



StorTrends® 3400 Dual Controller IP-SAN Storage Appliance Setup Guide (StorTrends iTX version 2.8)

MAN-3400-SG
11/16/2012

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Revision History

12/30/2010	Preproduction Release
04/15/2011	Added Licensing Information and Updating and Removed Maximum Physical and Theoretical Capacity Information
04/22/2011	Updated term from Canister to Controller
10/15/2011	License Information Page Updated
03/01/2012	Updated all Setup Wizards, removed Packaging Contents, added IPMI Login Information, added Remote Console and added Picture of KVM Dongle
05/04/2012	Updated Email Alert Settings page
09/10/2012	Updated License pages
11/16/2012	Updated HW Health, Login and Events GUI elements

NOTE:

All screen captures are for representative purposes only. Your actual screen may look different. You may have a newer version and build of the StorTrends software and/or a different hardware configuration; such as a different StorTrends Dual Controller IP-SAN storage appliance. Most of the screen captures found in this document were taken from the StorTrends 3400i storage appliance. However, the basic usage remains the same.

Thank You

Thank you for purchasing the StorTrends® 3400 Dual Controller IP-SAN storage appliance. Please take a few minutes to review this Setup guide before beginning the installation process. If you require a further explanation of any item covered in this guide, please refer to the installation instructions on your CD.

This manual is written for the end-user to get up and running with the unit as quickly as possible. Installation and maintenance should be performed by experienced technicians only.

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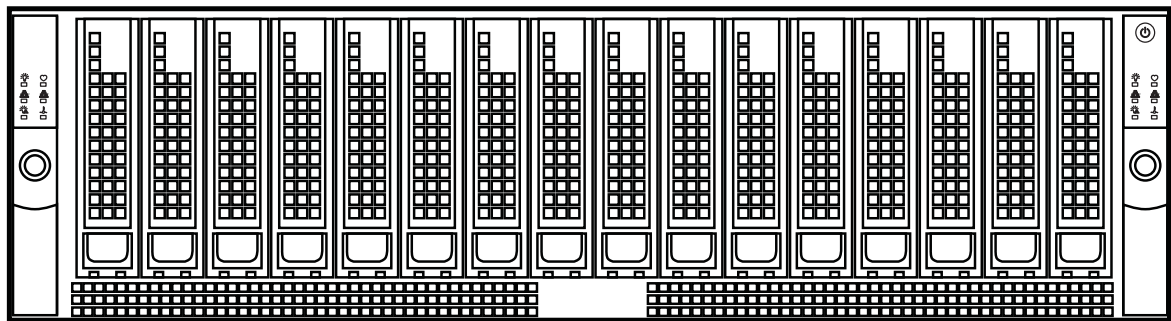
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Hardware Installation



Overview

This section provides a quick setup checklist to get your StorTrends® 3400 Dual Controller IP-SAN storage appliance up and running. Following the steps in the order given should enable you to have the system operational within a minimal amount of time.

NOTE:

Follow the steps in the order given to complete the installation process in a minimal amount of time. Read this section in its entirety before you begin the installation procedure outlined in this section.

Unpack the StorTrends® 3400 Dual Controller IP-SAN Storage Appliance

You should inspect the box the StorTrends® 3400 Dual Controller IP-SAN storage appliance was shipped in and note if it was damaged in any way. If the server itself shows damage, you should file a damage claim with the carrier who delivered it.

Decide on a suitable location for the rack unit that will hold the StorTrends® 3400 Dual Controller IP-SAN storage appliance. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded power outlet. Read the Rack and Server Precautions in the next section.

Choosing a Setup Location

- Leave enough clearance in front of the rack to enable you to open the front door completely (~25 inches).
- Leave approximately 30 inches of clearance in the back of the rack to allow for sufficient airflow and ease in servicing.

WARNING!

RACK PRECAUTIONS

- ENSURE THAT THE LEVELING JACKS ON THE BOTTOM OF THE RACK ARE FULLY EXTENDED TO THE FLOOR WITH THE FULL WEIGHT OF THE RACK RESTING ON THEM.
- IN A SINGLE RACK INSTALLATION, STABILIZERS SHOULD BE ATTACHED TO THE RACK.
- IN MULTIPLE RACK INSTALLATIONS, THE RACKS SHOULD BE COUPLED TOGETHER.
- ALWAYS MAKE SURE THE RACK IS STABLE BEFORE EXTENDING A COMPONENT FROM THE RACK.
- YOU SHOULD EXTEND ONLY ONE COMPONENT AT A TIME – EXTENDING TWO OR MORE SIMULTANEOUSLY MAY CAUSE THE RACK TO BECOME UNSTABLE.

WARNING!

SERVER PRECAUTIONS

- REVIEW THE GENERAL SAFETY PRECAUTIONS.
- DETERMINE THE PLACEMENT OF EACH COMPONENT IN THE RACK BEFORE YOU INSTALL THE RAILS.
- INSTALL THE HEAVIEST SERVER COMPONENTS ON THE BOTTOM OF THE RACK FIRST, AND THEN WORK UP.
- USE A REGULATING UNINTERRUPTIBLE POWER SUPPLY (UPS) TO PROTECT THE SERVER FROM POWER SURGES, VOLTAGE SPIKES AND TO KEEP YOUR SYSTEM OPERATING IN CASE OF A POWER FAILURE.
- ALLOW THE POWER SUPPLY UNITS AND HOT PLUG SERIAL ATA DRIVE TO COOL BEFORE TOUCHING THEM.
- ALWAYS KEEP THE RACK'S FRONT DOOR AND ALL PANELS AND COMPONENTS ON THE SERVERS CLOSED WHEN NOT SERVICING TO MAINTAIN PROPER COOLING.
- WHEN REMOVING THE HARD DISK DRIVE, UNLOCK THE LATCH AND WAIT APPROXIMATELY ONE MINUTE TO ALLOW THE HARD DISK DRIVE MOTOR TO STOP BEFORE PULLING THE HARD DISK DRIVE OUT.

WARNING!

GENERAL SAFETY PRECAUTIONS

- KEEP THE AREA AROUND THE STORTRENDS® 3400 DUAL CONTROLLER IP-SAN STORAGE APPLIANCE CLEAN AND FREE OF CLUTTER.
- THE STORTRENDS® 3400 DUAL CONTROLLER IP-SAN STORAGE APPLIANCE WEIGHS APPROXIMATELY 100 LBS. (45.4 KG) WHEN FULLY LOADED. WHEN LIFTING THE SYSTEM, TWO PEOPLE AT EITHER END SHOULD LIFT SLOWLY WITH THEIR FEET SPREAD OUT TO DISTRIBUTE THE WEIGHT. ALWAYS KEEP YOUR BACK STRAIGHT AND LIFT WITH YOUR LEGS.
- DO NOT OPEN THE CHASSIS TOP COVER.
- WHILE WORKING ON THE SYSTEM, DO NOT WEAR LOOSE CLOTHING SUCH AS NECKTIES AND UNBUTTONED SHIRT SLEEVES, WHICH CAN COME INTO CONTACT WITH ELECTRICAL CIRCUITS OR BE PULLED INTO A COOLING FAN.
- REMOVE ANY JEWELRY OR METAL OBJECTS FROM YOUR BODY, WHICH ARE EXCELLENT METAL CONDUCTORS THAT CAN CREATE SHORT CIRCUITS AND HARM YOU IF THEY COME INTO CONTACT WITH PRINTED CIRCUIT BOARDS OR AREAS WHERE POWER IS PRESENT.

Rack Mounting Considerations

Feature	Description
Ambient Operating Temperature	If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the ambient temperature of the room. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).
Reduced Airflow	Equipment should be mounted into a rack so that the amount of airflow required for safe operation is not compromised.
Mechanical Loading	Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.
Circuit Overloading	Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on over current protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
Reliable Ground	A reliable ground must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (for example, the use of power strips, and so on.).

Installing the System into a Rack

This section provides information on installing the StorTrends 3400 into a rack with the rack rails provided. If the StorTrends 3400 has already been mounted into a rack, you can skip this step.

There are a variety of rack units on the market that may mean the assembly procedure will differ slightly. You should also refer to the installation instructions that came with the rack unit you are using.

Requirements

The rack rails supplied with your system are designed to be used with four post rack enclosures. The rack rails mount between the posts and are designed to be quickly installed.

In order for you to use the supplied rack rails, your rack enclosure must conform to the following:

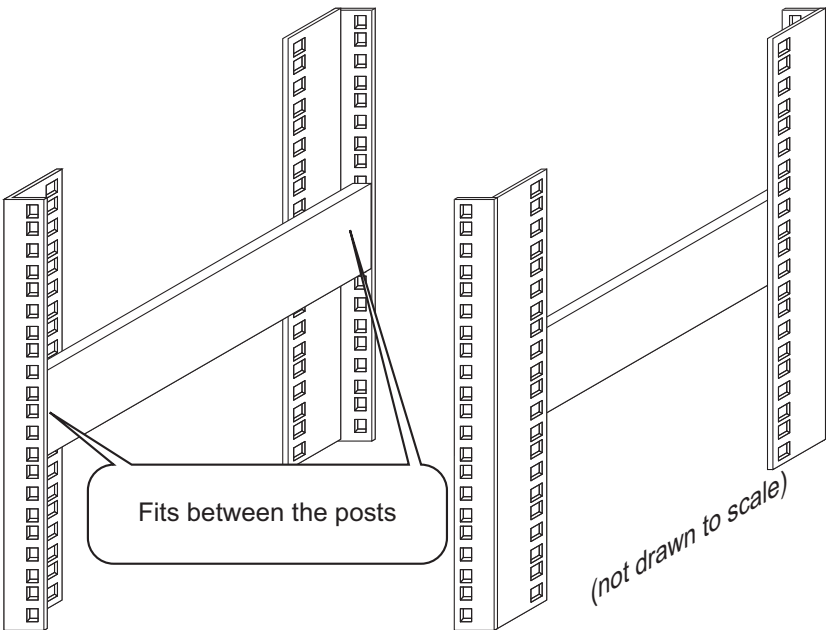
- must be a 19 inch rack mount cabinet
- must be at least 27 inches deep
- must have square holes on the posts (sometimes referred to as, “rapid rack holes.”)
- must have a side clearance of 0.75 inches in between the posts, from square mounting hole to square mounting hole.

Meaning if you take a (0.75 inch) wide by (5.75 inch) tall by (the amount of space between the posts) length of wood and place it between the posts, it should not be exposed in a way that would restrict you from sliding your system into your rack enclosure.

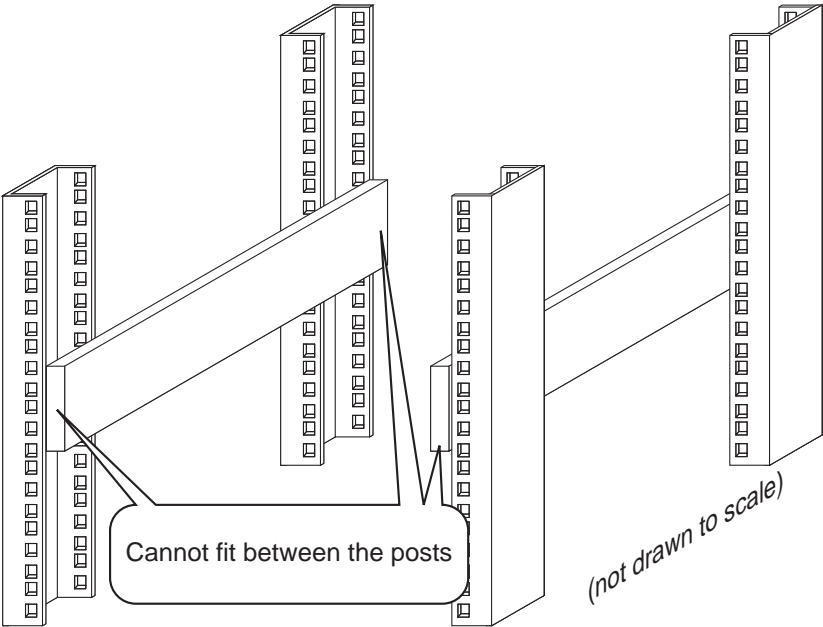
NOTE:

If you are using a rack enclosure that does not have enough space to fit the included rack rails, you can use either an L bracket or a rack shelf.

Correct type of four post rack enclosure



Wrong type of four post rack enclosure

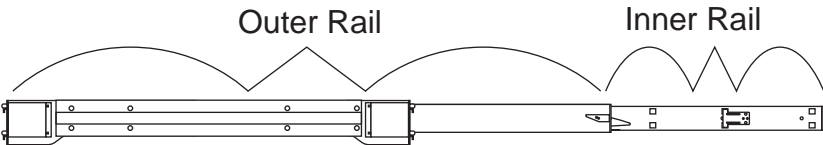


Inspection

Remove both the left (marked L) and right (marked R) rack rails from their plastic bags. Both the left and right rack rails have two sections to them.

- inner rail
- outer rail

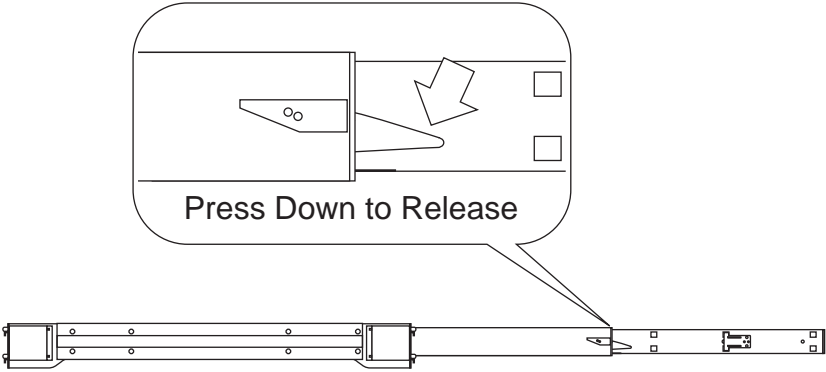
Rack Rail Sections



Separating the Rail Sections

The inner rack rail needs to be slid out from the outer rack rail prior to installation. To slide the inner rack rail from the outer rack rail, fully extend the rack rail until the inner rack rail slides to its locking position.

Rack Rail Release Tab



While lifting the locking tab on the inner rack rail, slide the inner rack rail out from the outer rack rail.

Inner Rail Fully Released



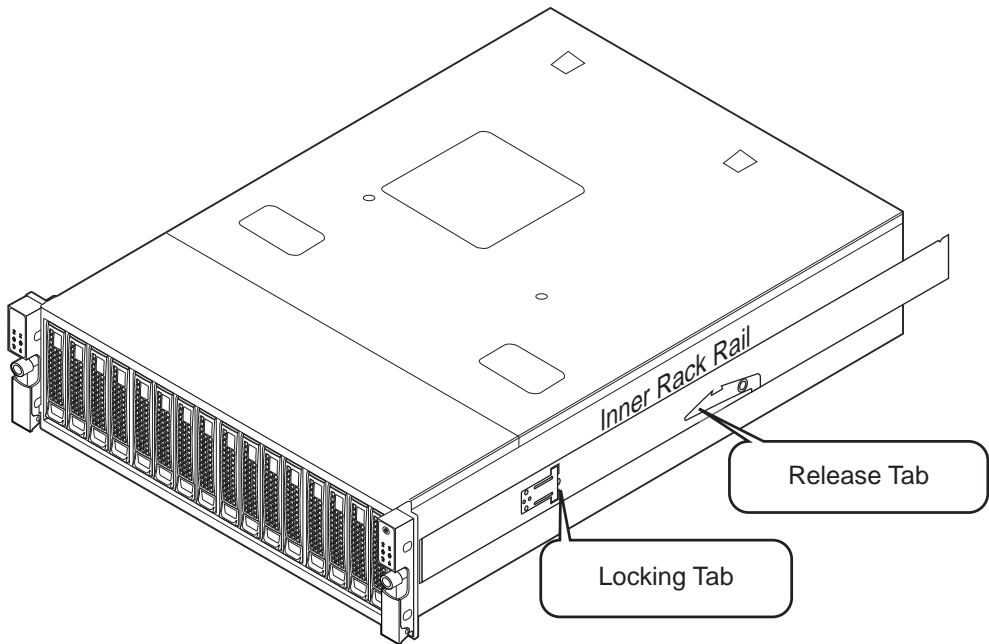
Attaching the Inner Rack Rails to the Chassis

The inner rack rail has openings that line up with the side of the chassis. Match the inner rack rail to the appropriate side of the chassis.

Slide the inner rack rail into its locking position. You will hear a snap when this happens and the inner rack rail will become securely affixed to the side of the chassis.

Screw the inner rack rail to the side of the chassis.

Inner Rail Attached to Chassis



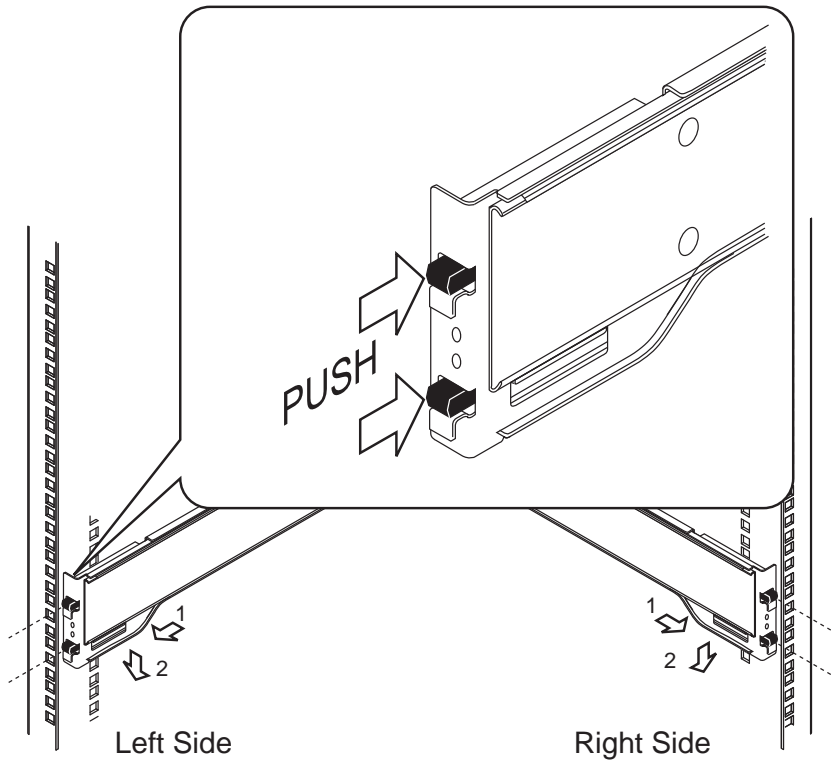
NOTE:

The inner rack rails are marked LH and RH, which corresponds to the left side and right side of the chassis.

Installing the Outer Rack Rails into the Rack

Locate the front of the outer rack rail and attach it to the rack. To do this, simply push the outer rack rail into the back of the rack post. The plastic securing pins will retract so that you can latch the outer rack rail into place. Once the outer rack rail is latched into place the securing plastic pins will pop back out.

Quick Rail Installation



Sliding the rear of the outer rack rail until it comes into contact with the back post. Make sure that the outer rack rail is level and secure it to the post in the same manner as you did with the front of the outer rack rail.

Secure the outer rack rail to the rack posts with four screws. Two for the front post and two for the rear post.

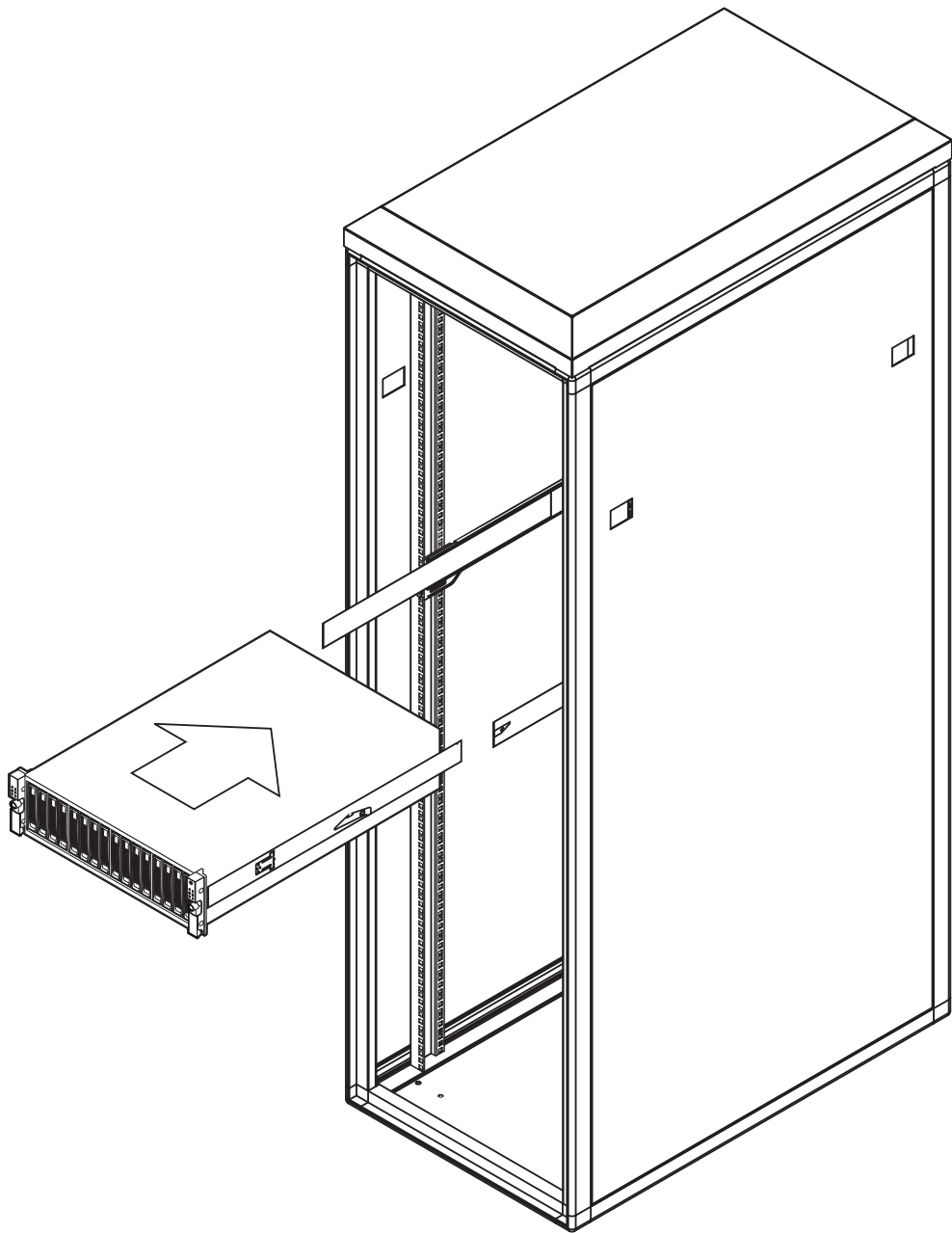
Repeat this process with the remaining outer rack rail.

Line up the inner rack rails of the chassis with the outer rack rails on the rack.

Slide the chassis into place until it comes to a stop.
Verify that both sides of the chassis come to a stop at the same location.

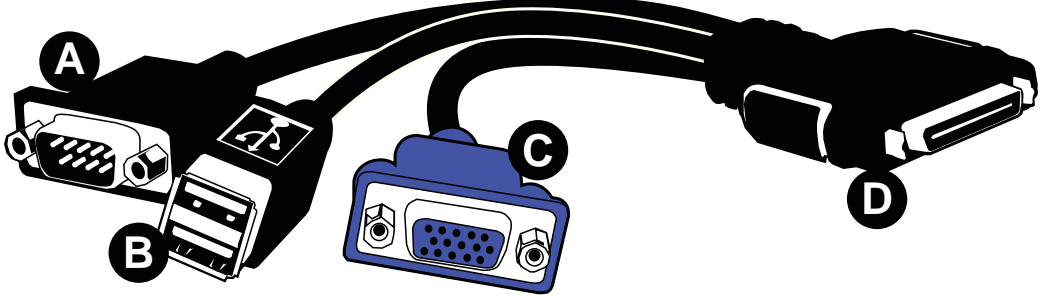
Lift the locking tab on the inner rack rails so that you can slide the chassis all the way into the rack.

Slide System into Enclosure



Completing the Hardware Installation

Next, you should check to make sure that the hard disk drives have been properly inserted and have not come loose in transit.

Step	Description
1	All hard disk drives can be accessed from the front of your StorTrends Dual Controller IP-SAN storage appliance. Verify that the hard disk drive trays are inserted all the way into its bay.
2	Verify that all cables in your rack are not obstructing the airflow of your StorTrends Dual Controller IP-SAN storage appliance.
3	<p>Connect network cables from both NIC-1 and NIC-2 on both the <i>Left Controller</i> and the <i>Right Controller</i> of your StorTrends Dual Controller IP-SAN storage appliance to your network.</p> <p>NOTE: CAT6 network cables gives better performance than CAT5e network cables.</p> <p>NOTE: For best practices, connect through two (2) switches to avoid a single point of failure on your network.</p> <p>NOTE: Your StorTrends Dual Controller IP-SAN storage appliance requires a minimum of one network connection per controller.</p>
4	<p>Insert the <i>KVM Dongle</i> and connect your USB keyboard and monitor into the <i>Left Controller</i>.</p>  <p>A.) Serial Port (not used or described in this document.) B.) USB Ports; Plug your USB Keyboard into this port. C.) VGA Port (15-pin); Plug your monitor display into this port. D.) Plug this connector into the KVM port on the back of the controller.</p>
5	<p>Plug the two power cords from the power supply units into a high-quality power strip that offers protection from electrical noise and power surges. It is highly recommended that you use an uninterruptible power supply (UPS).</p> <p>NOTE: As soon as you plug in one power cord, your StorTrends Dual Controller IP-SAN storage appliance will begin to power up the IPMI in both the <i>Left Controller</i> and the <i>Right Controller</i>. This is normal.</p>

Connect to the StorTrends® Storage Appliance

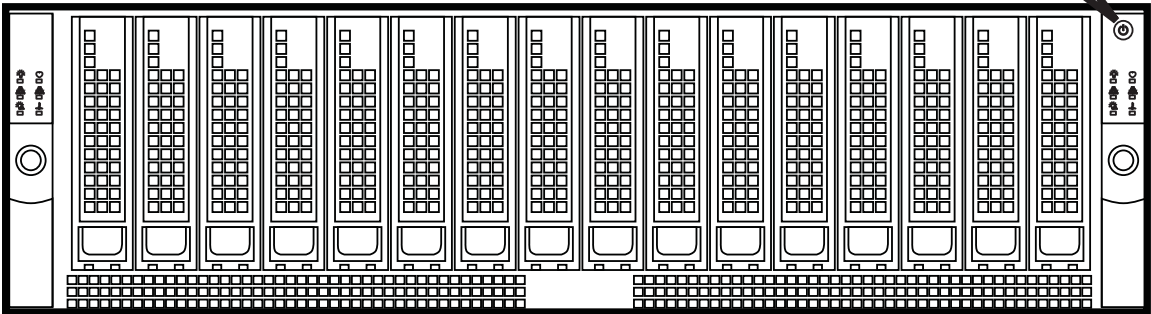
NOTE:

Your StorTrends Dual Controller IP-SAN storage appliance ships with the StorTrends software preloaded in it.

Power your system on

Press the power button located on the front, right side of your StorTrends Dual Controller IP-SAN storage appliance. Both the *Left Controller* and the *Right Controller* of your StorTrends Dual Controller IP-SAN storage appliance should be powered-on at this time.

Power on by pressing this button.



NOTE:

Powering on your StorTrends Dual Controller IP-SAN storage appliance (using the power button) will power both the *Left Controller* and the *Right Controller* up at the same time. However, if one of the controllers is off, the power switch will act like a toggle switch. The power switch will toggle one controller on and toggle the other controller off.

NOTE:

How do I know if the Left Controller and/or the Right Controller are powered on by looking at the outside of my StorTrends Dual Controller IP-SAN storage appliance?

There is no auditory or visual way to tell by looking at the front or back of your StorTrends Dual Controller IP-SAN storage appliance other than the following method:

Attach a monitor (15-pin VGA) and keyboard (USB) to the *KVM dongle* of the *Left Controller*. Using the attached monitor and keyboard, check to see if the controller is on. Attach a monitor and keyboard to the *KVM dongle* of the *Right Controller*. Using the attached monitor and keyboard, check to see if the controller is on.

If the screen on your monitor display initially appears to be blank, the controller might be in power saving mode. Press the <SPACE BAR> on your keyboard to see if that brings the monitor display out of power saving mode. If the monitor display stays blank (and your monitor display is properly powered on), most likely the controller is off.

The cooling fans and front panel LEDs power on when any of the following are true:

- The *Left Controller* is powered on.
- The *Right Controller* is powered on.
- Both the *Left Controller* and the *Right Controller* are powered on.

In the event that you are unsure if both controllers are powered on, hold down the front panel power button for seven (7) seconds, which will result in powering down the cooling fans and shutting down both the *Left Controller* and the *Right Controller*. Wait five (5) seconds and then press and release the front panel power button, which will result in powering on both the *Left Controller* and the *Right Controller*.

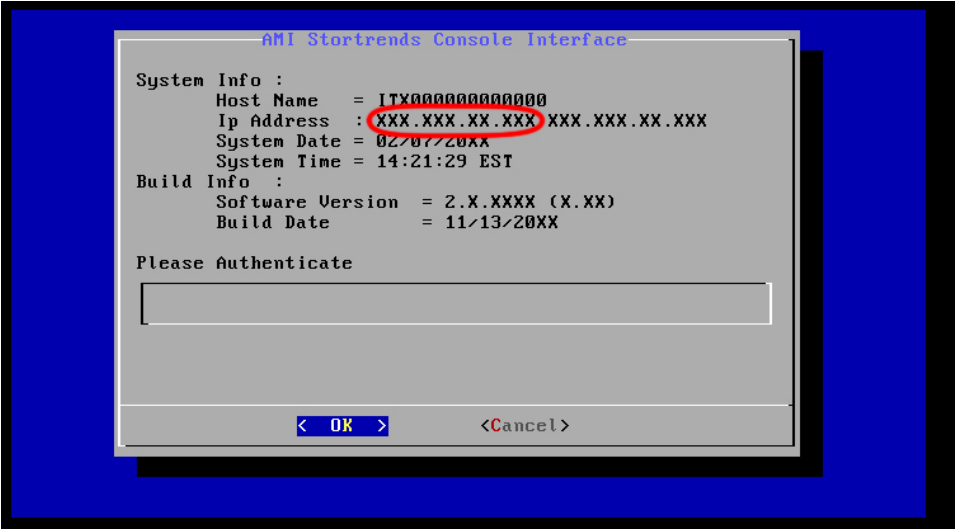
A better way to discover if one or both controllers are powered on (or off) is by logging into each controller's built-in IPMI. The IPMI will give you the power status of the controller. Not only can you check if the controller is powered on (or off), but you will have the ability to remotely control the power to the controller. You will also be able to view its screen (as if you were standing in-front of it, looking at the monitor display). See *Appendix B, Controller Management through IPMI* at the end of this document for more information.

Get the IP address

Once the StorTrends Dual Controller IP-SAN storage appliance is fully operational, you will see the following screen. Write down the IP Address listed in the “Ip Address” field. If you have both NICs on your *Left Controller* connected to your network, all of the IP Addresses will be listed.

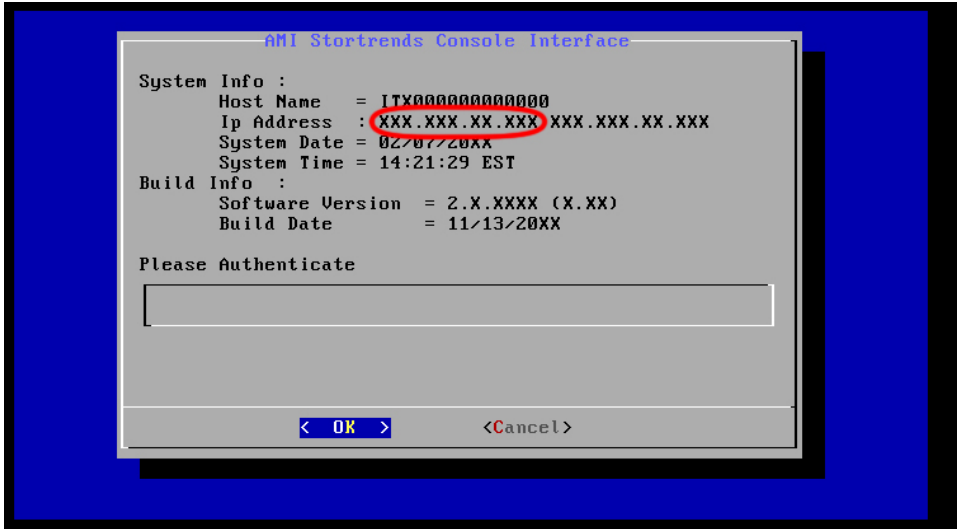
NOTE:

You only need one of the IP Addresses to complete the initial configuration.



NOTE:

There is an IP address that starts with 192.168.123.x called TEAM-1. This IP address is an internally teamed network between the *Left Controller* and the *Right Controller*. The IP Address for TEAM-1 is not displayed from the *StorTrends Console Interface*. Both the teaming (TEAM-1) and the IP Address of TEAM-1 cannot be modified from either the *StorTrends Console Interface* or *ManageTrends* web user's interface (web UI). The *ManageTrends* web UI is also referred to as GUI.



STOP!

Once again, **WRITE DOWN** the IP Address listed in the "Ip Address" field. Go to **ANOTHER COMPUTER** on the same network to continue with the configuration.

Connecting from another System

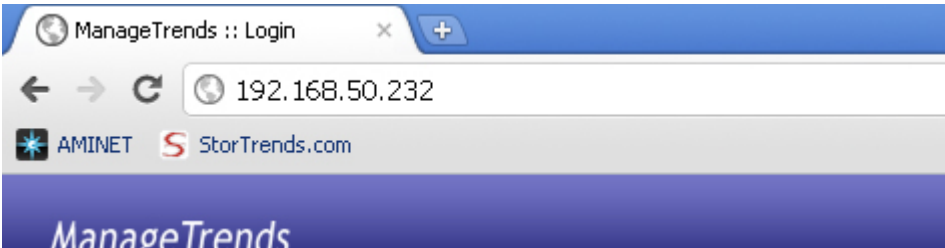
Type the physical IP Address of your StorTrends Dual Controller IP-SAN Storage Appliance into your Internet Browser. (Microsoft Internet Explorer 6.0 Service Pack 1 and Mozilla Firefox 1.5.04 or later are supported)

You can initially connect to your StorTrends Dual Controller IP-SAN Storage Appliance using the IP Address of your storage appliance.

In this example, we will use the following as your network connection settings:

Physical NIC Location	Physical IP Address
Left Controller NIC-1	192.168.0.232
Left Controller NIC-2	192.168.0.26
Right Controller NIC-1	192.168.0.199
Right Controller NIC-2	192.168.0.25

In this example, we are using *Google Chrome™* to illustrate that some Internet browsers no longer require you to type in `http://` and that ManageTrends is supported on multiple Internet browsers.



NOTE:

The default *User Name* and *Password* is as follows:

Field	Defaults
User Name	itxadmin
Password	password

You can log into any of the NICs to initially configure your StorTrends storage appliance.
In this example, you can use **192.168.0.232** to gain access.

Login To- 192.168.50.232

User Name

itxadmin

Password

Login

You can also use **192.168.0.26** to gain access.

Login To- 192.168.50.26

User Name

itxadmin

Password

Login

STOP!

If you are presented with the *License Information* page, see the *Updating an Expired License* section, located in the back of this document. Otherwise, continue onto the *Email Alert Settings* section.

License Information

The license is unavailable/expired for SAN features. You need to upgrade to a valid license for at least one of the features in order to continue managing this server.

Logout

Feature	Status	
Customer ID	N/A	
System UUID	N/A	
iSCSI	License expired/Not activated.	Details
SAR	License expired/Not activated.	Details
WDS	License expired/Not activated.	Details
SAS	License expired/Not activated.	Details
Thin Provision	License expired/Not activated.	Details
ILM	License expired/Not activated.	Details
Additional JBOD Supported	0	Details
Maximum Read-Only Snapshots Permitted	0	Details
Maximum Container Size in TB	0	Details

Update license

The *License Information* page only appears (after initial login) if one of the following is true:

- You just reinstalled the StorTrends iTX software onto your StorTrends storage appliance.
- You were shipped a StorTrends storage appliance that was not pre-configured.

Email Alert Settings

If you are configuring your StorTrends storage appliance for the first time, you will be presented with the *Email Alert Settings* page.

NOTE:

If you are not presented with the *Email Alert Settings* page, skip ahead to the *Network Configuration Wizard* section.

In some instances, your *StorTrends Authorized Reseller* may have already configured *Email Alerts* or may have chosen to disable *Email Alerts* prior to you taking delivery. In either case, you can still view (enable, edit or configure) the *Email Alerts* settings after you complete your initial setup and configuration of your StorTrends storage appliance. Simply select *Dashboard* (from the left menu), then scroll down until you see the *Alerts* section and then click the *Email* icon.

Email Alert Settings

☐ Enable Email Alert Notifications

Email Server Name/IP Address

Email Origin ("From" Address)

stortrends@

☒ Add StorTrends™ support Email address(stortrends-alerts@ami.com) for critical events

Enter email addresses of the recipients (Maximum of 4 email addresses can be configured)

Email Address

Add

Delete

Email Address	Information	Warning	Critical
<input type="checkbox"/> stortrends-alerts@ami.com	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

NOTE: It is highly recommended to add StorTrends™ support Email address(stortrends-alerts@ami.com) to notify critical events to AMI support team.

Update

Disable Email Alert

NOTE:

If you do not want to enable *Email Alerts*, simply click the *Cancel* button and skip ahead to the *Network Configuration Wizard* section. However, if you do not configure *Email Alerts* then you may miss some fault notifications and/or warnings that can in unrecoverable situations.

If you decide to skip configuring *Email Alerts*, you can enable *Email Alerts* later. Simply select *Dashboard* (from the left menu), then scroll down until you see the *Alerts* section and then click the *Email* icon (after you complete all the setup wizards).

Email Alert Settings

☒ Enable Email Alert Notifications

Email Server Name/IP Address

Email Origin ("From" Address)

stortrends@

☒ Add StorTrends™ support Email address(stortrends-alerts@ami.com) for critical events

Enter email addresses of the recipients (Maximum of 4 email addresses can be configured)

Email Address

Add

Delete

Email Address	Information	Warning	Critical
<input type="checkbox"/> stortrends-alerts@ami.com	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

NOTE: It is highly recommended to add StorTrends™ support Email address(stortrends-alerts@ami.com) to notify critical events to AMI support team.

Update

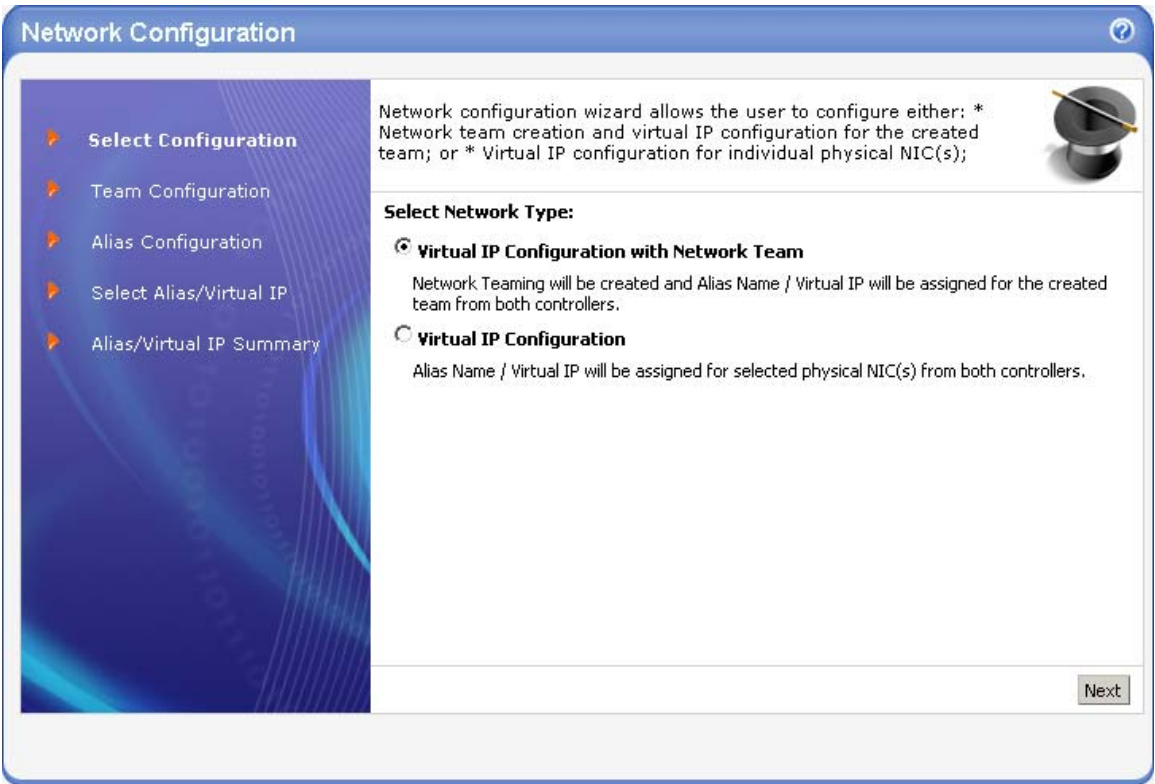
Disable Email Alert

To enable *Email Alerts* notification, left click the box next to *Enable email alert notification*. You can configure up to four *Email* addresses.

Field/Item	Description
Email Server Name/IP Address	Type IP Address or FQDN of the SMTP server for outgoing mail into this field.
Email Origin ("From" Address)	Type in a domain name for the email origin or (if your mail server allows it) the name or IP Address of your StorTrends storage appliance. Email alerts coming from your StorTrends storage appliance will appear as coming from stortrends@yourdomainname.com .
Add StorTrends support Email address (stortrends-alerts@ami.com) for critical events	Check this box (or leave it checked) if you would like to allow an email alert to be sent to StorTrends support when there is a critical event.
Email Address field	This column allows you to enter the email addresses for up to four destinations.
Add button	Left click this button to add an Email address.
Delete button	This button allows you to delete a selected item from the list.
Information	Check this box to trigger an email notification to be sent whenever an informational event is recorded. An <i>Information</i> event can be an event such as a StorTrends Dual Controller IP-SAN Storage Appliance reboot.
Warning	Check this box to trigger an email notification to be sent whenever a warning event is recorded. Examples of Warning events are: heat threshold exceeded, fan speed too slow and so on.
Critical/Fatal	Check this box to trigger an email notification to be sent whenever a critical or fatal event is recorded. A <i>Critical</i> or <i>Fatal</i> event can be an event such as a hard disk drive failure.
Update button	To save changes, left click the <i>Apply</i> button.
Disable Email Alert button	Left click this button to disable email alert on this StorTrends Dual Controller IP-SAN Storage Appliance.

Network Configuration Wizard

After you configure *Email Alerts*, you will be presented with the *Network Configuration Wizard* where you will be able to configure the *Virtual IP Address* of your StorTrends storage appliance.



Configuring a Virtual IP Address

Use of a *Virtual IP Address* is required on the StorTrends Dual Controller IP-SAN Storage Appliance. The basic reason behind this is because, since the StorTrends Dual Controller IP-SAN Storage Appliance has two controllers (*Left Controller* and *Right Controller*), the StorTrends Dual Controller IP-SAN Software uses the *Virtual IP Address* to provide seamlessly redundancy.

When you initially log into one of your *Controllers* on your StorTrends Dual Controller IP-SAN Storage Appliance using one of its physical IP addresses, you will automatically enter into the *Network Configuration Wizard*. The *Network Configuration Wizard* allows you to configure an *Alias IP Address* for it; otherwise known as a *Virtual IP Address*.

NOTE:

- In this User’s Guide, “Virtual IP Address,” and, “Alias IP Address,” is used interchangeably. A *Virtual IP Address* is an *Alias IP Address* and vice versa.
- You must configure a *Virtual IP Address* on your StorTrends Dual Controller IP-SAN Storage Appliance.

We will use the same configuration as in the previous example:

Physical NIC Location	Physical IP Address
Left Controller NIC-1	192.168.0.232
Left Controller NIC-2	192.168.0.26
Right Controller NIC-1	192.168.0.199
Right Controller NIC-2	192.168.0.25

To log into your StorTrends Dual Controller IP-SAN Storage Appliance, you can use any of the Physical IP Addresses.

In this example we have two Physical IP Addresses to choose from. We will use the *Left Controller*, NIC-1.

Login To- 192.168.50.232

User Name

itxadmin

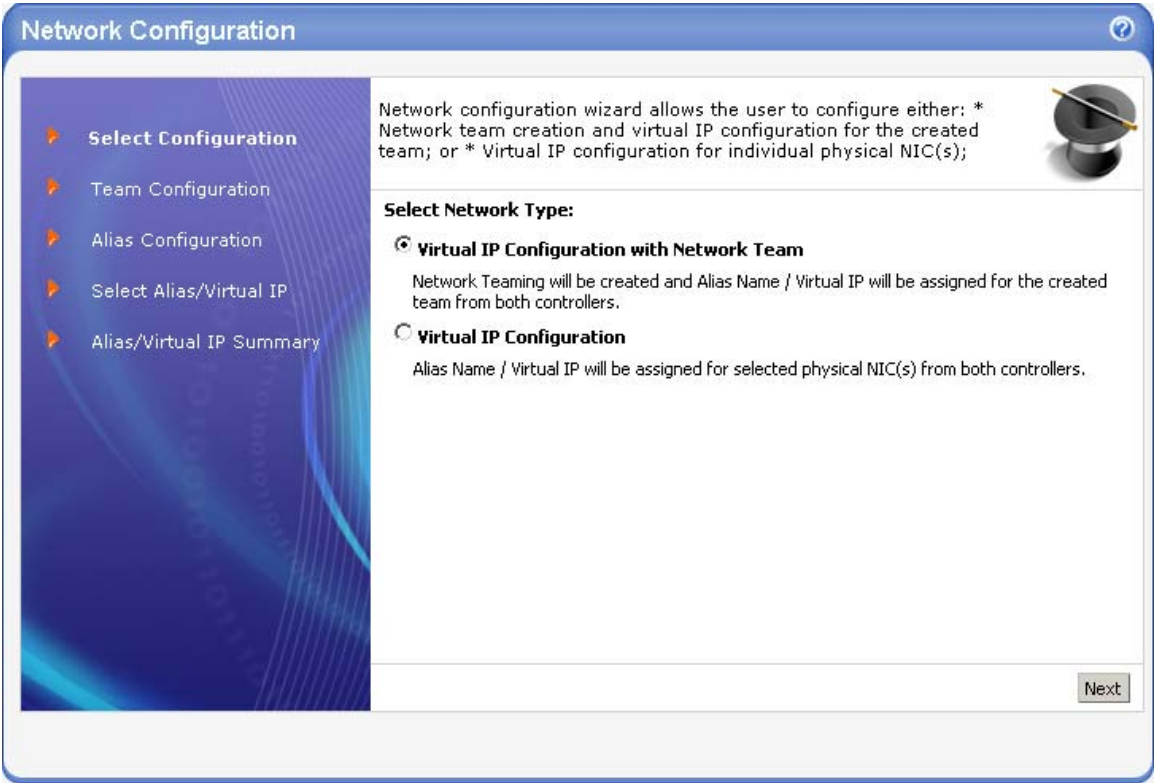
Password

Login

Immediately after your initial login attempt, you are taken to the *Network Configuration Wizard*. In the *Network Configuration Wizard*, you must configure an *Alias IP Address*; otherwise known as a *Virtual IP Address*.

STOP!

- Have more than two NICs in **each** *Controller* connected to your network and want to configure *Network Teaming*? Continue onto the *Virtual IP Configuration with Network Team Option* section.
- Want to simply configure the Virtual IP Address? Skip to the *Virtual IP Configuration Option* section.



You are given a couple of options:

Option	Select his option if...
Virtual IP Configuration with Network Team	You want to configure <i>Network Teaming</i> on both <i>Controllers</i> that has both NIC-1 and NIC-2 connected to a <i>Switch</i> that supports <i>Network Teaming</i> .
Virtual IP Configuration	You want to configure just the <i>Virtual IP Address</i> .

Virtual IP Configuration with Network Team Option

Network Configuration

Select Configuration

Team Configuration

Alias Configuration

Select Alias/Virtual IP

Alias/Virtual IP Summary

Network configuration wizard allows the user to configure either: * Network team creation and virtual IP configuration for the created team; or * Virtual IP configuration for individual physical NIC(s);

Select Network Type:

☒ Virtual IP Configuration with Network Team

Network Teaming will be created and Alias Name / Virtual IP will be assigned for the created team from both controllers.

☐ Virtual IP Configuration

Alias Name / Virtual IP will be assigned for selected physical NIC(s) from both controllers.

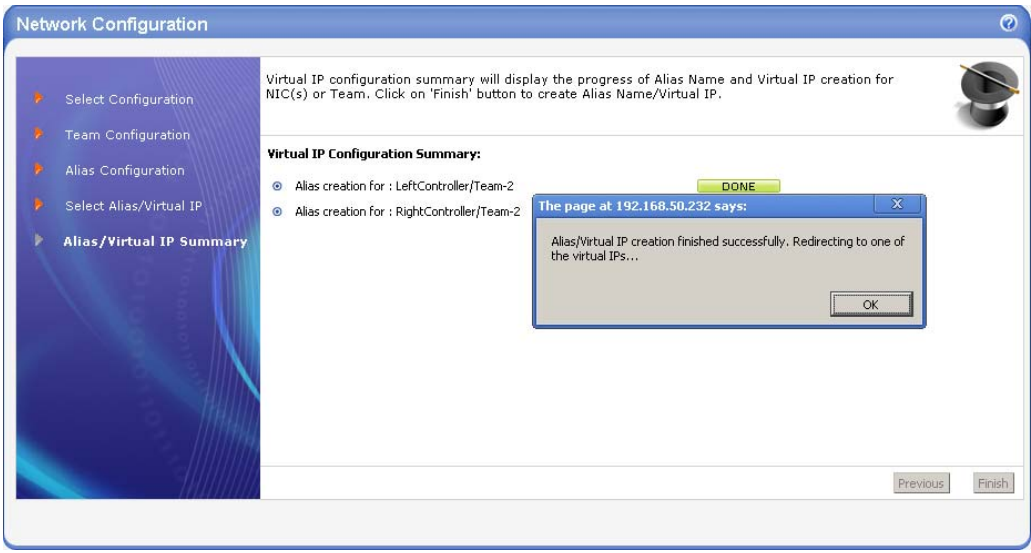
Next

Step	Action
1	Make sure <i>Virtual IP Configuration with Network Team</i> is selected and click <i>Next</i> .

Step	Action									
2	<p>Select at least two NICs from the list of NICs displayed. One of the NICs should already be selected. Make sure that both NICs are from the same Subnet.</p> <div><div><div><div>Network Configuration</div><div><div><div>Select Configuration</div><div>Team Configuration</div><div>Alias Configuration</div><div>Select Alias/Virtual IP</div><div>Alias/Virtual IP Summary</div></div></div><div><p>Network team will be created in both controllers with the same configuration. Please make sure that both controllers have similar NIC configuration before proceeding further.</p><div><div>Team name</div><div>Team-2</div></div><p>Select at least 2 NICs from the list below with one of them being selected as primary.</p><table><tr><th>Adapter</th><th>Description</th><th>Type</th></tr><tr><td><input checked="" type="checkbox"/></td><td>NIC-1</td><td>Intel Corporation 82576 Gigabit Network Connection (rev 01) Primary</td></tr><tr><td><input type="checkbox"/></td><td>NIC-2</td><td>Intel Corporation 82576 Gigabit Network Connection (rev 01) Secondary</td></tr></table><p>Select the type of teaming.</p><div><div>BALANCE-RR(ROUND ROBIN)</div></div><p>Note: A network team can be made with minimum of 2 available NICs of same network and preferably of same kind. Teaming of NICs provide failover and load balancing capabilities.</p><div><div>Previous</div><div>Next</div></div></div></div></div></div>	Adapter	Description	Type	<input checked="" type="checkbox"/>	NIC-1	Intel Corporation 82576 Gigabit Network Connection (rev 01) Primary	<input type="checkbox"/>	NIC-2	Intel Corporation 82576 Gigabit Network Connection (rev 01) Secondary
Adapter	Description	Type								
<input checked="" type="checkbox"/>	NIC-1	Intel Corporation 82576 Gigabit Network Connection (rev 01) Primary								
<input type="checkbox"/>	NIC-2	Intel Corporation 82576 Gigabit Network Connection (rev 01) Secondary								

Step	Action									
3	<p>Select the type of teaming from the drop-down list box:</p> <ul style="list-style-type: none">• Balance-RR (Round Robin)• 802.3AD (Dynamic Link Aggregation)• Balance-TLB (Transmit Load Balancing)• Balance-ALB (Adaptive Load Balancing) <div><div><div><div>Network Configuration</div><div><div><div>Select Configuration</div><div>Team Configuration</div><div>Alias Configuration</div><div>Select Alias/Virtual IP</div><div>Alias/Virtual IP Summary</div></div><div><div>Network configuration wizard allows the user to configure either: * Network team creation and virtual IP configuration for the created team; or * Virtual IP configuration for individual physical NIC(s);</div><div><div>Team name</div><div>Team-2</div></div><div><div>Select at least 2 NICs from the list below with one of them being selected as primary.</div><table><tr><th>Adapter</th><th>Description</th><th>Type</th></tr><tr><td><input checked="" type="checkbox"/></td><td>NIC-1</td><td>Intel Corporation 82576 Gigabit Network Connection (rev 01) Primary</td></tr><tr><td><input checked="" type="checkbox"/></td><td>NIC-2</td><td>Intel Corporation 82576 Gigabit Network Connection (rev 01) Secondary</td></tr></table><div><div>Select the type of teaming.</div><div><div>BALANCE-RR(ROUND ROBIN)</div><div>BALANCE-RR(ROUND ROBIN)</div><div>802.3AD(Dynamic Link Aggregation)</div><div>BALANCE-TLB(Transmit Load Balancing)</div><div>BALANCE-ALB(Adaptive Load Balancing)</div></div><div>um of 2 available NICs of same network and de failover and load balancing capabilities.</div></div><div><div>Previous</div><div>Next</div></div></div></div></div></div></div></div>	Adapter	Description	Type	<input checked="" type="checkbox"/>	NIC-1	Intel Corporation 82576 Gigabit Network Connection (rev 01) Primary	<input checked="" type="checkbox"/>	NIC-2	Intel Corporation 82576 Gigabit Network Connection (rev 01) Secondary
Adapter	Description	Type								
<input checked="" type="checkbox"/>	NIC-1	Intel Corporation 82576 Gigabit Network Connection (rev 01) Primary								
<input checked="" type="checkbox"/>	NIC-2	Intel Corporation 82576 Gigabit Network Connection (rev 01) Secondary								

Step	Action																		
4	<p>Click <i>Next</i> and a <i>Team</i> is created for both <i>Controllers</i>.</p> <div><div><div>Network Configuration</div><div><div><div>Select Configuration</div><div>Team Configuration</div><div>Alias Configuration</div><div>Select Alias/Virtual IP</div><div>Alias/Virtual IP Summary</div></div><div><div>Select the physical NIC(s) or Team to configure settings like Alias Name, Virtual IP and Portal Tag number in the next step.</div><div>Note: If the NIC or Team is already assigned with virtual IP, then it will not be listed here. And it is mandatory to configure virtual IP for NIC(s) or Team from both controllers simultaneously.</div><div><div>Left Controller</div><div>Right Controller</div><div><div><input type="checkbox"/> Team-2</div><div><input type="checkbox"/> Team-2</div></div></div><div><div>Previous</div><div>Next</div></div></div><div><div><div><div></div></div><div>Team created successfully and network parameters changed.</div></div></div></div></div></div>																		
5	<p>Enter the <i>Alias Name</i> you want to use in the <i>Alias Name</i> field. Use only alpha-numeric characters. Special characters (such as #, \$ and %) are not supported. The maximum length allowed is nine (9) characters.</p> <div><div><div>Network Configuration</div><div><div><div>Select Configuration</div><div>Team Configuration</div><div>Alias Configuration</div><div>Select Alias/Virtual IP</div><div>Alias/Virtual IP Summary</div></div><div><div>Enter Alias Name and Virtual IP. Please make sure that the Virtual IP entered should be in same subnet and but not in use [i.e. not pingable].</div><div><table><thead><tr><th>Controller/NIC</th><th>Alias Name</th><th>Virtual IP</th><th>Portal Tag</th><th>IP Settings</th><th>DNS Settings</th></tr></thead><tbody><tr><td>LeftController/Team-2</td><td>Alias- left1</td><td>192.168.50.200</td><td>1</td><td>IP_Address: 192.168.50.232 Subnet_Mask: 255.255.255.0 Gateway: 192.168.50.1</td><td>Primary_DNS: 192.168.50.5 Secondary_DNS: 192.168.51.5 DNS_Suffix: storage-lab.us.megatrends.com</td></tr><tr><td>RightController/Team-2</td><td>Alias- right1</td><td>192.168.50.210</td><td>1</td><td>IP_Address: 192.168.50.199 Subnet_Mask: 255.255.255.0 Gateway: 192.168.50.1</td><td>Primary_DNS: 192.168.50.5 Secondary_DNS: 192.168.51.5 DNS_Suffix: storage-lab.us.megatrends.com</td></tr></tbody></table></div><div><div>Previous</div><div>Next</div></div></div><div></div></div></div></div>	Controller/NIC	Alias Name	Virtual IP	Portal Tag	IP Settings	DNS Settings	LeftController/Team-2	Alias- left1	192.168.50.200	1	IP_Address: 192.168.50.232 Subnet_Mask: 255.255.255.0 Gateway: 192.168.50.1	Primary_DNS: 192.168.50.5 Secondary_DNS: 192.168.51.5 DNS_Suffix: storage-lab.us.megatrends.com	RightController/Team-2	Alias- right1	192.168.50.210	1	IP_Address: 192.168.50.199 Subnet_Mask: 255.255.255.0 Gateway: 192.168.50.1	Primary_DNS: 192.168.50.5 Secondary_DNS: 192.168.51.5 DNS_Suffix: storage-lab.us.megatrends.com
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	<p>For example, entering left1 in <i>Alias Name</i> field will create an <i>Alias Name</i> of Alias-left1.</p>																		

Step	Action
6	<p>Enter the <i>Virtual IP Address</i> that you want to use in the <i>Virtual IP</i> field.</p> <p>For example, 192.168.0.200.</p>
7	<p>Click <i>Next</i> to view the <i>Alias/Virtual IP Summary</i> page. Click <i>Finish</i> to create the <i>Virtual IP Addresses</i> with your settings.</p> 

STOP!

Skip ahead to the *Future Login Information* section.

Virtual IP Configuration Option

Network Configuration

Select Configuration

Team Configuration

Alias Configuration

Select Alias/Virtual IP

Alias/Virtual IP Summary

Network configuration wizard allows the user to configure either: * Network team creation and virtual IP configuration for the created team; or * Virtual IP configuration for individual physical NIC(s);

Select Network Type:

☐ Virtual IP Configuration with Network Team

Network Teaming will be created and Alias Name / Virtual IP will be assigned for the created team from both controllers.

☒ Virtual IP Configuration

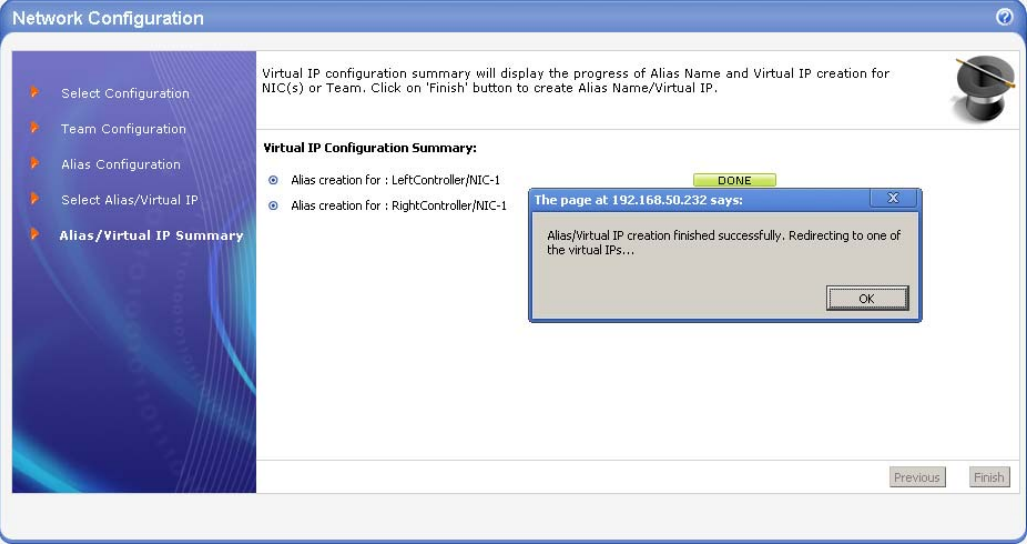
Alias Name / Virtual IP will be assigned for selected physical NIC(s) from both controllers.

Next

Step	Action
1	Make sure <i>Virtual IP Configuration</i> is selected and click <i>Next</i> .

Step	Action
2	<div>Select a NIC from the list.</div> <div><div><div><div>Network Configuration</div><div><div><div>Select Configuration</div><div>Team Configuration</div><div>Alias Configuration</div><div>Select Alias/Virtual IP</div><div>Alias/Virtual IP Summary</div></div></div><div><div>Select the physical NIC(s) or Team to configure settings like Alias Name, Virtual IP and Portal Tag number in the next step.</div><div>Note: If the NIC or Team is already assigned with virtual IP, then it will not be listed here. And it is mandatory to configure virtual IP for NIC(s) or Team from both controllers simultaneously.</div><div><div>Left Controller</div><div>Right Controller</div><div><div><input type="checkbox"/> NIC-1</div><div><input type="checkbox"/> NIC-1</div></div><div><div><input type="checkbox"/> NIC-2</div><div><input type="checkbox"/> NIC-2</div></div></div><div><div>Previous</div><div>Next</div></div></div></div></div><div>NOTE: Only NICs that are not assigned an Alias are listed.</div></div>

Step	Action																		
3	<div><p>Enter the <i>Alias Name</i> you want to use in the <i>Alias Name</i> field. Use only alpha-numeric characters. Special characters (such as #, \$ and %) are not supported. The maximum length allowed is nine (9) characters.</p><div><div><div>Network Configuration</div><div><div><div>Select Configuration</div><div>Team Configuration</div><div>Alias Configuration</div><div>Select Alias/Virtual IP</div><div>Alias/Virtual IP Summary</div></div><div><div>Enter Alias Name and Virtual IP. Please make sure that the Virtual IP entered should be in same subnet and but not in use [i.e. not pingable].</div><table><tr><th>Controller/NIC</th><th>Alias Name</th><th>Virtual IP</th><th>Portal Tag</th><th>IP Settings</th><th>DNS Settings</th></tr><tr><td>LeftController/NIC-1</td><td>Alias- <input type="text" value="left1"/></td><td><input type="text" value="192.168.50.200"/></td><td><input type="text" value="1"/></td><td>IP_Address: 192.168.50.232 Subnet_Mask: 255.255.255.0 Gateway: 192.168.50.1</td><td>Primary_DNS: 192.168.50.5 Secondary_DNS: 192.168.51.5 DNS_Suffix: storage-lab.us.megatrends.com</td></tr><tr><td>RightController/NIC-1</td><td>Alias- <input type="text" value="right1"/></td><td><input type="text" value="192.168.50.210"/></td><td><input type="text" value="1"/></td><td>IP_Address: 192.168.50.199 Subnet_Mask: 255.255.255.0 Gateway: 192.168.50.1</td><td>Primary_DNS: 192.168.50.5 Secondary_DNS: 192.168.51.5 DNS_Suffix: storage-lab.us.megatrends.com</td></tr></table><div><div>Previous</div><div>Next</div></div></div></div></div><div><p>For example, entering right1 in <i>Alias Name</i> field will create an <i>Alias Name</i> of Alias-right1.</p></div></div></div>	Controller/NIC	Alias Name	Virtual IP	Portal Tag	IP Settings	DNS Settings	LeftController/NIC-1	Alias- <input type="text" value="left1"/>	<input type="text" value="192.168.50.200"/>	<input type="text" value="1"/>	IP_Address: 192.168.50.232 Subnet_Mask: 255.255.255.0 Gateway: 192.168.50.1	Primary_DNS: 192.168.50.5 Secondary_DNS: 192.168.51.5 DNS_Suffix: storage-lab.us.megatrends.com	RightController/NIC-1	Alias- <input type="text" value="right1"/>	<input type="text" value="192.168.50.210"/>	<input type="text" value="1"/>	IP_Address: 192.168.50.199 Subnet_Mask: 255.255.255.0 Gateway: 192.168.50.1	Primary_DNS: 192.168.50.5 Secondary_DNS: 192.168.51.5 DNS_Suffix: storage-lab.us.megatrends.com
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4	<div><p>Enter the <i>Virtual IP Address</i> that you want to use in the <i>Virtual IP</i> field. The Virtual IP Addresses must be an open and available IP Address within the subnet. Make sure that there are two (2) different Virtual IP Addresses utilized for the <i>Left Controller</i> and the <i>Right Controller</i>. Two (2) different Virtual IP Addresses are required in order access the local volumes controlled by each controller.</p><p>In this example, 192.168.0.200 and 192.168.0.210.</p><p>NOTE: Make sure that the <i>Virtual IP Address</i> that you want to use is in the same <i>Subnet</i>, but is not in use. One way to check for this is to try and PING it. The PING should time out.</p></div>																		

Step	Action
5	<p>Enter the <i>Portal Tag</i> number that you want to use in the <i>Portal Tag</i> field.</p> <p>For example, 1, 2, 3 or 4.</p> <p>NOTE:</p> <ul style="list-style-type: none">• The <i>Portal Tag</i> can range from 1 to 16383.• The <i>Portal Tag</i> is important for setting up Microsoft® MCS (Multiple Connections per Session). For setting up Microsoft® MCS, you should use the same value for all <i>Portal Tags</i> in order to combine all ports within a single session.• For setting up MPIO (Multi-Pathing IO) you should use unique values for each <i>Portal Tag</i>.
6	<p>Click <i>Next</i> to view the <i>Alias/Virtual IP Summary</i> page. Click <i>Finish</i> to create the <i>Virtual IP Addresses</i> with your settings.</p> 

Future Login Information

From this point forward, only use the *Virtual IP Address* to access your StorTrends Dual Controller IP-SAN Storage Appliance.

NOTE:

You should always use the Virtual IP Address that you assigned to your StorTrends Dual Controller IP-SAN Storage Appliance.

If you use the Physical IP Address, you will automatically be redirected to your *Virtual IP Address*.

Login To- 192.168.50.200

User Name

itxadmin

Password

Login

You are redirected to log in using the Virtual IP address of the server. Please enter your credential again and in future use this IP address for server management.

You will also be prompted with a warning message:

“You are redirected to log in using the Virtual IP address of the server. Please enter your credential again and in the future use this IP address for server management.”

Write down the *Virtual IP Address* (also known as the *Alias IP Address*) of your StorTrends Dual Controller IP-SAN Storage Appliance. The *Virtual IP Address* will be located in your Internet browser address bar.

Logging On Using your Virtual IP Address

STOP!

Make sure that you login to the *Virtual IP Address* that you configured. If not, you will be redirect to the Virtual IP Address and will also be prompted with a warning message:
“You are redirected to log in using the Virtual IP address of the server. Please enter your credential again and in the future use this IP address for server management.”

Login To- 192.168.50.200

User Name

itxadmin

Password

Login

You will be prompted to provide a username and password before you can gain access to your StorTrends Dual Controller IP-SAN Storage Appliance. Enter your username and password.

Field	Defaults
User Name	itxadmin
Password	password

WARNING!

- **When you login using the default itxadmin password, you have full administrative powers. It is STRONGLY advised that once you login, you change the password in the ManageTrends *web user’s interface* (web UI). The ManageTrends web UI is also referred to as GUI.**
- **It is STRONGLY advised that you change the root password in the *Command Line Interface* (CLI). Changing the password and basic CLI usage is not described in this document.**
- **Both the user name and password are case sensitive.**

Using the Quick Setup Wizard

Quick Setup Wizard: Before You Begin

Use the following instructions as a basis.

NOTE:

The *Quick Setup Wizard* will select all the physical hard disk drives present in the StorTrends Dual Controller IP-SAN storage appliance to create the RAID array and Storage Pool(s). Twenty percent of the physically available hard disk space should be reserved if you are planning to use snapshot storage.

Step One: Quick Setup Wizard

If the storage has not been configured on your StorTrends Dual Controller IP-SAN storage appliance, you will be prompted to run the *Quick Setup Wizard*. The *Quick Setup Wizard* will get you up and running in the shortest amount of time possible.

NOTE:

The *Quick Setup Wizard* will select the enclosures present in the StorTrends Dual Controller IP-SAN storage appliance and list the RAID options to create your first *Storage Pool*.

Quick Setup Wizard

Logical Drive Configuration

Storage Pool Configuration

Configuration Summary

Following step allow the user to select enclosure and corresponding raid level.

Select Enclosure

Head Node

Select Raid Level

RAID-5 [7 Drives + 1 HotSpare : 7 Drives + 1 HotSpare]

Add To List

Select	Enclosure
	No Enclosure Added

Remove

Next

Step Two: Logical Drive Configuration

Quick Setup Wizard

Logical Drive Configuration

Storage Pool Configuration

Configuration Summary

Following step allow the user to select enclosure and corresponding raid level.

Select Enclosure

Head Node

Select Raid Level

RAID-5 [7 Drives + 1 HotSpare : 7 Drives + 1 HotSpare]

Add To List

Select	Enclosure
	No Enclosure Added

Remove

Next

Step	Action
1	Select the <i>Enclosure(s)</i> [<i>Head Node/JBODs</i>] from the dropdown list. JBODs will be listed if there is a JBOD attached to you the StorTrends Dual Controller IP-SAN storage appliance. By default, <i>Head Node</i> is selected.
2	<div>Select the type of <i>RAID Level</i> to be configured for the <i>Storage Pool</i>. The following is a list of <i>RAID Levels</i> supported:<ul style="list-style-type: none">RAID 5[7 Drives + 1 HotSpare : 7 Drives + 1 HotSpare] This will create two <i>Logical Drives</i> with RAID 5 and two <i>Storage Pools</i>.RAID 50[7 Drives + 1 HotSpare : 7 Drives + 1 HotSpare] This will create two <i>Logical Drives</i> with RAID 5 and single <i>Storage Pool</i>.RAID 5[15 Drives + 1 HotSpare] This will create a single <i>Logical Drive</i> with RAID 5 and a single <i>Storage Pool</i>.RAID 6[7 Drives + 1 HotSpare : 7 Drives + 1 HotSpare]RAID 60[7 Drives + 1 HotSpare : 7 Drives + 1 HotSpare]</div>
3	Left click on <i>Add To List</i> button to add the options selected to the list box.
4	Left click the <i>Next</i> button to continue.

NOTE:

- To remove an *Enclosure* from the list box, select it (by placing a check mark in the box next to the *Enclosure* to be removed) and left click on the *Remove* button.
- If any *Logical Drives/Storage Pools* are not present for the RAID-A option, other unused enclosures will not be listed in enclosure list. You have to create a *Logical Drive/Storage Pool* for the respective *Enclosure* for the RAID-A option before proceeding to other *Enclosures*.

Step Three: Storage Pool Configuration

Quick Setup Wizard

Logical Drive Configuration

Storage Pool Configuration

Configuration Summary

Following step allow the user to select logical drives to created storagepools,

Enter Storage Pool Name:

Select Cache Option:

Write Through

Select Logical Drives:

Select	Logical Drive	Raid Option
<input type="checkbox"/>	Head Logical Drive1	RAID 5
<input type="checkbox"/>	Head Logical Drive2	RAID 5

Add To List

Selected Logical Drives:

Select	Logical Drive	Storage Pool	Cache Option	Raid Option
No Logical Drive Added				

Remove

Previous

Next

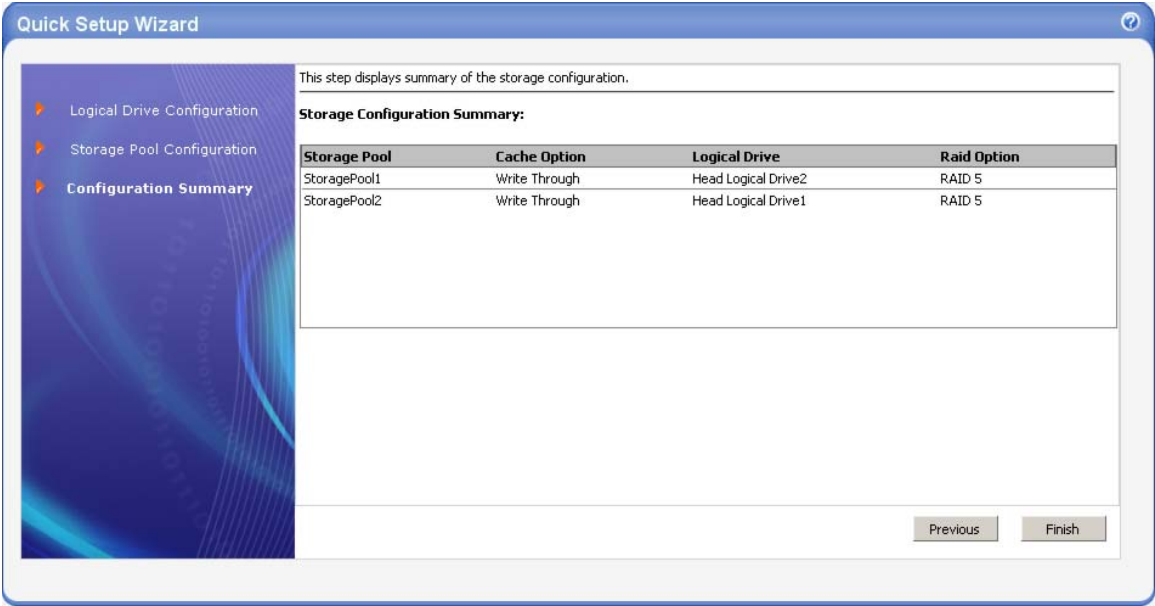
This step allows the user to select *Logical Drives* to be created as *Storage Pools*.

Step	Action
1	Enter a name for the <i>Storage Pool</i> to be created. NOTE: If this <i>Volume</i> is to be used as a part of a Snapshot-Assisted Replication pair, make sure that this name and that of its <i>Storage Pool</i> do not have any upper case characters.
2	Select <i>Cache Option</i> from the dropdown list box. <i>Write Through</i> , <i>Write Back</i> and <i>Force Write Back</i> are the <i>Cache Options</i> supported.
3	Select the <i>Logical Drive</i> from the list by checking the required <i>Logical Drive</i> and left click on the <i>Add To List</i> button.
4	Click the <i>Next</i> button to continue.

NOTE:

To remove a *Logical Drive* from the list box, select it (by placing a check mark in the box next to the *Logical Drive* to be removed) and left click on the *Remove* button.

Step Four: Configuration Summary



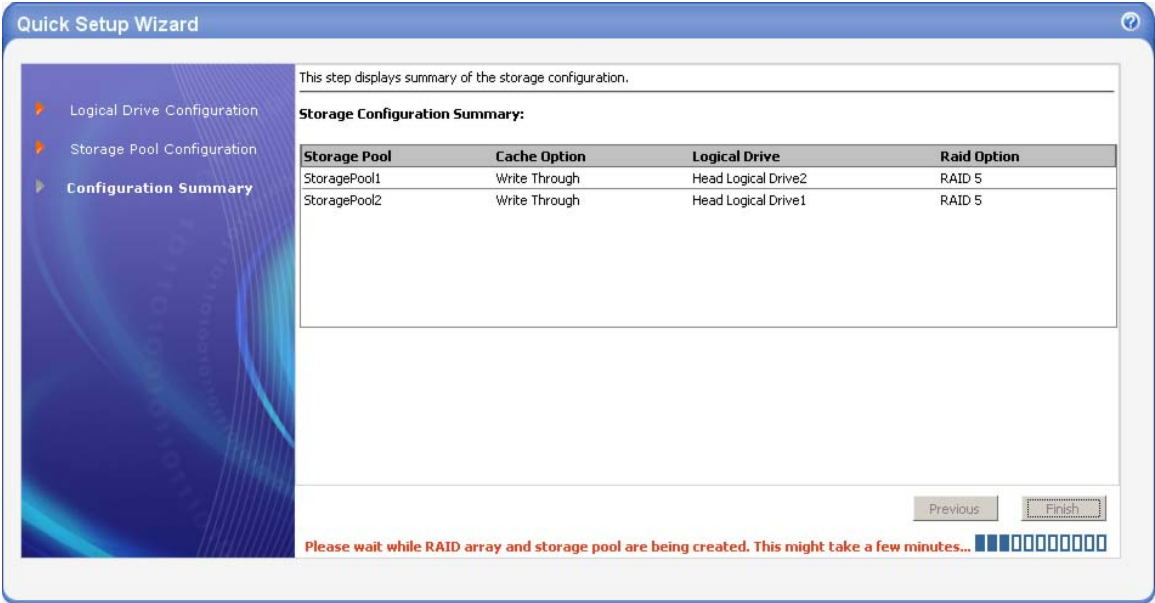
This step displays a summary of your storage configuration.

Step	Action
1	Review your configuration.
2	Click on the <i>Finish</i> button to configure your <i>Storage Pool(s)</i> .

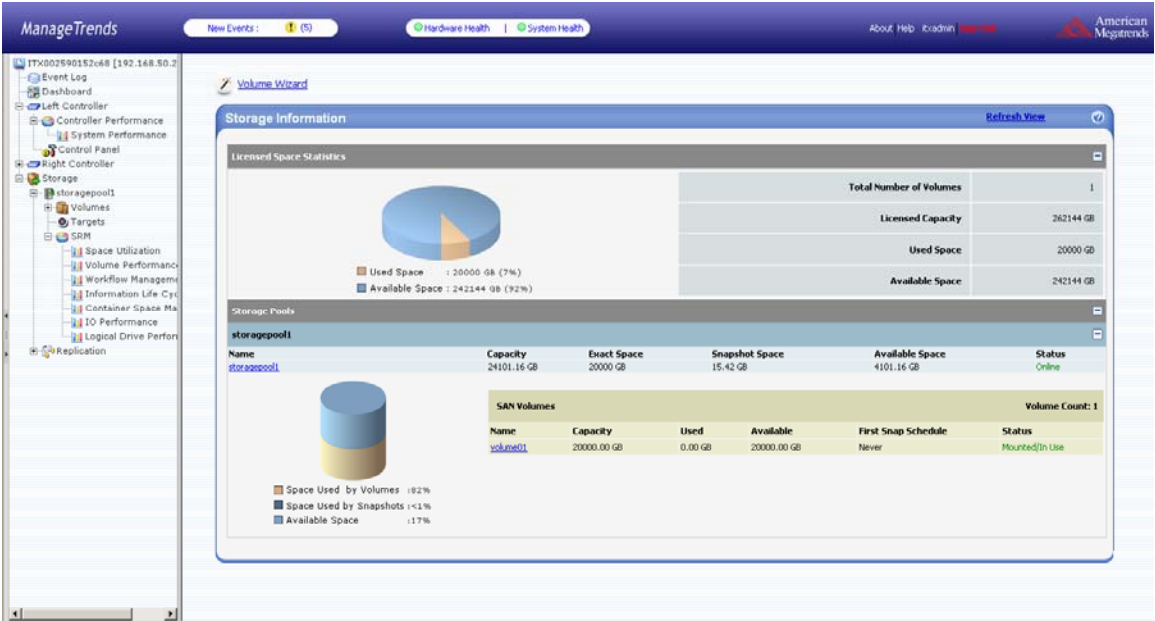
NOTE:

Use the *Previous* button to make changes to your configuration.

Do not close the window or click anywhere else until the operation completes.



Step Five: All Done No Errors

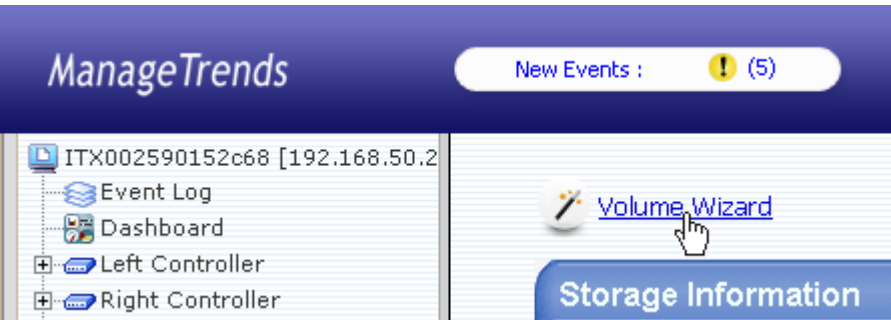


Volume Configuration Wizard

Volume Configuration Wizard: Before You Begin

Use the following instructions as a basis.

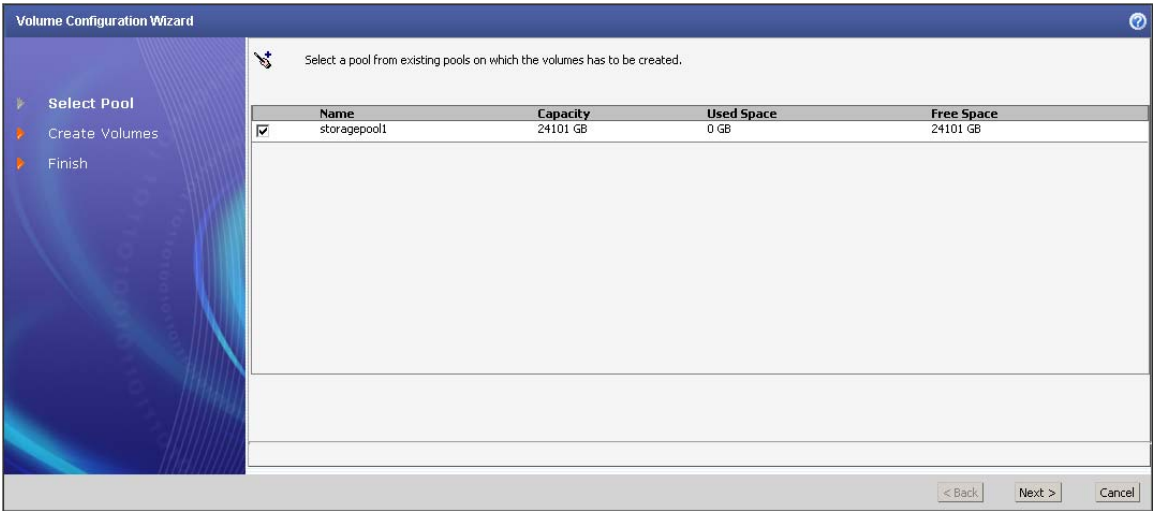
Step One: Volume Wizard



If your *SAN Virtual Volume* has not been configured on your StorTrends Dual Controller IP-SAN storage appliance, you can run the *Volume Configuration Wizard*. The *Volume Configuration Wizard* will get you up and running in the shortest amount of time possible.

Click the *Volume Wizard* link to get started.

Step Two: Select Storage Pools



Select the *Storage Pools* that you want to configure *SAN Virtual Volumes* on and click *Next*.

Step Three: Create Volumes

Volume Configuration Wizard

Select Pool

Create Volumes

Finish

Configure new volumes and add to volume list. Click 'Finish' to create the volumes.

Storage Pool Name: storagepool1

Enter Volume Name

Enter Volume Size

Dialect Type

Provisioning Type

Chunk Size

Create New Target

GB

[Available physical capacity: 24101 GB. Available virtual capacity: 262144 GB]

☒ SAN

☐ Thin

☐ Exact

☒ 64 KB

Add to List

Name	Size	Dialect	ChunkSize	Provision	Target
------	------	---------	-----------	-----------	--------

Remove from List

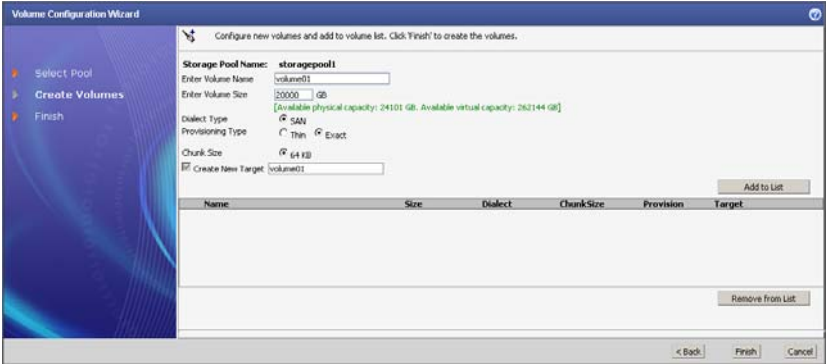
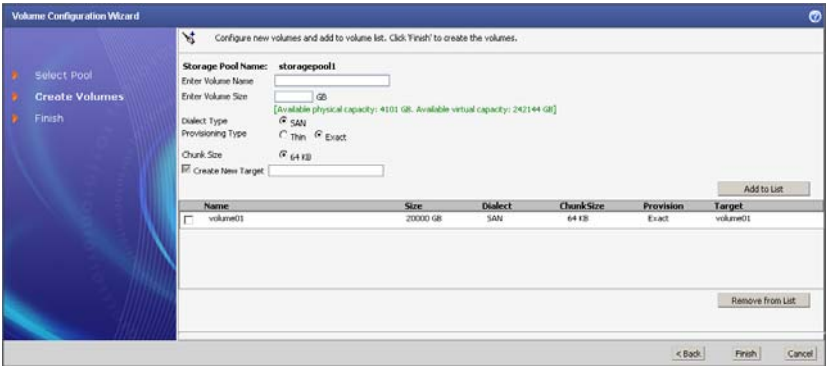
< Back

Finish

Cancel

This section allows you to create your *SAN Virtual Volume* and configure your *Target* information. Fill out the form and click *Add to List*. The options and buttons are explained in the following table:


Field/Button	Definition
Volume Name	In the <i>Enter Volume Name</i> field, enter a name for your <i>SAN Virtual Volume</i> . The <i>SAN Virtual Volume Name</i> must be alphanumeric, not have any spaces and be between one and 63 characters in length.
Volume Size	In the <i>Enter Volume Size</i> field, enter the size (GB) that you want to use for your <i>SAN Virtual Volume</i> .
Dialect Type	By default, this is set to <i>SAN</i> and cannot be modified.
Provisioning Type	Can be <i>Thin</i> or <i>Exact</i> Provisioning. <ul style="list-style-type: none">If you select <i>Thin</i>, the volume can be assigned a size greater than the actual physical size of the storage device.If you select <i>Exact</i>, the volume size cannot exceed the actual physical space available in your StorTrends Storage Appliance.
Chunk Size	By default the <i>Chunk Size</i> is set to <i>64K</i> .


Field/Button	Definition
Create New Target	<p>The <i>Create New Target</i> field will automatically populate with the created volume name.</p>  <p>The <i>Target Name</i> can be changed if desired. The <i>Target Name</i> must be alphanumeric, not have any spaces and be between one and 255 characters in length, which includes the base name. All characters must be lower case to meet iSCSI specifications.</p>
Add to List button	<p>This button places the <i>SAN Virtual Volume</i> settings that you want to use into the list. It will not create the <i>SAN Virtual Volumes</i> until you click <i>Finish</i>.</p> 
Remove from List button	<p>This button allows you to remove a <i>SAN Virtual Volume</i> configuration from the list.</p>


Once you are satisfied with the *SAN Virtual Volumes* in your list, click *Finish*.


Step Four: All Done No Errors

Volume Configuration Wizard

 Creating SAN Volumes

 Creating Targets

 Enabling iSCSI

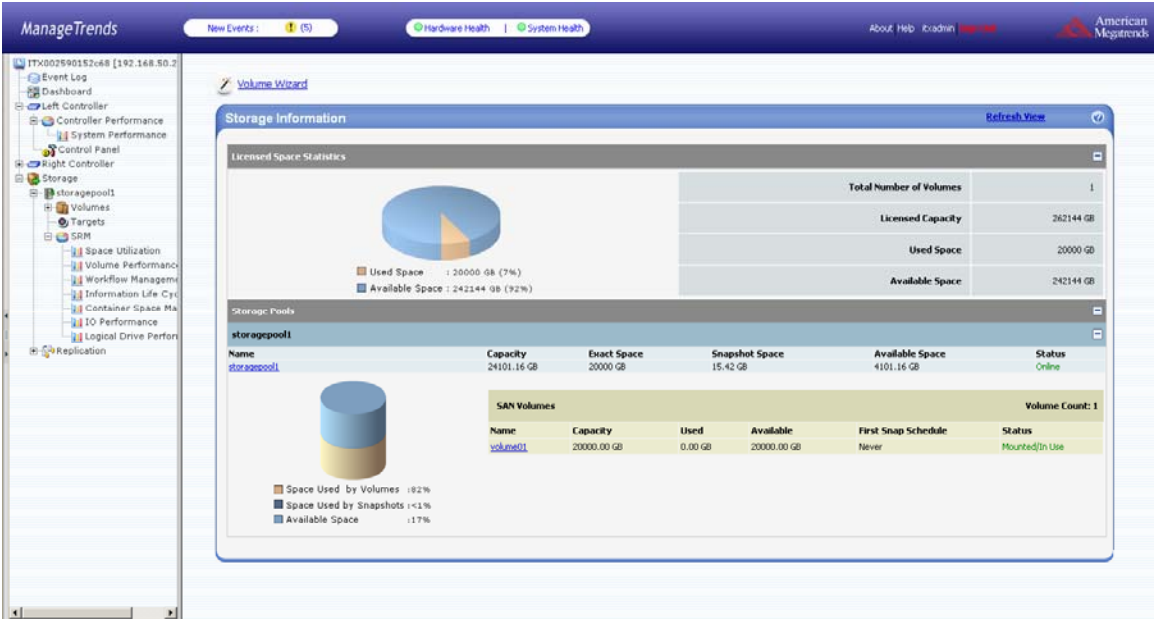
 Enabling portal tags for alias IPs

Please wait while the system is being configured...

StorTrends® 3400 Dual Controller IP-SAN Storage Appliance Setup Guide (StorTrends iTX version 2.8)

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Once you click *Finish*, the wizard begins to create your *SAN Virtual Volumes* based on the values that you have entered. The progress of the wizard will be displayed. Do not close the window or click anywhere else until the operation completes.



Once all your *SAN Virtual Volumes* have been created, you will be able to access the Volume by clicking on it from the tree menu.

STOP!

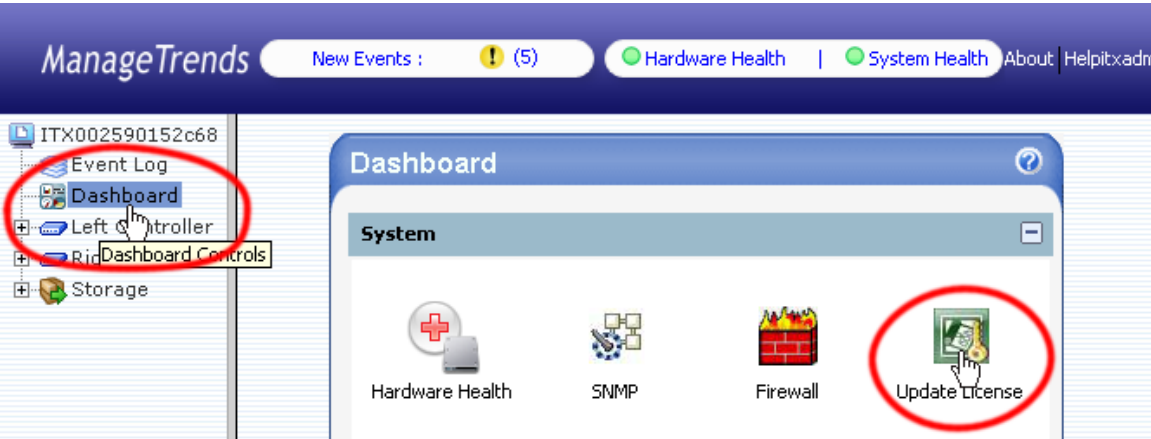
YOU SHOULD NOW BE UP AND RUNNING.

License Information Page

License Information		
Feature	Status	
Customer ID	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
System UUID	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
iSCSI	Enabled	
SAR	Enabled	
WDS	Enabled	
SAS	Enabled	
Thin Provision	Enabled	
ILM	Enabled	
Additional JBOD Supported	XXXX	Details
Maximum Read-Only Snapshots Permitted	XXXX	
Maximum storage pool Size in TB	XXXX	
Update license		

The *License Information* page allows you to view the various licensing options and current settings for your copy of the StorTrends software.

To get to the *License Information* page, click on *Dashboard* from the left column of ManageTrends and then click on the *Update License* icon.



The StorTrends software comes with a *License Key* that is valid for a trial period of 90-days and it has most of the features enabled. Following your 90-day trial period, you can upgrade to an unlimited or customized license by entering the appropriate *License Key* that you obtain from your AMI Support Representative.

The license can be updated via the *Update License* button. The *Update License* screen provides you with the StorTrends software *Service Key* that will be required any time you make changes or upgrades to the licensing of your product.

NOTE:

Your *Service Key* is required in order for your *License Key* to be generated. Each StorTrends *Service Key* is generated from hardware that is specific to a single storage appliance unit and thus it cannot be used to license or upgrade any other storage appliances.

After your changes have been processed by an AMI Support Representative, you'll receive a new license key in the form of a text document. After you save the new key to a location on your hard drive, use the *Browse* button to navigate to the location of that file, and then simply select the *Update License* button to complete the process.

Appendix A Updating an Expired License

License Information

Feature	Status	
Customer ID	XX	
System UUID	XX	
iSCSI	Enabled	
SAR	Enabled	
WDS	Enabled	
SAS	Enabled	
Thin Provision	Enabled	
ILM	Enabled	
Additional JBOD Supported	XXXX	Details
Maximum Read-Only Snapshots Permitted	XXXX	
Maximum storage pool Size in TB	XXXX	

Update license

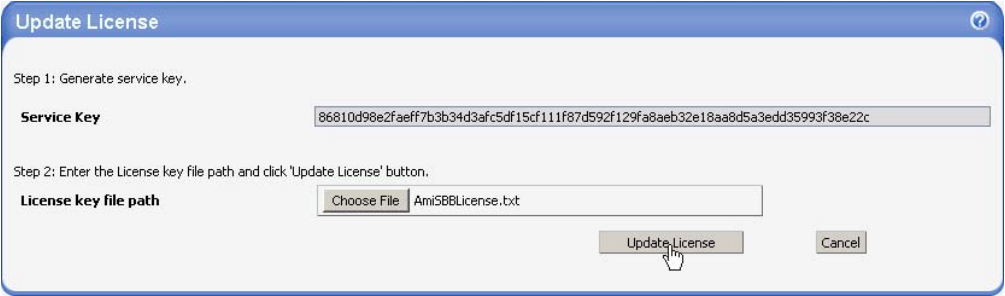
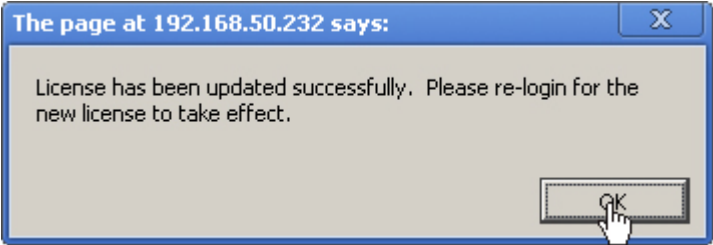
In the event that your 30 day evaluation expires before you have entered your *License Key*, you will receive a message stating the following:

“The license is unavailable/expired for both the SAN and NAS features. You need to upgrade to a valid license for at least one of the features in order to continue managing this server.”

This page displays when you try to log into the StorTrends storage appliance to manage it.

Step	Description																																				
1	Log into the StorTrends storage appliance.																																				
2	<p>The first thing you will see is the <i>License Information</i> screen stating the following: “The license is unavailable/expired for both the SAN and NAS features. You need to upgrade to a valid license for at least one of the features in order to continue managing this server.”</p> <div><div><div>License Information</div><div><div>The license is unavailable/expired for SAN features. You need to upgrade to a valid license for at least one of the features in order to continue managing this server.</div><div>Logout</div><table><tr><th>Feature</th><th>Status</th><th></th></tr><tr><td>Customer ID</td><td>N/A</td><td></td></tr><tr><td>System UUID</td><td>N/A</td><td></td></tr><tr><td>iSCSI</td><td>License expired/Not activated.</td><td>Details</td></tr><tr><td>SAR</td><td>License expired/Not activated.</td><td>Details</td></tr><tr><td>WDS</td><td>License expired/Not activated.</td><td>Details</td></tr><tr><td>SAS</td><td>License expired/Not activated.</td><td>Details</td></tr><tr><td>Thin Provision</td><td>License expired/Not activated.</td><td>Details</td></tr><tr><td>ILM</td><td>License expired/Not activated.</td><td>Details</td></tr><tr><td>Additional JBOD Supported</td><td>0</td><td>Details</td></tr><tr><td>Maximum Read-Only Snapshots Permitted</td><td>0</td><td>Details</td></tr><tr><td>Maximum Container Size in TB</td><td>0</td><td>Details</td></tr></table><div>Update license</div></div></div></div>	Feature	Status		Customer ID	N/A		System UUID	N/A		iSCSI	License expired/Not activated.	Details	SAR	License expired/Not activated.	Details	WDS	License expired/Not activated.	Details	SAS	License expired/Not activated.	Details	Thin Provision	License expired/Not activated.	Details	ILM	License expired/Not activated.	Details	Additional JBOD Supported	0	Details	Maximum Read-Only Snapshots Permitted	0	Details	Maximum Container Size in TB	0	Details
Feature	Status																																				
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SAS	License expired/Not activated.	Details																																			
Thin Provision	License expired/Not activated.	Details																																			
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Additional JBOD Supported	0	Details																																			
Maximum Read-Only Snapshots Permitted	0	Details																																			
Maximum Container Size in TB	0	Details																																			
3	Left click the <i>Update License</i> button.																																				
4	<p>The <i>Update License</i> page will open containing the <i>Service Key</i> and a place where you can enter the path of the <i>License key file path</i>.</p> <div><div><div>Update License</div><div><div>Step 1: Generate service key.</div><div><div>Service Key</div><div>86810d90e2faeff7b3b34d3afc5df15cf111f87d592f129fa8aeb32e18aa8d5a3edd35993f38e22c</div></div><div><div>Step 2: Enter the License key file path and click 'Update License' button.</div><div><div>License key file path</div><div><div>Choose File</div><div>No file chosen</div></div><div><div>Update License</div><div>Cancel</div></div></div></div></div></div></div>																																				

Step	Description
5	<p>In the <i>License Key File Path</i> field and if you have the <i>License Key</i> already, type the path or browse to the <i>License Key</i> file. If you do not have the <i>License Key</i> file yet, contact an AMI Support Representatives to obtain one.</p> <div><div><div>Update License</div><div><div>Step 1: Generate service key.</div><div><div>Service Key</div><div>86810d98e2faeff7b3b34d3afc5df15cf111f87d592f129fa8aeb32e18aa8d5a3edd35993f38e22c</div></div><div><div>Step 2: Enter the License key file path and click 'Update License' button.</div><div><div>License key file path</div><div><div>Choose File</div><div>No file chosen</div></div><div><div>Update License</div><div>Cancel</div></div></div></div></div><p>After your license has been processed by an AMI Support Representative, you will receive a <i>License Key</i> in the form of a text document. After you save the new key to a location on your hard drive, use the <i>Browse</i> button to navigate to the location of that file, and then simply select the <i>Update License</i> button to complete the process.</p></div></div>
6	<p>Select your <i>License Key</i> file and proceed to open it using the appropriate button. In this example, you would click the <i>Open</i> button.</p> <div><div><div>Open</div><div><div>StortrendsKey</div><div><div>Search StortrendsKey</div></div><div><div>Organize</div><div>New folder</div></div><div><div>Favorites</div><div>Desktop</div><div>Downloads</div><div>Recent Places</div><div>Libraries</div><div>Documents</div><div>Music</div><div>Pictures</div><div>Videos</div><div>Homegroup</div><div>Computer</div><div>Local Disk (C:)</div><div>classpath2 (\\atl-w</div></div><div><div>Name</div><div>Date modified</div><div>Type</div><div>Size</div></div><div><div>AmiSBBLicense.txt</div><div>11/4/2010 2:02 AM</div><div>Text Document</div></div></div><div><div>File name:</div><div>AmiSBBLicense.txt</div><div>All Files</div><div>Open</div><div>Cancel</div></div></div></div>

Step	Description
7	<p>The file that you selected is displayed in the <i>License key file path</i> field. Click the <i>Update License</i> button to continue with the <i>License Key</i> update.</p> 
8	<p>A dialog box confirming the successful update of the <i>License Key</i> on your StorTrends storage appliance will prompt you. Click <i>OK</i>.</p> 

Step	Description																																				
9	<div><p>Congratulations! You’ve successfully updated the <i>License Key</i> on your StorTrends storage appliance.</p><div><div>Update License</div><div><p>Step 1: Generate service key.</p><p>Service Key</p><div>86810d98e2faeff7b3b34d3afc5df15cf111f87d592f129fa8aeb32e18aa8d5a3edd35993f38e22c</div></div><p>Step 2: Enter the License key file path and click 'Update License' button.</p><p>License key file path</p><div><div>Choose File</div>No file chosen</div><div><div>Update License</div><div>Cancel</div></div><p>License updated successfully.</p></div></div>																																				
10	<div><p>The options you have licensed will be marked <i>Enabled</i> and can be viewed from the <i>License Information</i> page.</p><div><div>License Information</div><table><tr><th>Feature</th><th>Status</th><th></th></tr><tr><td>Customer ID</td><td>XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</td><td></td></tr><tr><td>System UUID</td><td>XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</td><td></td></tr><tr><td>iSCSI</td><td>Enabled</td><td></td></tr><tr><td>SAR</td><td>Enabled</td><td></td></tr><tr><td>WDS</td><td>Enabled</td><td></td></tr><tr><td>SAS</td><td>Enabled</td><td></td></tr><tr><td>Thin Provision</td><td>Enabled</td><td></td></tr><tr><td>ILM</td><td>Enabled</td><td></td></tr><tr><td>Additional JBOD Supported</td><td>XXXX</td><td>Details</td></tr><tr><td>Maximum Read-Only Snapshots Permitted</td><td>XXXX</td><td></td></tr><tr><td>Maximum storage pool Size in TB</td><td>XXXX</td><td></td></tr></table><div>Update license</div></div></div>	Feature	Status		Customer ID	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		System UUID	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		iSCSI	Enabled		SAR	Enabled		WDS	Enabled		SAS	Enabled		Thin Provision	Enabled		ILM	Enabled		Additional JBOD Supported	XXXX	Details	Maximum Read-Only Snapshots Permitted	XXXX		Maximum storage pool Size in TB	XXXX	
Feature	Status																																				
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Maximum Read-Only Snapshots Permitted	XXXX																																				
Maximum storage pool Size in TB	XXXX																																				

Appendix B Controller Management through IPMI

Controller Management through IPMI Overview

This section describes the following:

- How to access the IPMI on each controller.
- How to view the power status of the controller.
- How to remotely view the monitor of the controller.

You can perform other actions with the IPMI, however that is outside the scope of this document. For more information on what else you can do with IPMI, see the Help information from within the IPMI web user's interface (web UI).

NOTE:

This document uses the terms *IPMI* and *BMC* (Baseboard Management Controller) interchangeably. The *BMC* is actually part of the IPMI architecture. The *BMC* is the main controller and a physical chipset that resides on the controller. So literally, the *BMC* is the chip (or chipset) of the IPMI implementation on the controller; or the controller's *IPMI*.

For more information on what is IPMI, please visit intel.com.

Accessing the IPMI Overview

In order to log into the IPMI on both controllers inside your StorTrends storage appliance, you will need to know at least one of the IPMI IP Addresses of the two controllers.

NOTE:

This document recommends discovering the IP Address of the *Left Controller's IPMI*. The reason is the *Left Controller* is required to be powered on while the *Right Controller* is powered off during a reinstallation of the StorTrends software.

Once you get the IPMI's IP Address of the *Left Controller*, you can access it from an Internet browser on another system (on the same subnet).

Obtaining the IPMI IP Address

Step One : Attach a Monitor, Keyboard and Power On

To do discover the Left Controller's IPMI IP Address, you will need to physically attach a keyboard and monitor to the Left Controller's KVM Dongle. Once you do this, power on the StorTrends storage appliance by pressing the power button located on the upper right side of the front panel.

Step Two : Enter the AMIBIOS

You will see the initial splash screen with text at the bottom stating to *Press to enter BIOS setup*. When you see this screen, immediately press the <DELETE> key on the keyboard attached to the *Left Controller*.



3400

Press **** to enter BIOS setup.
Press **BACK** to display the BIOS POST screen.

Step Three : Navigate to IPMI Configuration

BIOS SETUP UTILITY

Main

Advanced

Security

Boot

Exit

System Overview

System Time

System Date

Supermicro X8DTS

BIOS Build Ver :2.0c

BIOS Build Date :12/02/11

Processor

Intel(R) Xeon(R) CPU

Speed

Physical Count :1

Logical Count :4

System Memory

Size

[12:20:58]

[Tue 02/07/2012]

E5504 @ 2.00GHz

:2000MHz

:4

:4008MB

Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.

Use [+] or [-] to configure system Time.

↔

↑↓

+−

Tab

F1

F10

ESC

Select Screen

Select Item

Change Field

Select Field

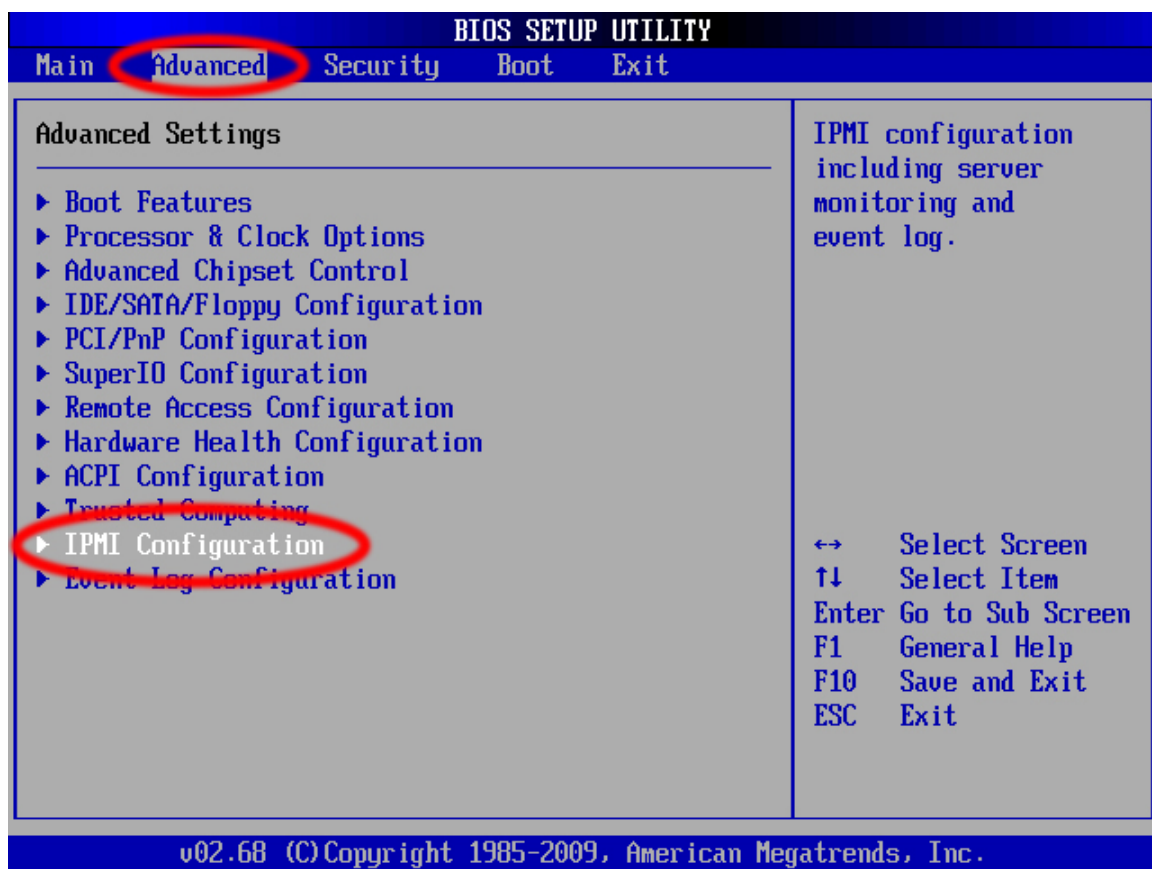
General Help

Save and Exit

Exit

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Once you are in the *BIOS Setup Utility*, navigate (using the <ARROW KEYS>) to *Advanced* and then to *IPMI Configuration*. Press the <ENTER> key.



Step Four : Navigate to Set LAN Configuration

Navigate to *Set LAN Configuration* and press the <ENTER> key.

BIOS SETUP UTILITY

Advanced

IPMI Configuration

Status Of BMCWorking

IPMI Firmware Revision2.03

▶ View BMC System Event Log

Clear BMC System Event Log

▶ Set LAN Configuration

InPut for Set LAN Configuration command. See IPMI 1.5 Spec, table 19.1

NOTE:-
Each question in this group may take considerable amount of time.

↔ Select Screen

↑↓ Select Item

Enter Go to Sub Screen

F1 General Help

F10 Save and Exit

ESC Exit

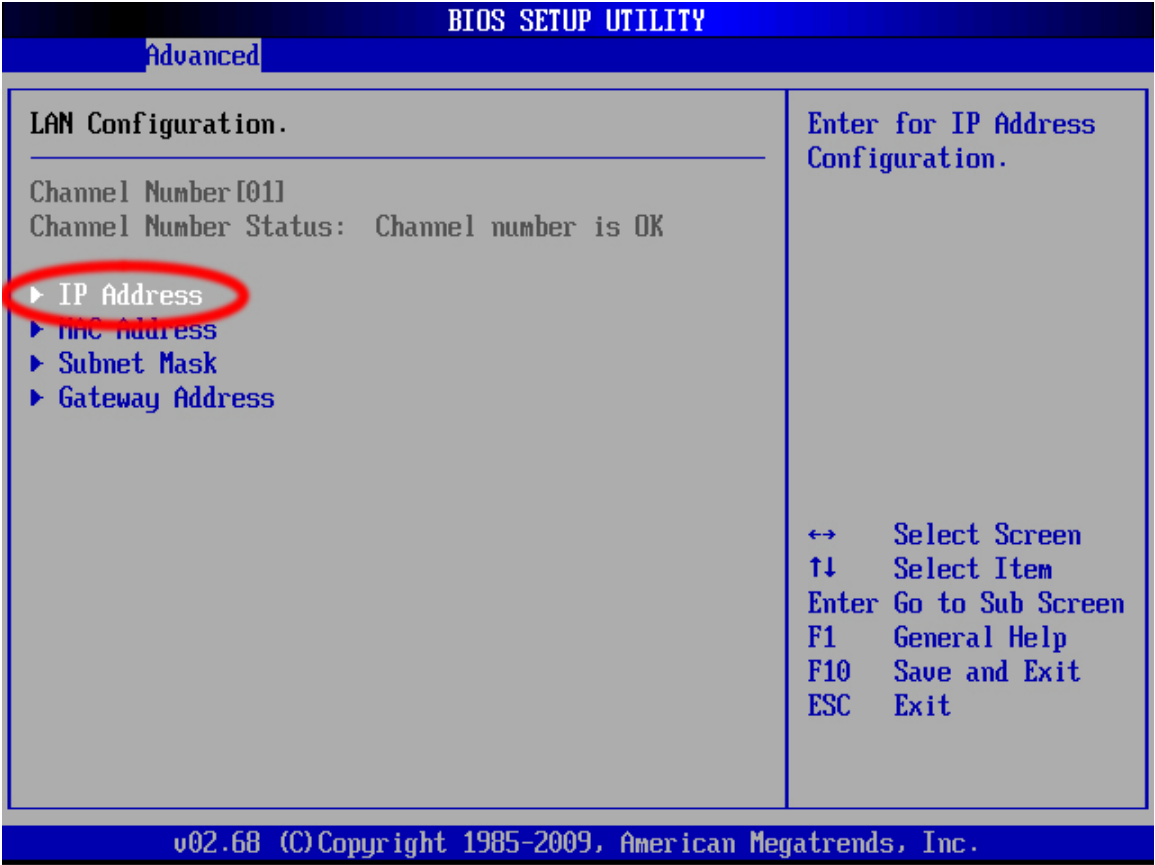
v02.68 (C) Copyright 1985-2009, American Megatrends, Inc.

StorTrends® 3400 Dual Controller IP-SAN Storage Appliance Setup Guide (StorTrends iTX version 2.8)

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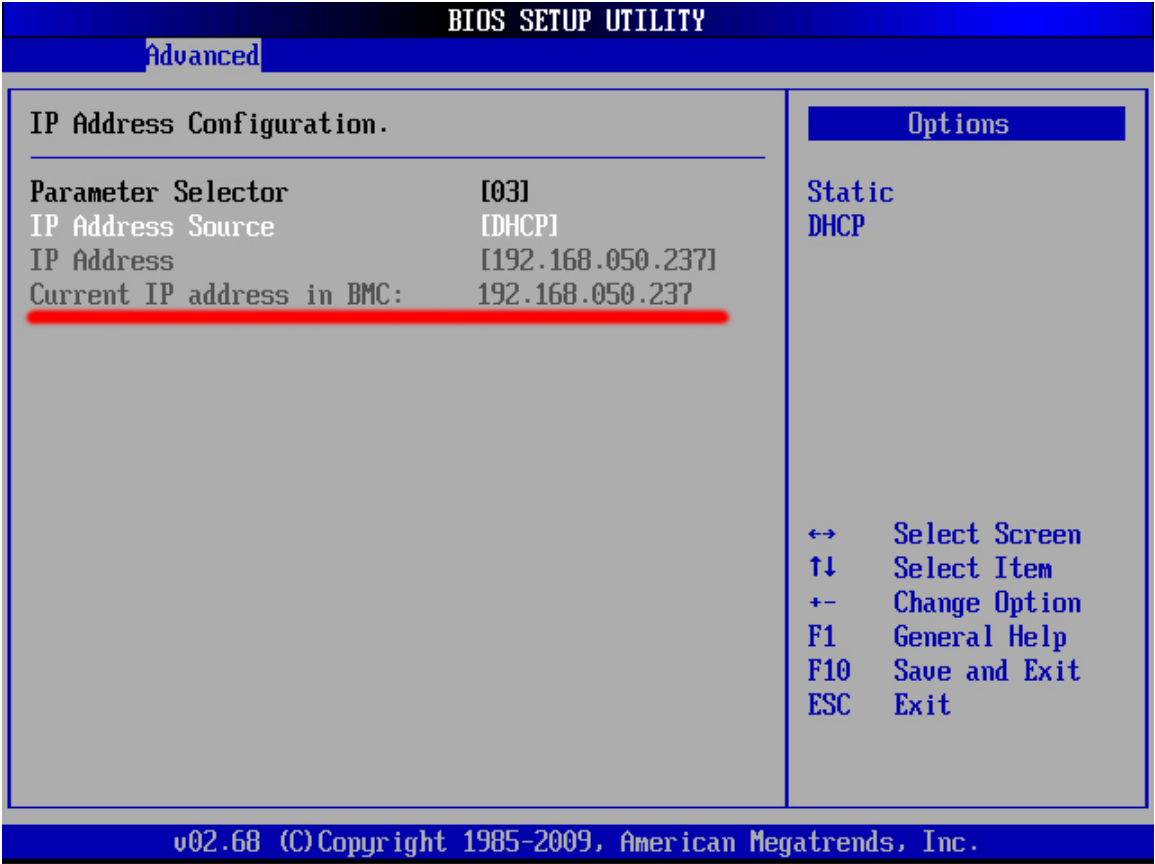
Step Five : Navigate IP Address

Navigate to *IP Address* and press the <ENTER> key.



Step Six : Obtain and Record the IP Address

Write down the *IP Address* in the *Current IP address in BMC* field. This is the IP Address of the Left Controller’s IPMI.



Step Seven : Exit the BIOS Setup Utility

Press the <F10> key to exit out of the *BIOS Setup Utility*. Select *OK* and then press the <ENTER> key. The *Left Controller* will reboot.

BIOS SETUP UTILITY

Advanced

IP Address Configuration.

Parameter Selector

[03]

IP Address Source

[DHCP]

IP Address

[192.168.050.237]

Current IP address in BMC:

192.168.050.237

Options

Static

DHCP

Save configuration changes and exit setup?

[Ok]

[Cancel]

Select Screen

↑↓ Select Item

+− Change Option

F1 General Help

F10 Save and Exit

ESC Exit

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Accessing the IPMI on both Controllers

NOTE:

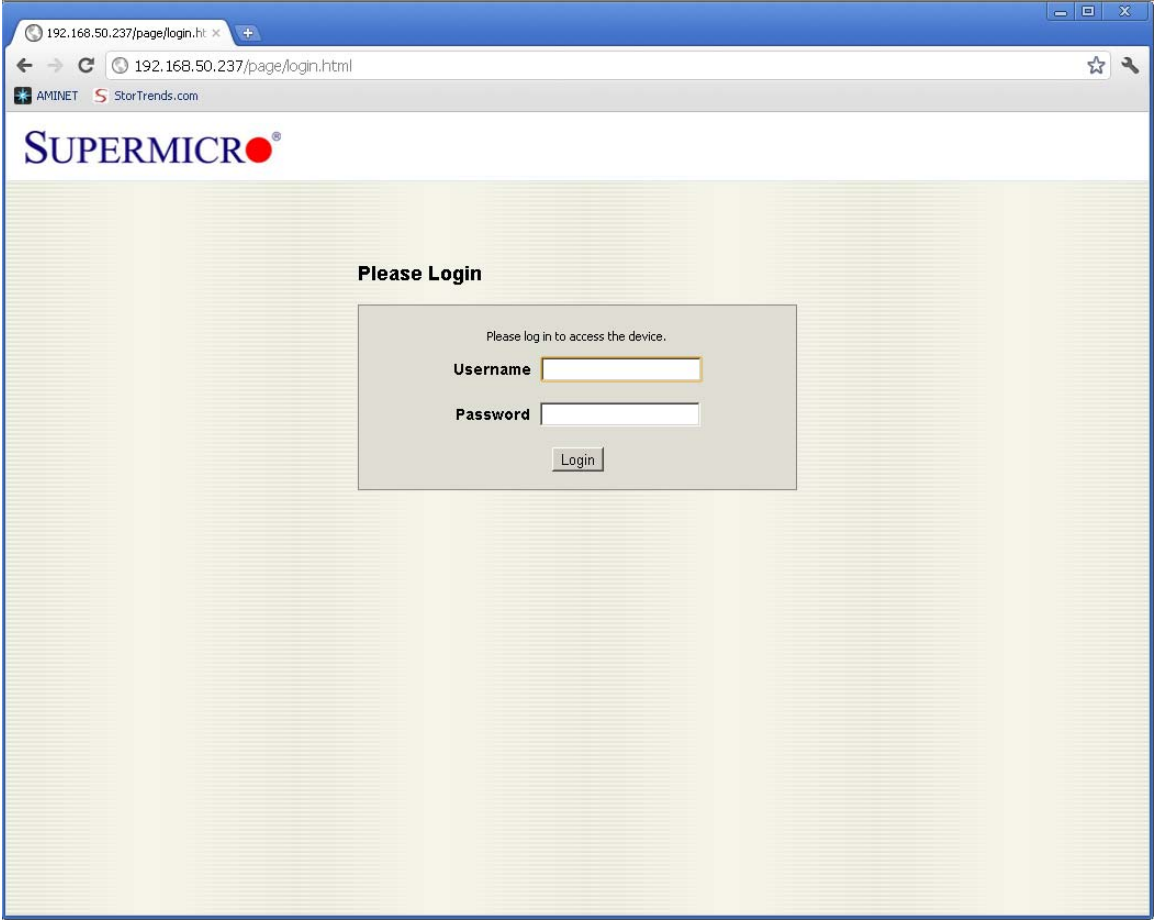
Although this is a StorTrends storage appliance, we are using Supermicro® hardware. This is the reason you will see Supermicro®'s name once you log into the IPMI.

The technology behind the BIOS (AMIBIOS®) and IPMI (MegaRAC® SP) were developed by American Megatrends Inc. (AMI).

Logging into the Left Controller's IPMI

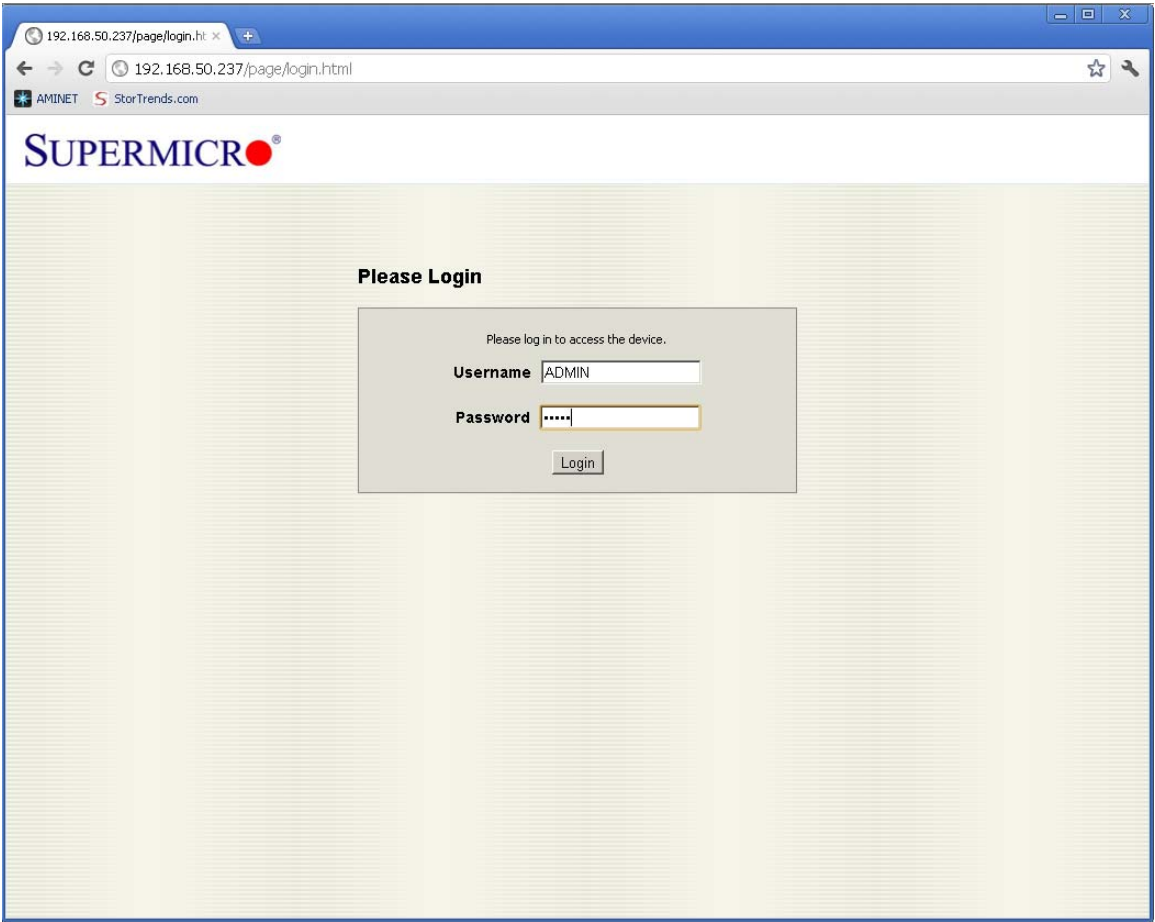
Type in the IP Address of the Left Controller's IPMI into your Internet browser's address field. Make sure that you are using a system on the same network (same subnet) as your StorTrends storage appliance.

In this example, the IP Address of the Left Controller's IPMI is 192.168.50.237.



You will be prompted to provide a username and password before you can gain access.
Enter the default username and password.

Field	Defaults
User Name	ADMIN
Password	ADMIN



WARNING!

- It is **STRONGLY** advised that you change the ADMIN password. Changing the password and basic IPMI usage is not described in this document.
- Both the user name and password are case sensitive.

192.168.50.237/index.html

192.168.50.237/index.html

AMINET StorTrends.com


SUPERMICRO®

Host Identification

Server: SMC002590152C6C (192.168.50.237)

User: ADMIN (Administrator)

System Information | Server Health | Configuration | Remote Control | Maintenance | Miscellaneous | Language



System Information

This section contains general information about the system.

Options

▶ System Information

▶ FRU Reading

Refresh Page

Logout

Summary

- General Firmware Information

Firmware Revision : 2.03

Firmware Build Time : Apr 1 2011 11:01:24
- Information of Itself

Slot ID : 1

Role : Master

Power Status : On

UID Status : Off ☐ Enable UID ☒ Disable UID

Set
- Information on the OTHER BMC

IP : [192.168.50.198](#)

Present : Yes

Power Status : Off

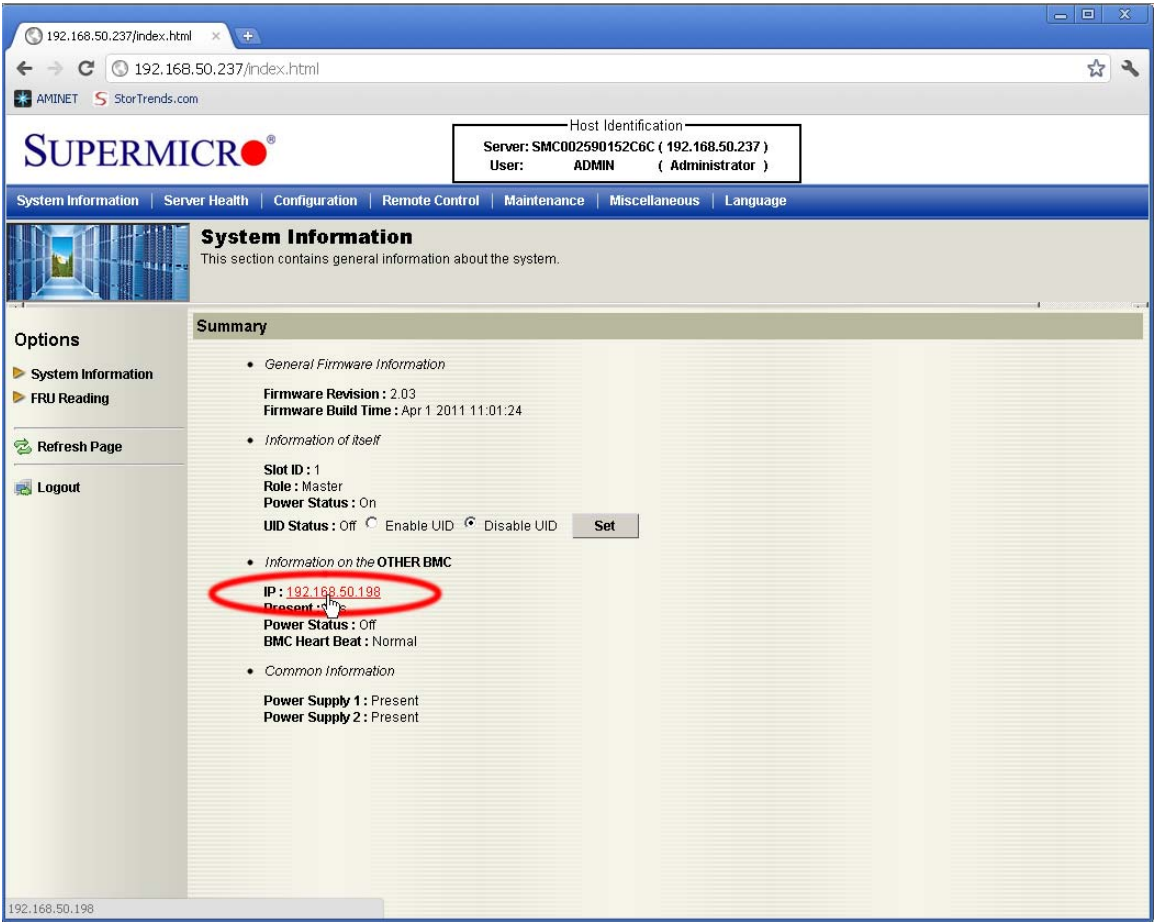
BMC Heart Beat : Normal
- Common Information

Power Supply 1 : Present

Power Supply 2 : Present

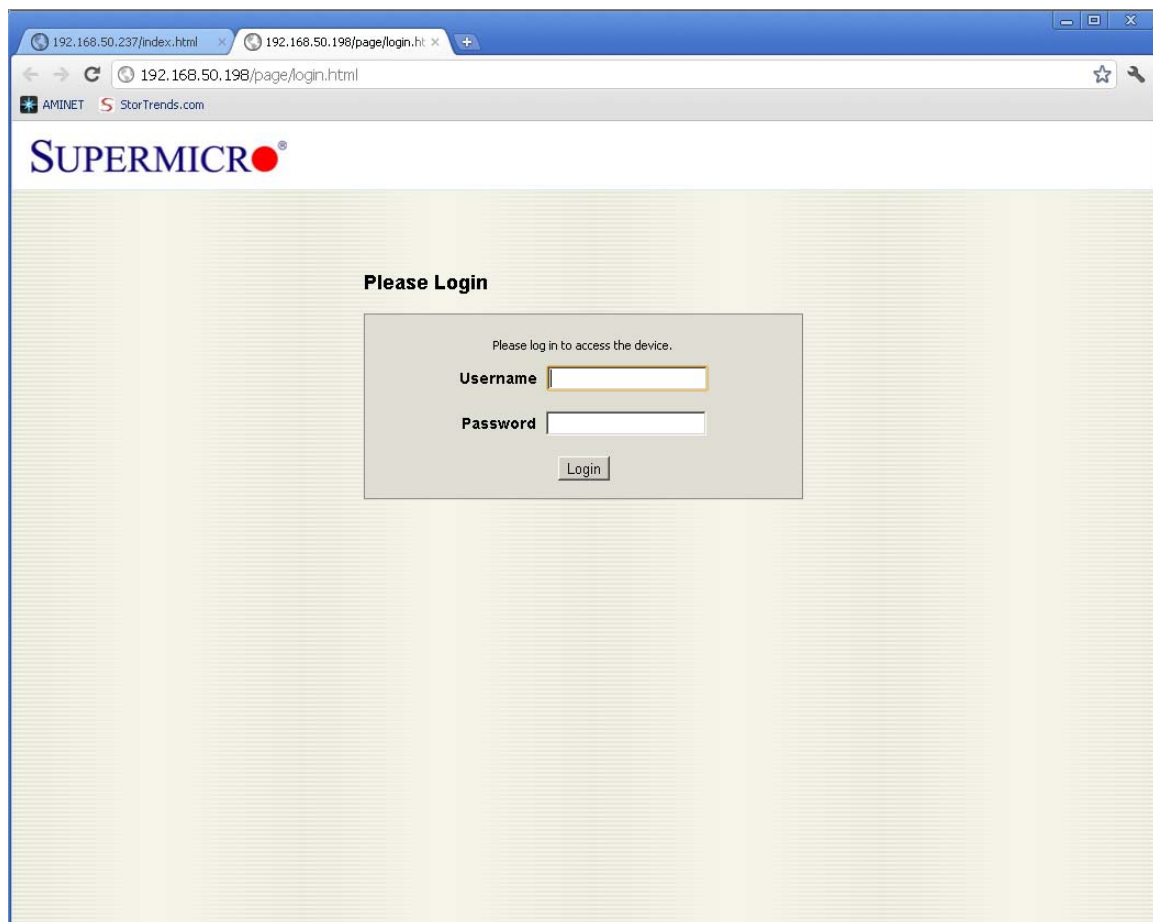
Logging into the Right Controller's IPMI

Once you are logged into the Left Controller's IPMI, you will see the IP Address of the Right Controller's IPMI. To access the Right Controller's IPMI, click on it. Your browser will attempt to bring up another window (or tab). Make sure that popups are allowed for this action to properly take place.



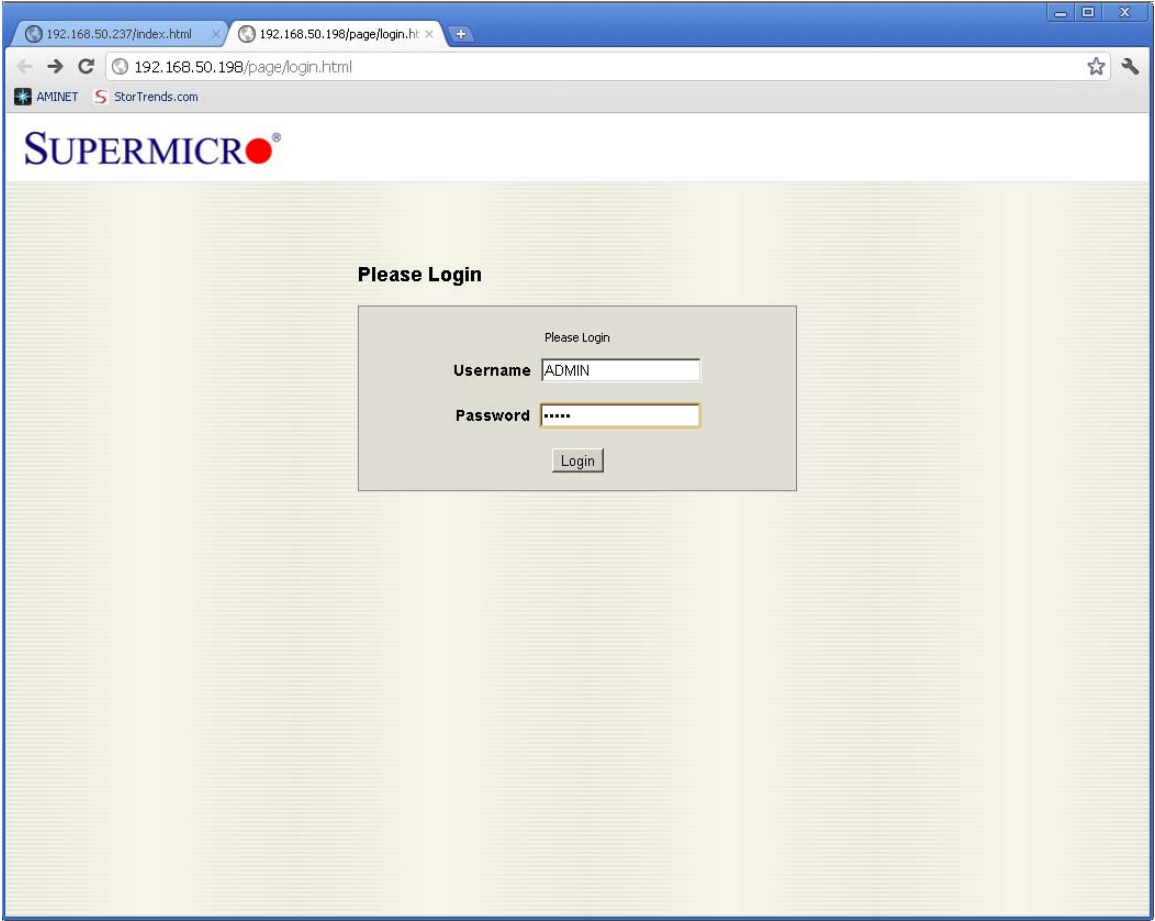
Notice that there are two tabs open in your Internet browser. Now you can access the power controls and remote console on both the *Left Controller* and the *Right Controller*.

In this example, the *Left Controller* is 192.168.50.237. The *Right Controller* is 192.168.50.198.

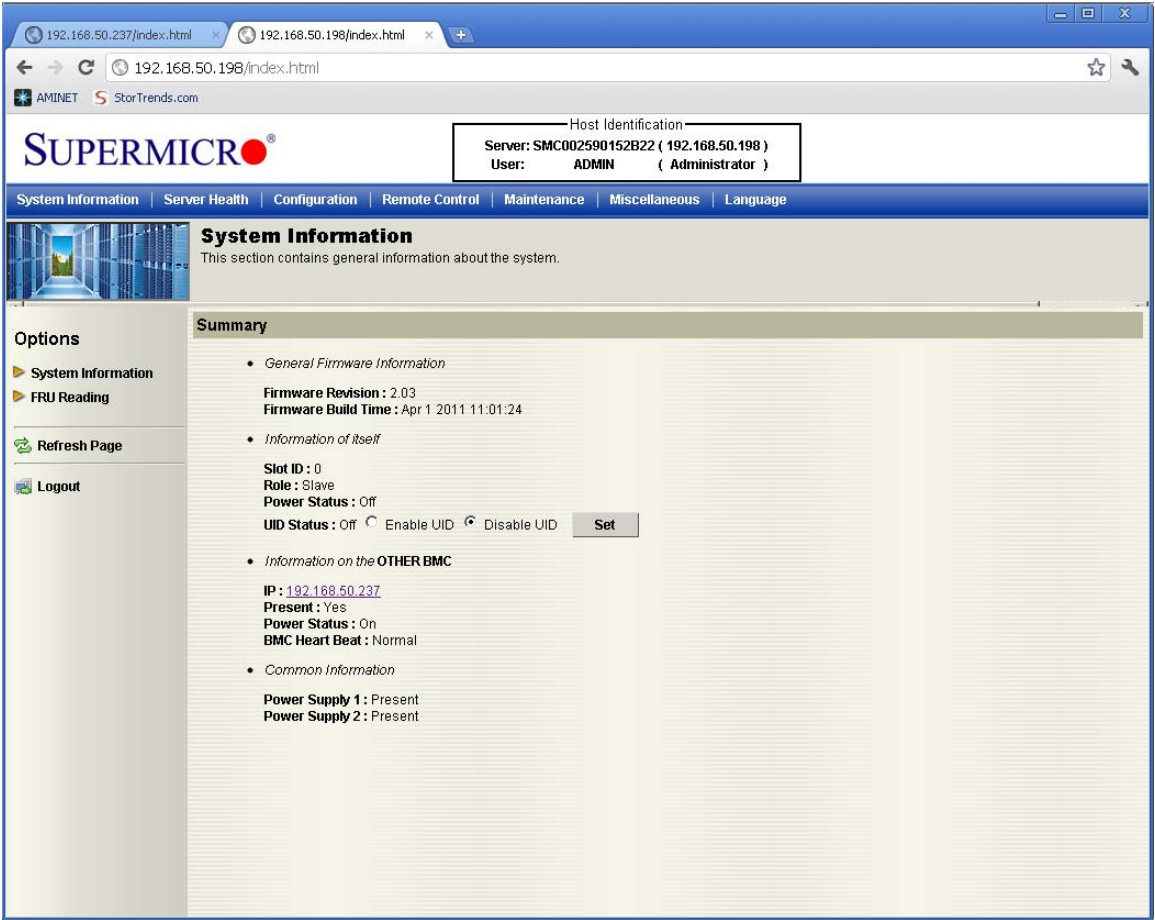


Login with the same default credentials as you used for the *Left Controller*:

Field	Defaults
User Name	ADMIN
Password	ADMIN



Once you are logged into the Right Controller's IPMI, you will see the IP Address of the Left Controller's IPMI.

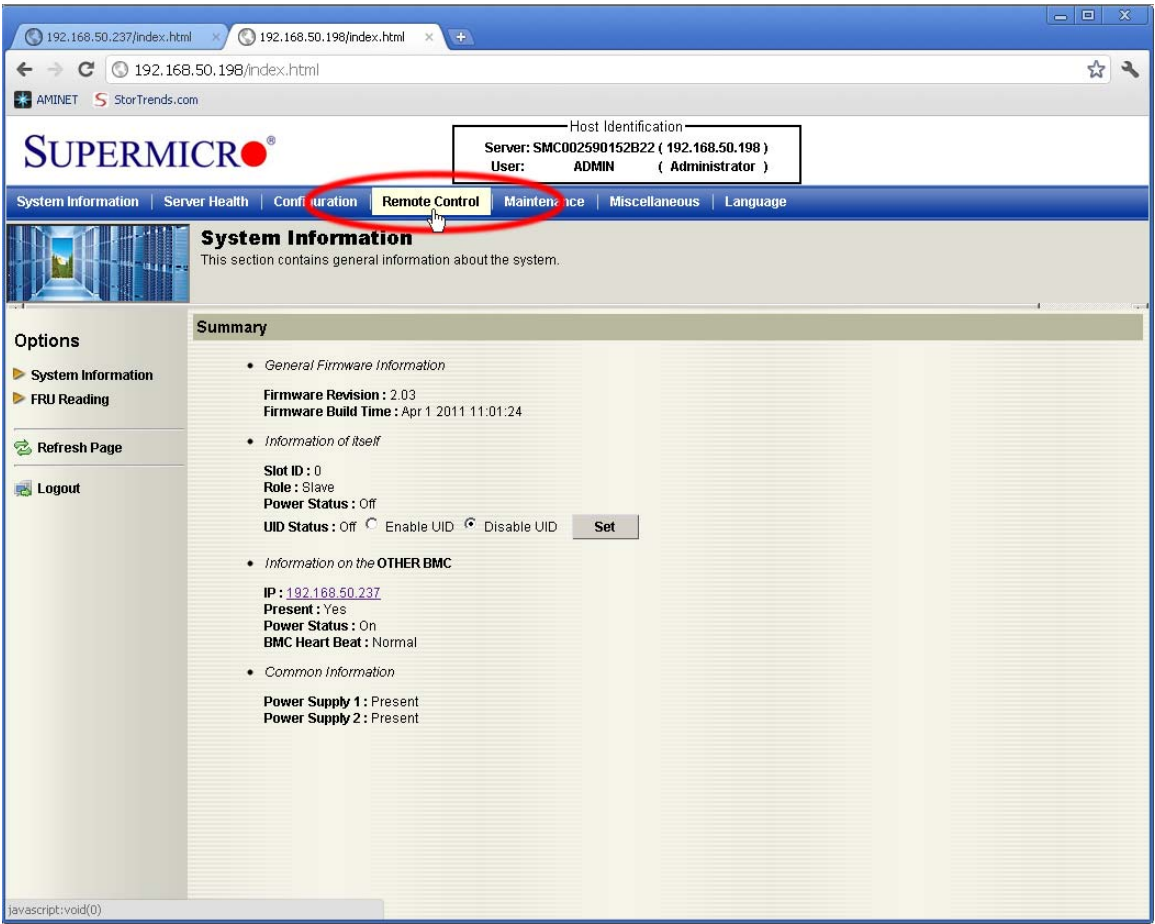


Power Controls

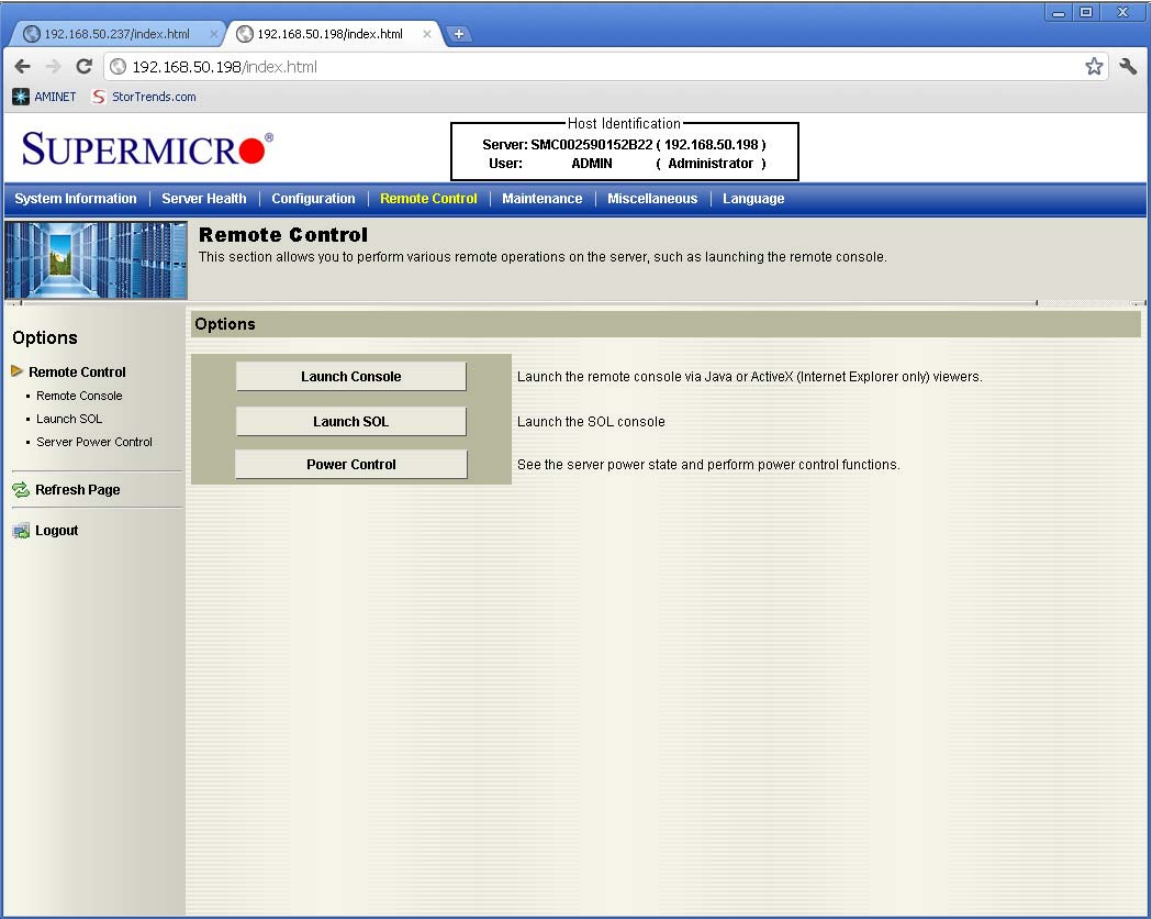
You can perform the following power control actions from within the web UI of the IPMI:

- View the power status of the controller
- Reset the controller
- Power off the controller immediately
- Power off the controller in an orderly way
- Power on the controller
- Cycle the power of the controller

Navigate to *Power Control* by click on the *Remote Control* tab.



The *Remote Control* page opens.



Click on the *Power Control* button.

192.168.50.237/index.html 192.168.50.198/index.html

192.168.50.198/index.html

AMINET StorTrends.com

SUPERMICRO®

Host Identification
Server: SMC002590152B22 (192.168.50.198)
User: ADMIN (Administrator)

System Information | Server Health | Configuration | **Remote Control** | Maintenance | Miscellaneous | Language

Remote Control
This section allows you to perform various remote operations on the server, such as launching the remote console.

Options

Remote Control

- Remote Console
- Launch SOL
- Server Power Control

Refresh Page

Logout

Launch Console Launch the remote console via Java or ActiveX (Internet Explorer only) viewers.

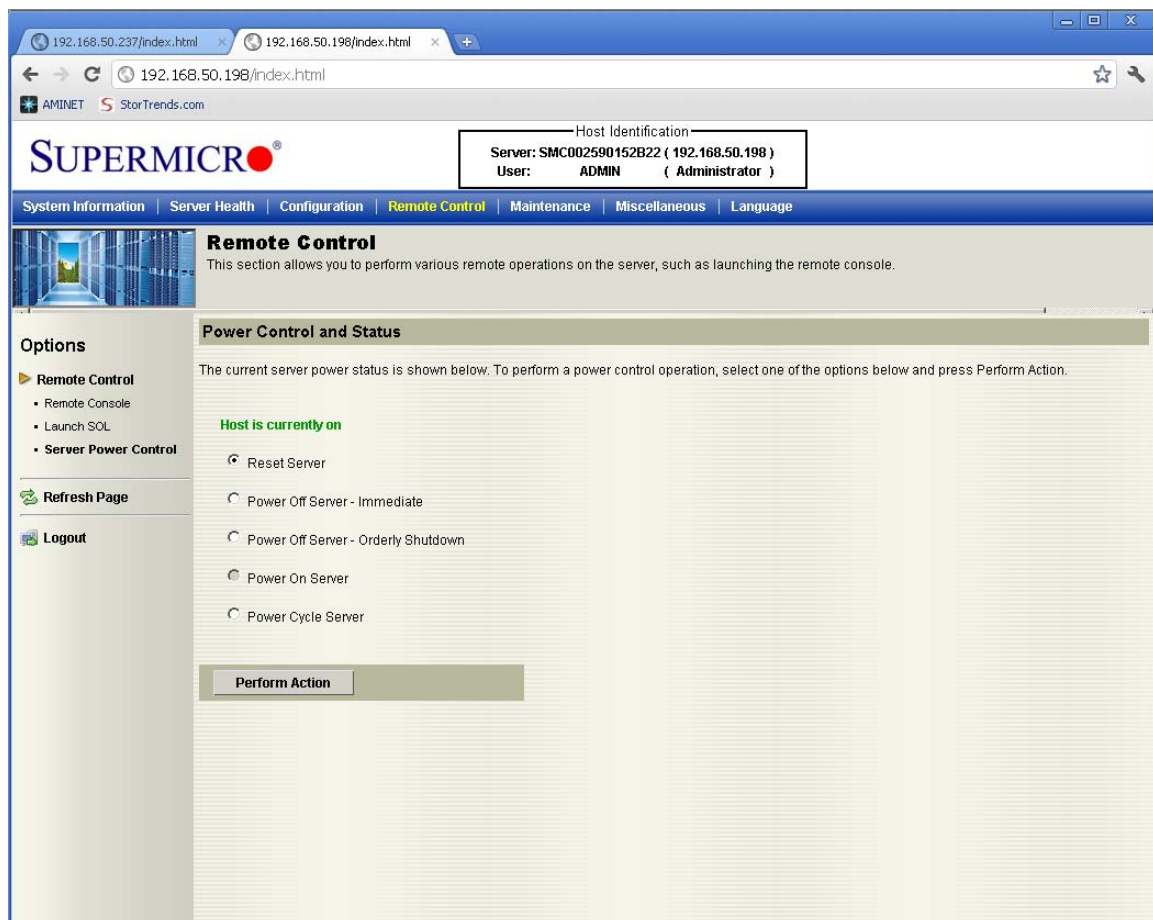
Launch SOL Launch the SOL console

Power Control See the server power state and perform power control functions.

192.168.50.198/page/server_power_control.html

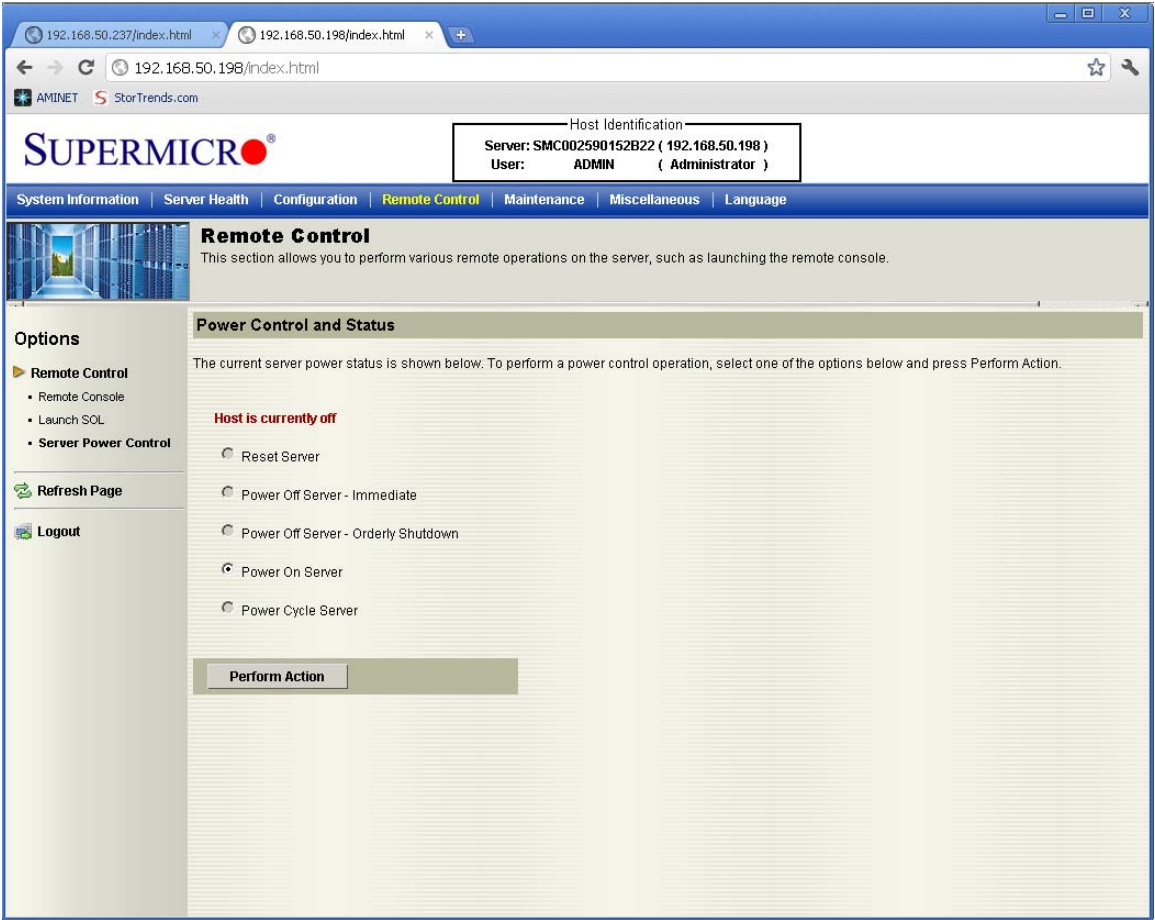
If your controller is on, you can perform one of the following:

- View the power status of the controller
- Reset the controller
- Power off the controller immediately
- Power off the controller in an orderly way
- Power on the controller



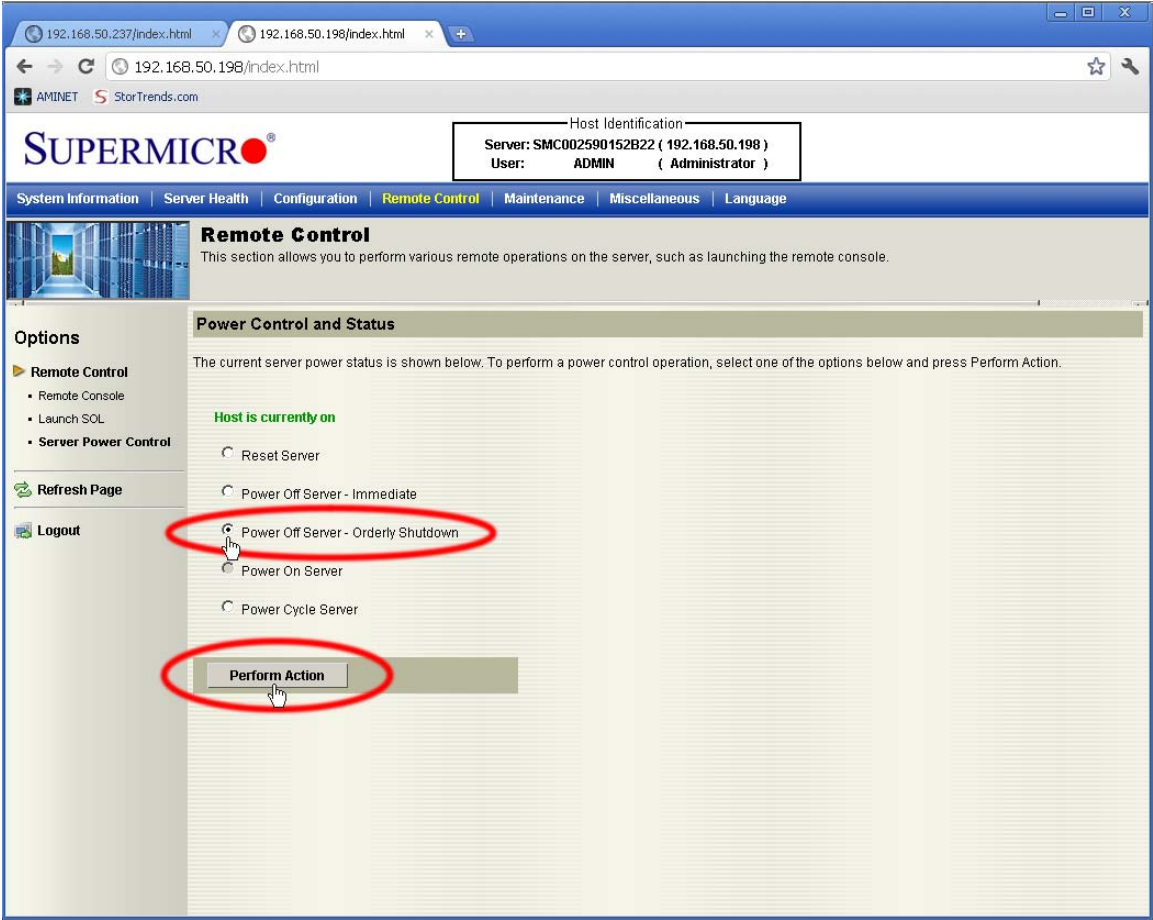
If you controller is off, you can perform one of the following:

- View the power status of the controller
- Power on the controller

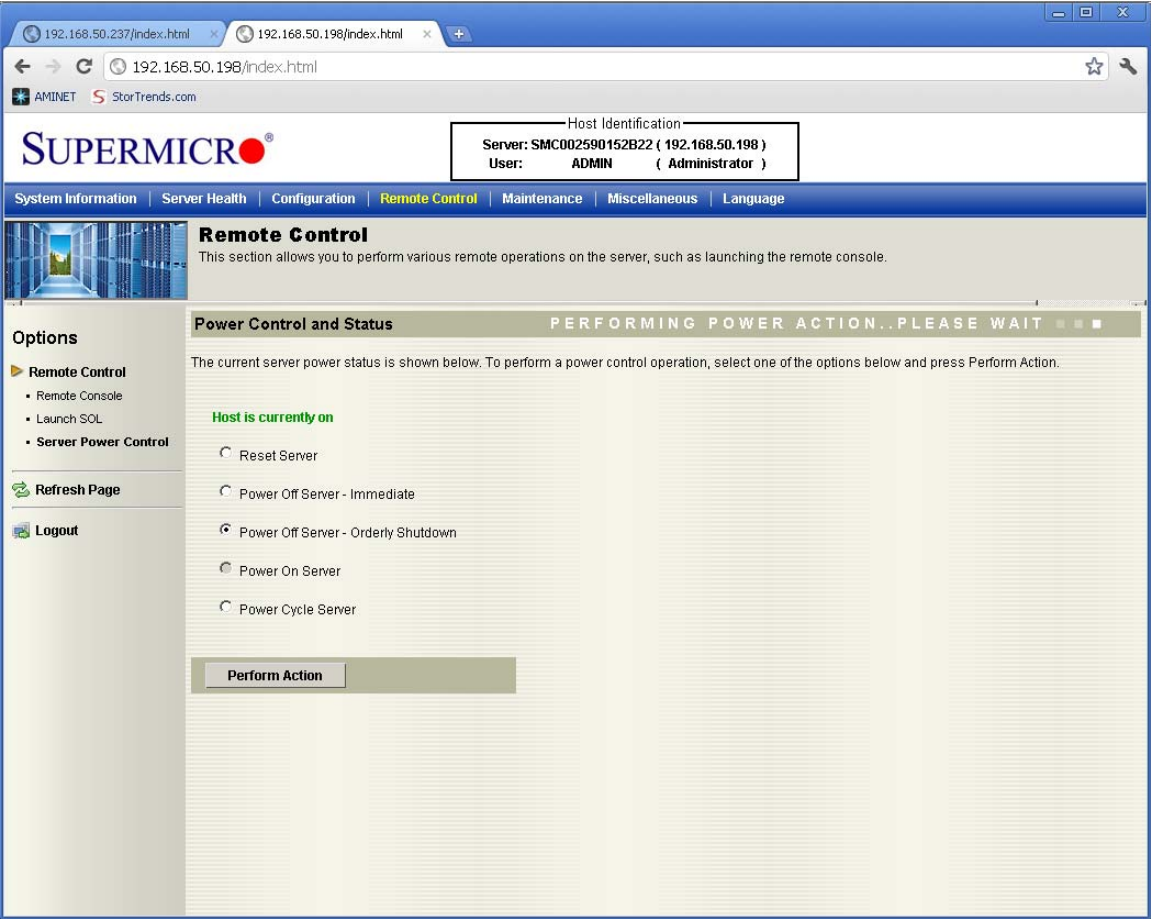


Power Controlling the Controller

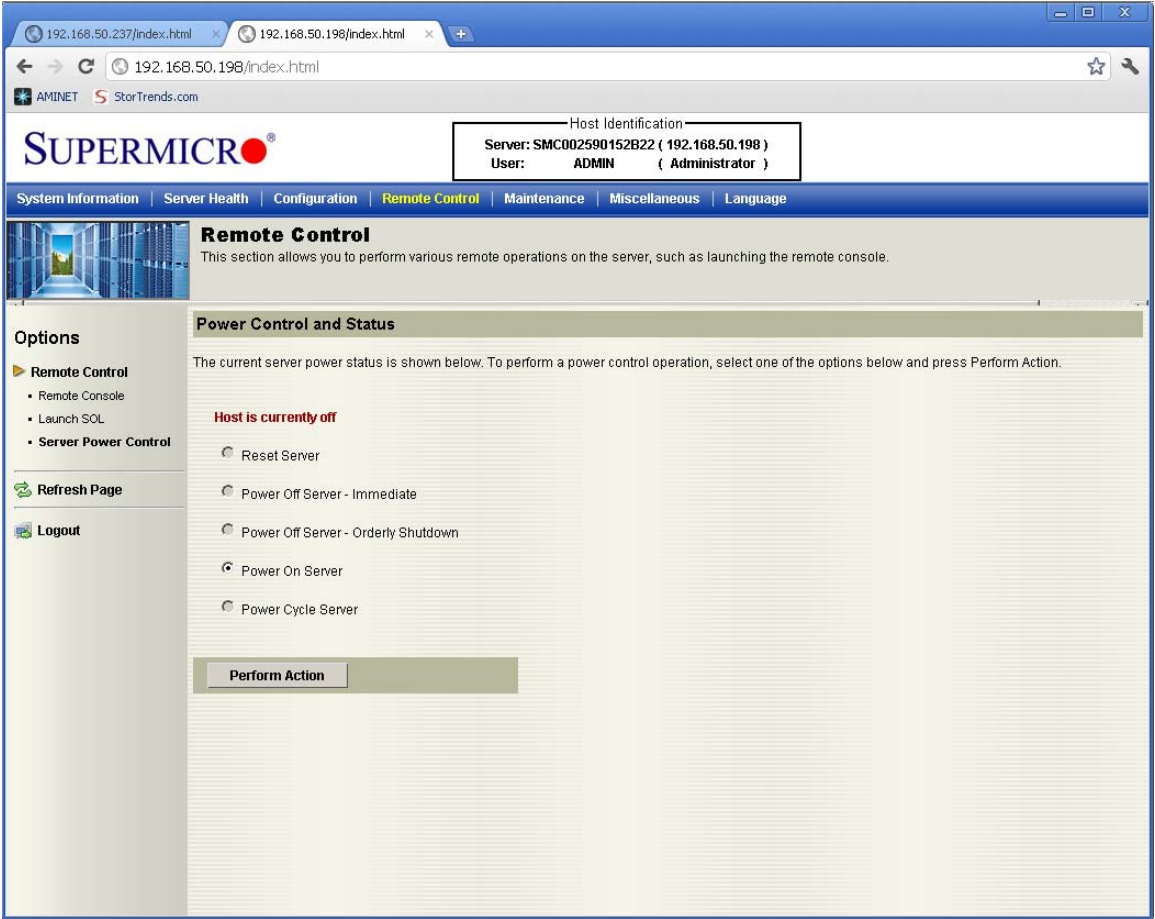
Performing a power control operation on the controller is the same when powering the controller on or off. Simply select the option you want to perform and click the *Perform Action* button.



Wait while the action is complete.



Once the action is completed, the power status of the controller will be updated.



Remote Console

Remote Console or Console Redirection allows you to view the Controller’s display without being physically in front of the Controller’s monitor. The IPMI performs this action using JAVA (or ActiveX for Microsoft Internet Explorer), opening a *Redirection Viewer* window.

NOTE:

Remote Console or Console Redirection requires either Java Runtime Environment (JRE) installed/enabled or in Microsoft Internet Explorer, ActiveX enabled.

Internet browsers handle JAVA downloads differently. Remote Console requires that JAVA downloads be enabled to allow your system to download and open/run `jviewer.jnlp`.

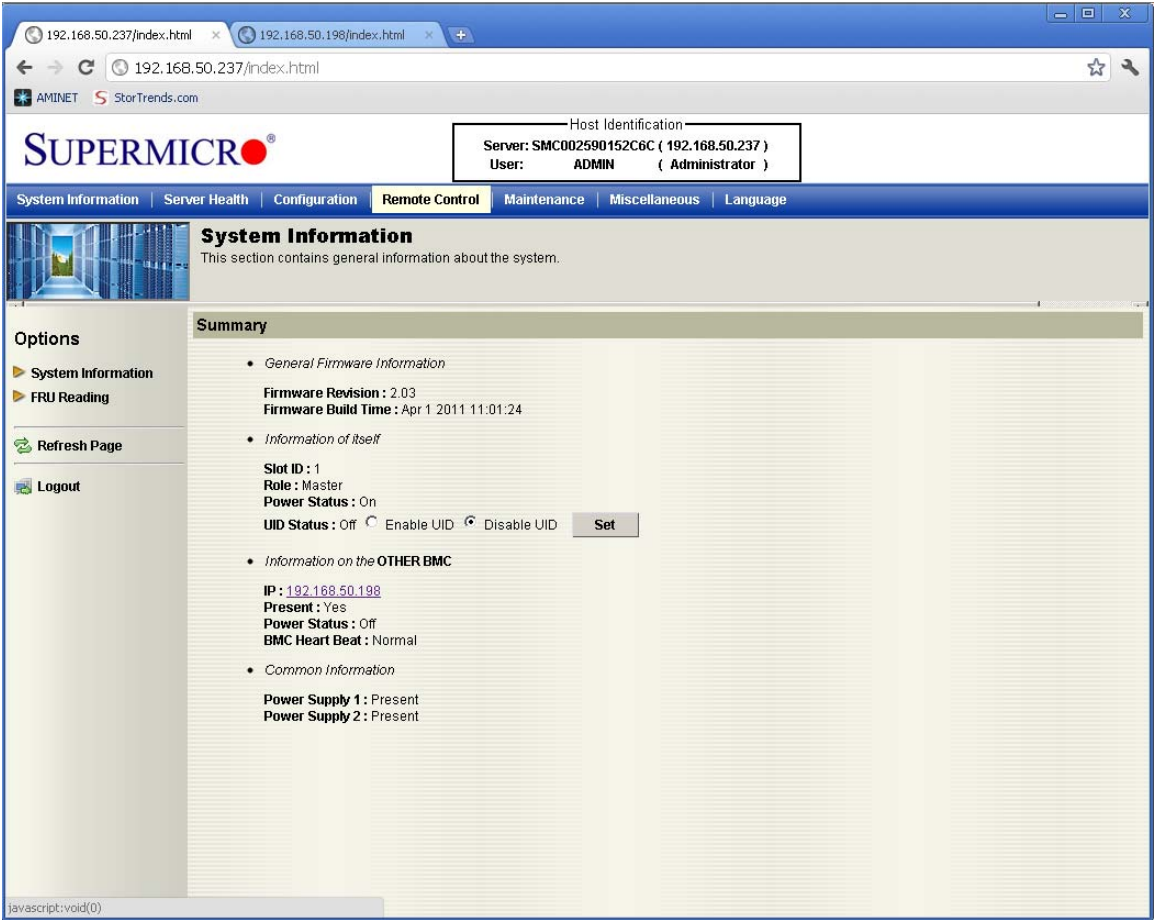
Google Chrome (as of 17.0.963.46m), Apple Safari (as of 5.1.2) and Opera (as of 9.80) require you to manually consent to the download and then, to manually open/run `jviewer.jnlp`.

Mozilla Firefox (as of 10.0.1) brings up the remote console without prompts, however each step is still performed in the background.

Microsoft Internet Explorer (as of 9.0.4) brings up the remote console without prompts. Depending on your Microsoft Internet Explorer settings, remote console will either open/run `jviewer.jnlp` or run the *Redirection Viewer* using *ActiveX*.

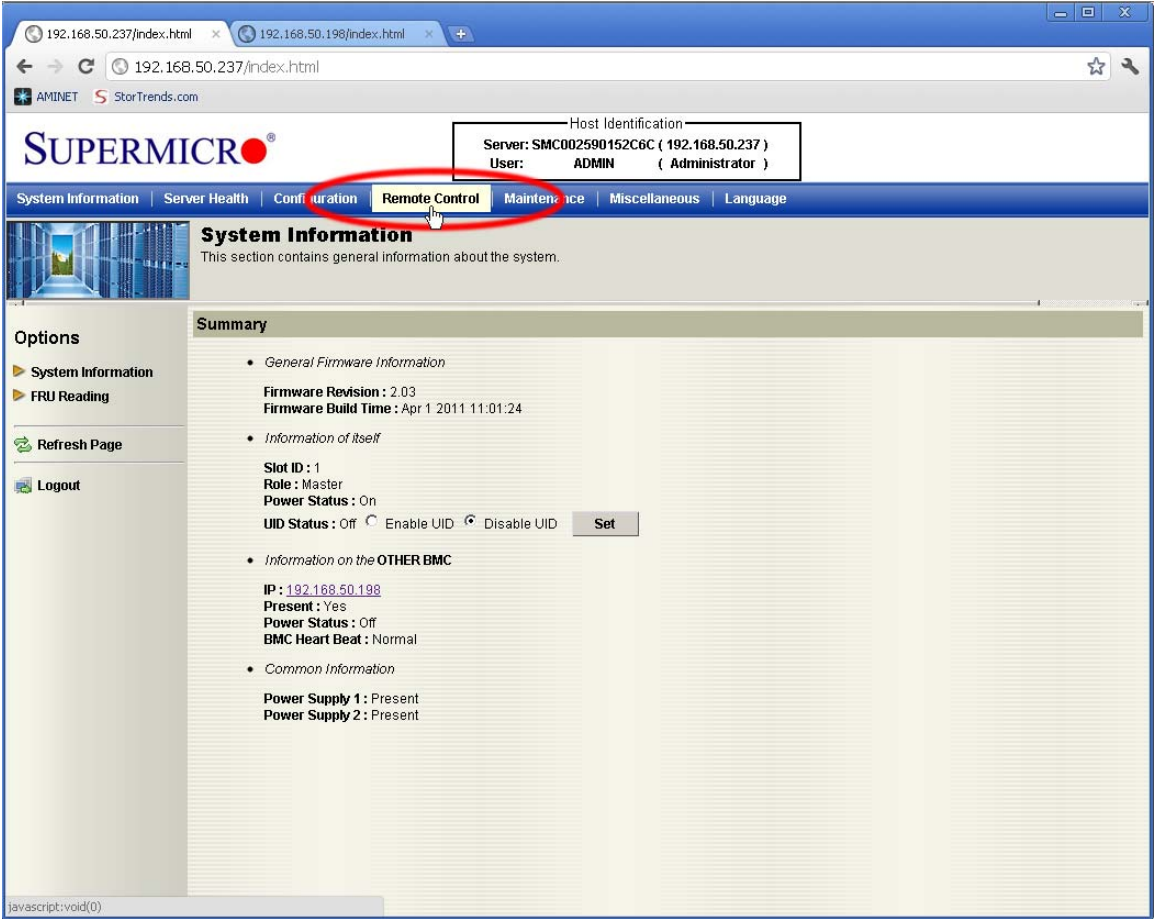
All of the Internet browsers above are desktop versions (not mobile versions).

When you first log into the web UI of the controller’s IPMI, you will see the following screen:

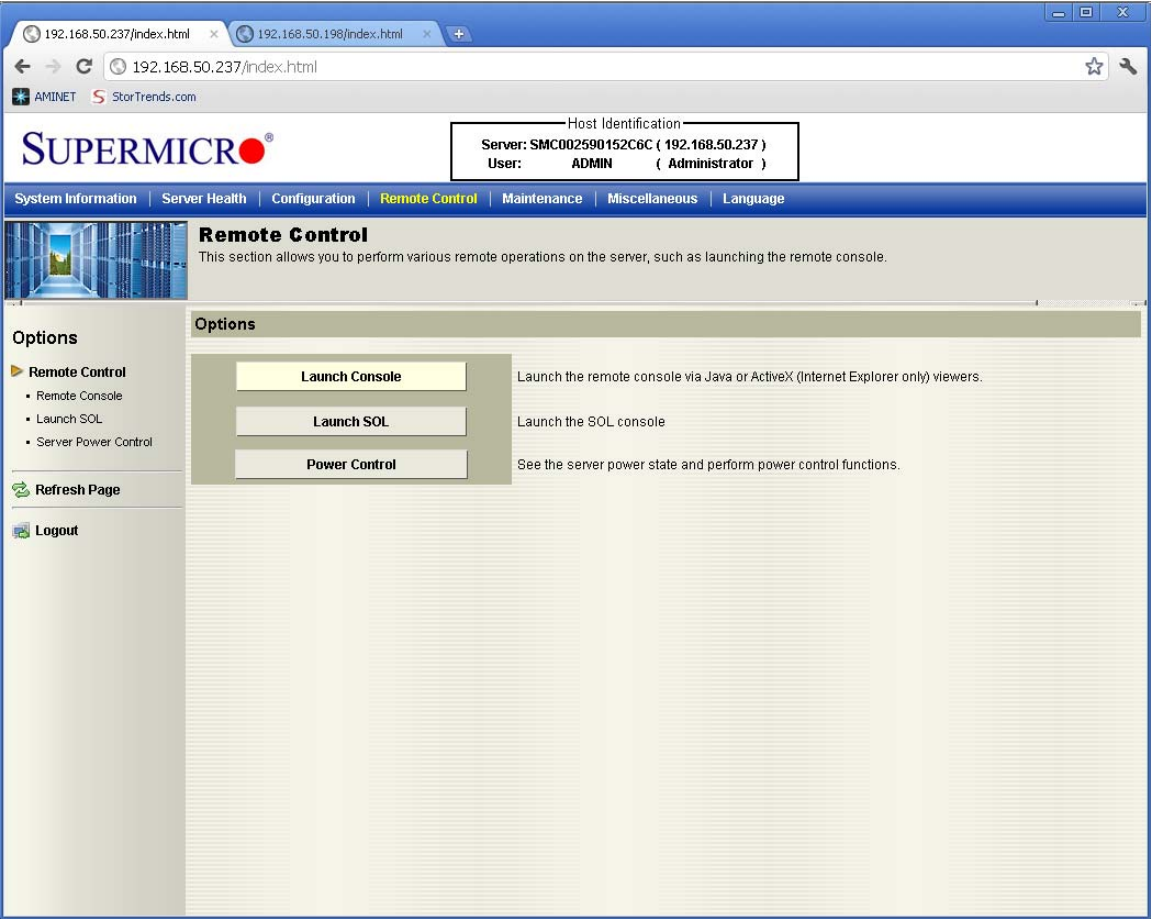


Select the controller that you want to perform console redirection on. In this example, both the *Left Controller* and the *Right Controller* are opened in separate tabs.

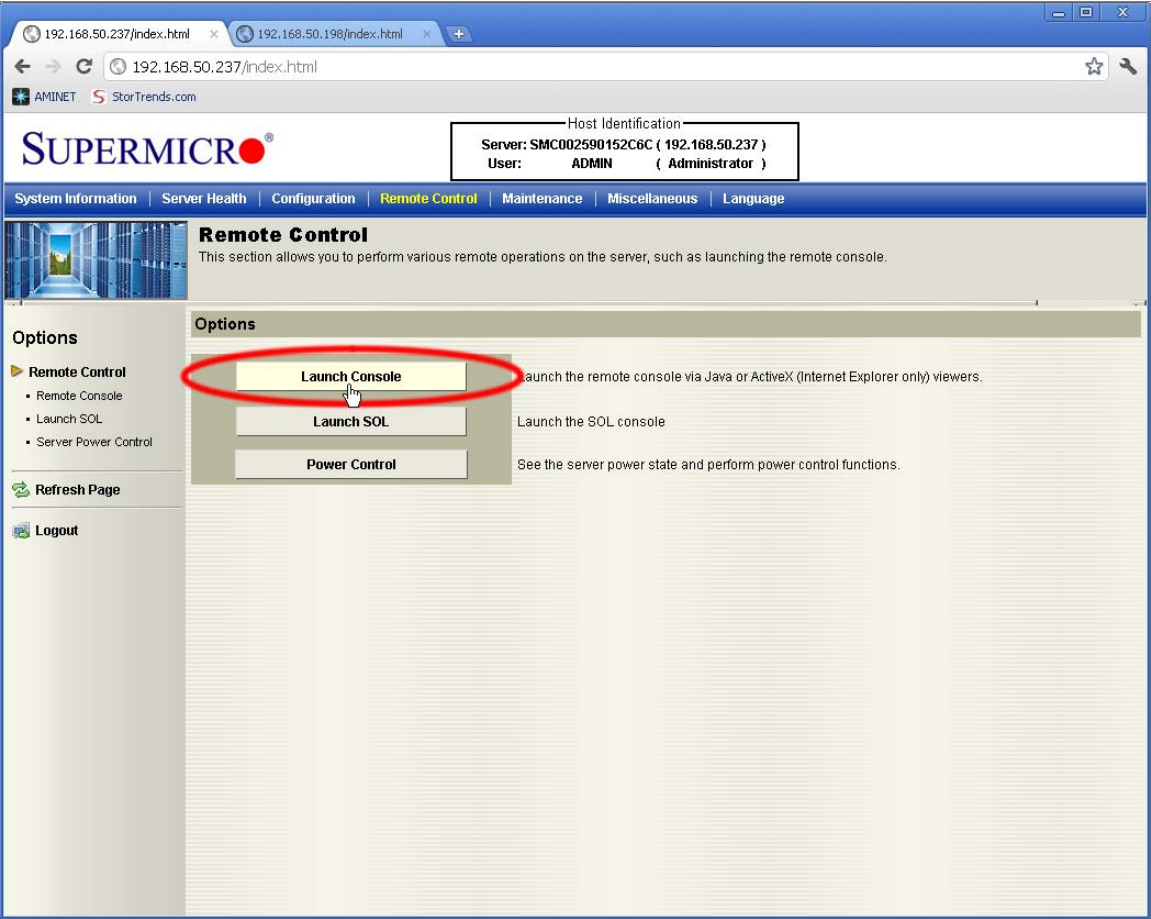
Navigate to the *Remote Control* tab.



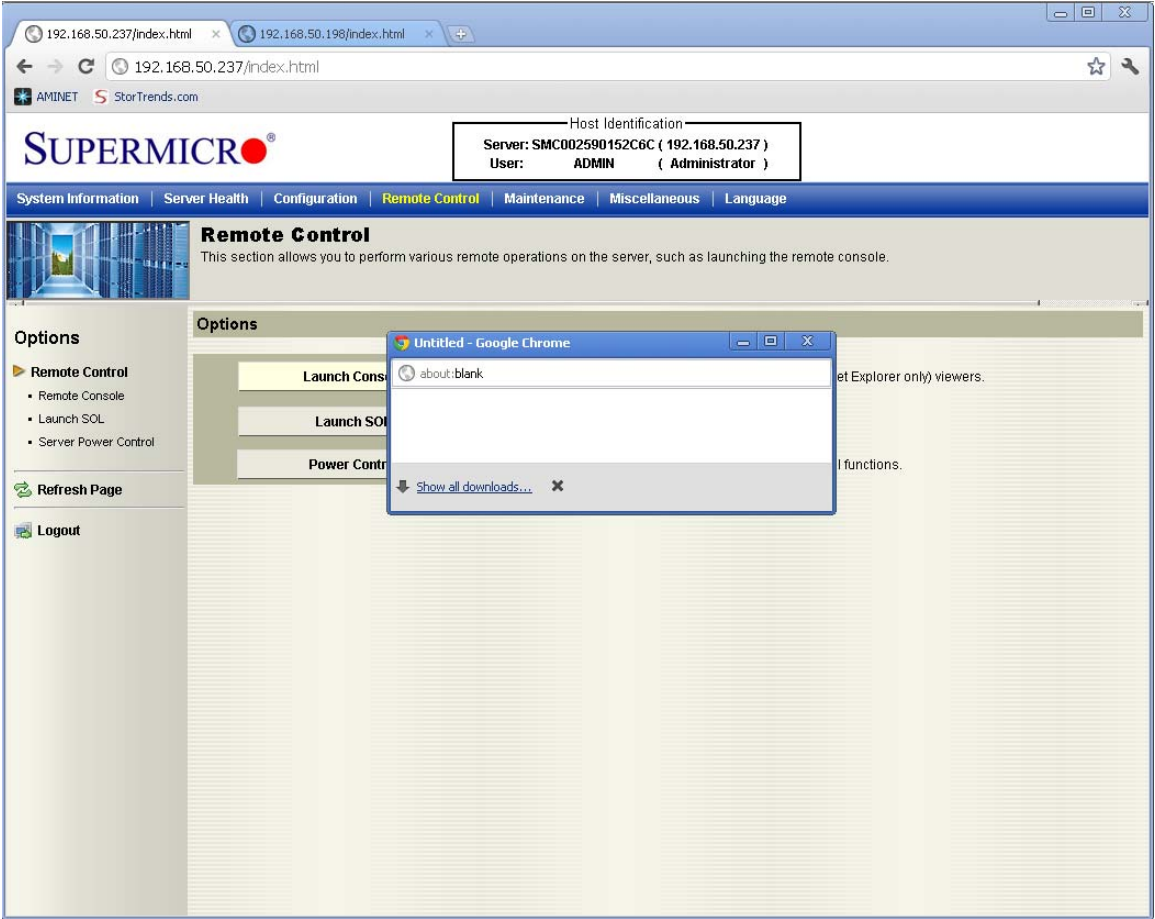
The *Remote Control* page opens.



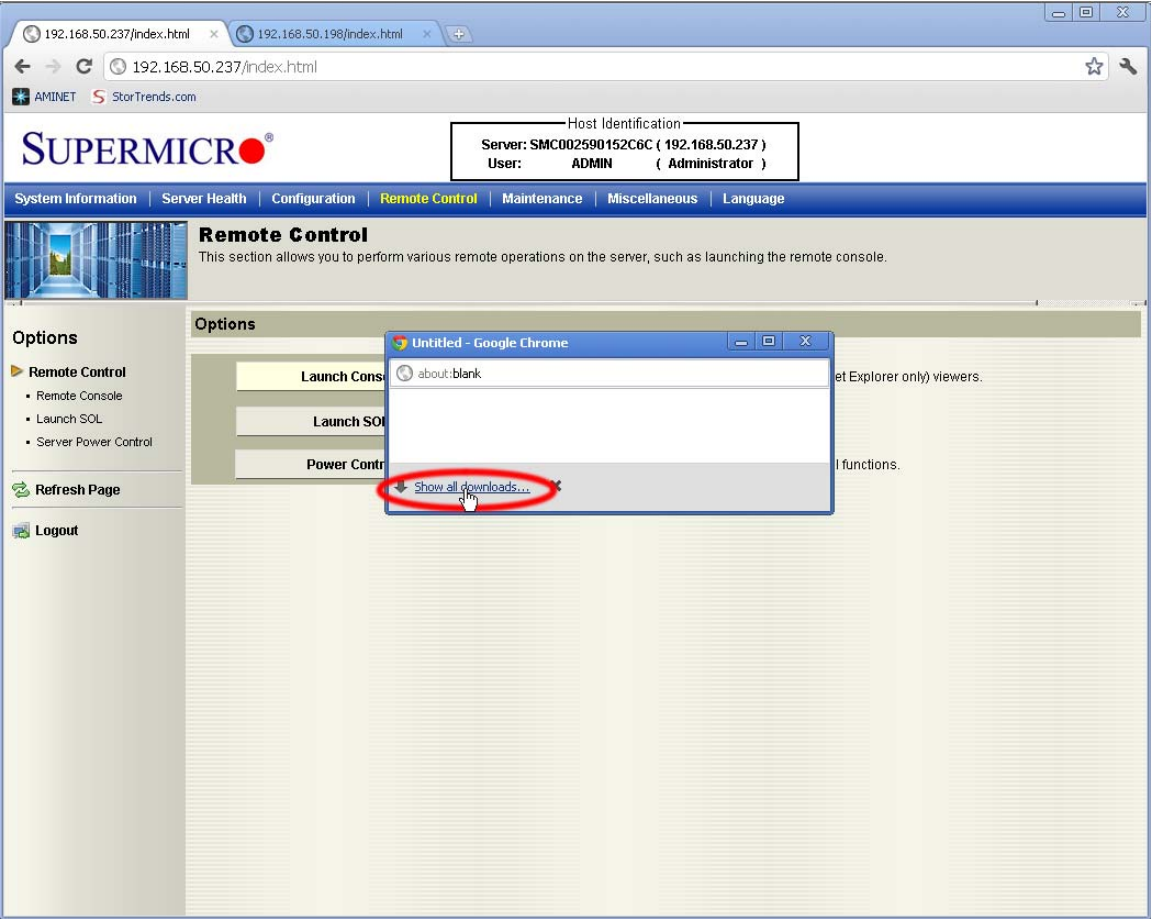
Click the *Launch Console* button to start *Remote Console*.



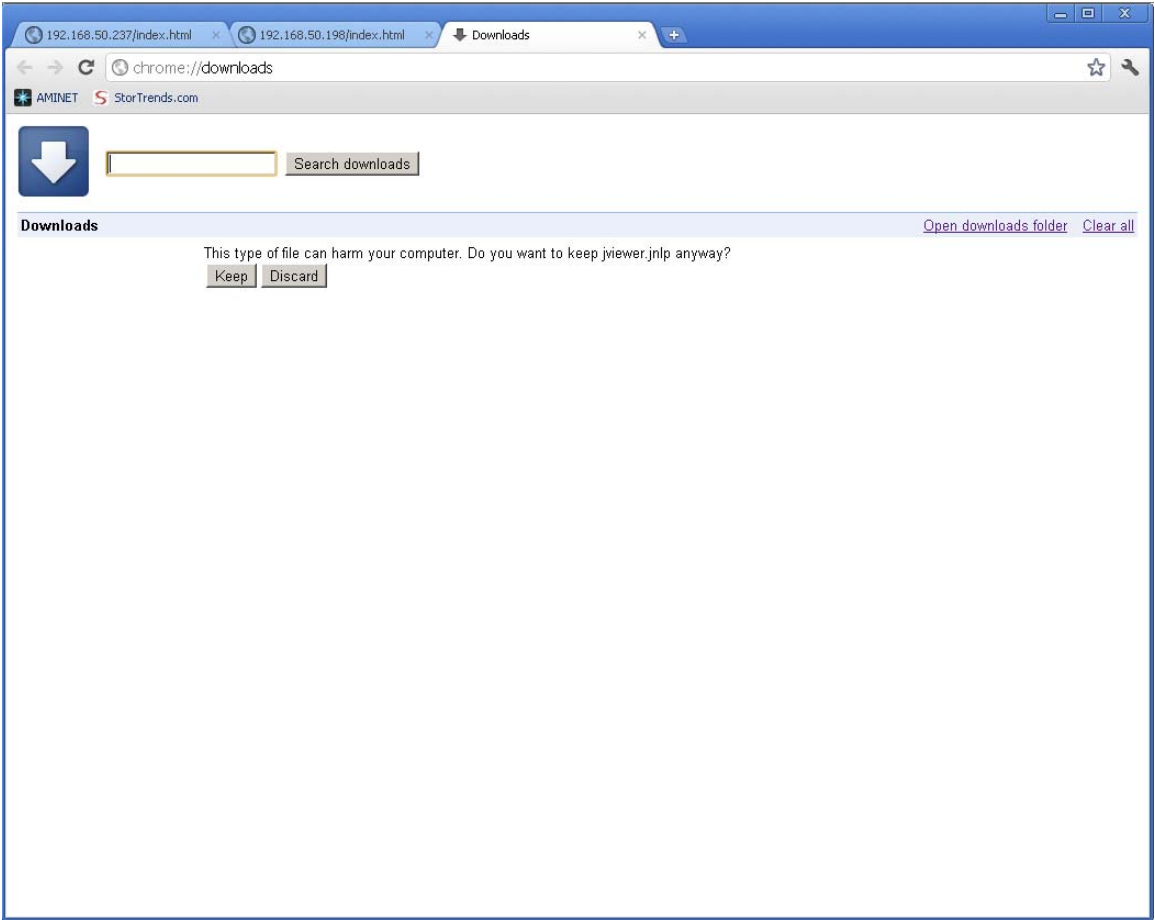
Your Internet browser will download the `jviewer.jnlp` file.



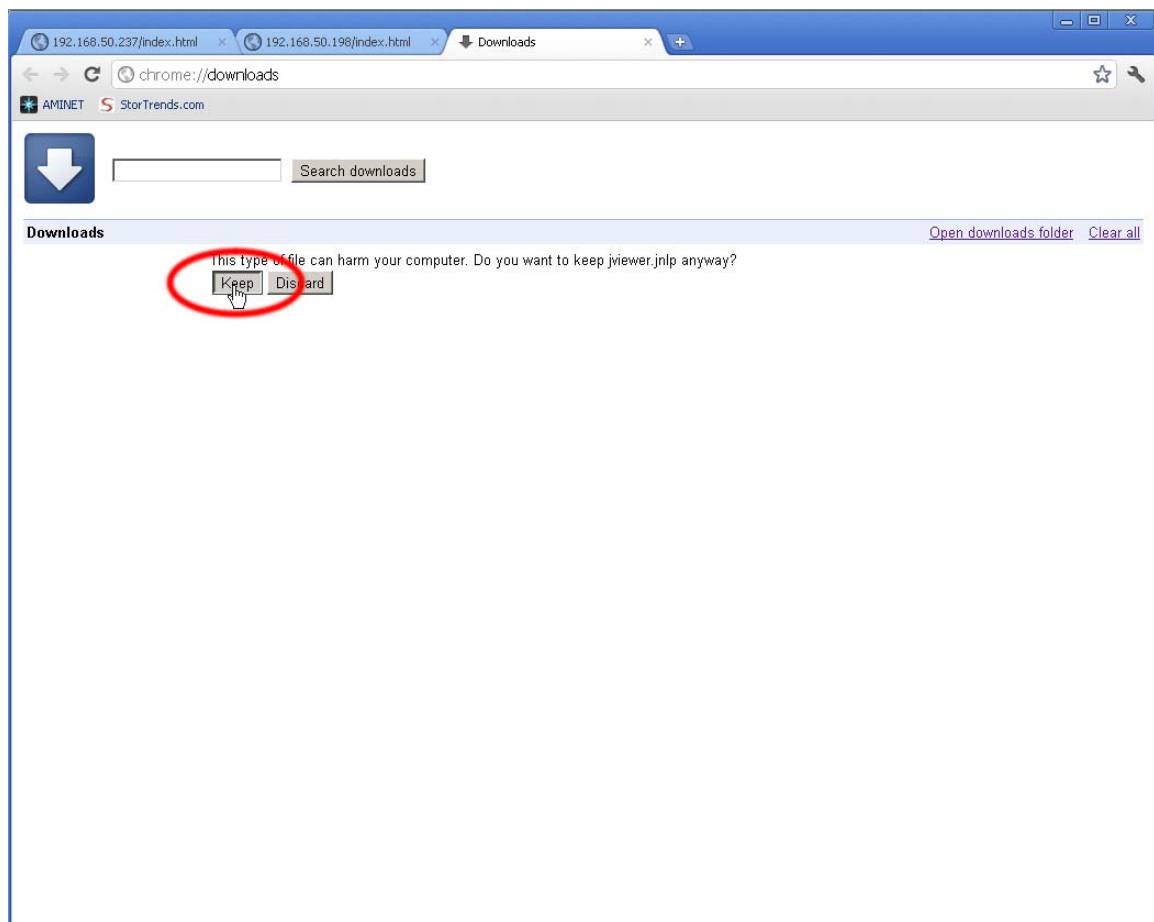
Some Internet browsers, such as *Google Chrome*, will hide the `jviewer.jsp` file.



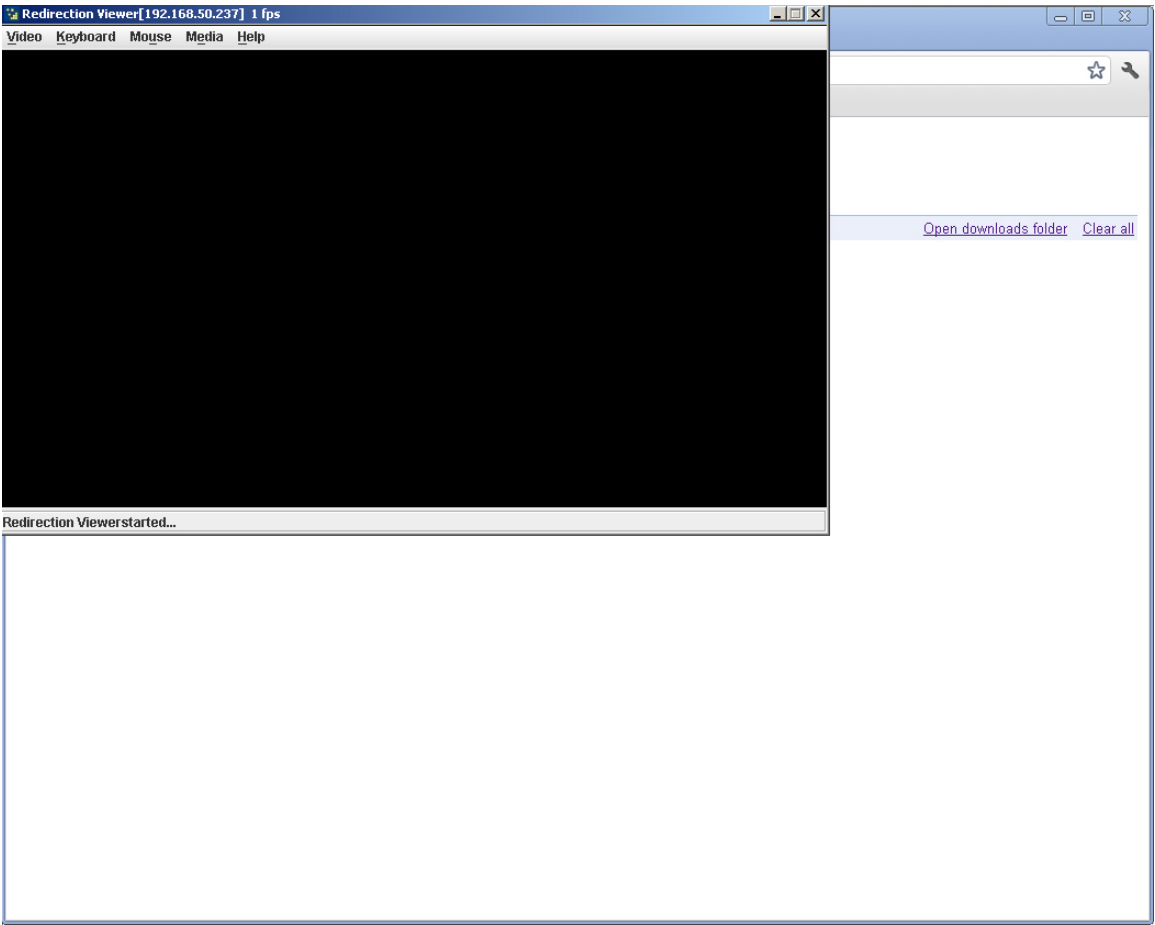
Depending on your Internet browser security, you may be prompted with a security warning. In this example, *Google Chrome* warns, “*The type of file can harm your computer. Do you want to keep jviewer.jnlp anyway?*”



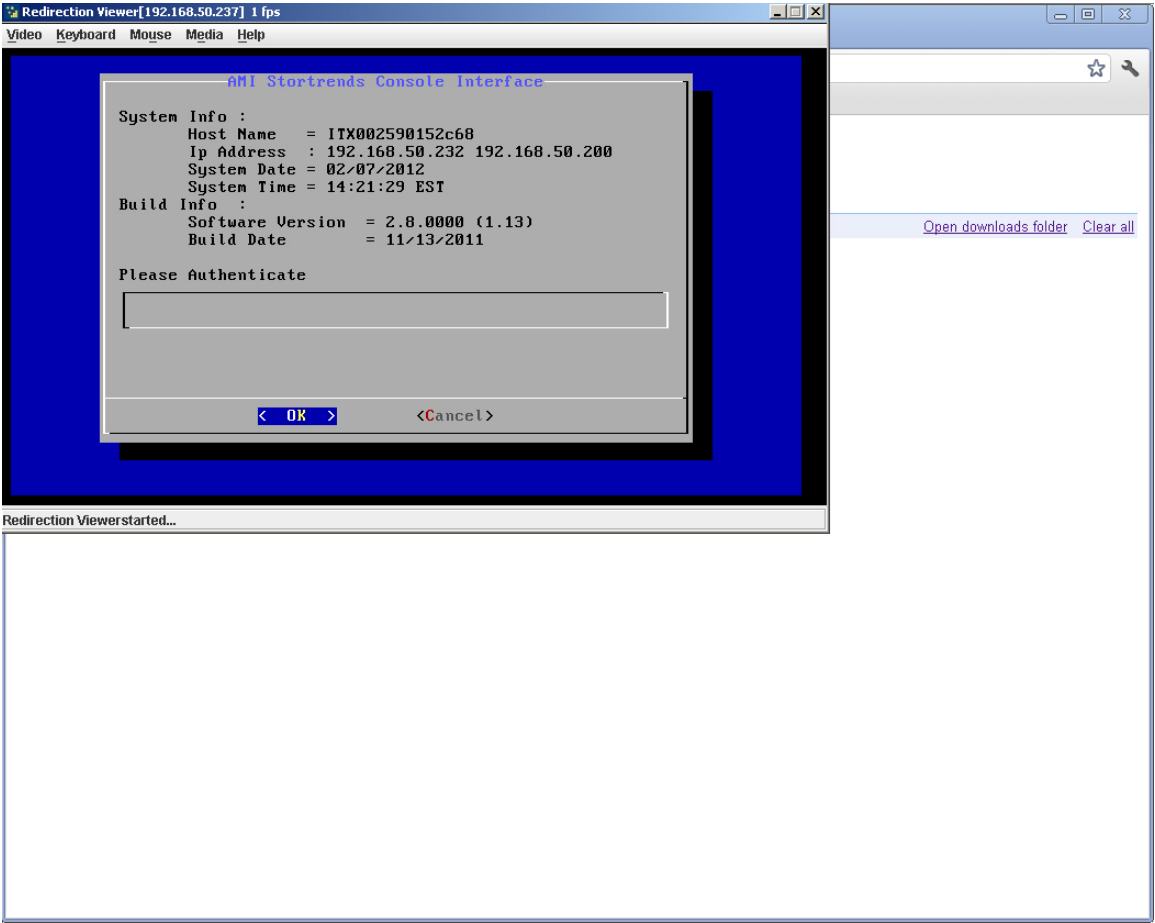
Click the *Keep* button.



The *Redirection Viewer* will open.



If you see a blank screen, press the <SPACE BAR> to wake up the controller's display.



(Intentionally Blank)

(Intentionally Blank)

(Intentionally Blank)