

PARSEC FOR TEAMS

Welcome to Parsec for Teams

Guide for End Users

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Welcome to Parsec for Teams. We're glad to have you...

In this guide, you will be able to familiarize yourself with the use, installation, and configuration of Parsec for your organization.

The guide is divided into three sections for differing roles: end users, IT & network administrators, and Parsec for Teams administrators. In large organizations these may be three or more separate functional groups, while in smaller organizations all three sections may be relevant to the same audience.

The “End Users” section focuses on usage instructions for the Parsec desktop application and provides recommended settings for various use-cases. It covers everything you need to know to operate Parsec effectively.

The “IT & Network Administrators” section focuses on the process of installing and configuring Parsec, as well as the networking and security requirements/suggestions to deploy Parsec across your organization in an automated and secure fashion.

The “Parsec for Teams Administrators” section covers all facets of the Parsec for Teams web administration panel, where you will manage team members and machine assignments, and control settings across your organization.

Support articles and deeper documentation are woven in throughout to both prevent this guide from growing unreasonably large and ensure you're always getting the latest information.

We look forward to enabling your organization to powerfully work from anywhere!

-The Parsec Team

Sales:

sales@parsec.app

Teams Support:

support@parsec.app

Parsec for Teams: Guide for End Users

In this section, we'll be detailing actually connecting & working through Parsec. You know, the fun part.

Getting Started

In order to use Parsec, you'll need to both create an account and download the desktop application. Generally, we recommend creating an account first.

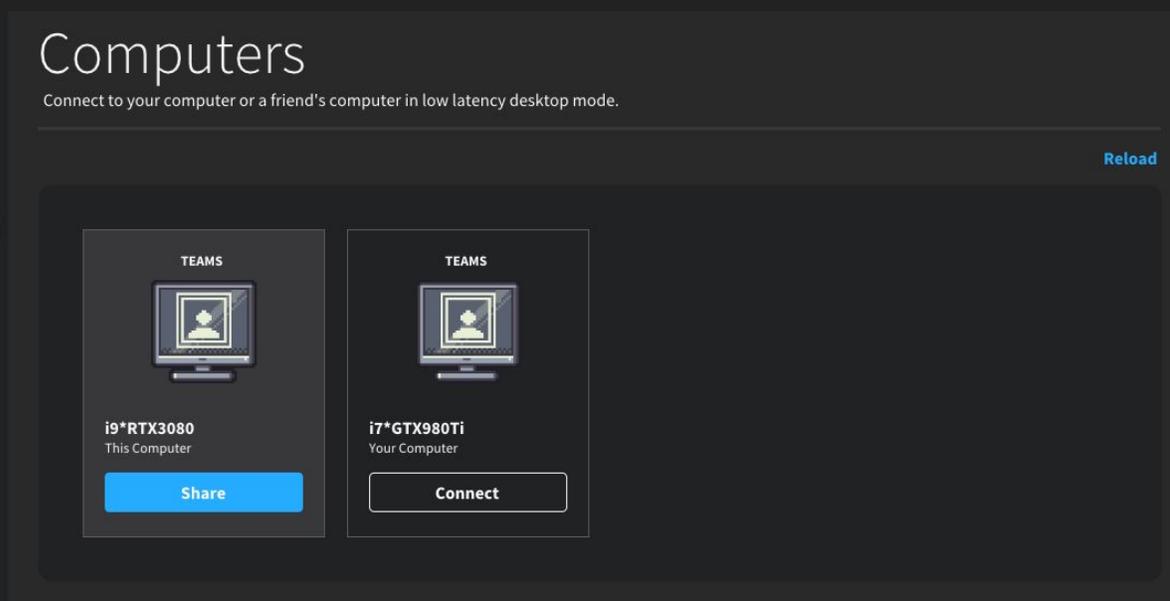
[Create Your Account](#)

[Download the App\(s\)](#)

Note: *If your organization uses an existing Single Sign On (SSO) system (like Okta) with Parsec, you can skip the account creation step, as your Team Admin will handle account creation. If you're unsure whether this is the case, please contact your Parsec for Teams administrator. An existing account can always be integrated with SSO later.*

Navigating Parsec

Once you've installed Parsec and signed in, you'll be greeted by the "Computers" screen.



Computers will always show any machines you're able to connect to, including the computer you are currently using (if it's capable of hosting).

About Hosting

There are two types of machines within Parsec: *hosts* and *clients*.

Hosts: Machines that you connect *to*.

Clients: Machines you connect *from*.

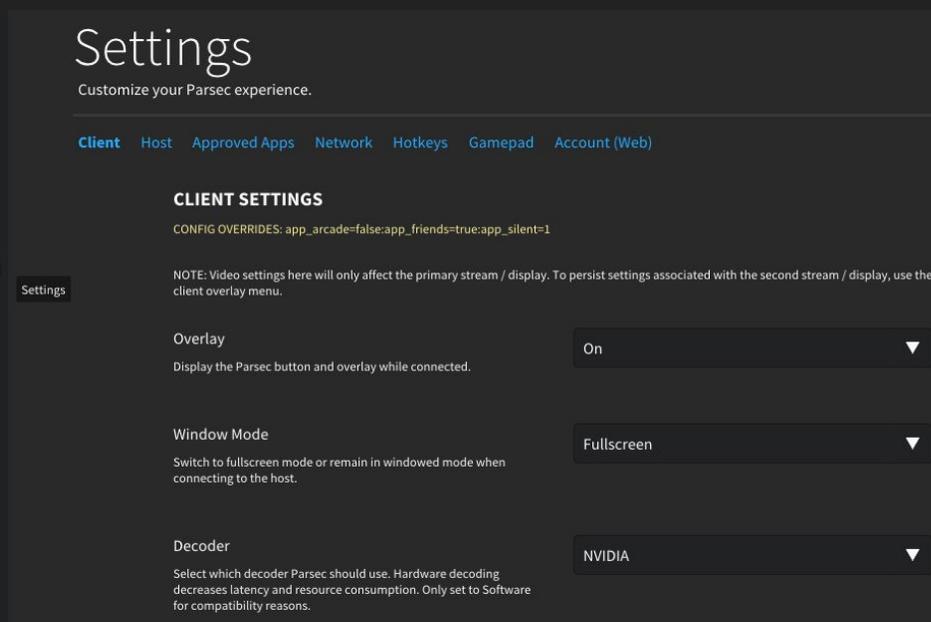
Here are the supported operating systems for both hosts and clients, at the time of this writing:

| | Connect From (Client): | Connect To (Host): |
|----------------------|------------------------|--------------------|
| Windows 7 | X | |
| Windows 8.1+ | X | X |
| MacOS 10.11+ | X | |
| Ubuntu 18.04 | X | |
| Android (Play Store) | X | |
| Raspberry Pi 3 | X | |
| Web (Chrome) | X | |

[More information regarding supported operating systems is available here.](#)

Settings

There are a few settings that you may want to tweak to optimize your experience prior to connecting to a host for the first time. Click the cogwheel icon below the computer icon to head to view your “Settings”:



From here you can configure client, host, and several other configuration options through the different tabs. For now we'll stay in the "Client" tab and examine a few helpful settings:

Key Client Settings

Overlay: Controls whether the Parsec Overlay button is visible by default upon connecting, which lets you modify settings on the fly. We recommend that you leave this enabled until you're comfortable with Parsec's hotkeys or are experienced enough that you no longer need the Overlay.

Recommended Setting: On

Window Mode: Dictates whether or not Parsec will open in fullscreen or windowed mode once connected to a host. We recommend leaving this on fullscreen for a more immersive experience. This can be toggled in real-time via the Overlay.

Recommended Setting: Fullscreen

Decoder: Controls what system is used to read video. This should almost always be set to the default hardware decoding (i.e, NVIDIA) unless you run into rare compatibility issues. If "software" is the only option, please update your video card drivers and restart your computer.

Recommended Setting: Default Hardware

H.265 (HEVC): Dictates whether the client will attempt to stream using the more modern and performative H.265 codec by default. H.265 will generally provide better quality than H.264 if everything else is equal. For newer machines (~2 years old), we recommend turning this setting on. This can be toggled in real-time via the Overlay, and will automatically revert to H.264 if your client does not support H.265. If you experience lag or stuttering with H.265, please revert to H.264. [You can read more about this here.](#)

Recommended Setting: On

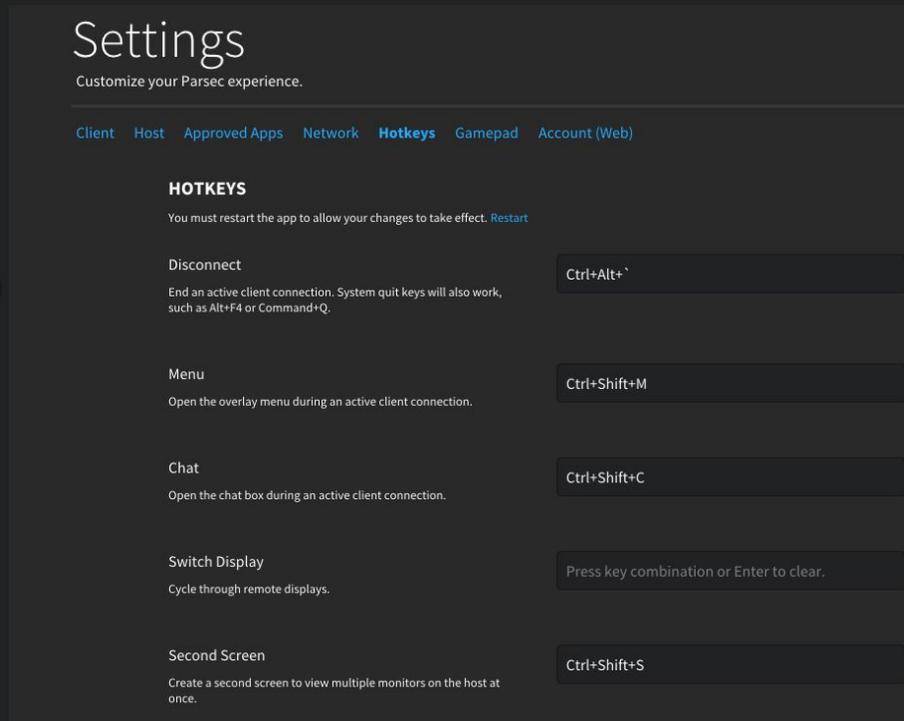
Immersive Mode: Lets you lock the keyboard, mouse, or both to the host window, emulating the (...immersive) experience of sitting directly at the host machine. That means the host can capture hotkeys (like Alt+Tab), but not the client. We generally recommend setting this to "Keyboard" so that all hotkeys are passed to the host but the mouse can still be used to interact with the client machine. [Learn more here.](#)

Recommended Setting: Keyboard

Final Note: If we skip a setting, that means we recommend to leave it on the default unless you've been instructed to do otherwise. [You can read about all of Parsec's settings here.](#)

Hotkeys

Hotkeys let you navigate and change Parsec through quick shortcuts.

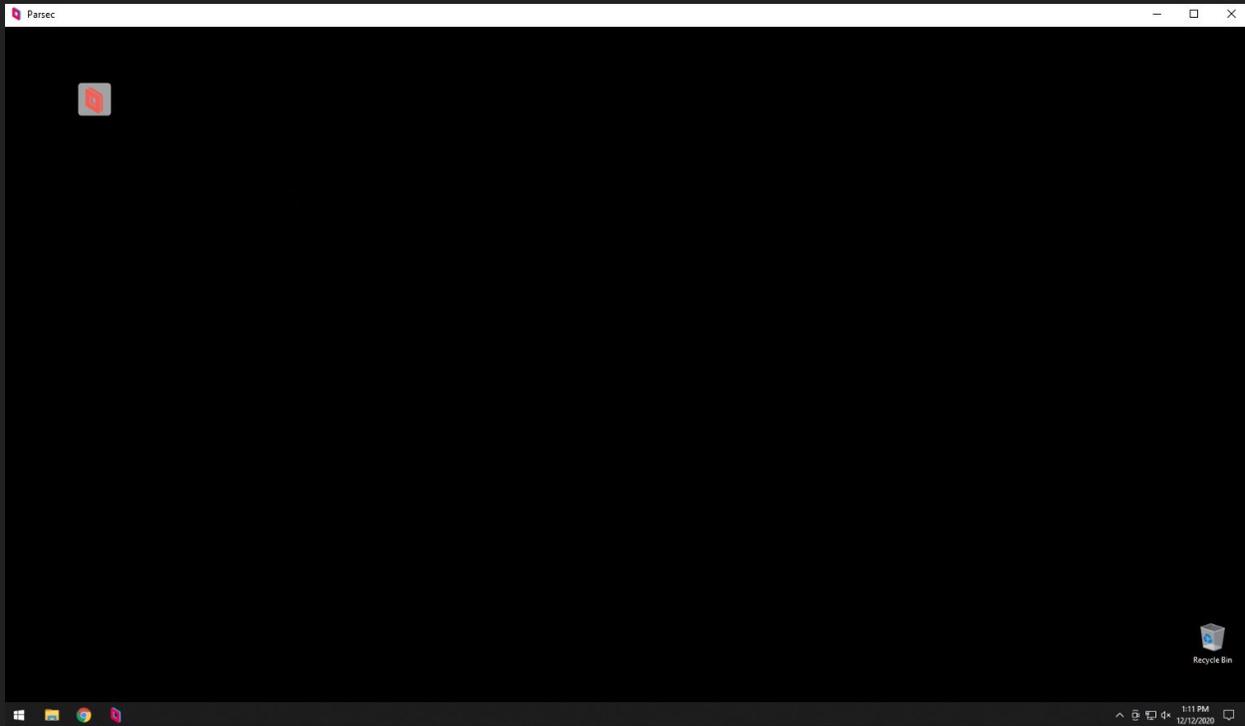


Before connecting for the first time, make sure to inspect the default hotkeys for conflicts with hotkeys you use in other applications. For instance, Parsec’s default hotkey for chat (*Control/Command+Shift+C*) is the same hotkey for precomposing layers in Adobe After Effects. Set a new Parsec hotkey to avoid any conflicts.

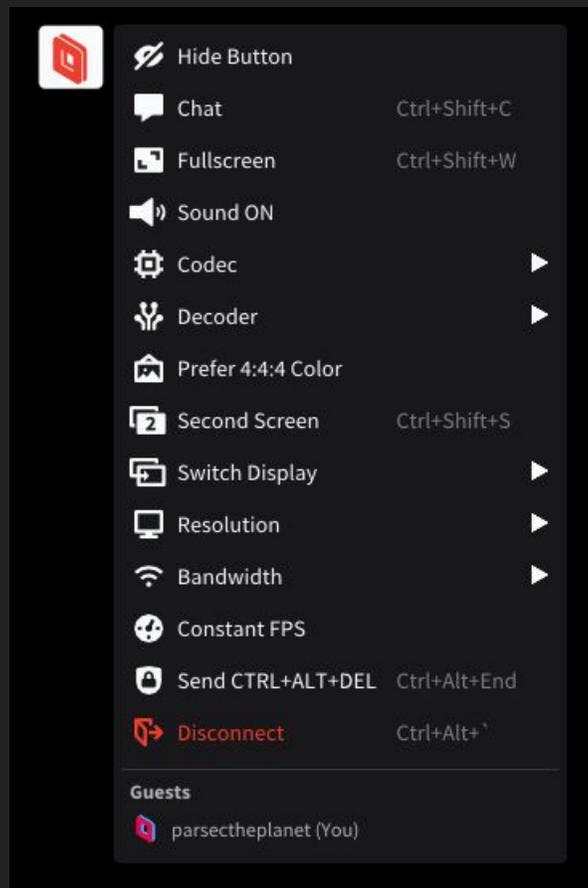
Using the Parsec Overlay

You’ve familiarized yourself with Parsec’s client settings, changed conflicting hotkeys, and now...it’s time, you’re ready: Hop back up to the “Computers” page and connect to an available host.

You’ll see the host desktop in all its glory, along with a small button containing the Parsec logo. This is the *Parsec Overlay button*, where you can modify settings on the fly.



Clicking the Overlay button will bring up a menu containing many of the same options reviewed in Key Client Settings.



Let's review the Overlay options one at a time:

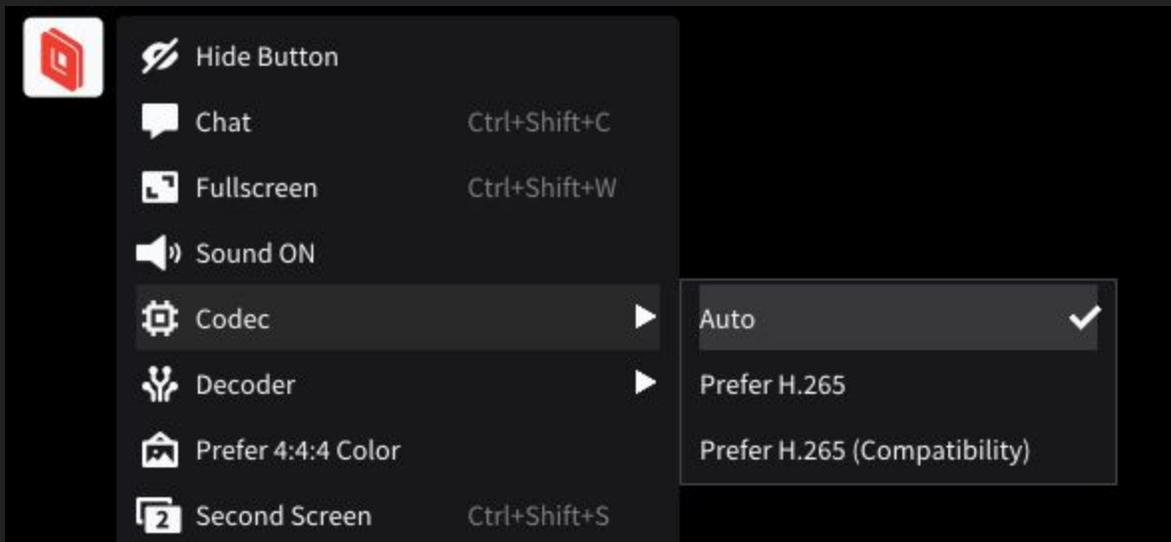
Hide Button: Hides the Parsec Overlay button until you disconnect and reconnect to the host, or use the hotkey to re-open the Overlay menu (*Control/Command + Shift + M*)

Chat: Opens a chat window with any other connected clients. Most Parsec for Teams customers prefer using a 3rd party voice or video chat app for collaboration.

Fullscreen: Toggle between Fullscreen and Windowed mode.

Sound On: Toggle sound off or on for the client.

Codec: See previous explanation regarding H.264 and H.265.



“Auto” indicates H.264 while “Prefer H.265” will instruct the host to attempt to stream H.265 to the client. “Prefer H.265 (Compatibility)” should be enabled when the host is running an NVIDIA RTX 2000 or RTX 3000 series graphics card.

Decoder: See previous explanation regarding decoder settings.

Prefer 4:4:4 Color: Enables 4:4:4 color streaming if supported by the host. To get technical, this removes chroma subsampling, providing the highest quality color fidelity available. This can be enabled on a per-monitor basis, so one monitor can stream in 4:4:4 while the other remains at 4:2:0 for performance or efficiency reasons. 4:4:4 color can be used with both H.264 and H.265 as long as the GPU in the host supports it. GTX 900 series graphics cards can only stream 4:4:4 with H.264. Enabling 4:4:4 color requires software decoding on the client, so it may run poorly on older client hardware or impact the performance of other apps running on the client.

[Learn more about 4:4:4 color](#)

[Read about optimizing color management](#)

Second Screen: Opens a second stream in a second window (or a tab on MacOS) that contains the host's second monitor, allowing you to utilize a multi-monitor set-up on the client. The host must have multiple monitors connected or must have enabled 2+ Virtual Displays enabled in the host's settings.

[Learn more about second screen](#)

Switch Display: Changes the current stream to another selected monitor. Useful if your client has a single monitor and you wish to switch between host displays. Also allows you to access a 3rd monitor on the host. The displays are listed according to their numbered order in Windows "Display settings" and/or the "Set up multiple displays" screen in the NVIDIA Control Panel.

Resolution: Dictates the Parsec stream's resolution and the output resolution feeding the monitor (virtual or otherwise) connected to the host. We typically recommend "Use Client Resolution" unless you know you want to use something else. Parsec supports streaming multiple monitors with different resolutions, maximum bandwidth, and color settings.

Bandwidth: Sets the *maximum* bandwidth that the host will use when streaming to one or more clients. In the case of a single client, the maximum bitrate of the stream will be this value. Keep in mind this is the *maximum* value and not the *minimum* or the *average/target* value; Parsec will often use far less than this value when there is not a lot of change/motion on the screen.

We recommend the following bandwidth settings for best performance:

- HD/1080p: 10-15mbps cap per monitor/stream
- QHD/1440p: 15-20mbps cap per monitor/stream
- UHD/2160p: 20-30mbps cap per monitor/stream

If multiple clients are connecting simultaneously, bandwidth will be split evenly among connected clients. For example, a value of 50mbps with 5 connected clients will result in 10mbps per client. This value can be increased above 50mbps for multi-client streaming via the host's config file.

[Read more about maximum bandwidth](#)

Constant FPS: Sets a constant framerate, even when there's little change or motion on the screen. This provides the highest quality text and other fine details. If you're working with text or graphics and are having trouble with details appearing blurry, enable Constant FPS (4:4:4 color can help too). We **do not** recommend enabling this setting when gaming or working with anything that has a lot of motion.

Send CTRL+ALT+DEL: Passes the "Control+Alt+Delete" command to the host, unlocking the computer and opening the login screen pre Windows login, or opening the Windows Task Manager post-login.

Disconnect: Disconnects from the Parsec session.

Recommended Settings for Use Cases

We've compiled a set of recommended settings for common use cases. Use these as a starter as you connect through Parsec for the first time.

Artists

Video Editing/Post-Production/VFX

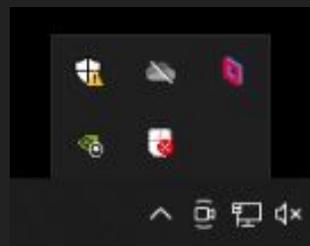
Playtesting, Build Reviews, QA

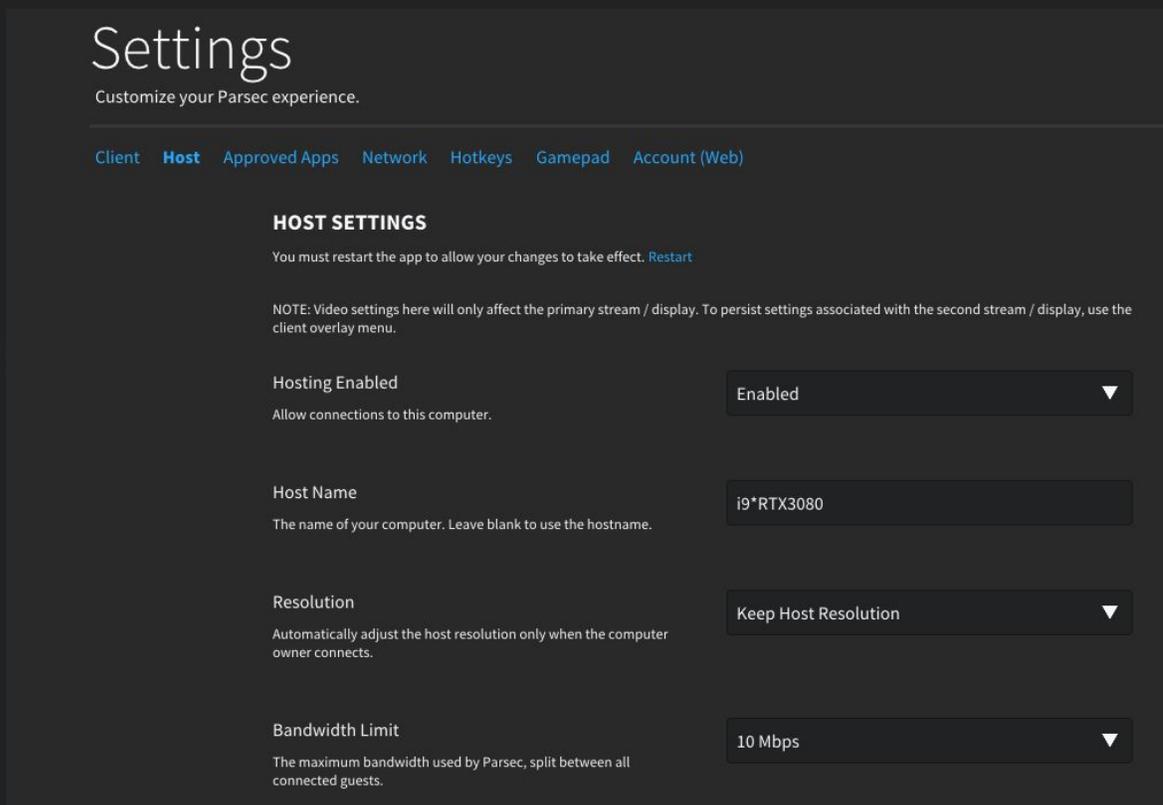
Programming and Writing

Collaborating with Teammates

Key Host Settings

Most relevant host settings can be modified in the Overlay, however it can also be helpful to make changes on the host directly. Once you're connected, you can open Parsec on the host and make changes from there. Double click the Parsec icon after expanding the caret in the bottom right of the Windows taskbar, and head over to Settings > Host.





Hosting Enabled: Dictates whether the machine is available for client connections. If you want to make sure your machine cannot be connected to as a host, set this to disabled. For most Parsec for Teams use-cases we recommend leaving this enabled in case you want to show a team member what you’re working on locally.

Host Name: Gives your host a unique name. This defaults to the Windows computer name.

Resolution: Sets a default resolution when the computer owner connects via Parsec.

Bandwidth Limit: Sets the maximum bandwidth used by Parsec. Multiple connected clients will share the bandwidth specified here. Can be set above 50mbps via config file. More info [here](#).

Virtual Displays: Allows you to run Parsec on a “headless” machine without the need for a monitor or headless dongle(s) to be connected. [Read more about virtual displays here](#).

Privacy Mode: Disables any physical displays that are connected to a host during active Parsec sessions. The host machine will be sent back to the Windows lock screen after the last guest disconnects. Requires virtual displays.

FPS: Sets the target frame rate for a session. We recommend leaving it at the default 60FPS, unless there’s good reason to change it.

Exclusive Input Mode: Prevents more than one client using the mouse at a time. This is handy if you want multiple clients to be able to control a host without fighting for control of the mouse. When enabled, priority input is as follow:

- 1) The person physically at the host machine
- 2) The person whose Parsec account is signed in on or assigned to the host
- 3) Guests / Friends

[Learn more about Exclusive Input Mode](#)

Display: Sets a default display that will be streamed via Parsec. If you want to ensure a guest sees a secondary display by default (for instance, during a client review session), you can set this to the appropriate secondary display.

[Learn more about default displays](#)

Echo Cancelling: Mutes echo interference while using voice chat apps during active Parsec sessions, rarely needed for work use cases.

[Learn more about sound echo](#)

Virtual Gamepad Type: Sets which type of gamepad Parsec should virtualize, X360 or Dualshock 4. This is important if you're using Parsec to access a game console development SDK, such as Playstation's Remote Viewer (must be changed to Dualshock 4 for Remote Viewer compatibility).

Machine Level User: Allows Parsec to run pre Windows login and post Windows logout. Enable this if you need to be able to access your host after a reboot or cold boot. Please be sure that you read the note in the host settings page and understand the implications of this setting prior to enabling it.

[Learn more about Machine Level Users](#)

Note: Parsec lets you adjust these settings beyond what you see in the interface using the [app's configuration file](#). Advanced configurations can cause compatibility issues, so customize at your own risk.

Using Approved Apps

Approved Apps restricts a Parsec session to only certain apps when they are in focus. If an approved app window is active, it will stream the entire screen (not just the application's window). This can be handy during client reviews, media events, or a variety of other circumstances when guests are connecting to your host.

You'll find "Approved Apps" next to your host settings, and if enabled, will populate a list of apps currently open on the host.

[Learn more about Approved Apps here](#)

Settings

Customize your Parsec experience. Build 150-54

[Client](#) [Host](#) **[Approved Apps](#)** [Network](#) [Hotkeys](#) [Gamepad](#) [Account \(Web\)](#)

APPROVED APPS

CONFIG OVERRIDES: app_arcade=false;app_friends=true;app_silent=1

When a guest connects to your computer, they will only be able to see and interact with the apps selected below. On ▼

-  Adobe Premiere Pro 2020
-  Adobe After Effects 2020
-  Google Chrome
-  Task Manager
-  NVIDIA Share

Connecting to Multiple Hosts Simultaneously

Need to connect to more than one host at the same time? This is possible by using the portable version of the Parsec desktop application, which can be opened as many times as you need it.

[Download the portable application here](#)

IT & Network Administrators

Even if you don't plan to use Parsec personally, we highly recommend familiarizing yourself with our "End Users" section so that you may effectively support your team members.

CLI Installation / SCCM Deployment

If you're deploying Parsec via the command line, SCCM, PDQ, or another packaging tool, you need to download [Parsec for Windows](#) and our [Virtual Display Driver](#) if you plan on supporting virtual displays in your organization. Also download the [Team Computers provisioning script](#) if you plan on centrally managing your hosts.

Once in command line, run ``parsec-windows.exe /norun /S`` (this is case sensitive). The flag ``/norun`` tells Parsec that it should not run after installing, while the flag ``/S`` tells Parsec to install silently. After Parsec is installed, follow the instructions on our [Team Computers documentation](#) to authenticate your host as a Team Computer for centralized management and administration.

After successfully running the provisioning script, your host will appear in the [Team Computers page](#) of the Parsec for Teams administration panel. You can optionally assign the host to a user or group and change the hostname as part of the provisioning script, if desired.

If using virtual displays, you'll also need to run ``parsec-vdd-<version>.exe /S`` (also case sensitive). You may need to manually trust/accept the certificate for the virtual display driver.

If you want Parsec to start with Windows from a cold boot and enable your users to connect pre-login, [enable Machine Level User by following this guide](#). If you'd like to automate this process, please reach out to your Parsec account team.

You can also deploy a standard set of default configurations via config file or GPO to enable and configure the virtual displays, as described in the next section.

Configuration Management via Windows Registry or Config File

All of Parsec's settings can be managed via config file or Windows registry entries. This is helpful if you want to be able to set parameters like bandwidth, resolution, codec, or whether certain functionality (like the friends list) is enabled across a fleet of machines.

[Learn more about modifying the config file](#)

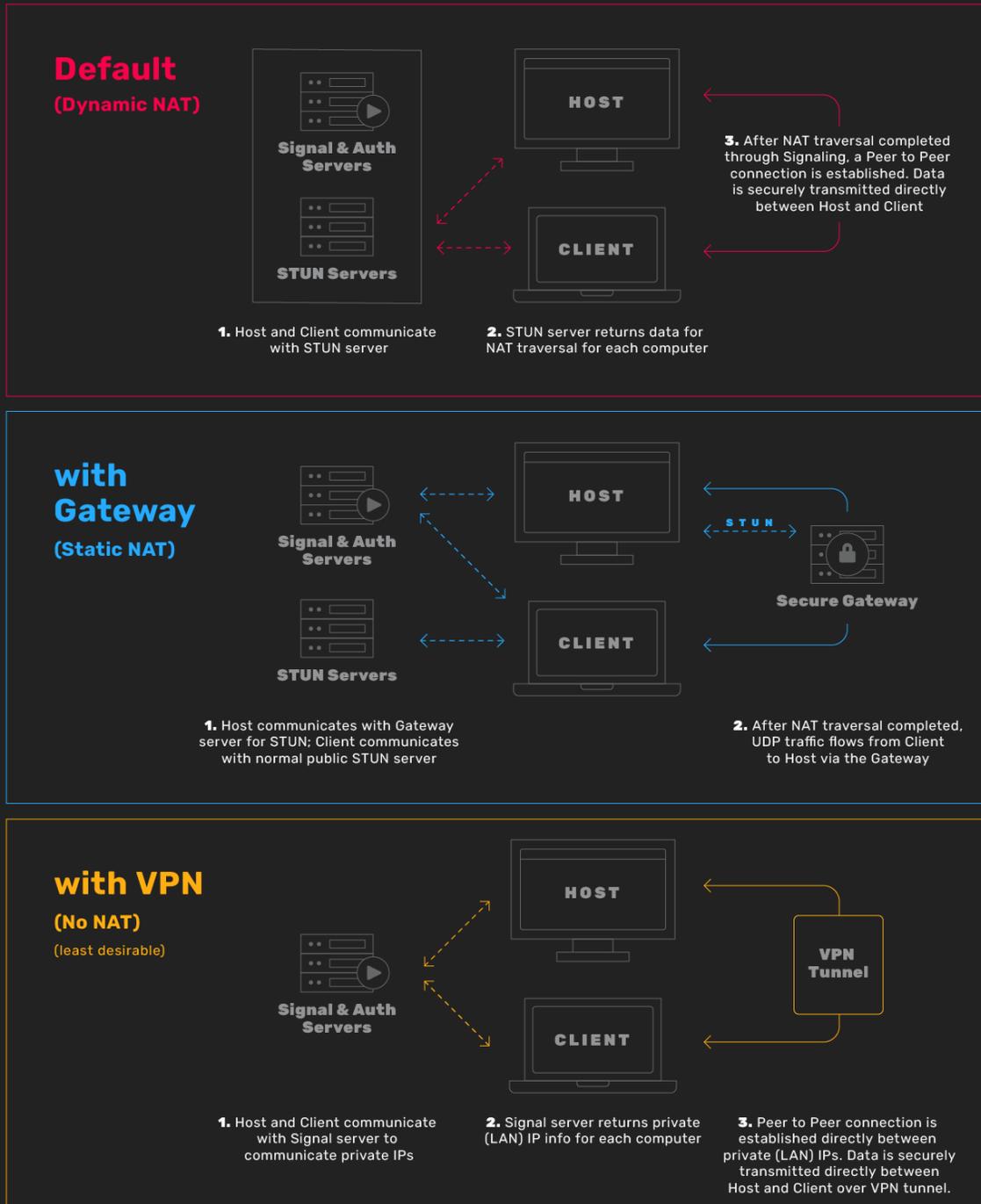
Networking Options

Parsec supports three distinct networking options depending on your use-case and security requirements.

- 1) Default behavior using public internet, STUN, and UPnP
- 2) VPN tunneling (no STUN or UPnP)
- 3) Gateway: on-premises high-performance UDP relay server (HPR)

The Parsec Gateway eliminates the negative performance impact of a VPN while providing the security measures that many organizations demand. We recommend the gateway server for most enterprise environments.

The following diagram explains the three networking/connectivity options in detail:



[More information on Parsec's Gateway](#)

Network/Firewall Configuration

Parsec's behavior and detailed networking requirements can be found here. Please pay special attention to the first paragraph, which describes our default peer-to-peer networking behavior of using pseudo-random UDP ports in combination with STUN and UPnP. This page also discusses how to configure your firewall if you want all of Parsec's peer-to-peer traffic to transit your VPN, which is *not recommended* for optimal performance.

For security reasons, we recommend blocking non-Teams accounts from authenticating within your corporate network. Once the block is active, enable the "Use Team Websocket" here.

VM/Cloud Workstation Guide

If you'd like to use Parsec to connect to GPU-enabled cloud workstations or virtual machines, you can follow this guide.

If you'd rather dive into the gritty details right away, check out our Cloud Preparation Tool.

SSO Integration

Parsec for Teams integrates with your SSO provider via SAML 2.0. We have guides on our website for Okta, AzureAD, and Google, but you can use any identity provider that supports SAML 2.0.

Once SSO is configured successfully, you may want to work with your Parsec for Teams administrator to disable non-SSO login and configure an easy to remember team alias. Both of those settings are controlled on this page:

<https://teams.parsec.app/security>

[Read our SSO integration guide](#)

Multi-User Systems

We recommend using Team Computers for multi-user systems, which will allow you to assign machines to groups of users.

Parsec has a host setting called Machine Level User. This setting allows Parsec to be running pre-Windows-login and can be used for multi-user systems, provided you understand the implications: Parsec cannot run on multiple Windows logins at the same time, so each Windows user needs to log out of Windows prior to handing the machine off to another Windows user. Switching users with one or more users remaining logged in will cause issues. Users must log out.

Teams customers have had success enforcing this by creating a GPO that automatically logs users out of Windows after a specified period of inactivity. Enabling Privacy Mode will force the host machine to lock when the last Parsec session disconnects, which can also help with this process.

Parsec for Teams Administrators

The Parsec for Teams Administrator panel is where you can manage permissions, configure groups, and make changes to your overall Parsec for Teams account. Visit and bookmark <https://teams.parsec.app/>.

Team Management

Groups and Members

[Groups & Members](#) is the default landing page on the Admin panel. Here you can change the following settings:

- Assign team members to roles
- Assign team members to groups
- Remove people from your team

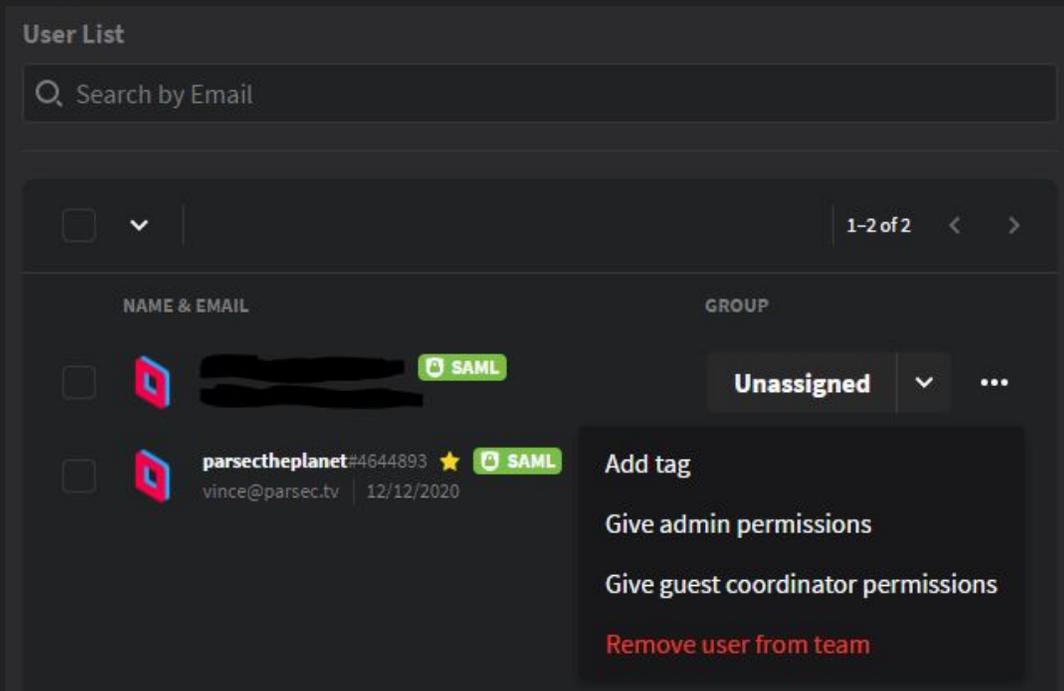
Inviting Team Members

If you're using SSO, you manage access to Parsec for Teams via your SSO provider's portal. Team members will appear on the Team panel after their first login using SSO.

If you're not using SSO, you invite people on the [Invite Team Members](#) panel of the Team page. An invited guest will automatically use one Seat on your team, and you can revoke access at any time.

Roles

These control permissions within the Parsec for Teams Admin Portal. You assign a user to a role by clicking the icon next to their user in the list:



There are currently 4 roles in Parsec for Teams:

1. Team Owner: Adjusts billing details and manage team admins
2. Team Admin: Can manage Team members, groups, and permissions
3. Guest Access Coordinator: Invite outside guests to host computers for Guest Access
4. Team Member: Make connections with assigned hosts and colleagues

[More details about roles](#)

Groups

Lets you organize your team members by functional role, internal department, or any other organizational structure that you see fit. By default, team members cannot connect to each other unless they are members of the same group (or in the “Unassigned” group), or if their groups have been configured to allow connections between each other.

[Learn more about Groups](#)

Guest Access

Provides temporary access to a computer to people outside of your team Guest Access is extremely popular for events, user research, and playtesting, but can also be used to provide a contractor or other 3rd party access to a workstation for a specified period of time.

Guest Access links are generated and managed on the [Guest Access](#) panel of the Teams page.

[Learn more about Guest Access](#)

Team Computers

Team Computers allows you to authenticate host machines to your Parsec Team and centrally manage access. Team Computers can be assigned to users or groups, and additionally made available for [Guest Access](#).

After following the [Team Computers setup guide](#) and successfully provisioning the host to your Team, you can manage access via the [Team Computers page](#).

Security & SAML

Configure SSO integration and a few miscellaneous security settings.

[Learn more about Integrating your SSO provider](#)

Team Alias: Sets an easy to remember name for your team, rather than requiring that your users provide the Team ID when logging in with SSO.

Enforce SAML: Disables the ability to login without SSO. All non-SSO sessions will expire and must re-authenticate using SSO after this is enabled. The Team Owner always retains the ability to login via Parsec authentication for recovery purposes.

Session Duration: Configure the idle timeout period after which users must re-authenticate in the Parsec app. The default value of 8 means that users will have to re-authenticate if their Parsec app has not been active for 8 hours, such as when their computer is off. *If you set it for 8 hours, any hosting computer that pings our backend will stay online and reset its 8 hour timer at every ping. If the computer is completely turned off, it will not ping our backend, and after 8 hours, Parsec will logout.*

App Settings

The [App Settings](#) page contains a few configuration options that can be managed through our UI. As always, these can also be changed with registry entries or config files.

Show Arcade: Disabled by default for all Parsec for Teams customers. This is a consumer-focused gaming feature.

Show Friends: Enabled by default, but can be disabled here if you know you never want your users to use Parsec's Friends functionality.

Watermark Stream: Place a text watermark on all streams that occur within your Team. This is sometimes used in combination with Guest Access when streaming pre-release content or confidential information.

Use Team Websocket: Used in combination with [blocking non-Teams access on your firewall](#), as previously discussed.

Allow Copy/Paste: Allows you to block copying/pasting text between the host and client if desired, and is enabled by default. Parsec cannot copy/paste anything other than text. Guests cannot copy/paste regardless of this setting.

Gateway Server IP Addresses: Integrate with our on-premises (or virtual private cloud) high-performance relay server (aka HPR). Once you have the HPR installed and configured with a public IP and port, you must specify the relevant IP(s) and port(s) that all clients will connect to.

Host Privacy Mode: Enable privacy mode by default for all team members. This automatically disables all physical displays while Parsec connections are active and automatically locks the machine when the last Parsec user disconnects. Privacy Mode is useful to avoid prying eyes when machines are being accessed in a common environment such as a studio. Privacy mode requires that virtual monitors be enabled.

Host Virtual Monitors: Configure a default number of virtual monitors for all team members. This requires that the Parsec Virtual Display Driver be installed on the host. Can be set to 0, 1, or 2.

[Learn more about Virtual Displays](#)