a Command Line Interface.

1.5.2 Select a RiadSet

The following tabs display in the "Raid System Console" window when you select a specific RiadSet number in the "Controller Hierarchy" window:
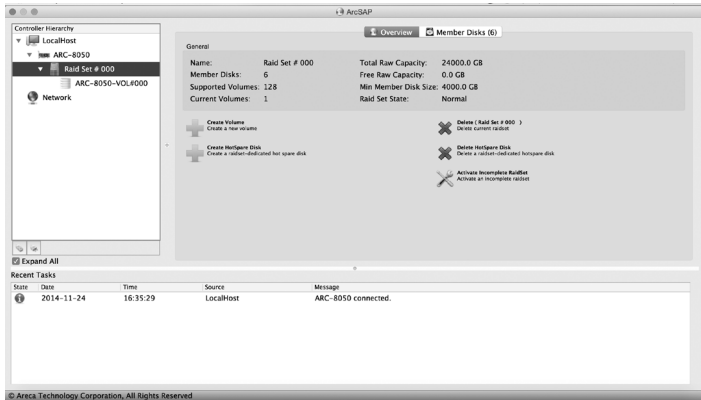
Figure 1-7, Select a Raid Set

- Overview

The '**Overview**' tab provides general information about the Raid set currently highlighted in the "Controller Hierarchy" window. It shows the RAID operation options to configure this Raid set.

   (1). **Create Volume**: is used to create a Raid set. A Raid set is a group of disks containing one or more volume sets.

   (2). **Create HotSpare Disk**: is used to create the dedicated hot spare for the selected Raid set.

   (3). **Delete HotSpare Disk**: is used to delete the global hot spare on the selected Raid set.

   (4). **Activate Incomplete RaidSet**: is used to active an incomplete Raid set. If one of the disk drives is removed in power off state, the Raid set state will change to "Incomplete State". If the user wants to continue to operate the controller without power-off the RAID unit, the user can use the "Activate Incomplete Raid Set" option to active the Raid set.

- Member Disks

The '**Member Disks**' tab provides information about the disk information on the highlighted Raid set.

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1.5.3 Select a Volume Set

The following tabs display in the "Raid System Console" window when you select a specific volume number in the "Controller Hierarchy" window:
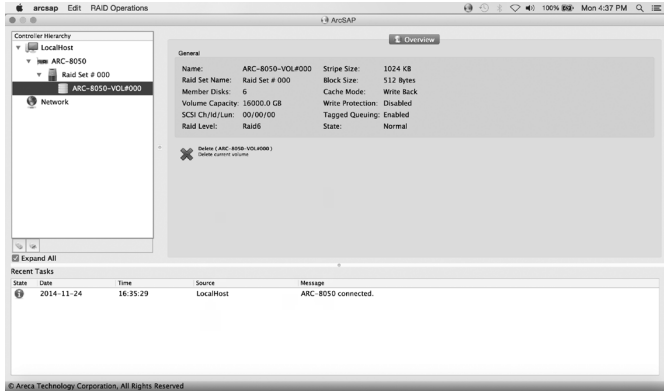

Figure 1-8, Select a Volume Set

- Overview
The '**Overview**' tab provides general information about volume set currently highlighted in the "Controller Hierarchy" window. It shows the RAID operation options to configure this volume set.

(1). **Delete (volume name)**: delete the selected volume.

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1.6 Menu Bar

After starting the ArcSAP quick manager, the main window appears on the screen. All management operations pertaining to the disk array system will be performed within the main window. The Menu Bar displays the available menus. Except for Help, all menus provide a list of commands for invoking various RAID units.

1.6.1 arcsap

The '**arcsap**' tab allows you to select "Preferences" for application settings or "Quit arcsap" for quiet application in the ArcSAP application. For Window version ArcSAP application, the "File" tab on the "Menu Bar" allows you to select "Setup" for application settings or 'Exit" for quiet application.
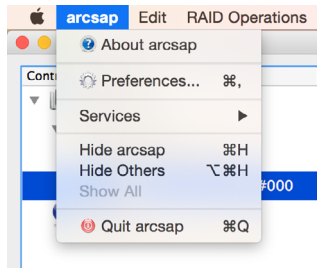

Figure 1-9, arcsap Tab

 - **About arcsap**
   When you choose **arcsap** > **About arcsap** from the menu bar, the utility will show you an informational page which displays the tool's version number.

 - **Preferences**
   Preferences controls application settings ("global" settings), and is available from the **arcsap** > **Preferences** from the menu bar at the upper-left corner of the screen. **Preferences** lets you set the ArcSAP quick manager language and notification.

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1. General

   This general setting is to select your own language, just pull down the menu and select the language which you comfortable with. You need to restart the application to take effect once you change the language.
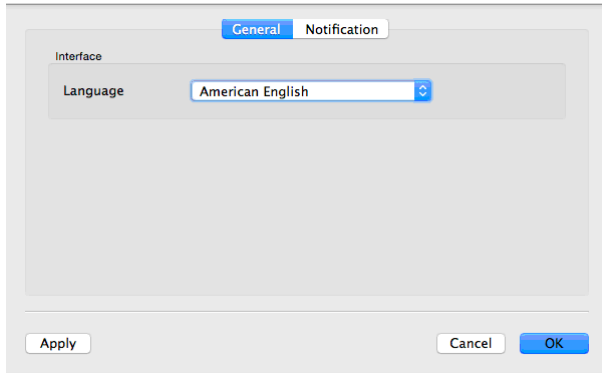
2. Notification

   The ArcSAP quick manager provides four methods of sending notifications: By E-mail, By SNMP, By Windows Messages and By System Log. You can use any of the notification methods mentioned above; be reminded though that before you can use a particular method, you should have the proper hardware and software installed in your system.

   When ArcSAP quick manager configure with one of the methods mention in above. The ArcSAP quick manager notifications to occur in response to various disk array events. For example, if you configure an email notification, the ArcSAP quick manager will send an e-mail to selected computers on the network if the event (that just occurred) falls within the selected notification level. If the notification is detailed enough, the recipient can respond accordingly.

   When properly configured, this function can notify the administrator of event occurrences in the managed disk array system instantly even when he or she is at home, or in other places around the globe. The check box allows you to select the notification level and type in the ArcSAP quick manager.
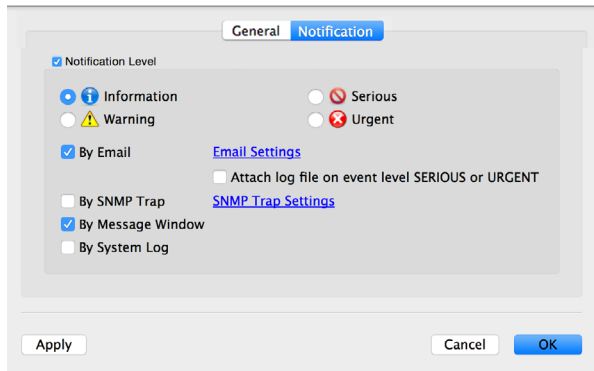
Figure 1-10, Notification SettingsSet

(1). **Notification Levels**
The ArcSAP quick manager classifies disk array events into four levels depending on their severity. These include: Information Level, Warning Level, Serious Level and Urgent Level. Select the check boxes for the appropriate levels type of system on which you want to send.

- **Information Level**: cover notification events such as initialization of the controller and initiation of the rebuilding process.
- **Warning Level**: include events which require the issuance of warning messages.
- **Serious Error Notification Level**: cover events that need immediately attention from the administrator
- **Urgent Error Notification Level**: is the critical level, need immediately action from the administrator.

(2). **Enabling an E-Mail Notification**
The ArcSAP quick manager sends e-mail messages to particular people on the local network or through the internet by using the Mail services or others e-mail server. You will need these e-mail services to enable the e-mail notification function of the ArcSAP quick manager. It only allows you to select the users who will receive the notification messages, and specify the notification message for each recipient.

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- **Attach log file on event level SERIOUS or URGENT**:
  You can automatically send event notifications—along with a copy of the current controller's log on event level SERIOUS or URGENT—by e-mail to a distribution list, thus enabling the information to be opened and analyzed from other locations.

  In order to add your email account to Arc-SAP email setting, you'll need several pieces of information including the type of account, the incoming and outgoing server names, and the encryption method and port settings.
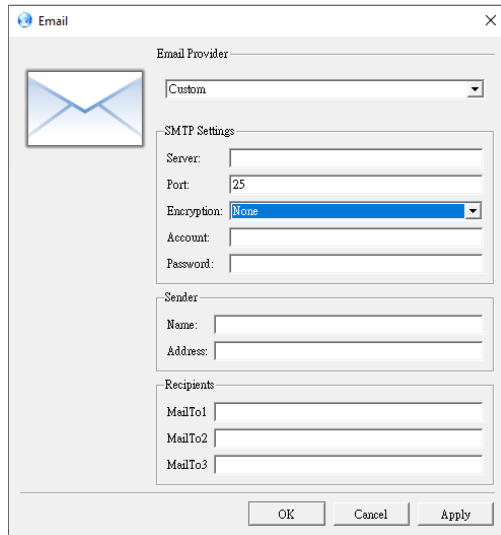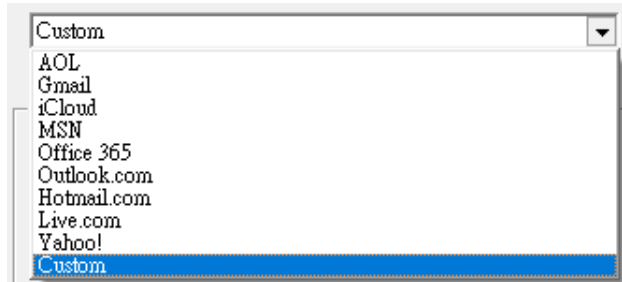

Figure 1-11, Email Configurations

(2-1). **Email Provider**
If your email is from a regional email provider, select "Custom" option for you to fill your email provider's outgoing (SMTP) server settings. If you're using a common email service, such as Outlook.com or Gmail, use this drop-down box to automatically configure your email provider's outgoing (SMTP) server settings.

(2-2). **SMTP Setting**
To set up a mail client it's necessary to configure a SMTP server that will take care of the delivery of your emails.
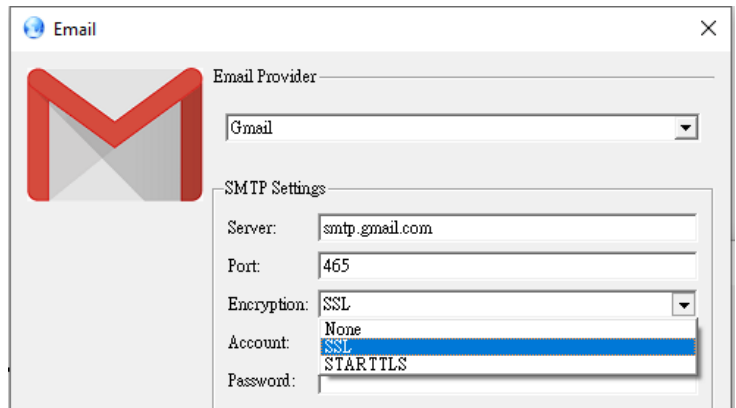
- **Server**: Enter the SMTP email server by "IP address" or "Name" when sending an email.

- **Port**: specify the port number to which the ArcSAP quick manager attempts to connect to the email server. Parameters value = 1 ~ 65535. You can switch to a secure port instead of the "classical" port 25.

- **Encryption**: Configure this if this server requires an encrypted connection. SMTP email transfer doesn't provide an encryption. So if you want to make your connection more se-

cure, it's a good choice to use an SSL connection (Secure Sockets Layers) or a STARTTLS extension, that employ a separate port for encrypted communication.

- **Account**: enter the valid account if your SMTP mail server requires authentication.

- **Password**: enter the valid password if your SMTP mail server requires authentication.

(2-3). **Sender**
- **Sender Name**: Enter the sender name that will be shown in the outgoing mail.

- **Sender Address**: specify the text that will show in the "From" field in the sent email.

(2-4). **Recipients**
Type the alert receiver email address to enable e-mail notification for this particular entrance. Notification rules instruct ArcSAP on the notifications that should be sent when certain types of alerts are detected. You can configure the e-mail notification function to send a notification to multiple users.

(3). **Enabling a SNMP Notification**
This section discusses how to enable the SNMP traps on your RAID storage, and how to control the sending of SNMP traps from the ArcSAP quick manager. To send the SNMP traps to client SNMP manager such as Net-SNMP manager using the IP address assigned to the operating system, you can simply use the SNMP function on the ArcSAP monitor utility. The ArcSAP quick manager only provides one direction to send the trap to the SNMP manager without needing to install the SNMP extension agent on the host. If SNMP manager requests to query the SNMP information from RAID storage, please refer the Appendix D "SNMP Operation & Installation".

To set up SNMP traps sending function, click on the "SNMP Configuration" link. SNMP Trap Configurations are set up on this page. This setup screen is shown as below:

Figure 1-12, SNMP Trap Configurations

- **SNMP Trap IP Address**: enter the SNMP trap IP address.
- **Port**: specify the port number to the SNMP trap IP address. Parameters value = 1 ~ 65535
- **Community**: act as a password to screen accesses to the SNMP agent of a particular network device. Type the community names of the SNMP agent in this field. Most network devices use "public" as default of their community names. This value is case-sensitive.

Before the client side SNMP manager application accepts the RAID storage traps, it is necessary to integrate the MIB into the management application's database of events and status indicator codes. This process is known as compiling the MIB into the application. This process is highly vendor-specific and should be well-covered in the User's Guide of your SNMP application. Ensure the compilation process successfully integrates the contents of the areca_sas.mib file into the traps database.

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(4). **Enabling a Message Notification**

The ArcSAP quick manager provides another way to no-tify selected users on the network by sending messages to their respective stations.

(5). **Enabling System Log**

If you wish to create a system log, tick on a check mark in the box beside the "By System Log" dialog box.

1.6.2 Edit

The '**Edit**' tab allows you to select "Rescan Device" function for LocalHost /Network or 'Scheduler' for the selected background tasks by selecting on the Action in the ArcSAP application.
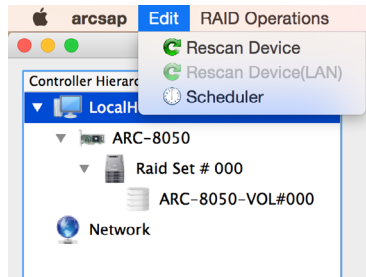
Figure 1-13, Edit Tab

- Rescan Device
Refer to 1.4.1 Rescan Device

- Scheduler
The Scheduler page appears when you choose **Edit** > **Scheduler** from the menu bar. The Scheduler page lets you view and change the schedule for background tasks that affect the selected controller.

You select the type of task for which you want to set the schedule from the "Action" list on the Scheduler, including: MessageBox, Send Mail or Check Volume.

(1). **About Task List**
You can set up scheduler for when background tasks can occur, so that routine maintenance of controller occurs at times that will be least likely to interfere with peak I/O times. Click on the Add button to add a new entry. When you add a new task schedule, you specify the trigger condition for the task. If you want to change a scheduled task, you edit the scheduled item and then store it. The scheduled tasks can be added in any order. To disable the scheduler task you either disable "Enabled" field, or remove the tests listed in the "Task List" column.
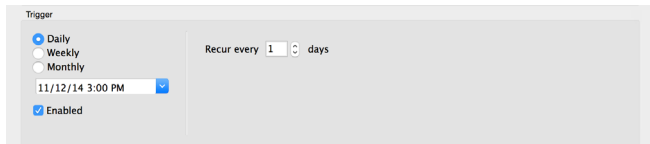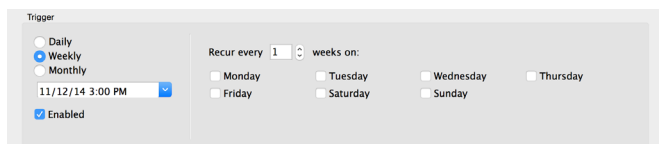
ArcSAP Quick Manager
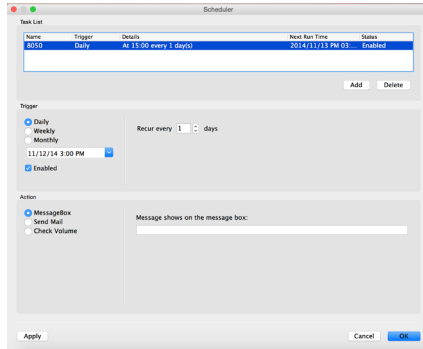
(2). **About Trigger**

When you add a new task schedule, you specify the Daily/ Weekly/Monthly, and Recur for the task. The **Enabled** option is used to set schedule times whether scheduling is set to be followed or ignored. This is useful if you want to temporarily disable the schedule without deleting the schedule itself.

- For the **Daily** option, enter an interval in the 'Recur every days' field. Specify the start count time from the dropdown menu (*PgUp/PgDn* buttons to set the time).

- For the **Weekly** option, enter an interval in the 'Recur every weeks on' field and choose one day of the week. Specify the start count time from the dropdown menu (*PgUp/PgDn* buttons to set the time).

• For the **Monthly** option, enter an interval in the 'Recur every # months on' field and click on, Day of the Month option. Specify the start count time from the dropdown menu (*PgUp/PgDn* buttons to set the time).

(3). **About Action**

You select the type of task for which you want to set the schedule from the "Action" list on the Scheduler, including: MessageBox, Send Mail or Check Volume.

• **MessageBox**

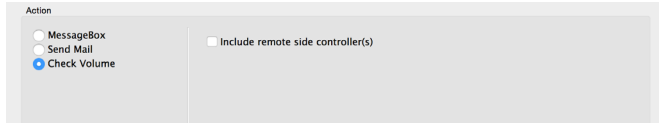In the "Message shows on the message box:" text box, specify the message you want to notify selected users.

• **Send Mail**

In the "Subject" text box, type in the subject you want to show on the ongoing e-mail notification. In the "Message" text box, specify the message you want to send to the selected user.

- **Check Volume**

Check Volume function default applies the localhost controllers. You can include the network controllers by ticking on the check box on the 'Include remote side controllers'.

A volume check is a process that verifies the integrity of redundant data. To verify RAID 3, 5, 6, 30, 50 or 60 redundancy, a volume check reads all associated data blocks, computes parity, reads parity, and verifies that the computed parity matches the read parity. You can set up scheduling windows for when consistency check can occur, so that routine consistency check occurs at times that will be least likely to interfere with peak I/O times.

1.6.3 RAID Operations

The '**RAID Operations**' tab allows you to choose the configuration options available to any option highlighted in the "Controller Hierarchy" window.
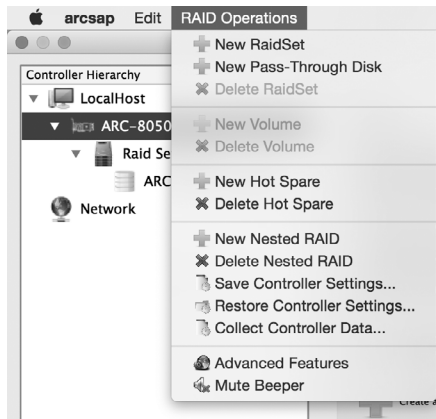

Figure 1-14, RAID Operations Tab

- Save Controller Settings
Save the current controller settings to a configuration file on a disk. You will be prompted to specify the name and location of the backup file. ArcSAP will write the controller configuration to one file name: serial #.bin when it's finished with the installation and fist-time running.

- Restore Controller Settings
Restore controller settings to the controller from a configuration file on a disk. You will be prompted to specify the name and location of the file containing the new configuration.

- Collect Controller Data
The "Collect Controller Data" option on the ArcSAP is used to download all controller's information (system information, configuration, disk information and event log) to a supported file (file name:ctlrxx-xxxxx.log). It will be automatically started when ERROR or SERIOUS event has occurred.

1.7 Recent Tasks

The ArcSAP quick manager keeps a "Recent Tasks" for recording all events that occurred in the RAID units on the localhost and network.