

LogMeIn Hamachi² User Guide

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LogMeIn Hamachi² Fundamentals

What Is LogMeIn Hamachi²?

LogMeIn Hamachi² is a virtual networking service that can be set up in minutes and enables secure remote access to your business network anywhere there is an Internet connection.

Unlike traditional hardware and software based VPN systems, Hamachi² is an on-demand virtual networking service that allows you to focus your time and energy on providing the remote connections your users and systems need, and not the technology or infrastructure you are using to support them.

Who Should Use LogMeIn Hamachi²?

Here are a few examples of how you can take advantage of Hamachi².

IT Support: Building a Mobile Office LAN

Many mobile workers use their laptops in the office while connected to their company's shared resources (file servers, network printers, mail servers, etc.). But if a user moves away from the local network, he will no longer be able to access these resources. Software that is configured to work *inside* the office becomes useless *outside* the office.

Using Hamachi², mobile workers become members of a Hamachi² network wherein all shared resources are also network members. As a result, network configurations can remain unchanged. Hamachi² sets up exactly the same networking environment for the mobile user no matter where he is.



Tip: Hub-and-spoke and gateway are the best networking modes for this scenario.

IT Support: Setting Up Network Access for Home Workers

Home workers can be more productive when they have secure access to shared IT resources. Using the Hamachi² client, home workers gain a secure tunnel directly into their company's network. They can work from home and still access the resources they need.

Tip: Hub-and-spoke and gateway are the best networking modes for this scenario.

Outsourced IT: Managing Multiple Networks

A service provider with a number of administrators on his team wants to set up and maintain multiple Hamachi² networks for multiple customers. He uses **LogMeIn Central** to create Hamachi² networks, deploy Hamachi² clients, and apply default and custom settings for each customer. He can also manage other administrators in his organization, generate client activity reports, and manage network activity.

Small to Medium Sized Organizations: Virtual LAN

Organizations without a physical LAN can use the mesh network type to set up a virtual corporate LAN.

The LogMeIn Hamachi² Client

The term Hamachi² client refers to both the Hamachi² software itself and any computer with Hamachi² client software installed. With proper permission from network owners, Hamachi² clients can become members of any Hamachi² network.

| 🔁 Log MeIn Hamachi ² – 🗙 |
|-------------------------------------|
| System Network Help |
| 0 5.67.13.199 XP2 |
| |
| Mesh1 |
| ● Mesh2 ▼ |
| ● 5.86.89.146 - XP1 |

Figure 1: The LogMeIn Hamachi² client

About the Relationship Between the Client and Your LogMeIn Account

The Hamachi² client can be used in Client-only (unattached) mode as a stand-alone service with no relation to a LogMeln account, or in web management mode as an attached member of a LogMeln account.

Client-only mode: Unattached

The term Unattached client refers to any Hamachi² client that has not been added to a LogMeIn account and is being used in Client-only mode. Unattached clients cannot be managed on the web using the My Networks page or LogMeIn Central. It can still join existing networks and create mesh networks.

Web management mode: Attached

The term Attached client refers to any Hamachi² client that has been added to a LogMeln account. Any LogMeln account holder can manage attached clients on the web using the My Networks page, while LogMeln Central subscribers can use LogMeln Central.

About the Hamachi Virtual IP Address

Every Hamachi² client has one virtual IP address in the 5.x.x.x range. The virtual IP address is globally unique and is used to access the client from any other Hamachi² network with at least one common mesh or hub-and-spoke network.

The virtual IP address does not conflict with any other IP ranges and therefore has no impact on standard network communications.

LogMeIn Hamachi² Network Types

LogMeIn Hamachi² provides three network types for flexibility in meeting diverse use case scenarios. They differ mainly in network topology.

Hamachi² clients can be members of any network; however, there is a limit of 16 members per network for a non-commercial license, or 256 per network owned by a commercial license holder or LogMeln Central subscriber.

About Mesh Networks

In a mesh network, every member is connected to every other member.

Organizations without a physical LAN can use the mesh network type to set up a virtual corporate LAN.

Mesh is also the typical choice for gamers, because network games constantly have to broadcast their current status to all other participants in the game.



Figure 2: Mesh network



Note: Mesh is the only network type that can be created directly from the Hamachi client interface.

About Hub-and-Spoke Networks

In a hub-and-spoke network, one or more computers act as hubs, while other clients connect as spokes. Spokes connect to hubs, but never to each other.

Hub-and-spoke is typically used when a workstation (spoke) needs to connect only to servers (hubs). For example, in a library, the catalog is a hub while workstations accessing the catalog are spokes. Hub-and-spoke is ideal if you want strict control over connections between network members.



Figure 3: Hub-and-spoke network

Important: If you set every member of a hub-and-spoke network to be a hub, you essentially turn the network into a mesh network. Similarly, if you set only spokes, your members will be unable to make a connection.

About Gateway Networks

Use the gateway network type to provide transparent access to your entire network from a centralized Hamachi² gateway. Members of a gateway network, such as mobile workers, will see one computer acting as a gateway towards an entire LAN, thus making all network resources accessible.



Figure 4: Gateway network



Characteristics

The gateway network type is a hybrid of the meshed and hub-and-spoke network types:

- As in a hub-and-spoke network, one computer acts like a hub (the gateway), while members act like spokes
- There can only be one gateway, which is typically a permanently online server connected to the LAN
- The number of members is virtually unlimited since even network devices that are not running the Hamachi² client can be considered members
- · Each member (Hamachi² client) will see the gateway and the other members of the gateway's LAN
- Hamachi² clients will not see each other in a gateway network

Restrictions

For technical and security reasons there are strict rules for both the gateway and members:

- The gateway cannot be a member of any other network
- Members can join more than one gateway network, but can only be online in one network at a time. Gateway members can also be members of multiple non-gateway networks.
- The gateway cannot be a workstation that is the member of a domain

Role of the Hamachi² Client in a Gateway Network

- Gateway network members and the gateway device itself must be running the Hamachi² client
- Network devices that are physically connected to the LAN do not need to run the Hamachi² client to be made accessible to gateway network members

Addressing

Gateway networks integrate smoothly into the LAN in terms of addressing. 5.x.x.x addresses are not available for a gateway network. Instead, the local address space is used.

Managing LogMeIn Hamachi² Clients and Networks

Hamachi² Web Management Features

Any Hamachi² user with a LogMeIn account can manage attached clients and networks using the LogMeIn web site (My Networks page).

- Create mesh, hub-and-spoke, and gateway networks
- Manage the default settings to be applied to a new client
- Remotely manage client settings
- Manage the default settings to be applied to a new network
- · Edit or delete existing networks
- Install the Hamachi² client to the local computer
- Deploy the Hamachi² client to a remote computer
- Manage requests to join Hamachi² networks

Hamachi² Client Management Features

Hamachi clients provide access to the following features:

- Create mesh networks
- · Manage the default settings to be applied to a new network
- · Edit or delete existing networks
- Install the Hamachi² client to the local computer
- Deploy the Hamachi² client to a remote computer
- Manage requests to join Hamachi² networks

Commercial versus Non-Commercial Use

Hamachi² is free for non-commercial use and allows up to 16 computers per network.

The commercial version offers fast relays, allows up to 256 computers per network, and is subject to an annual subscription fee.

LogMeIn Hamachi² Security

All LogMeIn Hamachi² communications are encrypted and authenticated with industry-standard algorithms and protocols. Nobody will be able to see the data transmitted between two Hamachi² peers. For detailed information, see the *LogMeIn Hamachi² Security Whitepaper*.

LogMeIn Hamachi² and Firewalls

If running a firewall application, you may need to ensure that Hamachi² is able to access the Internet.

Please refer to the *LogMeln Hamachi² Knowledge Base* for up-to-date information for working with various popular security suites.

Installing LogMeIn Hamachi²

System Requirements

Hamachi² client

- Operating System: Windows XP, Windows 2000, Windows 2003, Windows Vista, Windows 2008, Windows 7
- Internet connection
- There are no special hardware requirements

How to Install the Client to a Local Computer

Follow this procedure to download and install the Hamachi² client to a local computer. The client will be attached to your LogMeIn account.



Important: You must be logged in to the LogMeIn account to which you want to attach the new Hamachi² client.

- On the LogMeIn web site, switch to Network mode and click Add Client. The Add Client page is displayed.
- 2. Select Install LogMeIn Hamachi² on this computer and click Continue.
- Click Install LogMeIn Hamachi². The Hamachi² installer is launched.
- 4. Follow the on-screen instructions.

The client is installed on the local computer as an attached member of the active LogMeIn account. You will be able to manage this client using the LogMeIn website.

How to Deploy the Client to a Remote Computer

Follow this procedure to send an installation link that the recipient can use to download and install the Hamachi² client. The client will be attached to your LogMeIn account.



Important: You must be logged in to the LogMeIn account to which you want to attach the new Hamachi² client.

All defaults set under Configuration > Client Defaults will be applied to the new client(s).

- 1. On the LogMeIn web site, switch to Network mode and click the Deployment link.
- Click Add New Link. The Deploy LogMeIn Hamachi² to remote computer(s) (Step 1 of 2) page is displayed.
- 3. Type a **Description** that you can use to recognize your installation link.

- 4. In the Maximum number of remote installations box type the maximum number of computers that will be able to use the link to install the Hamachi² client.
 - For example, you may want to send the link to all users in an entire department.
- 5. In the **Expiration** field you may choose when you want the validity of the link to expire.
- 6. Select the Network(s) that you want the client to be able to access.
- Click Continue. The Add Client - Send LogMeIn Hamachi² Installation Links - Step 2 of 2 page is displayed.
- 8. Send the link to the recipient(s):
 - Click **Copy** to place the link onto your clipboard for you to paste into an email or instant messaging service message to send to the user(s)
 - Click **Send** to open your default email client with the link in the body of the message for you to send to the user(s)
 - Click Test to view the message that will be displayed when the recipient clicks the link

The link is sent to the recipient.

The recipient must click on the installation link to actually install the client on the chosen computer. Once installation is complete, the client can be used to create and connect to Hamachi² networks.

How to Install the Client in Client-Only mode

Follow this procedure to download and install the Hamachi² client without associating it with a LogMeIn account.



Important: Do not log in to your LogMeIn account.

- 1. Go to the LogMeIn Hamachi² product page.
- 2. Click the Get Started link.
- 3. Do not create a LogMeIn account.
- Click the **Download Now** link at the bottom of the page. The Hamachi² installer is launched.
- 5. Follow all on-screen instructions.

How to Update the Hamachi² Client

The Hamachi² client software can be updated from the client itself.

This procedure must be executed on the client.

• On the client, click Help > Check for Updates.



Tip: To update a client remotely, you must re-deploy the client.

Making the Transition to Hamachi²

Making the transition from Hamachi to Hamachi² is a simple process.

This assumes that you were a Hamachi user without a LogMeln account.

- 1. Create a LogMeIn account.
 - a) Go to www.LogMeln.com and click Create an account.
 - b) Select the LogMeIn Access, Management and Networking product group.
 - c) Click **Continue** and follow all on-screen instructions.
- 2. While logged in to your account, install Hamachi² on the computer running "old" Hamachi. See *How to Install the Client to a Local Computer* on page 9.
- 3. When prompted to attach the client to your LogMeIn Account, be sure to select Attach networks and click Attach.

| LogMeIn Account ID (email address): | x |
|-------------------------------------|---|
| Attach networks | |
| Attach networks | |
| | |
| Attach Cancel | |

You will now be able to manage your Hamachi² clients and networks on the web.

Managing LogMeIn Hamachi² Clients

How to Set Default Settings for Deployed Clients

You can enforce the graphic user interface and functionality applied to new clients deployed from LogMeIn Central.

- 1. On the LogMeIn web site, switch to Network mode and select the Configuration link on the left menu.
- 2. Under Configuration, select the Client Defaults tab.
- 3. Select an Interface Mode.

| Option | Description |
|------------|--|
| Full | The client will offer full functionality to end users. |
| Restricted | The client will offer a full graphic user interface, but client settings (including the right to change certain settings locally) can be defined on the web only. |
| Minimal | The client will offer no graphic user interface to the end user. Only the Hamachi ² system tray icon will be visible. Client settings can be defined on the web only. |

4. For Restricted or Minimal mode, select the client settings to apply.

| Option | Description |
|------------------------|---|
| Encryption | Choose this option to provide extra protection against sniffing. For business use, we highly suggest using encryption. Use of this option may cause <i>minimal</i> extra CPU load for both sender and receiver. |
| Compression | Choose this option to speed up large data transfers. Compression is particularly useful on low bandwidth connections. Use of this option may cause <i>minimal</i> extra CPU load for both sender and receiver. |
| Can create new network | Allow the client to be used to create new mesh networks. |
| Can join networks | Allow the client to be used to join networks other than those assigned on the web. |
| Can chat | Allow the client to be used for chat between Hamachi ² peers. |
| Keep chat logs | Allow the client to store chat logs. |
| Maintain log | Allow the client to store a Hamachi ² event log. |

5. Click Save.

Settings will be applied to all new clients attached to this account.

How to Attach an Unattached Client to a LogMeIn Account

An existing Hamachi² client running in Client-only mode can be attached to a LogMeIn account at any time.

This procedure must be executed on the client.

- 1. On the client, under the **System** menu, select **Attach to LogMeln account**. The **Attach to LogMeln Account** dialog box is displayed.
- 2. Enter the LogMeIn Account ID (email address) of the LogMeIn account to which you want to attach the client.
- 3. Select Attach networks to attach your existing networks to the selected LogMeln Account.
- 4. Click **Attach**.

Your relationship with the selected LogMeIn account will show as Pending.

The Account Holder or administrator will see the attachment request on the **Join Requests** page for the specified LogMeIn account. The Account Holder or administrator must approve or deny the request.

Once approved, the client can be managed using the LogMeIn website. All networks that were created on the unattached client are also manageable from your LogMeIn account if they are attached to the account.



Tip: Another option is to send a deployment link to a user with an unattached client. The user will click the link to reinstall the Hamachi client as an attached member of your account.



Important: You cannot attach a network to a web account that was created on an attached client. You must delete the client from the web account first and then reattach it to add all networks that were created on the client.

How to Rename a Client

- 1. On the LogMeIn web site, switch to Network mode and click **All Clients**. The **All Clients** page is displayed.
- 2. On the **All Clients** page, click **Edit** next to the client you want to work with. The **Edit Client** page is displayed.
- 3. Select the Name tab and type a new Client name.
- 4. Click Save.

If the client is online, changes are applied immediately. If offline, changes are applied when the client comes online.

How to Add/Remove a Client to/from a Network

- 1. On the LogMeIn web site, switch to Network mode and click **All Clients**. The **All Clients** page is displayed.
- 2. On the **All Clients** page, click **Edit** next to the client you want to work with. The **Edit Client** page is displayed.
- Select the Networks tab. A list of available networks is displayed.
- 4. Select the networks you want the client to be able to access. Clear the networks that you do not want to client to be able to access.



Remember: A client assigned as the gateway in a gateway network cannot be a member of any other network.

5. Click Save.

If the client is online, changes are applied immediately. If offline, changes are applied when the client comes online.



Tip: You can also add and remove clients by selecting **My Networks > Edit (for a network) > Add/Remove members**.

How to Change the Client Interface

- On the LogMeIn web site, switch to Network mode and click All Clients. The All Clients page is displayed.
- 2. On the **All Clients** page, click **Edit** next to the client you want to work with. The **Edit Client** page is displayed.
- 3. Select the **Settings** tab.
- 4. Select an Interface Mode.

| Option | Description |
|------------|--|
| Full | The client will offer full functionality to end users. |
| Restricted | The client will offer a full graphic user interface, but client settings (including the right to change certain settings locally) can be defined on the web only. |
| Minimal | The client will offer no graphic user interface to the end user. Only the Hamachi ² system tray icon will be visible. Client settings can be defined on the web only. |

5. For Restricted or Minimal mode, select the client settings to apply.

| Option | Description |
|------------------------|---|
| Encryption | Choose this option to provide extra protection against sniffing. For business use, we highly suggest using encryption. Use of this option may cause <i>minimal</i> extra CPU load for both sender and receiver. |
| Compression | Choose this option to speed up large data transfers. Compression is particularly useful on low bandwidth connections. Use of this option may cause <i>minimal</i> extra CPU load for both sender and receiver. |
| Can create new network | Allow the client to be used to create new mesh networks. |
| Can join networks | Allow the client to be used to join networks other than those assigned on the web. |
| Can chat | Allow the client to be used for chat between Hamachi ² peers. |
| Keep chat logs | Allow the client to store chat logs. |
| Maintain log | Allow the client to store a Hamachi ² event log. |

6. Click Save.

If the client is online, changes are applied immediately. If offline, changes are applied when the client comes online.

How to Detach (Delete) a Client from Your Account

You can detach a client from your LogMeIn account and remove it from all networks in your account. The Hamachi² client software will remain installed on the local computer.

- 1. On the LogMeIn web site, switch to Network mode and click **All Clients**. The **All Clients** page is displayed.
- 2. On the **All Clients** page, click **Edit** next to the client you want to work with. The **Edit Client** page is displayed.
- 3. Select the **Delete** tab.
- Click Remove Client. The client is detached from your account.

Using Tags to Help Manage Clients in Your Account

Add tags to Hamachi² clients to help manage a complex account.

A tag is a label associated with a client. Tags help you identify and search for clients, but are not used in reporting or otherwise.



Tip: Once you have tagged your clients, use the Search Clients box to locate them.

Tagging Example

Assume you are a service provider managing multiple Hamachi² clients for a large company. You want to categorize deployed clients according to department, so you add a tag to each client depending on the department to which the end user belongs.

- Tag each client used by a member of Marketing as "Marketing"
- Tag each client used by a member of Sales as "Sales"
- Tag each client being used by a member of Operations as "Ops"

When you need to locate a computer, type a tag name in the **Search Clients** box to find all clients appropriately tagged clients.

How to Create and Manage Tags

- 1. On the LogMeIn web site, switch to Network mode and select the Configuration link on the left menu.
- 2. Select the Tags tab.
- 3. Click Add New Tag. The Add New Tag dialog box is displayed.
- 4. Type a **Tag name** and click **OK** or **Save**. The new tag is saved.



How to Assign Tags to a Client

You can assign multiple tags to a single Hamachi² client.

- 1. On the LogMeIn web site, switch to Network mode and click **All Clients**. The **All Clients** page is displayed.
- 2. On the **All Clients** page, click **Edit** next to the client you want to work with. The **Edit Client** page is displayed.
- 3. Select tags from the list and click **Save**.

Using the LogMeIn Hamachi² Client

The term Hamachi² client refers to both the Hamachi² software itself and any computer with Hamachi² client software installed. With proper permission from network owners, Hamachi² clients can become members of any Hamachi² network.

How to Chat in a Network

This procedure must be executed on the client.

- 1. On the client, right-click on the network member that you want to chat with. You can also right-click on the name of the network to initiate a group chat with all members of the network.
- Click Chat for peer to peer chat or Open chat window for group chat. The Chat window appears. The header of the window displays the name of the member or group with whom you chat.
- 3. Use the lower pane of the window to write messages and press **Enter** to send them. The other parties of the chat session either receive a notification on their system tray, next to the clock, or the Chat window opens automatically depending on the chat settings described in *How to Change the Chat Settings* on page 23.

What else can I do during chat?

During a chat session, right-click on the chat window to access the following options:

| Menu item | Description |
|-----------------------|---|
| Upper pane | |
| Сору | Copies a selected text from the Chat window to the clipboard. |
| Clear chat history | Clears the upper pane of the Chat window. |
| Load chat history | Loads a previous chat session with the selected member of group. To enable chat history, see <i>How to Change the Advanced Interface Settings</i> on page 21. |
| Lower pane | |
| Paste | Inserts text from the clipboard to the lower pane of the Chat window. |
| Paste and send | Inserts text from the clipboard and sends that text to the other parties of the chat session. |
| Clear | Clears the lower pane of the Chat window. |

How to Send an Instant Message

An Instant Message (IM) sends the content of your clipboard to the selected peer, similarly to the **Paste and send** option in the **Chat** window.

Ensure that your clipboard contains text that you want to send to another peer.

This procedure must be executed on the client.

- 1. On the client, right-click on the network member that you want to send an IM.
- 2. Click Send Quick IM.

Sending an IM does not open the chat window, it only sends a notification to the peer.

How to Appear Online or Offline to Other Network Members

This procedure must be executed on the client.

- 1. On the client, right-click on the network in which you want to change your status.
- 2. Click Go offline or Go online depending on your original status.

You go online/offline in the chosen network. Other network connections are not impacted.



Note: An offline client can read chat sessions, but cannot communicate with network members.



Note: To display the status of the client, see *How to Change the Advanced Interface Settings* on page 21.

Securing Your Hamachi² Network Connections

Security in Hamachi² defines how other peers can connect to your client through authorization and authentication settings.

To establish a secure connection with another peer, it is essential to authenticate that peer. Hamachi² provides two means of authentication: password protection and using RSA keys.

How to Password Protect Your Network

Password protection implies that peers must share the network password through a different medium to be able to establish a connection. For information on how to enable password protection on the LogMeIn website, see *How to Change Network Password Settings* on page 31.

How to Protect Your Network with RSA Keys

A peer can authenticate itself towards a network with its RSA key, which can be managed from the client interface. The authentication status of peers is **trusted (auto)** by default. This means that peers can interact with each other since the client automatically authenticates and trusts the connecting peer.

You can manually authenticate peers by blocking new network members from establishing connection to your client.

- 1. Go to the System > Preferences > Security tab.
- Choose the Block new network members by default option. The status of a blocked network member becomes unverified.
- 3. Authenticate the peer, for example by asking him to send you his public RSA key.

Chatting with untrusted peers is possible in Hamachi², but you cannot establish a network connection to them.

4. Right-click on the name of the peer and select **Trust > Trusted**.

How to Establish a Connection to All Unverified Peers

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Important: We do not recommend that you establish a VPN connection to unverified peers.

Even if a peer is unverified, you can manually override the security settings and establish a connection. You can authorize the connection globally or only to a single unverified peer.

- 1. Click System > Preferences.
- 2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings. If this link is not available, you already view the advanced settings.
- 3. Change the Traffic filtering option to block unsecured or allow all.



Important: We do not recommend that you allow connection to all peers.

4. Click **OK** to save your changes.

Once you change the traffic filtering settings, you must restart your client.

How to Establish a Connection to a Single Unverified Peer

- 1. Right-click on the peer whose connection you want to allow.
- 2. Click Details.
- 3. On the **Settings** tab, click the **change** link next to the **Traffic** setting.
- 4. Choose the Block unsecured or the Allow all option.



Important: We do not recommend that you allow connection to all peers.



Important: The traffic filtering setting of a peer overrides the global traffic filtering settings. To change the global traffic filtering settings, see *How to Change the Peer Connection Settings* on page 22.

How to Check the Network Connection of Another Online Client

Check the network connection of a peer if you experience time lag.

This procedure must be executed on the client.

- 1. On the client, right-click on the peer whose network connection you want to check.
- 2. Click Ping.

A command prompt opens.

3. Once you have checked the network connection, press Ctrl+C to quit the command prompt.

How to Manage the Preferences of Clients

By managing the preferences of a client, you can change the appearance of the graphic user interface and enable functionality that you cannot manage from your LogMeIn account.

This procedure must be executed on the client.

- 1. Click System > Preferences.
- 2. Select the tab page that you want to view.
 - The **Status** tab displays basic information on the client, such as name, ID, and version information. You can change the name of the client by clicking **change** next to the name of the client.
 - The **Security** tab displays the peers that have established a connection to the client at any point in time. To change the status of the peers, right-click on the name of the peer and select the appropriate status from the **Trust** menu. You can also block new members from joining a network that was created on the client. This tab page is only available for clients running in full mode. For more information, see *Securing Your Hamachi*² *Network Connections* on page 18.
 - The Settings tab manages the appearance and functionality of the client.
- 3. Click **OK** to save your changes.

How to Change the Basic Settings

Note: By default you have the basic settings shown on the Settings tab with an "Advanced Settings" link at the bottom. The "Basic Settings" is visible only if one has already switched to advanced

This procedure must be executed on the client.

1. Click **System > Preferences**.

2. On the **Settings** tab, click the **Basic settings** link at the bottom of the page if available to view the basic settings. If this link is not available, you already view the basic settings. Select the following options.

| Option | Description |
|-------------------------------|--|
| Show splash screen on startup | Choose this option to display the Hamachi logo when Hamachi ² is started. |
| Close to systray | Choose this option if you do not want to exit the client by closing it. The Hamachi ² icon will appear on the system tray next to the clock. |
| Encryption | Choose this option to provide extra protection against sniffing. For business use, we highly suggest using encryption. Use of this option may cause <i>minimal</i> extra CPU load for both sender and receiver. This option is only available for clients running in full mode. |
| Compression | Choose this option to speed up large data transfers. Compression is particularly useful on low bandwidth connections. This option is only available for clients running in full mode. |
| Enable chat | Choose this option to enable peer and group chat. |
| Enable automatic updates | Choose this option to automatically download the latest version of the Hamachi ² client. This option is only available for clients running in full mode. |

How to Change the Advanced Interface Settings

This procedure must be executed on the client.

- 1. Click **System** > **Preferences**.
- 2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Interface Settings** section.

| Option | Description |
|------------------------------------|--|
| Show splash window when started | Choose this option to display the Hamachi logo when Hamachi ² is started. |
| Show main window in the taskbar | Choose this option to display the main Hamachi window on the taskbar. |
| Show peer windows in the taskbar | Choose this option to display the Peer Properties window on the taskbar once you right-click on a peer and click Details . |
| Show chat windows in the taskbar | Choose this option to display the chat windows on the taskbar. |
| Close to Systray | Choose this option if you do not want to exit the client by closing it. The Hamachi ² icon will appear on the system tray next to the clock. |
| Confirm closing Hamachi window | Choose this option to ask for confirmation when you close the application. This option is only available for clients running in full mode. |
| Confirm evicting a network member | Choose this option to ask for confirmation if you evict a peer from an unattached network. This option is only available for clients running in full mode. |
| Hide offline network members | Choose this option to hide network members if they go offline. |
| Peer label format | Select the format of peers' names as they appear on the client. If you select custom , you must define it in the Custom format field. This option is only available for clients running in full mode. |
| Peer double-click action | Select the action that is performed if you double-click on a peer's name. This option is only available for clients running in full mode. |
| Show Quick IM in peer's menu | Choose this option to display the Send Quick IM option if you right-click on a peer. |
| Show custom command in peer's menu | Choose this option to add a custom command to a peer's menu. The command is displayed as defined in the Label field and issues the command that the Command field contains. For example, you can define remote desktop as a custom command by entering $mstsc /v:$ \$VIP in the Command field and name it in the Label field as Remote Desktop. Once you right-click in a peer, you can choose the Remote Desktop option to establish a remote session with the selected peer. This option is only available for clients running in full mode. |

3. Click **OK** to save your changes.

How to Change the Server Connection Settings

Server connections allows you to set up the Hamachi² server that your client connects to. Server connection parameters can only be modified for clients running in full mode.

This procedure must be executed on the client.

1. Click System > Preferences.

2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Server Connection** section.

| Ontion | Description |
|-------------------------------|---|
| option | Description |
| Server address | Specify the IP address of the server that you want to access. |
| Local address | Specify an IP address and a port for accessing the Hamachi ² server. Choose this option if your firewall restricts outgoing traffic to a selected number of ports. |
| Use proxy | Choose this option to use a proxy server for establishing a network connection. If you set this option to Yes , you must define the IP address, username, and password for the proxy server. To remember the password for the proxy server, choose the Remember password option. |
| Automatically detect settings | Choose this option to detect the proxy settings automatically. |

3. Click **OK** to save your changes.

How to Change the Peer Connection Settings

Use the Peer connections settings to set up how network members connect to your client. These connection parameters can only be modified for clients running in full mode.

- 1. Click System > Preferences.
- 2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Peer Connections** section.

| Option | Description |
|-------------------|--|
| Authentication | Select the authentication method of peers. |
| Encryption | Choose this option to provide extra protection against sniffing. For business use, we highly suggest using encryption. Use of this option may cause <i>minimal</i> extra CPU load for both sender and receiver. This option is only available for clients running in full mode. |
| Compression | Choose this option to speed up large data transfers. Compression is particularly useful on low bandwidth connections. This option is only available for clients running in full mode. |
| Traffic filtering | Choose this option to block incoming traffic from peers. You can block untrusted, not secured, all, and no traffic. |
| Local UDP address | Define an optional UDP address that you want to use for connection to other peers. |

| Option | Description |
|-------------------|--|
| Local TCP address | Define an optional TCP address that you want to use for connection to other peers. |

How to Change Your Online Presence

Online presence displays whether the online user is available in the network.

This procedure must be executed on the client.

- 1. Click System > Preferences.
- 2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Online Presence** section.

| Option | Description |
|-----------------------------------|--|
| Enable | Choose this option to display and be able to modify the online presence of your client. You can change your presence in the Status menu on the Hamachi client. |
| Show peer status in the main list | Choose this option to display the online presence of other network members. |
| Switch to Away mode | Choose this option if you want to change your status automatically to Away after a defined period of time. You can set this time in the after being idle for field. |

3. Click **OK** to save your changes.

You can define a custom online presence in the Status > Custom menu.

How to Change the Chat Settings

- 1. Click System > Preferences.
- 2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Chat Settings** section.

| Option | Description |
|----------------------------------|--|
| Enable chat | Choose this option to enable peer and group chat. |
| When new message arrives | Select whether Hamachi should open the chat window or display a system message on the system tray when you receive a new message. |
| Play a sound when new IM arrives | Choose this option to play a sound when you receive an instant message. |
| Send 'Typing' notifications | Choose this option to display a notification in the Chat window when the other party is writing a message. |
| Keep chat messages | Choose this option to keep the history of chat messages. Loading the chat history in the Chat window will fail unless this option is enabled. |

How to Change Colors in the Chat Window

This procedure must be executed on the client.

- 1. Click System > Preferences.
- 2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Chat Colors** section.

| Option | Description |
|--------------------|--|
| Panes and messages | Define a color for each pane and message type. |

3. Click **OK** to save your changes.

How to Update the Client Automatically

This procedure must be executed on the client.

- 1. Click **System** > **Preferences**.
- 2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Software updates** section.

| Option | Description |
|-------------------------|---|
| Enable automatic update | Choose this option to automatically download the latest version of the Hamachi² client. |

3. Click **OK** to save your changes.

How to Find Configuration and Installation Directories

You can view and edit the Hamachi² client settings in the Hamachi² configuration files as well. Only those clients can view these directories that are running in full mode.

- 1. Click System > Preferences.
- 2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Disk Locations** section.

| Option | Description |
|-----------------------|--|
| Installation folder | Displays the path of your Hamachi installation. |
| Service configuration | Defines the path of the Hamachi network configuration file, h2-engine.cfg. |
| UI configuration | Defines the path of the user interface configuration file, h2-ui.cfg. |
| Chat messages | Defines the path of your saved chat messages. Messages are only saved in this folder if the Keep chat messages option is enabled in the Chat Settings section. |

How to Collect Information for Troubleshooting

Logs help LogMeIn support technicians to find a solution for problems with Hamachi² clients.

This procedure must be executed on the client.

1. Click System > Preferences.

2. On the **Settings** tab, click the **Advanced settings** link at the bottom of the page to view the advanced settings and select from the following options. You can find these options in the **Troubleshooting** section.

| Option | Description |
|-----------------------|--|
| Enable diagnostic log | Choose this option to log the activity of the Hamachi client. You can only turn off logging on clients running in full mode. |
| Log file | Define the path of the log file. |

3. Click **OK** to save your changes.

Managing Unattached Networks from the Client

Most features of unattached networks are identical to that of attached networks. However, there are a number of features of Hamachi² that are only available for networks that were created by unattached clients:

- Set Access
- Delete a Network
- Evict a member from a network

How to Set Access for an Unattached Network

Setting access rights is only possible from the client from which the network was created. This means that the client is the owner of the network.

This procedure must be executed on the client.

- 1. On the client, right-click on the network of which access you want to set.
- 2. Click Set Access.

The Network Access window appears.

3. Set the necessary access rights as follows:

| Option | Description |
|--|--|
| Do not accept new network members | Select this option if you do not want to extend your network with new members. |
| Require a password to join the network | Joining members must enter the correct password to be able to request permission to join the network. By default, this option is enabled. To set a password, click Set Password and follow the on-screen instructions. |
| Approve all new members manually | The user must approve the membership of all new members. |

4. Click **OK** when you are done.

How to Delete an Unattached Network

This procedure must be executed on the client.

- 1. On the client, right-click on the network that you want to delete.
- 2. Click Delete network.
- 3. Confirm that you want to delete the selected network.



Note: Members are not notified about the removal of the network, but the network disappears from their clients.

How to Evict a Member of an Unattached Network

- 1. On the client, right-click on the network member that you want to remove from the network.
- 2. Click Evict.
- 3. Confirm that you want to remove the selected network member.

Managing LogMeIn Hamachi² Networks

How to Set Network Defaults

Network defaults are automatically applied to all new networks in your account. Default settings are not applied to networks that join your account.

- 1. On the LogMeIn web site, switch to Network mode and select the Configuration link on the left menu.
- 2. Under Configuration, select the Network Defaults tab.
- 3. Select a Network type.
- 4. Select the default response to join requests.

| Option | Description |
|--------------------------------------|---|
| Accept automatically | All requests to join the network will be accepted automatically. We recommend that you require a network password when using this option. |
| Must be approved | All requests to join the network must be approved on the web. |
| Members can be added on the web only | Clients will not be able to join the network from the client. Clients can be added to the network on the web only. |

- Under Network Member Permissions, select Can leave network at will to allow members to leave the network at any time. By disabling this option, you can prevent clients from leaving a network accidentally or upon connection failure.
- 6. Click Save.

How to Add a Hamachi² Network

- 1. On the LogMeIn web site, switch to Network mode and click **My Networks**. The **My Networks** page is displayed.
- 2. On the **My Networks** page, click **Add Network**. The **Add Network (Step 1)** page is displayed.
- Name the network in the Network name field.
 Use the network name to help identify the network.
- Select a Network type.
 See LogMeIn Hamachi² Network Types on page 6.



Important: Once a network is created, its network type cannot be changed.

- 5. Enter a Network description (optional).
- 6. Click **Continue**.

The Add Network (Step 2) page is displayed.

7. Select the default response to join requests.

| Option | Description |
|--------------------------------------|---|
| Accept automatically | All requests to join the network will be accepted automatically. We recommend that you require a network password when using this option. |
| Must be approved | All requests to join the network must be approved on the web. |
| Members can be added on the web only | Clients will not be able to join the network from the client. Clients can be added to the network on the web only. |

8. Under Network password, select A password is required to join this network to protect your network.



Tip: If you do not set a password, we recommend setting the Join Request behavior to **Must be approved** or **Members can be added on the web only**.

9. Click **Continue**.

The Add Network (Step 3) page is displayed.

- 10. Follow the on-screen instructions.
- 11. Click Finish.

Your network is created with a system-generated Network ID.

Note: When you assign a gateway, you will lose your network connection for a few seconds while the Hamachi² virtual network adapter bridges to the physical network adapter.

How to Configure a Hamachi² Gateway to Recognize Multiple Subnets

Provide access to a network with multiple subnets via a Hamachi² gateway.

By default, the client set as the gateway in a Hamachi² gateway network will provide access to its own subnet (the one on which it is installed).

Follow this procedure to set an existing gateway to recognize additional subnets that are accessible from the gateway's subnet:

- 1. Open the client that is set as the gateway.
- Right-click the gateway network and select Gateway settings from the menu. The Gateway Settings dialog box is displayed.
- 3. Select the Remote Networks tab.
- 4. Click **Add** to add new remote networks. The Network Subnet dialog box is displayed.
- 5. Enter the **Network address** and **Subnet mask** in dotted decimal format.
- 6. Click **OK** to save your settings.

Members of the gateway network will be able to access resources on all recognized subnets.

How to Assign an IP Range for Gateway Members

Gateway members are assigned an IP address by the DHCP server in your gateway's LAN. If no DHCP server is present, the gateway must be configured to behave as a quasi-DHCP server and assign addresses from a defined range.

- 1. Open the client that is set as the gateway.
- 2. Right-click the gateway network and select **Gateway settings** from the menu. The Gateway Settings dialog box is displayed.
- 3. Select the IP Parameters tab.
- 4. Clear the Obtain IP settings automatically box.
- 5. Under Address range, enter the appropriate addresses.



Important: You must complete each field under Address range.

- 6. If you have a DNS server(s) in the network, you may enter their IP addresses and define a DNS suffix.
- 7. Click **OK** to save your settings.

How to Configure Home LAN Behavior for Gateway Network Members

Control how gateway network members should behave when they are physically located in the same network as the gateway (the "Home LAN").

- On the LogMeIn web site, switch to Network mode and click My Networks. The My Networks page is displayed.
- 2. On the **My Networks** page, click **Edit** next to the network you want to work with. The **Edit Network** page is displayed.
- 3. Select the **Settings** tab.
- 4. Under Home LAN Behavior, select one of the following options:

| Option | Description |
|--|---|
| Disable members going online in the host network | Authentication errors may occur if a client logs in to a gateway network from a Hamachi network and a physical network IP address. Choose this option to prevent members from going online to the gateway when they are physically located in the same network as the gateway. All network resources remain available through the physical network. |
| | Tip: Ensure that ICMP traffic on the gateway is not blocked by a firewall. |
| Disable network stack components | Choose this option to allow members to go online to the gateway when they are physically located in the same network as the gateway. When this option is selected, the stack components of the Hamachi network adapter are turned off. This resolves potential conflicts by preventing the operating system from attempting to authenticate through the Hamachi adapter toward the domain controller. Members go online in the gateway network. All local network resources remain available through both the physical and the Hamachi network. This option is useful if a user has limited access to the physical network resources but can have unlimited access to the same resources through the Hamachi network. |
| Do not restrict members | Choose this option to allow members to attempt to go online when they are physically located in the same network as the gateway. If you experience authentication problems, choose one of the above options. |

5. Click Save.

How to Add a Hamachi² Network from the Client

This procedure must be executed on the client.

- 1. Click Network > Create a new network.
- 2. Type the network ID and password of the network.
- 3. Click Create.

How to Rename a Network

Use the network name to help identify the network.



Important: When joining a network from a client, use the system-generated network ID. The network ID cannot be changed.

- 1. On the LogMeIn web site, switch to Network mode and click **My Networks**. The My Networks page is displayed.
- 2. On the **My Networks** page, click **Edit** next to the network you want to work with. The **Edit Network** page is displayed.
- 3. On the Members tab, type a new name in the Name field.
- Click Save.
 If the client is online, changes are applied immediately. If offline, changes are applied when the client comes online.



Important: You cannot rename an unattached network that was created from the client.

How to Approve or Reject Join Requests

If you receive a request from another client to join your network, you can approve or reject that request.

1. On the web interface, you will see the following message when you have requests from clients waiting to join your account or networks:

You have x pending join requests.

- 2. Click the **pending join request** link. The Join Requests page is displayed.
- 3. Choose Accept or Reject, as appropriate.
- 4. Click Save.

How to Edit Network Settings

- 1. On the LogMeIn web site, switch to Network mode and click **My Networks**. The My Networks page is displayed.
- 2. On the **My Networks** page, click **Edit** next to the network you want to work with. The **Edit Network** page is displayed.
- 3. Select the **Settings** tab.
- 4. Type a Welcome message (optional).

This message will be displayed to any client joining the network for the first time.

5. Type an Announcement message (optional).

This message will be displayed when an existing member logs in to the network. Members also receive the announcement whenever it is updated.

6. Select the default response to join requests.

| Option | Description |
|--------------------------------------|---|
| Accept automatically | All requests to join the network will be accepted automatically. We recommend that you require a network password when using this option. |
| Must be approved | All requests to join the network must be approved on the web. |
| Members can be added on the web only | Clients will not be able to join the network from the client. Clients can be added to the network on the web only. |

- 7. Under **Network Member Permissions**, select **Can leave network at will** to allow members to leave the network at any time. By disabling this option, you can prevent clients from leaving a network accidentally or upon connection failure.
- 8. Click Save.

How to Change Network Password Settings

- On the LogMeIn web site, switch to Network mode and click My Networks. The My Networks page is displayed.
- 2. On the **My Networks** page, click **Edit** next to the network you want to work with. The **Edit Network** page is displayed.
- 3. Select the **Password** tab.
- 4. Activate or de-activate the password requirement.



Tip: If you do not set a password, we recommend setting the Join Request behavior to **Must be approved** or **Members can be added on the web only**.

- 5. To change the password, type a new password and re-enter to confirm.
- 6. Click Save.

How to Delete a Network

- 1. On the LogMeIn web site, switch to Network mode and click **My Networks**. The My Networks page is displayed.
- 2. On the **My Networks** page, click **Edit** next to the network you want to work with. The **Edit Network** page is displayed.
- 3. Select the **Delete** tab.
- Click the **Delete** button.
 The network is permanently deleted. All client installations and client-to-account relationships are left intact.

How to Leave a Network

This procedure must be executed on the client.

- 1. On the client, right-click on the network that you want to leave.
- 2. Click Leave network.

Important: You cannot transfer the ownership of a network; therefore, you cannot leave a network that you created. You can only delete such networks as described in *How to Delete a Network* on page 32.

LogMeIn Hamachi² Troubleshooting

Advanced users can follow the guidelines in this section to help resolve common Hamachi² issues. If these guidelines do not solve your issue, contact LogMeIn.



Tip: See the *Knowledge Base* for further troubleshooting assistance.

Troubleshooting Failed Hamachi² Client Setup

Symptoms

You see the following error when you start the Hamaci² client:

Setup has failed

Cause

There are two main causes of receiving this error message:

- There is a corrupt profile from Hamachi¹.
- Third party software is managing some aspect of the network stack. The two most notable are nVidia (via their NIC Drivers) and Norton.

Action/Workaround

- Completely remove any and all files and folders regarding Hamachi, and clean the registry of Hamachi entries. Subsequently, reboot the computer and reinstall the Hamachi² client.
- Configure either third-party software accordingly.

Troubleshooting Hamachi² Rejected Login Request

Symptoms

You see the following error:

Hamachi server Rejected your Login Request

Cause

The IP address of your Hamachi² client was recycled.

Action/Workaround

Uninstall and reinstall the Hamachi² client.

Troubleshooting a Hamachi² Client Failing to Go Online

Symptoms

When attempting to ping a client you see the following error: General failure.

Cause

This indicates a failure at the Hamachi² adapter level.

Action/Workaround

First, ensure that you can ping your actual IP Address. If you can, then the problem lies in the virtual adapter. Restart the Hamachi² client. If this fails, uninstall and reinstall the client.

Troubleshooting Pinging Hamachi² Hosts

Symptoms

You see the following error:

Destination Host Unreachable.

Cause

The host you are trying to ping is not present in the network.

Action/Workaround

Generally this indicates that the Hamachi² client is turned off, or is otherwise unable to establish a connection to the other peers in the network.

Troubleshooting a Hamachi² Client in Probing Status

Symptoms

The client cannot go online and remains in probing status.

Cause

If a Hamachi² client cannot go online, there is generally a problem with the firewall configuration, which is set to too restrictive.

Action/Workaround

Ensure that the Hamachi-2.exe file is allowed through all firewalls.

Troubleshooting Hamachi² Client Request Time Out

Symptoms

You see the following error: Request timed out

Cause

This is the error you receive when Hamachi² is blocked by a firewall.

Action/Workaround

Ensure that Internet Control Message Protocol (ICMP) requests are allowed, preferably only for the Hamachi Adapter, within the firewall you use.

Troubleshooting Communication between Hamachi² Clients

Symptoms

You see a yellow triangle with an exclamation mark (a warning icon) next to the name of the peer you want to communicate with and no traffic is going through between the peers.

Cause

You generally see a warning next to a peer if the security settings block traffic between peers.

Action/Workaround

Click on the warning icon and then click on the description of the problem. This opens the **Peer Properties** window. The errors are marked in red.

• If there is a connection error, on the Settings tab, click the change link next to Traffic. Then change the setting to Block unsecured or Allow all.



Important: We do not recommend that you select Allow all.

• If there is an authentication error, the peer is untrusted by your client. Click on the **details** link next to the error and then click on the description of the error. Then click **Trust** to authenticate the peer.

LogMeIn Hamachi² Glossary

Attached client

The term Attached client refers to any Hamachi² client that has been added to a LogMeIn account. Any LogMeIn account holder can manage attached clients on the web using the My Networks page, while LogMeIn Central subscribers can use LogMeIn Central.

Gateway network

Use the gateway network type to provide transparent access to your entire network from a centralized Hamachi² gateway. Members of a gateway network, such as mobile workers, will see one computer acting as a gateway towards an entire LAN, thus making all network resources accessible.

Hamachi² client

The term Hamachi² client refers to both the Hamachi² software itself and any computer with Hamachi² client software installed. With proper permission from network owners, Hamachi² clients can become members of any Hamachi² network.

Hamachi² network

For Hamachi², a network is not a physical network, but rather a group of users who want to use common resources or applications (two or more Hamachi² clients interconnected by tunnels make up a Hamachi² network). Hamachi² offers three network types: meshed, hub-and-spoke, and gateway.

Hub-and-spoke network

In a hub-and-spoke network, one or more computers act as hubs, while other clients connect as spokes. Spokes connect to hubs, but never to each other.

LogMeIn Central

LogMeIn Central is LogMeIn's Essential Remote Services solution for IT professionals and small and medium businesses. Certain premium Hamachi² features are only available to LogMeIn Central subscribers.

Mesh network

In a mesh network, every member is connected to every other member.

NAT

Network Address Translation

Peer

A computer that is a member of a computer network.

Peer Label

The Peer Label is used to define your online presence to other Hamachi² users. This is what other users see as your identification when you are in a Hamachi² network.

Unattached client

The term Unattached client refers to any Hamachi² client that has not been added to a LogMeIn account and is being used in Client-only mode. Unattached clients cannot be managed on the web using the My Networks page or LogMeIn Central. It can still join existing networks and create mesh networks.

Unattached network

The term Unattached network refers to any Hamachi² network that was created on an unattached client. Unattached networks can only be mesh networks and they cannot be managed on the web using the My Networks page or LogMeIn Central.

VPN

Virtual Private Network

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