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TECHNICAL BRIEF: ETHERNET TEAMING



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TECHNICAL BRIEF: ETHERNET TEAMING

This Technical Brief is a valuable resource to learn how to configure your LaCie professional server for Ethernet Teaming. By enabling Ethernet Teaming, you will help to improve the performance and reliability of your server.

Important info: Ethernet Teaming is supported on LaCie professional servers that feature two Ethernet ports.

ADMINISTRATOR

In order to review, confirm, or redefine the software settings on your LaCie professional server, you must have Administrative rights to the device.

ETHERNET TEAMING BENEFITS

Ethernet Teaming, also known as “bonding”, allows you to utilize more than one Ethernet port to carry network traffic to and from a network device. In this case, your LaCie professional server. Ethernet Teaming offers the following benefits:

- **Fault tolerance** In the event that one Ethernet port fails to send or receive network traffic, all data flow is automatically switched to the working port(s). This type of redundancy is critical for businesses that cannot afford extensive downtime.
- **Increased bandwidth** Commonly known as “Link Aggregation”, moving data across more than one Ethernet port will enhance server performance. For example, teaming two Ethernet ports offers the potential to double the speed of the transfer rates.
- **Load balancing** Distributing the network traffic across multiple Ethernet adapters helps to ease the burden on a single port.

MULTIPLE ETHERNET PORTS: LACIE PROFESSIONAL SERVER AND ETHERNET SWITCHES

Built for advanced networks, your LaCie professional server includes a second Ethernet adapter.



Most connections to a network use a single Ethernet port on a computer, server, or network device. However, you may set the LaCie professional server for Ethernet Teaming by attaching a second Ethernet cable and configuring the included Intel® driver.

You may attach the second Ethernet cable to the additional Ethernet port before or after configuring the LaCie professional server for Ethernet Teaming.

Ethernet Switch Compatibility

Important info: Please make certain that your Ethernet Switch supports Link Aggregation. Without support for Link Aggregation, you may not have access to all the options available with Ethernet Teaming.

LaCie highly recommends that you configure your Ethernet switch(es) for Ethernet Teaming before continuing with the steps in this Technical Brief. Consult the user manual for your Ethernet switch(es) for more information on support and setup for Ethernet Teaming.

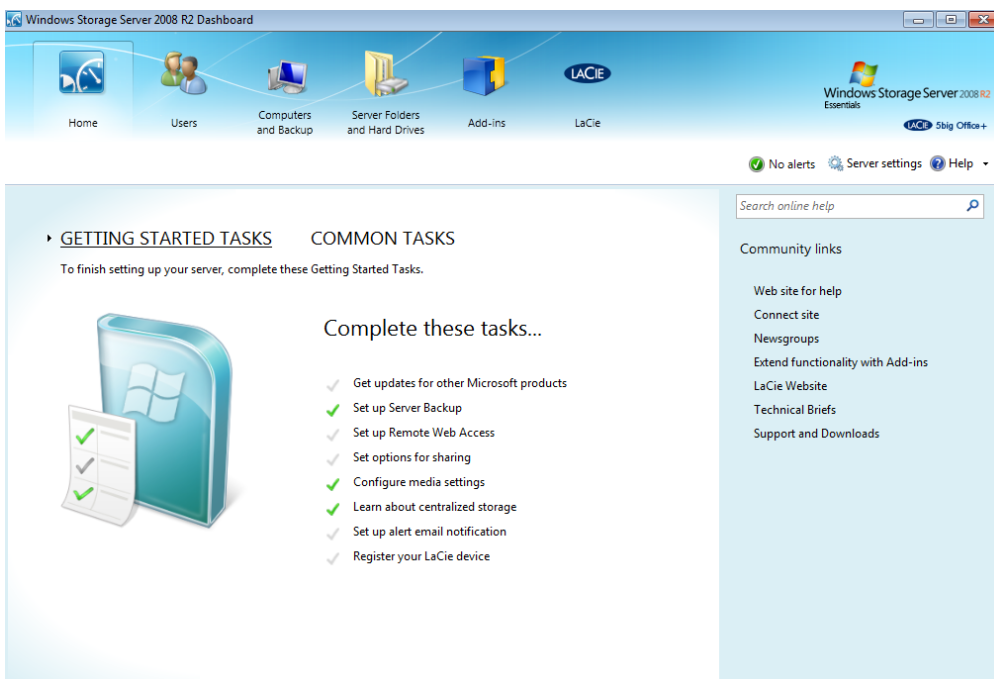
CONFIGURING ETHERNET TEAMING

Follow the directions below to configure your LaCie professional server for Ethernet Teaming.

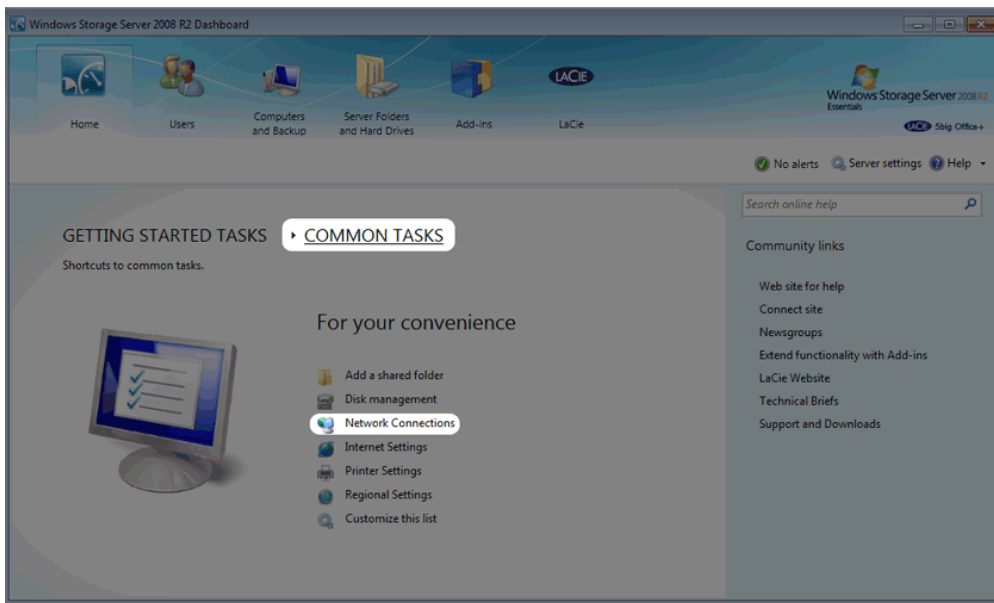
Important info: The Ethernet adapters on the LaCie professional server will be reset during the driver configuration. As a result, Ethernet connection will be lost for a small amount of time.

SETUP

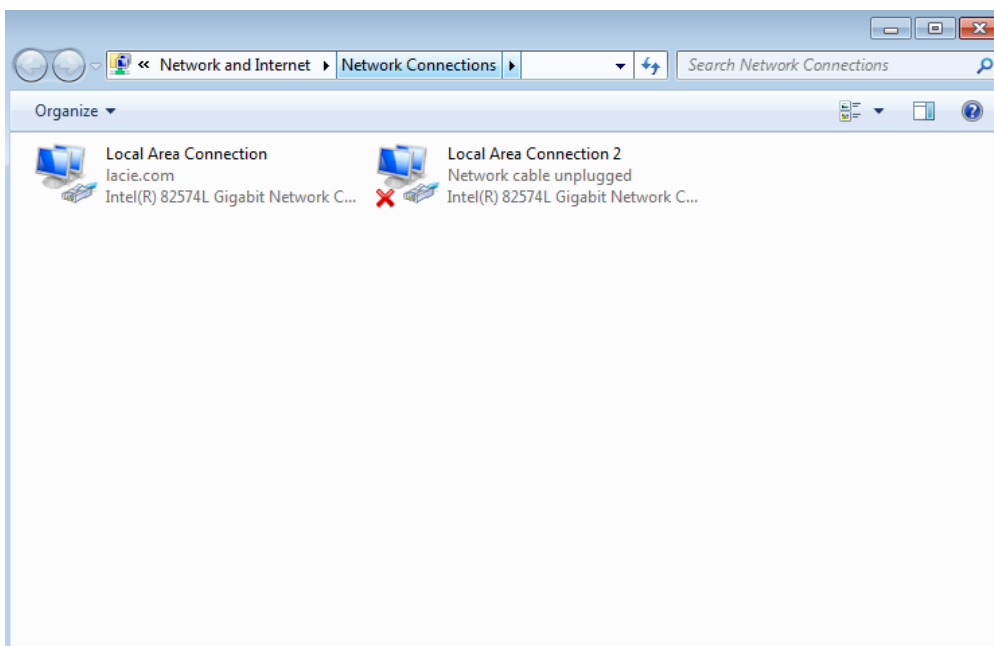
1. Launch the Dashboard from a Windows workstation on the same network as your LaCie server. **Start > All Programs > Windows Storage Server 2008 R2 > Windows Storage Server 2008 R2 Dashboard**

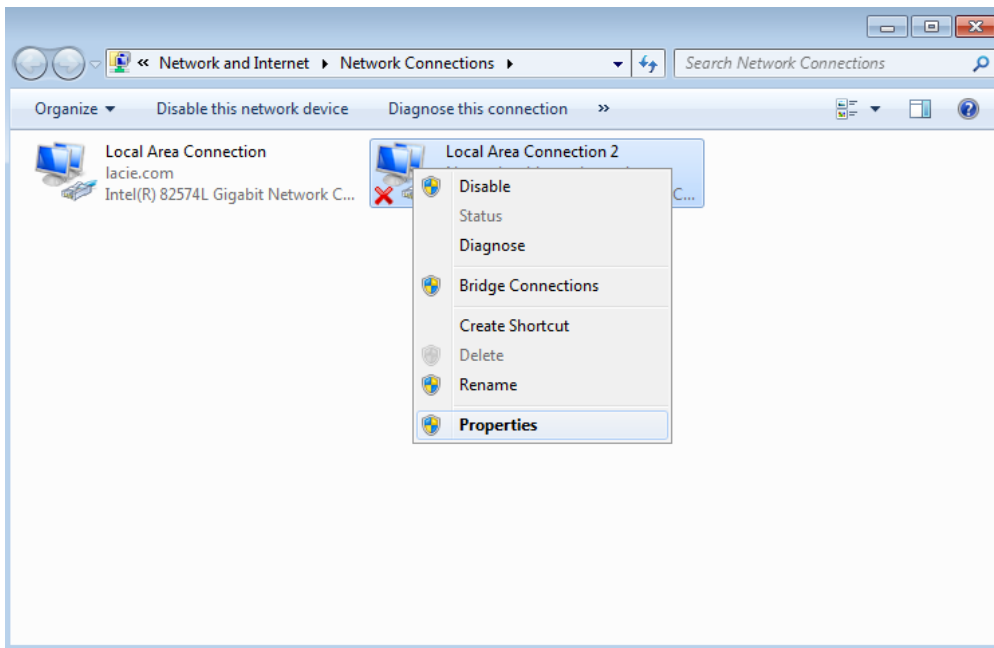


2. Click on **COMMON TASKS** to select **Network Connections**.

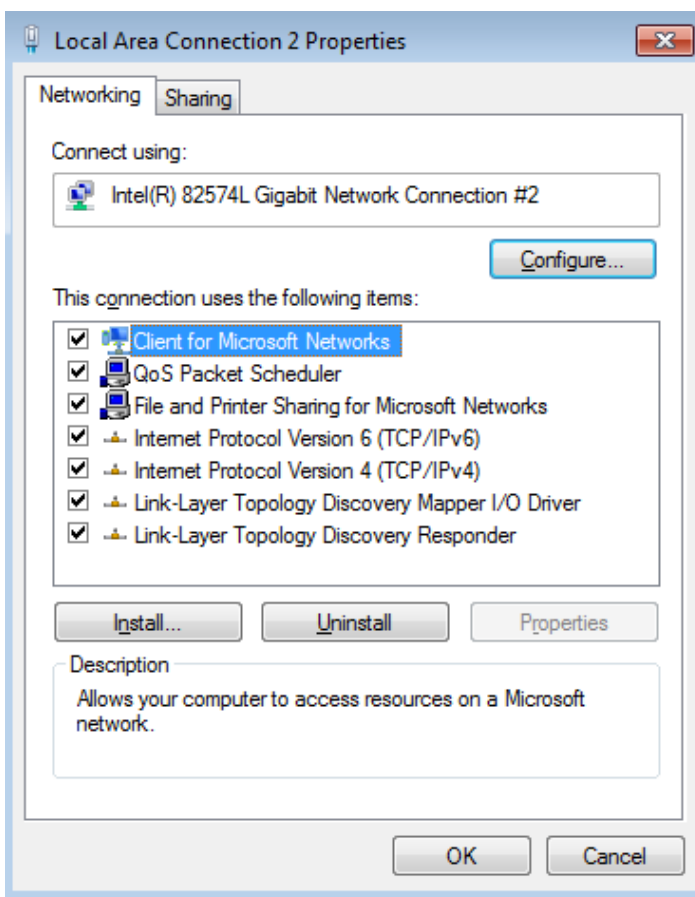


3. The icons for the Local Area Network (LAN) ports will appear in the pop-up window. Right-click on either port icon to select **Properties**.

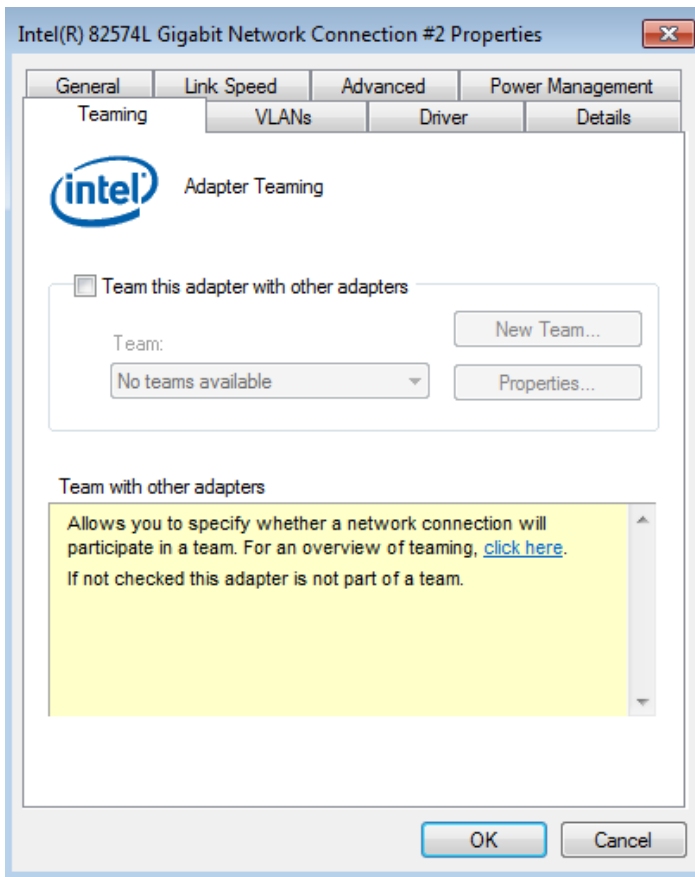




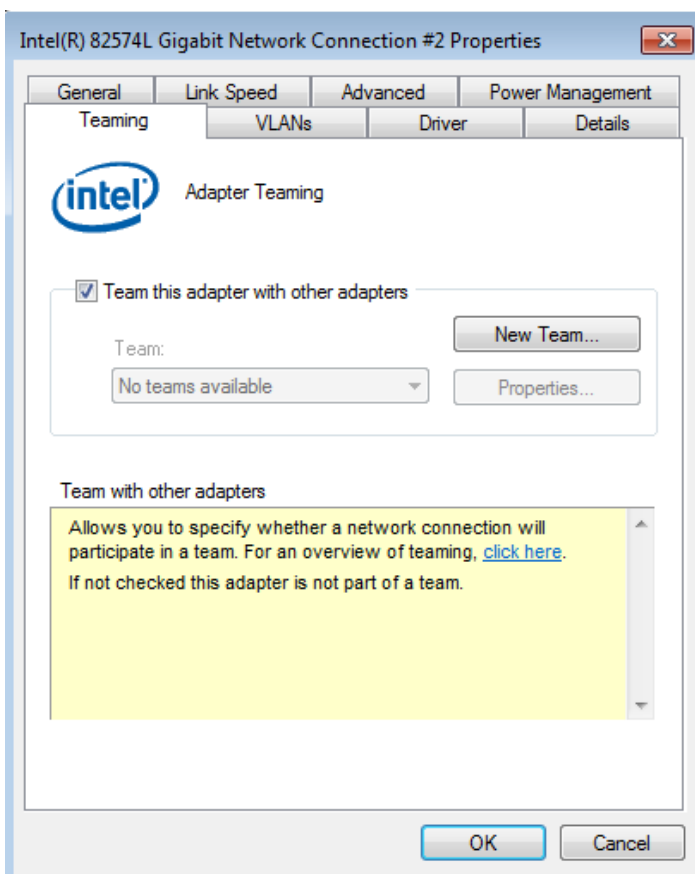
4. Select **Configure**.



5. In the *Connection Properties* window, choose the **Teaming** tab.

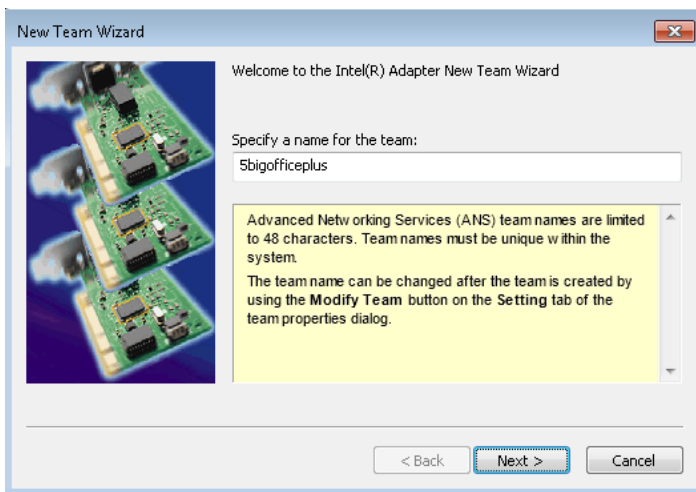
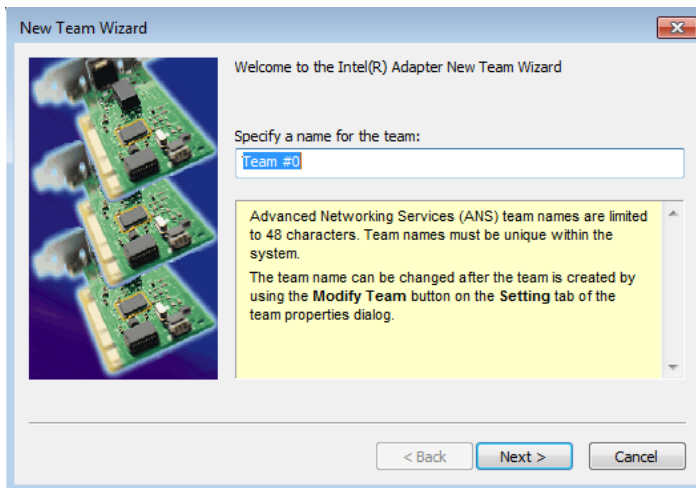


6. Check the box next to **Team this adapter with other adapters**.

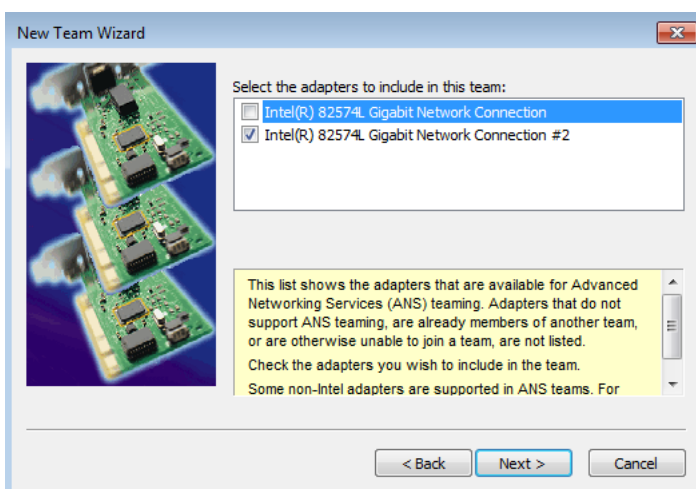


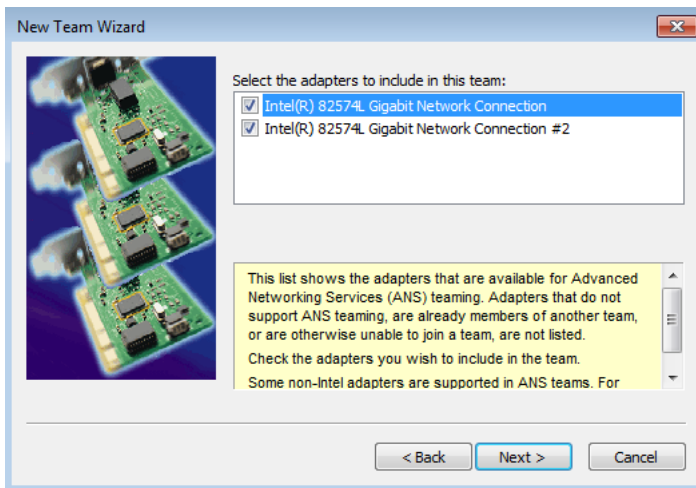
7. Click **New Team**.

8. The *New Team Wizard* will launch. Type the name you would like to give to the Ethernet Team.

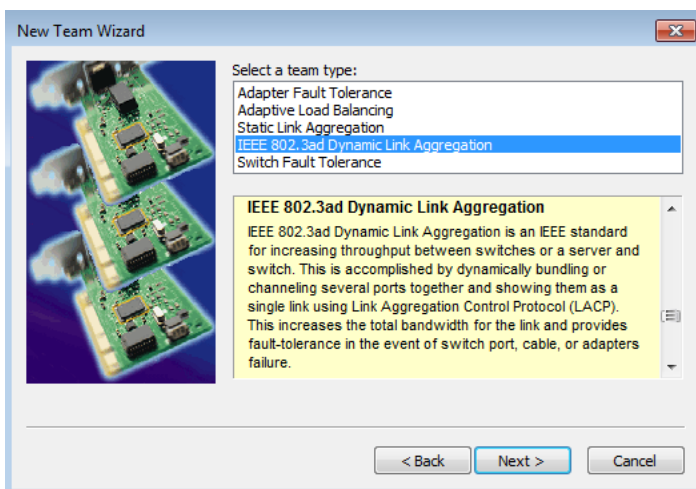


9. Click on the box next to the Ethernet port that will be added to the team.

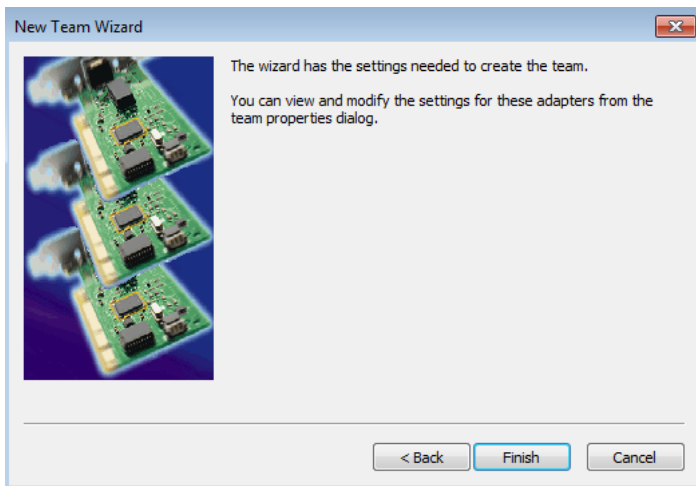




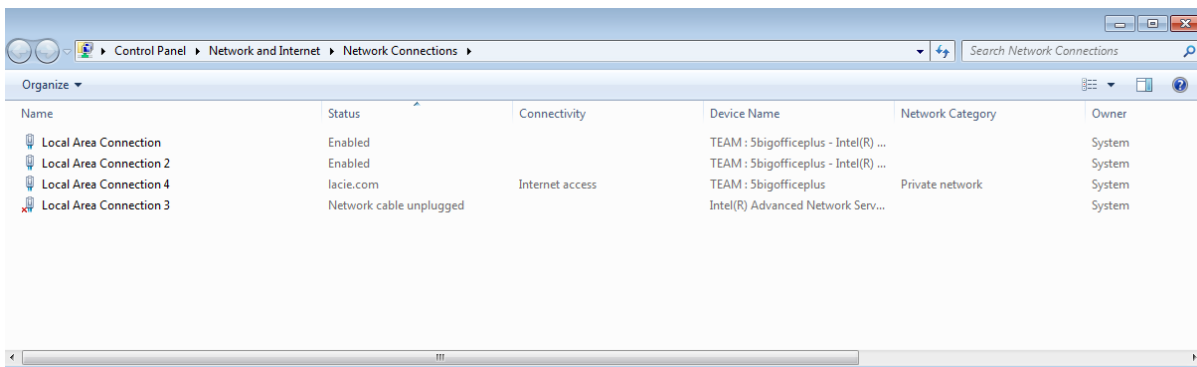
10. Click **Next**.
11. Select the type of team that applies to your network demands. For further information on the benefits of each type of team, click on the selection and read the description below the list. To take full advantage of Ethernet Teaming, LaCie recommends selecting *IEEE 802.3ad Dynamic Link Aggregation*. Please note that you can change the type of teaming at any time.



12. Once you have highlighted the preferred Ethernet Team type, click **Next**.
13. Click **Finish**. The Ethernet adapters will be reset during the driver configuration. As a result, Ethernet connection will be lost for a small amount of time.



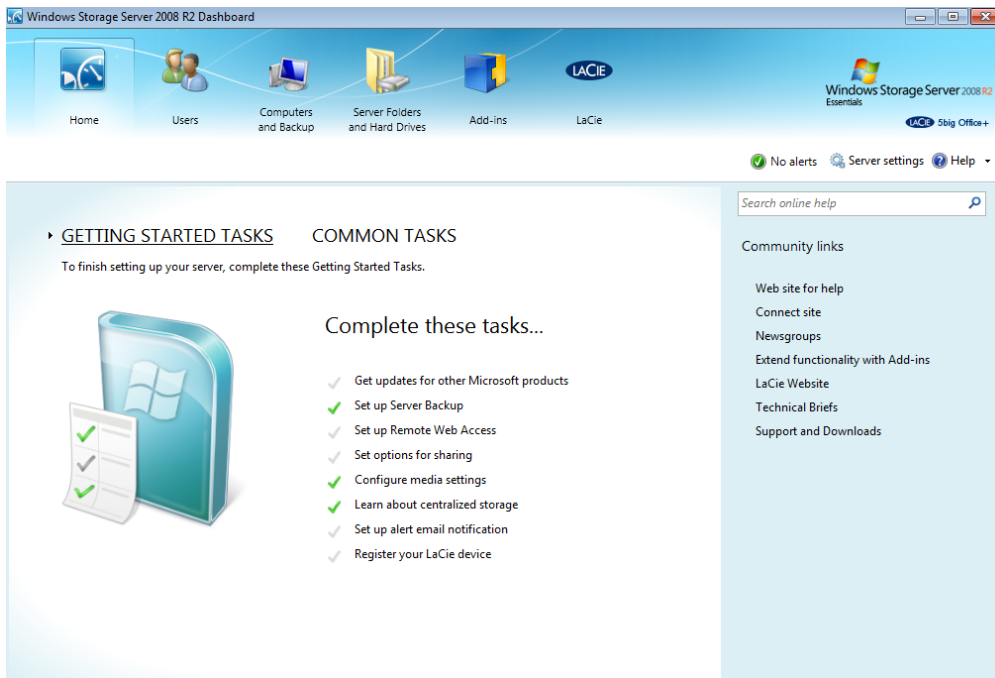
14. Network Connections now shows that the two Ethernet ports have been successfully teamed.



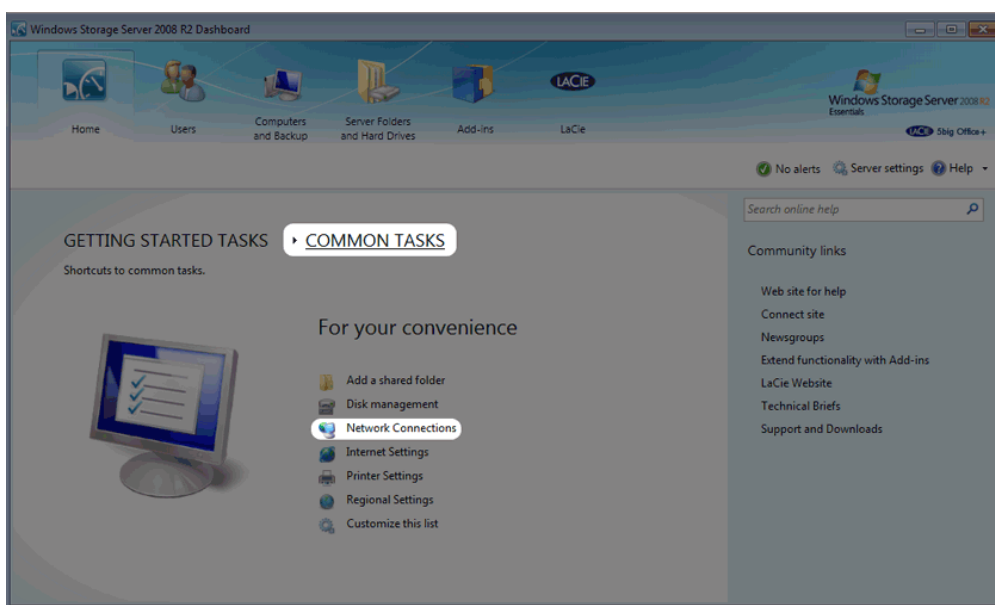
ADJUSTING THE SETTINGS

To make changes in the settings:

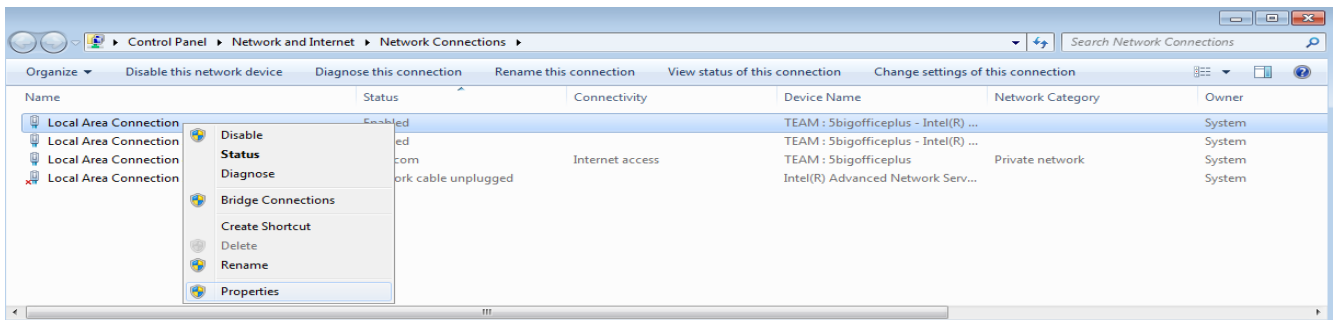
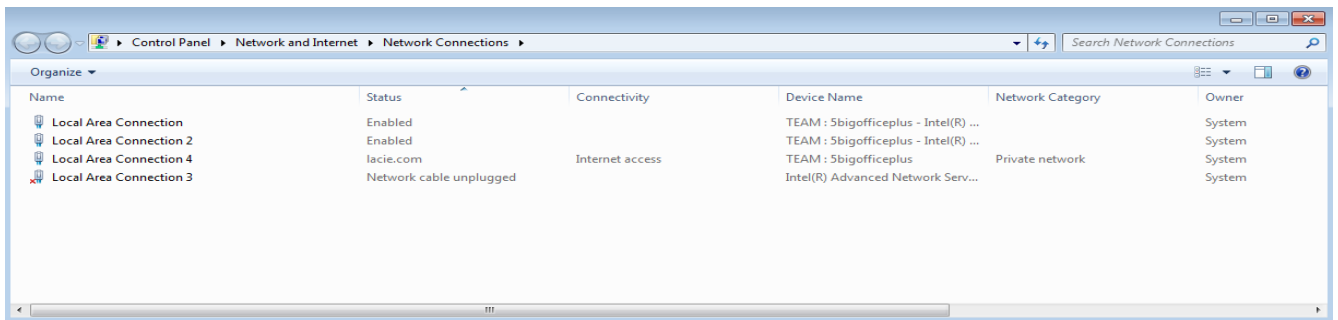
1. Launch the Dashboard from a Windows workstation on the same network as your LaCie server. **Start > All Programs > Windows Storage Server 2008 R2 > Windows Storage Server 2008 R2 Dashboard**



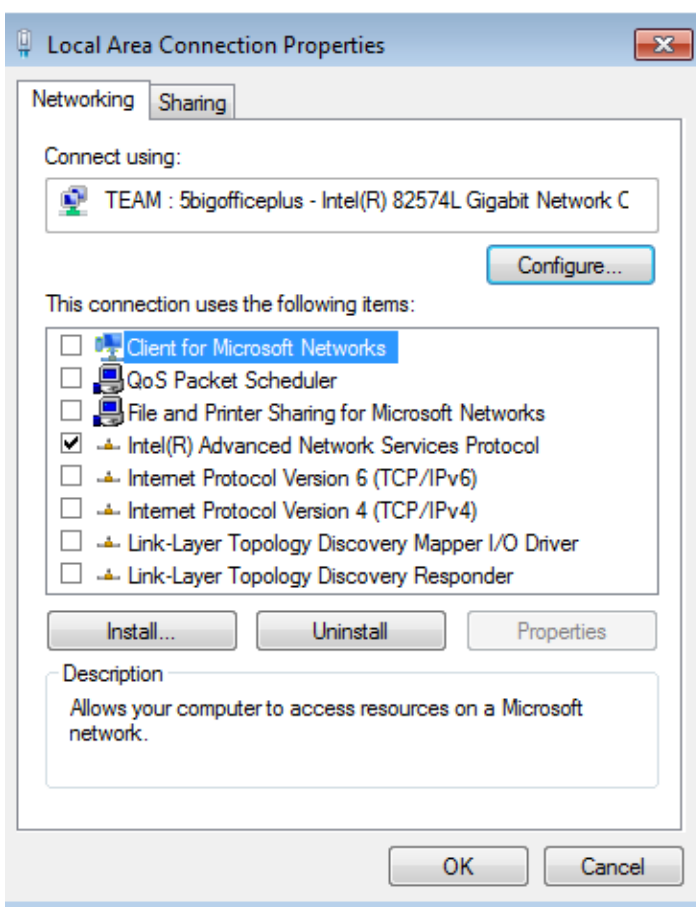
2. Click on **COMMON TASKS** to select **Network Connections**.



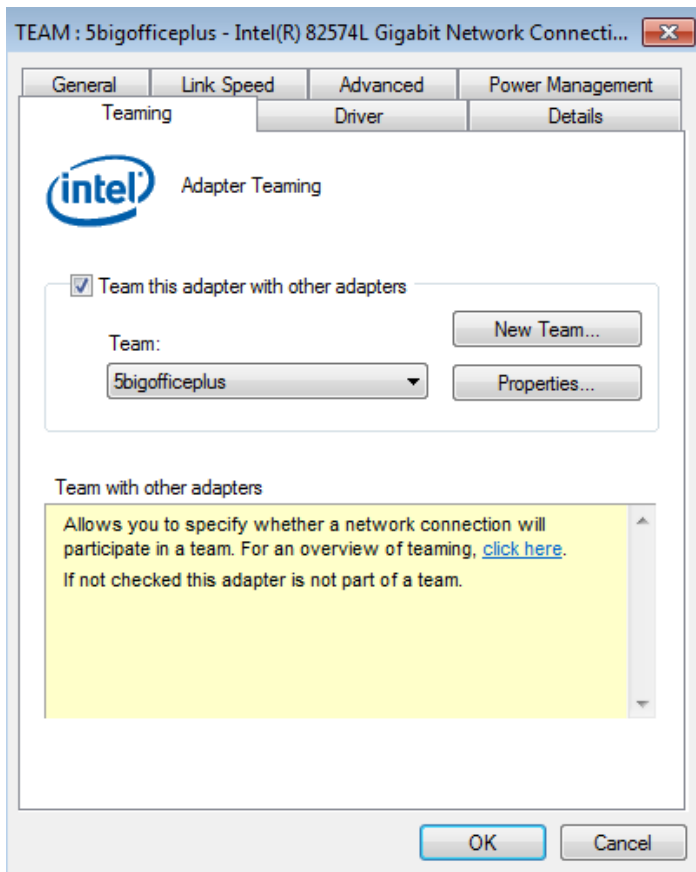
3. Right-click on the icon for the Ethernet Team.



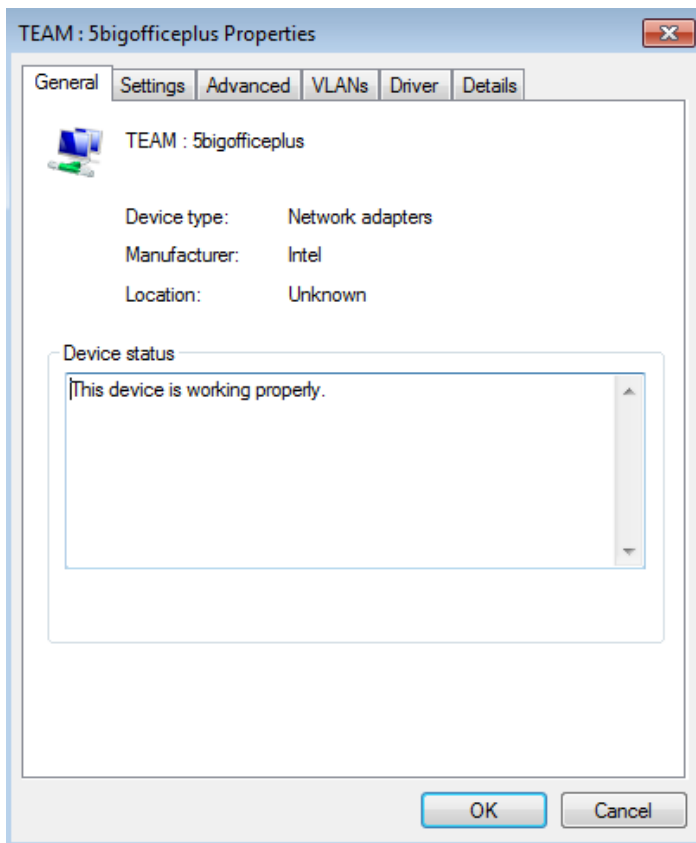
4. In the LAN Properties window, click on **Configure**.



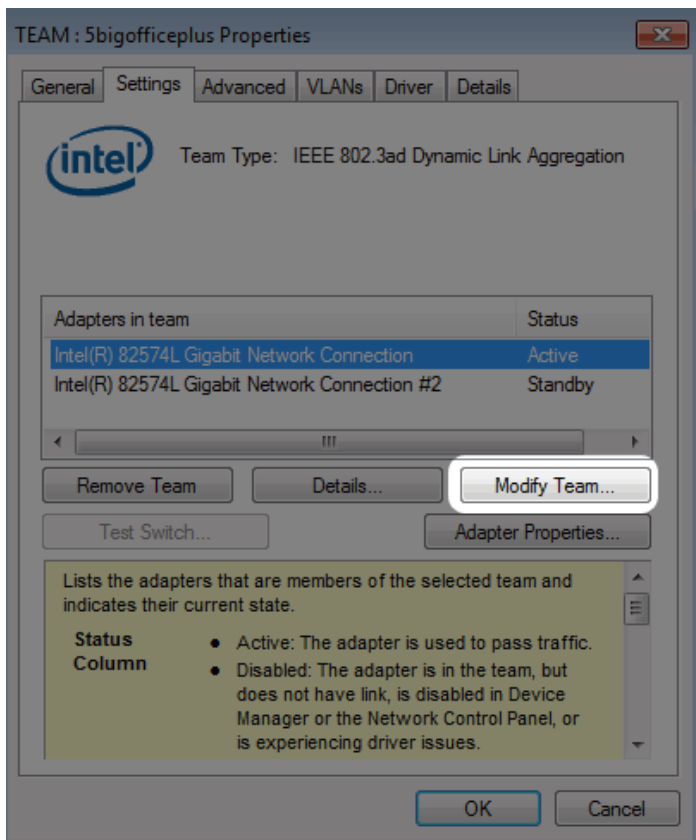
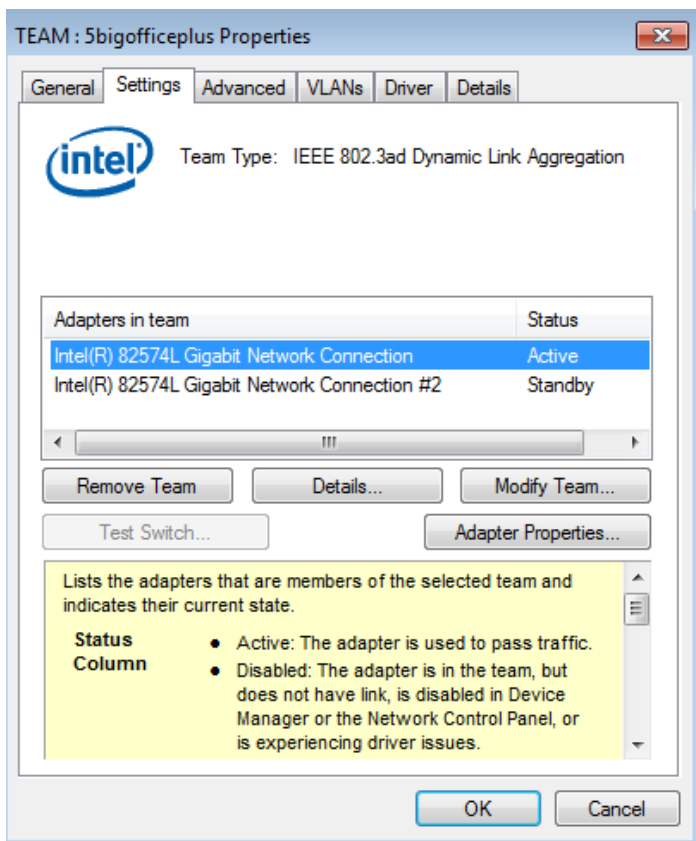
5. Choose the tab called **Teaming**.



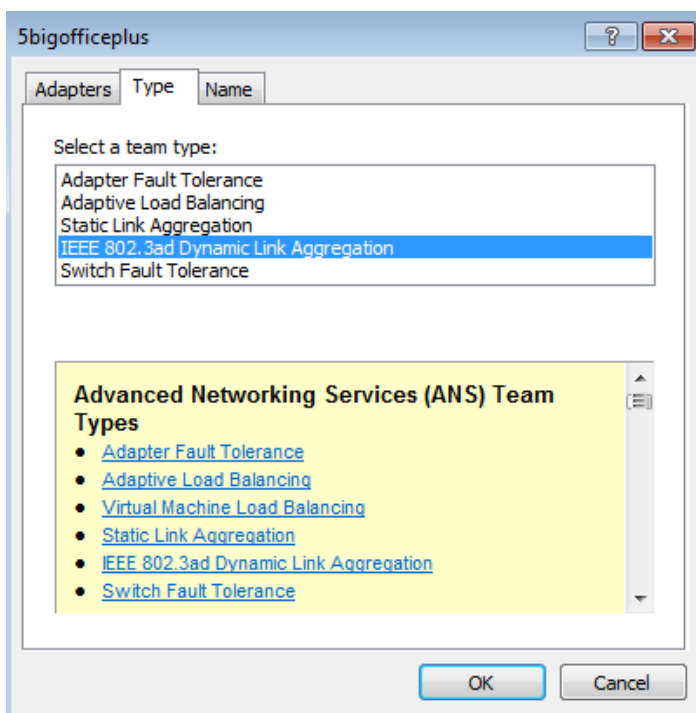
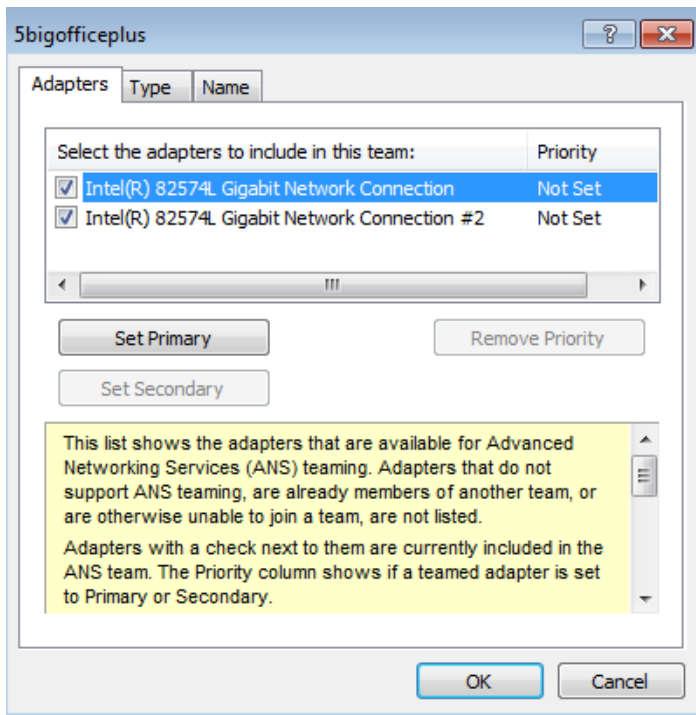
6. The Ethernet Team properties window will open.



7. Choose the **Settings** tab then click on the **Modify** button.



8. You may set the primary Ethernet adapter in the **Adapters** tab and change the team type in the **Type** tab.



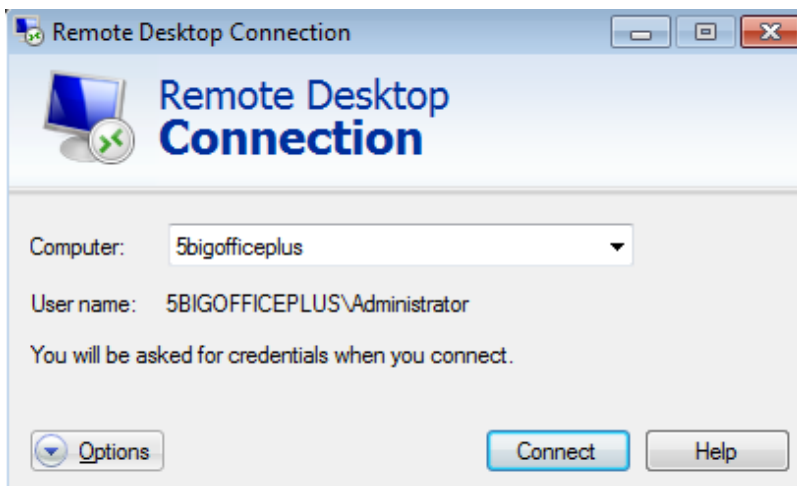
REMOTE DESKTOP CONNECTION

You may revise the settings of your LaCie professional server using the Dashboard from a Windows workstation. It is also possible to access the server desktop for further administrative options. There are two options to view the server desktop:

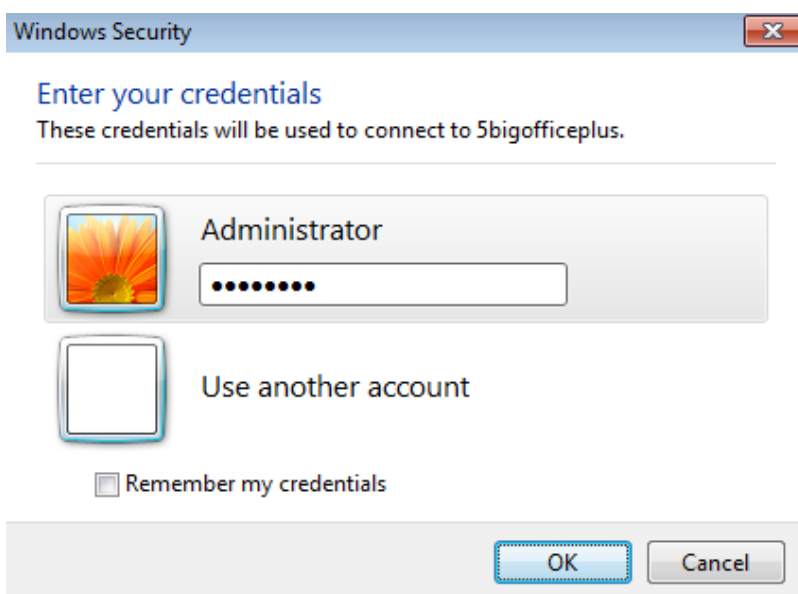
- Connect a USB keyboard, USB mouse, and a VGA monitor directly to their respective ports on the back of the server. Please note that this option may not apply to all servers.
- Launch Windows Remote Desktop Connection from a computer on the same network as the LaCie server.

The instructions below will help you connect to the server via Windows Remote Desktop:

1. From a Windows workstation on the same network as the server, go to **Start > Remote Desktop Connection** or **Start > Programs/All Programs > Accessories > Remote Desktop Connection**.
2. Enter the network name or IP address of your server then click **Connect**.



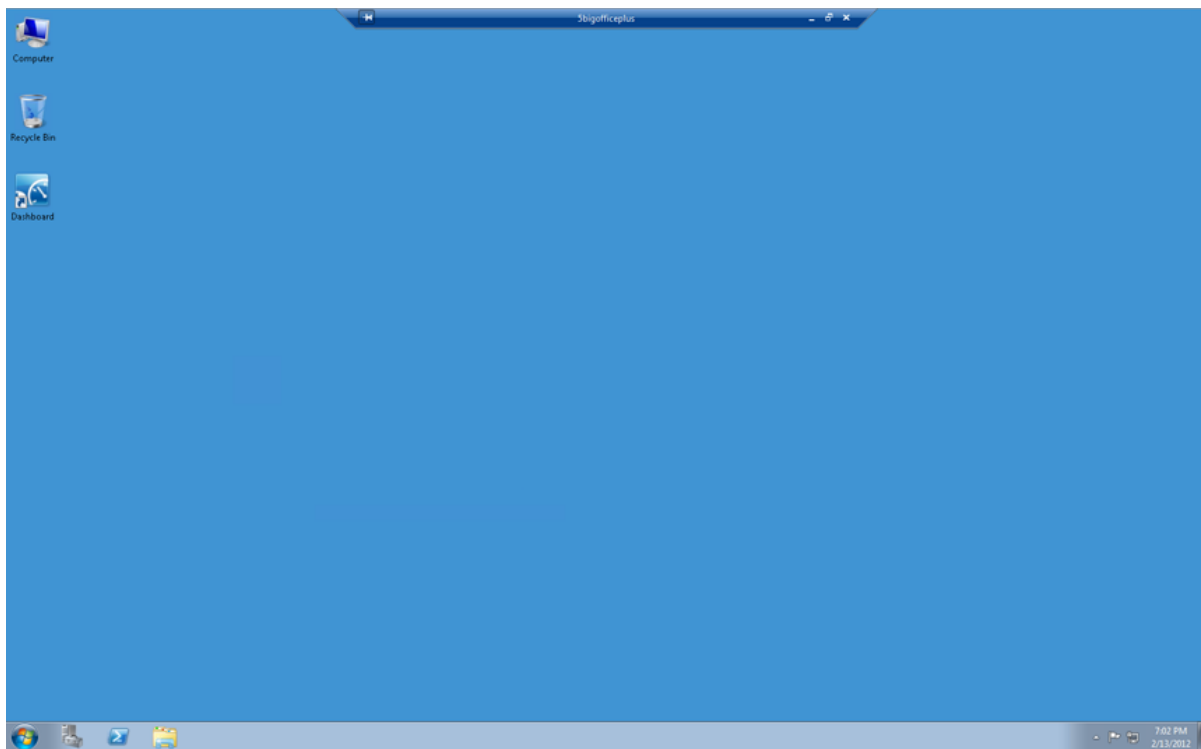
3. Enter the administrator Login and Password for your server.



4. Click **Yes** at the certificate prompt.



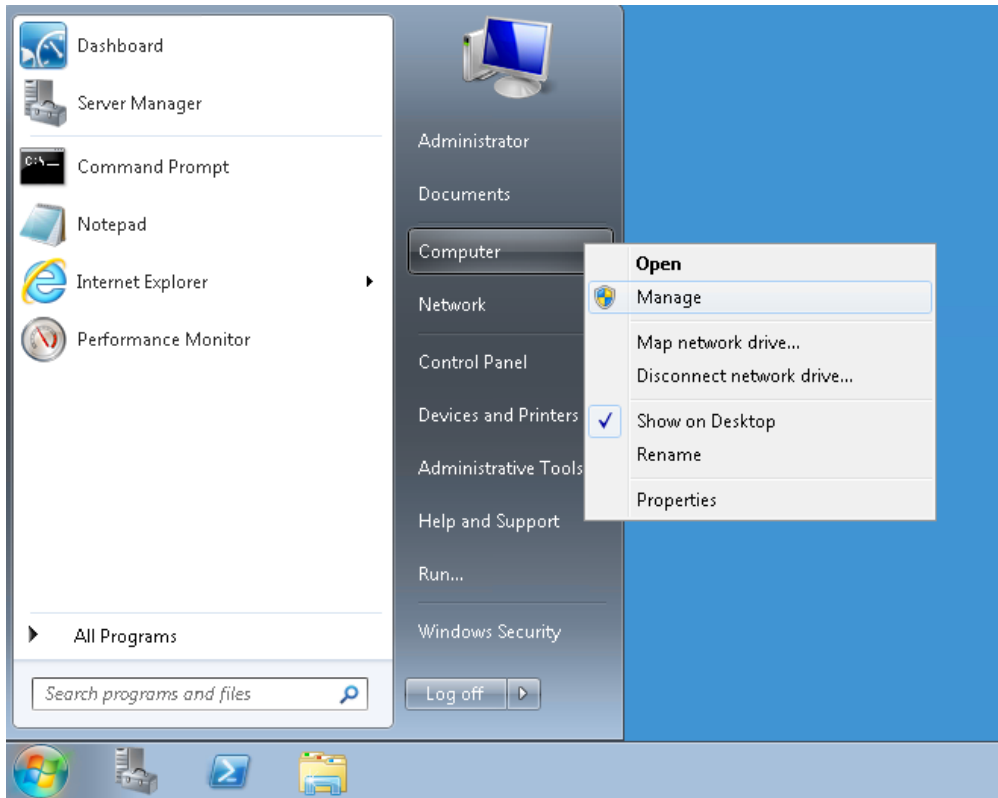
5. The desktop for the server will appear. You may manage the settings or access files.



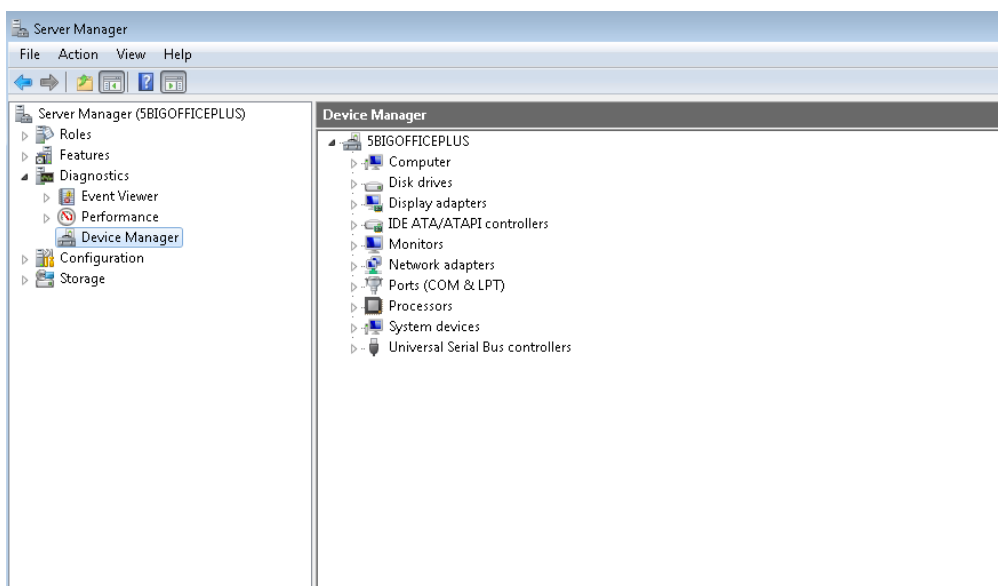
REMOTE DESKTOP AND TEAMING

You can view and manage the Ethernet Team on the server desktop. To begin, follow the directions for accessing the server desktop from a Windows workstation ([Remote Desktop Connection](#)). Once you are on the server desktop:

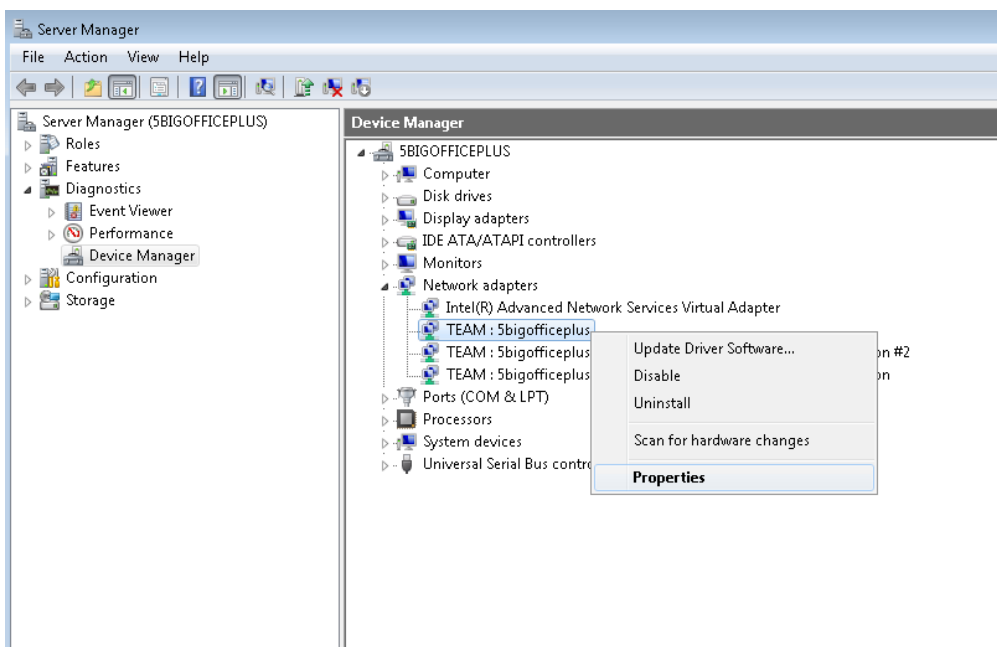
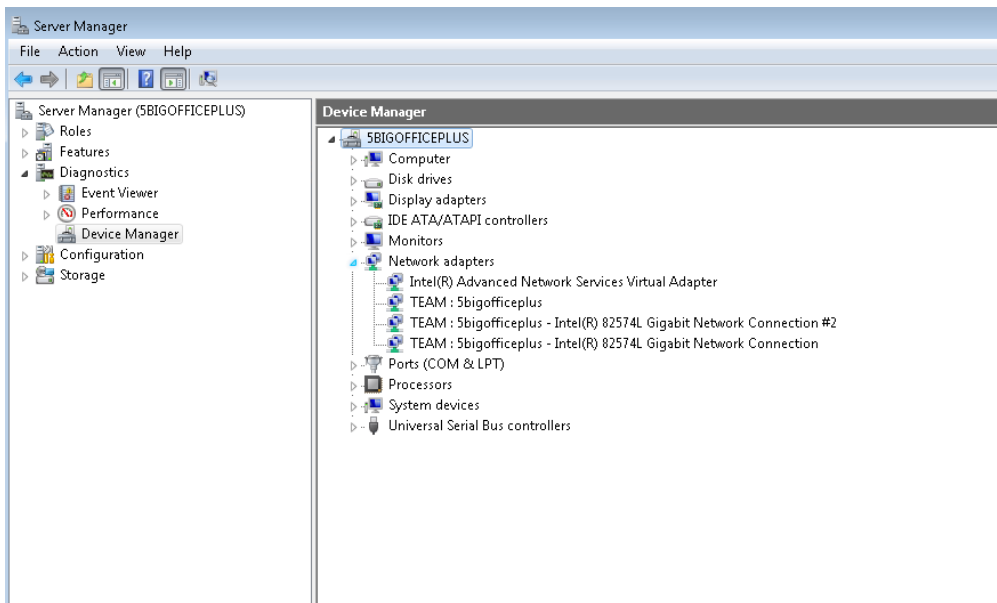
1. Click on the **Start** menu then right-click on **Computer**. Select **Manage**.



2. Click on the arrow to the left of **Diagnostics** then click on **Device Manager**.



3. Click on the arrow to the left of **Network adapters**. To revise the settings, right-click on **TEAM** to select properties.



GETTING HELP

If you are having problems with your LaCie product, consult the table below for a list of available resources.

Order	Source	Description	Location
1	Quick Install Guide	Concise steps to follow for getting your product up and running	Printed and included in the product box, or download PDF from the product page
2	Support Pages	Includes interactive troubleshooting topics for most common problems	www.lacie.com/support/ , select your product, then click the “Troubleshooting” tab
3	Customer Support	Create an account on lacie.com , register your product, and fill out a support ticket	Create an account here: www.lacie.com/us/mystuff/login.htm?logout&rtn=mystuff

Note: LaCie is dedicated to providing high quality products that enrich the lives of our customers. To help LaCie offer the best customer support, we encourage you to create an account and [Register](#) your product. You can give us important feedback as well as receive updated information on your LaCie device.

PRECAUTIONS

Caution: It is essential that you use only the power supply that shipped with your product, since it is a shielded-type power cord that meets FCC emission limits as well as to prevent interference to the nearby radio and television reception.

Caution: Modifications not authorized by the manufacturer may void the user's authority to operate this device.

Important info: Any loss, corruption or destruction of data while using a LaCie drive is the sole responsibility of the user, and under no circumstances will LaCie be held liable for the recovery or restoration of this data. To help prevent the loss of your data, LaCie highly recommends that you keep TWO copies of your data; one copy on your external hard disk, for instance, and a second copy either on your internal hard disk, another external hard disk or some other form of removable storage media. If you would like more information on backup, please refer to our website.

Important info: 1TB (Terabyte) = 1,000GB. 1GB = 1000MB. 1MB = 1,000,000 Bytes. Total accessible capacity varies depending upon operating environment (typically up to 10% less per TB).

HEALTH AND SAFETY PRECAUTIONS

- Only qualified persons are authorized to carry out maintenance on this device.
- Read this User Manual carefully and follow the correct procedure when setting up the device.
- Do not open a disk drive or attempt to disassemble or modify it. Never insert any metallic object into the drive to avoid any risk of electrical shock, fire, short-circuiting or dangerous emissions. The disk drives shipped with your LaCie device contain no user-serviceable parts. If it appears to be malfunctioning, have it inspected by a qualified LaCie Technical Support representative.
- Never expose your device to rain, or use it near water, or in damp or wet conditions. Never place objects containing liquids on the LaCie device, as they may spill into its openings. Doing so increases the risk of electrical shock, short-circuiting, fire or personal injury.
- Make sure that the computer and LaCie device are electrically grounded. If the devices are not grounded, there is an increased risk of electrical shock.

GENERAL USE PRECAUTIONS

- Power requirements 100-240 V~, 50-60 Hz, (supply voltage fluctuations not exceeding $\pm 10\%$ of the nominal and transient over-voltages according to over-voltage category II).
- Do not expose the LaCie device to temperatures outside the range of 5° C to 30° C (41° F to 86° F); or to operational humidity beyond 10-80%, non-condensing, or non-operating humidity beyond 10-90%, non-condensing. Doing so may damage the LaCie device or disfigure its casing. Avoid placing your LaCie device near a source of heat or exposing it to sunlight (even through a window). Inversely, placing your LaCie device in an environment that is too cold may damage the unit.
- Rated cooling for altitudes up to 2000 meters.
- If your drive features a power cable, always unplug it from the electrical outlet if there is a risk of lightning or if it will be unused for an extended period of time. Otherwise, there is an increased risk of electrical shock, short-circuiting or fire.
- Use only the power supply shipped with the device (if applicable).
- Do not use the LaCie device near other electrical appliances such as televisions, radios or speakers. Doing so may cause interference which will adversely affect the operation of the other products.
- Do not place the LaCie device near sources of magnetic interference, such as computer displays, televisions or speakers. Magnetic interference can affect the operation and stability of your LaCie device.
- Never use excessive force on your LaCie device. If you detect a problem, consult the troubleshooting section in this manual.
- Protect your LaCie device from excessive exposure to dust during use or storage. Dust can build up inside the device, increasing the risk of damage or malfunction.
- Never use benzene, paint thinners, detergent or other chemical products to clean the outside of the LaCie device. Such products will disfigure and discolor the casing. Instead, use a soft, dry cloth to wipe the device.

WARRANTY INFORMATION

LaCie offers first-rate service and support through our generous three-tiered warranty policy. Our 1-, 2-, 3-, and 5-year policies include comprehensive, complimentary web-based resources, expert in-house technical support, and worldwide repair and/or replacement coverage. To benefit from this warranty, please contact LaCie Support at www.lacie.com/us/support where you can find online support and contact information. You may also contact representatives at the original point of purchase who will be able to help guide you.

Standard warranties vary depending on the product. To verify your product's warranty status and to see which standard warranty is included with your product, type in your product's serial number at www.lacie.com/us/support. If no warranty is listed under your product's name, this means that the warranty has expired.

WARRANTY UPGRADES

If you wish to extend your warranty coverage, you can purchase Silver, Gold, or Platinum Care or Advanced Exchange. For details, see www.lacie.com/warranties.

LEGAL INFORMATION

A standard LaCie limited warranty is included with all products. Please read the terms and conditions below.

LaCie Limited Warranty Policy

LaCie ("LaCie") warrants, to the original purchaser, that this equipment shall be free of defects in materials and workmanship for a period of one (1), two (2), three (3), or five (5) years, depending on the model, from LaCie's date of original shipment when the equipment is used normally and is properly serviced when needed. If you discover a defect covered by the warranty set forth above, your sole and exclusive remedy will be for LaCie, in its sole discretion to (i) repair or replace the product at no charge to you; or, if a repaired unit or replacement product is not available, (ii) to refund the current market value of your product. You acknowledge and agree that replacement product, at the sole option of LaCie, may be a new product or a remanufactured product. In order to receive the remedy set forth above, you must return the product during the warranty period and include with each returned product (i) a copy of your original purchase invoice to verify your warranty; (ii) a Return Material Authorization number; (iii) your name, address and telephone number; (iv) a copy of the bill of sale bearing the appropriate LaCie serial numbers as proof of date of original retail purchase; and (v) a description of the problem. The customer must pay all transportation costs for a returned product. The product will need to be returned to LaCie within the country of original retail purchase. This warranty applies only to hardware products; LaCie software, media, and manuals are licensed and warranted pursuant to separate written agreement. This warranty does not apply if the product has been misused or has been damaged by accident, abuse, misuse, or misapplication; if it has been modified without permission of LaCie; or if any LaCie serial number has been removed or defaced. If a customer has purchased a LaCie Advance Care Option (ACO) to go with this equipment, the ACO shall be valid for three (3) years from activation.

EXCEPT FOR THE LIMITED WARRANTY SET FORTH ABOVE, ALL PRODUCTS ARE SOLD “AS IS” AND LACIE EXPRESSLY DISCLAIMS ALL WARRANTIES OF ANY KIND, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, NONINFRINGEMENT AND FITNESS FOR A PARTICULAR PURPOSE. WITHOUT FURTHER LIMITING THE GENERALITY OF THE FOREGOING, DOES NOT WARRANT (1) THE PERFORMANCE OR RESULTS OBTAINED FROM USING THIS PRODUCT, (2) THAT THE PRODUCT IS APPROPRIATE FOR THE CUSTOMER'S PURPOSES, (3) THE MANUAL IS ERROR FREE, OR (4) THAT NO DATA WILL BE LOST WHILE USING THE PRODUCT. THE ENTIRE RISK AS TO THE RESULTS AND PERFORMANCE IS ASSUMED BY THE CUSTOMER. THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED.

EXCLUSIONS AND LIMITATIONS

This Limited Warranty applies only to hardware products manufactured by or for LaCie that can be identified by the “LaCie” trademark, trade name, or logo affixed to them. The Limited Warranty does not apply to any non-LaCie hardware products or any software, even if packaged or sold with LaCie hardware. Manufacturers, suppliers, or publishers, other than LaCie, may provide their own warranties to the end user purchaser, but LaCie, in so far as permitted by law, provides their products “as is”. Software distributed by LaCie with or without the LaCie brand name (including, but not limited to system software) is not covered under this Limited Warranty. Refer to the licensing agreement accompanying the software for details of your rights with respect to its use.

LaCie does not warrant that the operation of the product will be uninterrupted or error-free. LaCie is not responsible for damage arising from failure to follow instructions relating to the product's use. This warranty does not apply: (a) to consumable parts, unless damage has occurred due to a defect in materials or workmanship; (b) to cosmetic damage, including but not limited to scratches, dents and broken plastic on ports; © to damage caused by use with non-LaCie products; (d) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (e) to damage caused by operating the product outside the permitted or intended uses described by LaCie; (f) to damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of LaCie or a LaCie Authorized Service Provider; (g) to a product or part that has been modified to alter functionality or capability without the written permission of LaCie; or (h) if any LaCie serial number on the product has been removed or defaced.

No LaCie dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Any loss, corruption or destruction of data while using a LaCie drive is the sole responsibility of the user, and under no circumstances will LaCie be held liable for the recovery or restoration of this data. To help prevent the loss of your data, LaCie highly recommends that you keep TWO copies of your data; one copy on your external hard disk, for instance, and a second copy either on your internal hard disk, another external hard disk or some other form of removable storage media. LaCie offers a complete line of CD and DVD drives. If you would like more information on backup, please refer to our website.

LACIE IS NOT RESPONSIBLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY, OR UNDER ANY LEGAL THEORY, INCLUDING LOST PROFITS, DOWNTIME, GOODWILL, DAMAGE TO OR REPLACEMENT OF EQUIPMENT AND PROPERTY, AND ANY COSTS OF RECOVERING, REPROGRAMMING, OR REPRODUCING ANY PROGRAM OR DATA STORED IN OR USED WITH LACIE PRODUCTS EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.

Your opening of your package, your use of the product, or your return of the enclosed Registration Card acknowledges that you have read and agree to the terms of this Agreement. You further agree that it is the complete and exclusive state of the agreement between us and supersedes any proposal or prior agreement, oral or written, and any other communications between us relating to the subject matter of this Agreement.

Read carefully all information related to warranty and precautions of use of your new LaCie product in the user manual.

For products purchased in the United States, you may contact LaCie at 7555 Tech Center Drive, Tigard, Oregon 97223 USA. Email: sales@lacie.com. Website: www.lacie.com. Customer service: 503-844-4503.

Service DOA

On rare occasions, a newly purchased LaCie product may be delivered in non-working order. We are working to avoid these issues, but unfortunately, these situations may arise from time to time. Within the 15 calendar days of purchase, should you experience an issue with your new LaCie product, we ask you to return the product to the place where it was originally bought. You will be required to give a proof of purchase.

Customer Warning

Please be sure to back up your data before returning your drive to LaCie for repair. LaCie cannot under any circumstances guarantee the integrity of data remaining on a returned drive. We make no provisions for data recovery and cannot be held liable for any data loss on drives or media returned to LaCie.

All products returned to LaCie must be securely packaged in their original box and shipped with postage prepaid, except for Products registered under the Advance Care Option.

NOTE TO AUSTRALIAN CUSTOMERS

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Contact us:

LaCie Australia, 6/151 Beauchamp Rd, Matraville NSW 2036 AUSTRALIA

Phone: 02 8063 3711

Email: info.au@lacie.com

For fast technical support, create a support ticket after registering your product at www.lacie.com/au/register.

LEGAL INFO

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CHANGES

The material in this document is for information only and subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, LaCie assumes no liability resulting from errors or omissions in this document, or from the use of the information contained herein. LaCie reserves the right to make changes or revisions in the product design or the product manual without reservation and without obligation to notify any person of such revisions and changes.

FEDERAL COMMUNICATION COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Important info: FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The availability of some specific channels and/or operational frequency bands are country dependent and are

firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

WEEE



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designed collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service, or the shop where you purchased the product.

TRADEMARKS

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LICENCES AND FREE SOFTWARE

Your LaCie product ships with copyrighted software that are licensed under the GPL, AFL, Apache, Apple, BSD, GNU LGPL, MIT, OpenLDAP, OpenSSL, PHP, Python, and Creative Common. It also includes free software, the source code for which can be downloaded from the LaCie website: www.lacie.com/support/

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This list of licenses can evolve over time and can be found on the user interface under the heading "Credits."

CANADA COMPLIANCE STATEMENT

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

CAN ICES-3 (B)/NMB-3(B)

JAPAN COMPLIANCE STATEMENT

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio/TV receiver, it may cause radio interference. Install the equipment according to the manual. This statement does not apply to the LaCie CloudBox.

MANUFACTURER'S DECLARATION FOR CE CERTIFICATION



We, LaCie, solemnly declare that this product conforms to the following European standards:
Electromagnetic Compatibility Directive (2004/108/EC); Low-Voltage Directive: 2006/95/EC