Virtual Desktop Infrastructure (VDI)
Remote Access Guide

Connecting from: A personal laptop or desktop computer
Connecting to: A TriMet desktop computer

This guide provides installation and connection procedures for VMware Virtual Desktop Infrastructure (VDI). VDI is a remote access solution for TriMet network users. Use this guide to set up your personally owned laptop or desktop computer for remote connection to your TriMet desktop computer.

Contents
What is VDI? .................................................................................................................................................................................. 2
Who should use this guide ............................................................................................................................................................ 2
System and user requirements .......................................................................................................................................................... 2
Why should I use VDI? ................................................................................................................................................................. 2
How to set up VDI and connect remotely ........................................................................................................................................ 2
  Enable multi-factor authentication .............................................................................................................................................. 2
  Install VMware Horizon Client ..................................................................................................................................................... 5
  Connect to your TriMet desktop computer ................................................................................................................................. 6
Adjusting VDI preferences ............................................................................................................................................................ 8
Troubleshooting tips ................................................................................................................................................................. 9
Contact TriMet IT Help Desk ....................................................................................................................................................... 9
  While connected to the TriMet network ..................................................................................................................................... 9
  While offline and not connected to the TriMet network .............................................................................................................. 9
Use VDI instead of VPN for remote access .................................................................................................................................... 10
For more information ............................................................................................................................................................... 10
What is VDI?
VDI stands for Virtual Desktop Infrastructure. VDI, like the familiar VPN technology, allows you to remotely access resources on the TriMet network that you need in order to work. VDI does not put your laptop or home computer onto the TriMet network. Instead, VDI allows you to connect securely to your TriMet-issued desktop computer remotely.

Who should use this guide
You must meet the following requirements to install and use VDI:
- You are prioritized by your division’s Executive Director for remote access.
- Your level of remote access requires more than Outlook (for email) and Webex (for chat and meetings).

System and user requirements
TriMet VDI is available to users that have a TriMet-issued desktop workstation at a TriMet facility.

In addition, you must meet these requirements:
- Leave your TriMet-issued desktop workstation powered on, its monitor turned off, and your account logged out.
- Submit the following information to TriMet IT:
  - The computer number of your TriMet-issued desktop workstation computer
  - Your home computer’s operating system
- A home computer available for remote working.
- A reliable Internet connection at home.
- Permissions to install software on your primary home computer.
- A mobile device at hand, which could be a TriMet-issued phone or a personal phone, and...
  - You can receive SMS messages on this device.
  - Or, you are able to install Okta Verify from an app store, in the case of a personal device, onto this device.

Why should I use VDI?
As described earlier, VDI allows you to connect securely to your TriMet-issued desktop computer remotely, and thereby remain productive – by using the set of applications installed on your TriMet desktop remotely via the VDI session -- while working from home.

How to set up VDI and connect remotely
VDI installation involves three setup tasks:
1. Enable multi-factor authentication
2. Install VMware Horizon Client
3. Connect to your TriMet desktop computer

Enable multi-factor authentication
1. On your personally owned laptop or desktop PC, open your web browser of choice.
NOTE: Avoid Internet Explorer. Some VDI users are reporting that it is not working with Okta.

2. Go to [https://trimet.okta.com/](https://trimet.okta.com/).
3. Type your username and password, check the **Remember me** box, and then click **Sign In**.

   TriMet Username
   
   doej

   TriMet Password
   
   **********

   ![Sign In button]

4. Click the **TriMet VDI** button.

   ![TriMet VDI button]

   The first time you try to run VDI, Okta will require you to set up multi-factor authentication. There are three methods. **Okta Verify** is the recommended method, however **SMS Authentication** will be documented because it is the simplest method.

5. Click the **Setup** button next to **SMS Authentication**, and then follow the instructions to set up an additional authentication method.

   ![SMS Authentication setup]

6. Click the **Setup** button under **SMS Authentication**.
7. Type in your mobile phone number, and then click **Send code**.

8. You will receive the code by text message to your phone.

9. Type in the code, and then click **Verify**.

10. Click **Finish**.
Install VMware Horizon Client

**NOTE:** If you have Webroot security software installed on your personal computer, disable before installing Horizon Client. You can re-enable it after installation.

1. **In Okta,** after you authenticate yourself to use **TriMet VDI,** under **My Work PC,** click **Open.**

2. **Click Install the Horizon Client.**

3. **Find the client that matches the operating system of your personally owned laptop or desktop PC,** and then click **Go to Downloads.**
NOTES:

- **Windows users**: Do not install the UWP version of Horizon Client for Windows.
- **Mac users**: You should be able to use Horizon Client for MacOS to connect to your TriMet workstation. However:
  - Some VDI users are reporting difficulty connecting when using version **5.4.0 Horizon Client for Mac OSX**, which is the latest version. The error you may receive in this case is **Invalid Server Address**. Use version **5.3.0 Horizon Client** – which is one version earlier.
  - To connect from Mac OSX on your personal computer, your TriMet-issued Windows workstation might need to be updated. [Contact TriMet IT Help Desk](#) as described later in this guide!

4. After Horizon Client is installed, you must reboot your personal laptop or desktop computer.

**Connect to your TriMet desktop computer**

1. Make sure you have successfully completed:
   a. Setup of multi-factor authentication on your mobile phone
   b. Installation of Horizon Client on your personal laptop or desktop computer
2. Go to [https://trimet.okta.com/](https://trimet.okta.com/).
3. Type in your TriMet credentials, check the **Remember Me** box, and then click **Sign In**.
4. Click the TriMet VDI button.

5. Complete the multi-factor authentication steps.
6. After TriMet VDI launches, under My Work PC, click Open to connect remotely to your TriMet desktop computer.
7. Click Open Horizon Client, and then enter your password if requested.

8. The connection typically takes 2-5 minutes to complete, but after that you can view and work on your TriMet desktop computer the same as if you were on site.

Adjusting VDI preferences
It is unlikely that your VDI settings will need to be modified. However, to access preferences and settings for Horizon Client, right-click the VMWare icon in your system tray, and then click Settings.

Here are details about specific Horizon Client settings.

<table>
<thead>
<tr>
<th>Setting</th>
<th>How to change</th>
<th>Details or more info</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB Devices</td>
<td>N/A</td>
<td>Locked down. Cannot change.</td>
</tr>
<tr>
<td>VMware Blast</td>
<td>Recommended to keep default (H.264 Decoding).</td>
<td>Connection protocol</td>
</tr>
<tr>
<td>Real-Time Audio-Video</td>
<td>Uses default webcam and microphone.</td>
<td>As of mid-January 2020, Cisco Webex does not support TriMet VDI. It is recommended that you use the Webex Team app installed directly on your local computer.</td>
</tr>
<tr>
<td>Applications</td>
<td>Dropdown list</td>
<td>Reconnect behavior: When you quit or are disconnected from VMware Horizon, running applications may remain open. This setting determines the behavior when you reconnect to VMware Horizon.</td>
</tr>
<tr>
<td>My Work PC</td>
<td>Multiple settings, most notably Display.</td>
<td>Display: Adjust which monitors display the virtual desktop and what resolution is used. Use in combination with the Display settings field to select monitors for display. Preferred protocol: It is recommended that you do not change the connection protocol.</td>
</tr>
</tbody>
</table>
## Troubleshooting tips

Here are a few things to watch out for and what to do about them.

<table>
<thead>
<tr>
<th>Issue</th>
<th>What to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>You log in to Okta, but do not see the <strong>TriMet VDI</strong> icon</td>
<td><strong>Contact TriMet IT Help Desk</strong> as described later in this guide</td>
</tr>
</tbody>
</table>
| **Installation of Horizon Client on your personal computer fails**  | 1. If you have Webroot security software installed on your personal computer, disable it before you install Horizon Client. After installation, Webroot can be re-enabled.  
2. Reboot your computer and then attempt installation again.  
3. If the second attempt also fails, **Contact TriMet IT Help Desk** as described later in this guide |
| You get an error when you try to open **My Work PC**               | **Contact TriMet IT Help Desk** as described later in this guide                                      |
| Due to inactivity, your remote desktop session locks. When you press CTRL+ALT+DEL, your local computer responds instead of your remote desktop. | 1. Move your cursor to the top center area of your screen.  
2. Wait a few moments (especially for Mac computers), and the VDI toolbar will appear.  
3. On the toolbar, click **Send Ctrl-Alt-Delete**. |
| You need to update the phone number for SMS authentication          | This setting lives in Okta, not in Horizon Client. When you open **TriMet VDI** in Okta, that’s when SMS authentication is required.  
1. Go to the **Account** page at **https://trimet.okta.com/enduser/settings**, and then click **Edit Profile**.  
2. Request an SMS authentication code, enter the received code, and then click **Verify**.  
3. On the **Account** page, go to **Extra Verification** section, and then click the **Remove** button next to **SMS Authentication**.  
4. Click the **Setup** button next to **SMS Authentication**, and then enter the phone number at which you want to receive authentication requests. |

### Contact TriMet IT Help Desk

If you are blocked with VDI installation or usage, contact TriMet IT Help Desk.

### While connected to the TriMet network
- Open a [service request in IT Service Desk](https://service.desk.com) and describe your question or issue

### While offline and not connected to the TriMet network

**Preferred method:** Send email to [remoteaccess@trimet.org](mailto:remoteaccess@trimet.org) from your TriMet email (via Outlook Web Access at [https://trinet.trimet.org/owa/](https://trinet.trimet.org/owa/)). A HELPDESK ticket will be created in your name for IT. Be sure to include these details in your email:
Best callback number
- The PC number of your TriMet desktop computer at the office, if you know it
- Operating system on your home computer
- Overall nature of the issue – what have you tried, any error messages

Screen captures are optional but helpful

**Warning:** Email sent from your personal email account will not work

**Secondary method:** Call the IT Help Desk hotline at 503-962-5818. Leave a message and be sure to include your callback number. But email to remoteaccess@trimet.org is better.

**Use VDI instead of VPN for remote access**

It might take a few tries to get comfortable with VDI. Setup is the trickiest part. Access through VDI should allow you the same experience and level of functionality as VPN.

Due to hardware limitations, TriMet cannot support all remote workers on the VPN solution. **VPN access will be progressively disabled** for persons successfully connecting to VDI, especially those using a personal computer to connect to their TriMet-issued desktop workstation located at a TriMet facility.

In anticipation of this switchover, please take these steps:

1. Stop using VPN and the Cisco AnyConnect Secure Mobility Client upon successfully connecting with VDI.
2. Please return your YubiKey to TriMet IT by interoffice mail upon returning to your TriMet facility.

**For more information**

- See [VMware Horizon Client for Windows User Guide](#) for more step-by-step help articles

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