DH2i DxDyssey 19.5 Software:
Administration Guide
CONTACTING DH2I
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TCP Tunnels

DH2i TCP Tunneling is a new way for accessing specific applications without the cost, complexity, and security risks of VPNs. DH2i TCP Tunneling is designed for scaling across environments to build a secure hybrid/multi-cloud distributed application infrastructure from any platform to any platform, from any host to any host, anywhere. DH2i TCP Tunneling features:

**Configuration and Management Simplicity**
- Lightweight Windows or Linux install
- Simply install and connect
- No dedicated VPN routers
- No ACLs, no firewall rules
- No expensive cloud VPN services

**Highest Level Security and Performance**
- Application-level micro-tunneling
- Discreetly transports TCP payloads via UDP
- Eliminates lateral network attack surface
- Highly available, auto self-healing tunnels
- Invisible to port scanners

See the Tunnel Manager section below for details on how to configure a tunnel with DxOdyssey.

Tunnel Groups

DxOdyssey uses Tunnel Groups to provide failover support and high availability. A tunnel group virtualizes the network name and IP address associated with a particular gateway. Rather than using the network name and IP address of an actual server, a group is created and assigned a unique name/IP-address pair. When the user configures a group, the user will need to specify at least one member and one tunnel to participate.

See the Tunnel Group Manager section below for details on how to configure a tunnel group with DxOdyssey.

Configuration Information

DxOdyssey allows the user to create direct secure connections (tunnels) between two or more servers without the need for a VPN, expensive hardware, or data passing through a vendor portal. DxOdyssey
transfers encrypted packages across system-assigned UDP ports so there is no need to open a TCP or UDP port to the internet. DxOdyssey can be used to create and manage heterogeneous Windows/Linux cross-platform connections. With DxOdyssey, data transfers securely between custom-designed tunnels. DH2i’s DxOdyssey uses a highly available proprietary cloud matchmaking service to keep connections alive, but no payload data is passed through the matchmaker – all data is directly encrypted between servers.

The following sections describe hardware and software requirements for DxOdyssey.

**Minimal System Requirements**

**Physical/Virtual Server Requirements**

DxOdyssey is hardware agnostic. Please follow operating system/application best practices to achieve performance expectations.

**Supported Operating Systems**

Below are the supported operating systems for DxOdyssey:

- Windows Server 2008 R2, x64 *
- Windows Server 2012, x64
- Windows Server 2012 R2, x64
- Windows Server 2016, x64
- Windows Server 2019, x64
- Windows 7 * and above, x86 and x64 (DxConnect and DxOdyssey Client Only)
- RedHat Enterprise Linux 7.x (No native DxOdyssey Client)
- CentOS Linux 7.x (No native DxOdyssey Client)
- Ubuntu 16.04.x (No native DxOdyssey Client)
- Ubuntu 18.04.x (No native DxOdyssey Client)
- Oracle Linux 7.x (No native DxOdyssey Client)

*No longer maintained by Microsoft

**Note:** DxOdyssey Software requires .NET Framework 4.5.2 on Windows and .Net Core 3.1 on Linux. Please ensure that these packages are installed on your servers prior to installing DxOdyssey Software.

**Network Configuration Guidelines**

- DxOdyssey uses a proprietary communications protocol based on TCP and UDP for its gateway group communication. To mitigate or remove the potential for heavy network traffic adversely affecting DxOdyssey communications, DH2i allows the use of a private or stand-alone network for DxOdyssey. This dedicated network can be created using a crossover cable for a two-server cloud or an Ethernet switch for groups or clouds comprised of three or more servers.
Note: DxOdyssey Software requires internet access to register with the DH2i matchmaking service.

DxOdyssey supports the following network configurations:

- IPv4
- IPv6
- Multiple subnet ranges

To ensure proper communication between the gateway group members, the following guidelines should be observed.

- A static entry for each member’s private IP should exist in the hosts file (%systemroot%\system32\drivers\etc\hosts or /etc/hosts).
  e.g.
  192.168.1.101 gw1 #private IP
  192.168.1.102 gw2 #private IP
- “A” and “PTR” records are present in DNS for each group/IP for proper forward and reverse lookup. Dynamic DNS registration is not supported.
- On Windows, ensure **Register this computer’s addresses in DNS** is unchecked for all network adapters under the properties for the interface. This prevents the virtual IP from being registered with DNS for the physical host. If this option is checked, it will cause resolution issues when the virtual IP moves between gateway group members.
- Network ports used by DxOdyssey
  - Open remotely:
    - TCP: 7979 – DxLMonitor
    - TCP: 7980 – DxCMonitor
    - UDP: 7980 – DxLMonitor
    - UDP: 7981 – DxCMonitor
    - TCP: 7985 – DxWebEngine
  - Open locally:
    - 127.0.0.1:7804 - DxLEngine
# Definitions, Acronyms, Abbreviations

Table 1-1 Acronyms & Abbreviations

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>API</td>
<td>Application Program Interface.</td>
</tr>
<tr>
<td>Client</td>
<td>A remote client connecting to a tunnel.</td>
</tr>
<tr>
<td>Client Group</td>
<td>A group composed of one or more clients.</td>
</tr>
<tr>
<td>CIDR</td>
<td>Classless Inter-Domain Routing.</td>
</tr>
<tr>
<td>DxConnect</td>
<td>DH2i Client tool used to connect to a gateway tunnel.</td>
</tr>
<tr>
<td>GUI</td>
<td>Graphical User Interface.</td>
</tr>
<tr>
<td>IP</td>
<td>Internet Protocol. A numerical label assigned to each device connected to a computer network.</td>
</tr>
<tr>
<td>IPv4</td>
<td>Internet Protocol version 4. IPv4 addresses have a size of 32 bits.</td>
</tr>
<tr>
<td>IPv6</td>
<td>Internet Protocol version 6. IPv6 addresses have a size of 128 bits.</td>
</tr>
<tr>
<td>TCP</td>
<td>Transmission Control Protocol.</td>
</tr>
<tr>
<td>UDP</td>
<td>User Datagram Protocol</td>
</tr>
<tr>
<td>VIP</td>
<td>Virtual IP address.</td>
</tr>
<tr>
<td>VPN</td>
<td>Virtual Private Network.</td>
</tr>
</tbody>
</table>
Table 1-2 Definitions

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway Group</td>
<td>The overall group of member servers.</td>
</tr>
<tr>
<td>Linux</td>
<td>The family of supported GNU/Linux operating systems.</td>
</tr>
<tr>
<td>Member</td>
<td>Members are devices, physical, virtual, or cloud on a larger network. A</td>
</tr>
<tr>
<td>Process</td>
<td>A running application that resides in its own address space.</td>
</tr>
<tr>
<td>Screen</td>
<td>Refers to the display of related data.</td>
</tr>
<tr>
<td>Tunnel</td>
<td>Direct secure connection between two or more servers without the need for a</td>
</tr>
<tr>
<td>Tunnel Group</td>
<td>A collection of tunnels and members that allows for virtual tunnel</td>
</tr>
<tr>
<td>Window</td>
<td>Refers to a panel with a border as defined in the Windows Operating system.</td>
</tr>
<tr>
<td>Windows</td>
<td>The family of Microsoft Windows operating systems.</td>
</tr>
</tbody>
</table>

Table 1-3 Tunnel Group Aliases

<table>
<thead>
<tr>
<th>Alias</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>.ACTIVE</td>
<td>The active member in a tunnel group.</td>
</tr>
<tr>
<td>.INACTIVE</td>
<td>All inactive members in a tunnel group.</td>
</tr>
<tr>
<td>.ALL</td>
<td>All members in a gateway group.</td>
</tr>
<tr>
<td>.PART</td>
<td>Any member in the tunnel group.</td>
</tr>
<tr>
<td>.NONPART</td>
<td>Any member in the gateway group that is not in the tunnel group.</td>
</tr>
<tr>
<td>.NONDEST</td>
<td>Any member that is not the destination gateway.</td>
</tr>
</tbody>
</table>

Installing and Configuring a New DxOdyssey Gateway Group

DxOdyssey leverages any OS, on any server, anywhere.

Pre-requisite procedure for a new DxOdyssey gateway group for Windows

- Install Windows and apply the latest patches. Consult Microsoft documentation for further details.
- Install Microsoft .NET Framework 4.5.2.
Pre-requisite procedure for a new DxOdyssey gateway group for Linux

- Install Linux and apply the latest updates. Consult Linux provider documentation for further details.
- Update the /etc/hosts file with IPs and host names for all members in the group.
- Install .Net Core 3.1 Runtime.

Installing and configuring the first server for a new DxOdyssey gateway group

- Install the DxOdyssey software.
- Activate the server.
- Create a tunnel and/or tunnel group.

Installing and configuring an additional server for a new DxOdyssey gateway group

- Install the DxOdyssey software.
- Join the additional server to an existing gateway group member.
- Join/participate in the tunnel group.
- Test failover/failback. (Optional).
Installing DxOdyssey software for Linux

Install DxOdyssey on RedHat
- Place a copy of the DxOdyssey RPM in a local directory.
- `sudo rpm -Uvh dxodyssey-<version>.x86_64.rpm`

Install DxOdyssey on Ubuntu
- Place a copy of the DxOdyssey DEB in a local directory.
- `sudo dpkg -i dxodyssey_<version>_amd64.deb`

Set gateway group passkey (First member installation)
- `sudo dxcli gateway-group-set-secret`

Join existing gateway group (After initial member installed)
- `sudo dxcli join-gateway-group`

Installing DxOdyssey software for Windows

Double-click the DxOdyssey setup program on the first server.

A welcome screen will be displayed. Click **Next** to continue with the installation.

Accept the license agreement and click **Next** to continue.
In the “Destination Folder” window, select an installation folder for the DxOdyssey Software and click Next.

Deselect the **Add Desktop Shortcut** checkbox if a desktop shortcut is not required. The box is checked by default.

In the “Ready to install” window, click **Install**.
Click **Finish** to complete the installation of DxOdyssey.

**Login with DxOdyssey Client**

Double-clicking the DxOdyssey Client icon on the Windows desktop will display the following login dialog. Select the target server; the default setting is **localhost** on port is **7979**. To specify a different port, append it to the target server name using a colon (:). The server name can also be written as **localhost:7979**.
Note: On the very first launch of the DxOdyssey UI, right-click the DxOdyssey icon and select “Run as administrator”. This will bypass the passkey requirement.

A pass key is required to log in to the gateway group for administration. The pass key is case-sensitive and can be any combination of alpha-numeric characters, punctuation, or symbols. If the user has not configured a pass key or has forgotten the pass key, the user will be unable to log in remotely, or log in using unprivileged accounts. The pass key requirement can be bypassed by launching DxOdyssey Client as an elevated administrator on a gateway member.

In order to maintain the security of the gateway group, DxOdyssey Client will prompt the user to confirm that they are connecting to the correct server when they connect for the first time. It does this by checking the server’s RSA key against its list of known server keys.
The public key for a server in the gateway group can be viewed by selecting the server under “Gateway Manager” and searching for the PubkeyHash. In addition, the public keys can be found in the DxCluster.xml file in the installation directory (e.g. C:\Program Files\DH2i\bin\DxCluster.xml).

If the user accepts the server’s public key, DxOdyssey Client will save a record of the key in its configuration and will not prompt for verification in the future. If the user is unexpectedly prompted to verify a server’s public key, the user may be the target of a man-in-the-middle attack and should immediately reject that public key and re-verify the server’s correct public key using other means.

On initial setup, there are three options to choose from.

1. **Configure Interface** – The following dialog displays the currently configured interface

   ![Configure Interface Dialog]

   If the user selects **No**, the displayed settings are used for the initial interface; if the user selects **Yes**, the following dialog is displayed. This dialog allows the user to select different interfaces and protocols for gateway group communication.
When the user clicks the save button, the interfaces dialog will update and close. The following dialog appears if there are multiple interfaces selected. This dialog lets the user order the interfaces from top to bottom; the interface placed at the top of the dialog will be the first interface selected for communication.

The asterisk (*) selection will cycle through the interfaces until a valid connection is established to the other gateway group members. These changes are reflected in the Gateway Manager display but are not committed until the user submits the request.
2. **Join Gateway Group** - The following form is displayed so the local server can join an existing DxOdyssey gateway group.

   ![Join Gateway Group Form]

   **Advanced**
   Toggles the visibility of the NatMatchAgent checkbox.

   **NatMatchAgent Checkbox**
   If the NatMatchAgent checkbox is selected, the default value of the target gateway group server is `match.DH2i.com`. This allows servers to join the gateway group from remote locations using the DH2i matchmaking service.

   **Target Gateway Group Server**
   Enter the hostname or IP address of a server from an existing DxOdyssey gateway group.

   **Pass Key**
   Enter the passkey for the existing DxOdyssey gateway group. If joining via the DH2i matchmaking service, enter the one-time pass key (OTPK).

   **Activate after joining**
   This only needs to be selected if local sever activation is still required.

   **Accept EULA**
   Confirm acceptance of the software EULA. An option to view the EULA is provided by a link below the checkbox. Acceptance is required to continue.

   **OK**
   Click to process the request.

   **Close**
   Click to cancel and exit without saving change(s).

3. **Activate the Product** – The following form is displayed so the user can view, activate, or reactivate any gateways.
Name
Each member in the gateway group will appear in its own row displaying the activation status of that member.

License Key
The license key used to activate the product.

Product
The DH2i product that corresponds to the license.

Clients
The number of active remote clients allowed to connect to each server.

Expiration Date
The last date the product can be used.

Support Date
The expiration of the support contract. The product may be used until the expiration date, but the ability to request customer service and receive new updates stops on the support date.

Is Valid
If the license is active, this column will be checked. If not, select the member using the checkbox on the left side and click Activate.

Activate
Click to activate the selected servers. The Accept EULA checkbox must also be selected.

Overview of DxOdyssey Client

The DxOdyssey Client is organized into multiple sections located on the left side of the user interface and a main panel in the center that shows the details of a section.
Each section is a distinct group of commands that perform a specific action.

**Navigation**

The Navigation section contains the common management options available to a gateway group.

**Connection Manager**

To connect to a server, click **Connection Manager**.

This will bring up the connection manager dialog. From here the user can enter the name or IP address of the target server and click **Connect Server**.
**Refresh Button**

This button will refresh the data in DxOdyssey.

**Entity View**

The entity view contains a list of either gateway group members, tunnels, or tunnel groups, any of which can be selected for further details. It is designed so the user can see related elements in a single view.

**Main Panel**

The main panel on the right-hand side of the user interface displays context-specific details depending on what is selected in other panes.

**Gateway Manager**

This section allows the user to manage gateway group members and license activation.
Set group coordinator
Click the check box labeled Coord in the Gateway Manager Entity View. This will set the member to be the gateway group coordinator. When a member is selected as the gateway group coordinator, it is responsible for coordinating gateway group communication between members.

Set app coordinator
Click the check box labeled App in the Gateway Manager Entity View. This will set the member to be the application service coordinator. When a member is selected as the application service coordinator, it is responsible for coordinating and maintaining the application queue.

Gateway Manager Main Panel
The DxOdyssey Gateway Manager Membership section allows the user to define or join DxOdyssey gateway group members.

Update
When the user clicks on the Update button or double clicks on a gateway group member, the following dialog is displayed. The dialog allows the user to select one or more interfaces and order them as appropriate.
When the user clicks the save button, the interfaces dialog will update and close. If there are multiple interfaces selected, the following dialog appears. This dialog lets the user order the interfaces from top to bottom; the interface placed at the top of the dialog will be the first interface selected for communication.

The asterisk (*) selection will cycle through the interfaces until there is a valid connection to the gateway group. No selection is valid after the asterisk, so all are ignored after the asterisk. These changes are reflected in the gateway group manager display but are not committed until the user submits the request.

**Delete**
Clicking the delete button will delete the selected gateway group member in the grid of members and will also remove the member from the current gateway group. This change will only take effect after the user clicks **Submit** at the bottom of the screen.
**Resync Config**
Clicking the Resync Config button will synchronize the configuration between all members. Be aware that this is a large task, so depending on the size of the gateway group it could take some time to complete.

**Manage License**
The Manage License section allows the user to view, activate, or reactivate any gateway group member.

![License Manager](image)

**Name**
Each member in the gateway group will appear in its own row and show activation status of that member.

**License Key**
The license key used to activate the product.

**Expiration Date**
The last date the product can be used.

**Support Date**
The expiration of the support contract. The product may be used until the expiration date, but the ability to request customer service and receive new updates stops on the support date.

**Is Valid**
If the license is active this column will be checked. If not, select the member using the checkbox on the left side and click **Activate**.

**Activate**
Click to activate the selected servers.

**Join Gateway Group**
The Join Gateway Group option allows administrative re-assignment of the local server to another existing DxOdyssey gateway group.
**NatMatchAgent Checkbox**
If the NatMatchAgent checkbox is selected, the default value of the target gateway group server is [match.DH2i.com](https://match.DH2i.com). This allows servers to join from remote locations using the DH2i matchmaking service.

**Target Gateway Group Server**
Enter the hostname or IP address of a server from an existing DxOdyssey gateway group.

**Pass Key**
Enter the passkey for the existing DxOdyssey gateway group. If joining via DH2i matchmaking service, enter the OTPK.

**Activate after joining**
Select if local server activation is required.

**Accept EULA**
Confirm acceptance of the software EULA. An option to view the EULA is provided by a link below the checkbox. Acceptance is required to continue.

**OK**
Click to process the request.

**Close**
Click to cancel and exit without saving change(s).

**Manage OTPK**
This is the One Time Pass Key Manager. Click **New** to generate a one-time pass key. The user can select when the key will expire or leave the default value. The key is needed to join a gateway group using the DH2i Matchmaking service.
Submit
When the user is finished making changes to the gateway group, click the submit button to commit the changes. The following confirmation message dialog will give the user the final option to commit the changes or return to the previous screen without saving.

Gateway Detail
The main panel shows the details of the gateway member selected in the entity view.
Tunnel Manager

The main panel shows the overview details of the available tunnels. The entity view displays the tunnels with the status and an X to delete the tunnel. Clicking on a tunnel name in the entity view will display the complete tunnel details in the main panel.

Add Tunnel

When the user clicks on the add tunnel button, the following dialog is displayed so the user can configure the new tunnel.
**Tunnel Name**
The logical name for the tunnel. This must be unique.

**Gateway Name**
The member name or .ACTIVE alias if the tunnel is part of a tunnel group.

**Target Host/IP**
The desired host name or IP address of the target server.

**Target Port**
The destination port of the target server.

**Origin Gateway Name Origin Network Address**
The member name or alias for an origin server to create a listener.

**Origin Listening Port**
The origin port to create a listener on the origin side of the tunnel.

**Origin Source Filter**
Predefined source filter rules that are defined in the Source Filter Manager.

**Enabled**
If this is checked, the tunnel is enabled. Unchecking this box will keep the tunnel defined but will not allow data to pass through the tunnel.

**Add Row**
Adds a row to the origin listener set.

**Delete Row**
Deletes the selected row from the tunnel definition.

---

**Note:** DxOdyssey allows the tunnel to be configured using aliases if the tunnel is a member of a tunnel group and the NATEnabled setting is true. The aliases are defined in the alias table in Definitions, Acronyms, Abbreviations section.

**Tunnel Detail View**
The main panel displays the details of the selected tunnel from the entity view.
Edit/Save
The edit button allows the user to edit the data that is set up in the Add Tunnel screen with the exception of the tunnel name. After clicking edit, the same button changes to save. The user is required to click save to save any changes made to the tunnel details. However, the tunnel name is the unique identifier in the gateway group and can only be changed by deleting the tunnel and adding a new one with the same parameters but a different tunnel name.

Cancel
This will undo any changes made in the edit screen and will return the tunnel detail view to read-only mode.

Manage Clients
Clicking the Manage Clients button allows the user to manage the remote clients and remote client groups associated with the tunnel. The clients and client groups assigned to the tunnel will then be able to access the tunnel using DxConnect. For more information about DxConnect, please see the DxConnect Admin Guide.

Remote Tunnel Clients
The remote tunnel clients displays the clients or client groups assigned to the tunnel with the listening address. The navigation bar allows the user to set the number of items per page and navigate to a specific page. The last button is to refresh the display.
Add client
This will create a new dialog for the user to select client(s) to add to the tunnel.

Search...
This will filter the view of the clients based on user input.

Grid Navigation Bar
The navigation bar allows the user to set the number of items per page and navigate to a specific page. The last button is to refresh the display.

IP Address
The client listening address. This is the IP address that the client will use to connect to the tunnel. The loopback address (127.0.0.1) is recommended.
Port
The client listening port.

Add Selected
This will add the selected clients and associate them with the IP address and port defined by the user. Clients can be added multiple times to a tunnel with different IP address and/or port.

Add group
This will create a dialog that displays client groups that can be added to the tunnel.

Remove from tunnel
This will remove the selected client or group from the tunnel.

Submit
This will save the changes made by the user and close the client management screen.

Close
This will close the client management screen without saving any changes.

Tunnel Group Manager

To create a tunnel group, click on Tunnel Group Manager and click Add Tunnel Group at the bottom of the left-hand pane.
**Tunnel group Name**
Use this field to specify a group name. Make sure the group and IP address pair is registered in DNS. The name entered in this field cannot include spaces.

**Virtual IPs**
Specify the IP address(es) that will be associated with this tunnel group.

There are two types of virtual IPs supported by DxOdyssey:

1. The default is *127.0.0.1. This specifies that the tunnel group will not attempt to bind to an IP address. Recommended for multi-cloud environment, where the virtual IP may not be available to bind to all sites.
2. A specific IP address or a comma delimited list of IP addresses. This specifies that the tunnel group will attempt to bind the specified IP address(es) to the active member for the tunnel group.

---

**Note:** DxOdyssey will bind the virtual IP to the adapter within the same subnet. A DNS entry must exist for each group/IP address. The entry must include an A record and a [PTR] record for forward and reverse lookup. Windows authentication may fail if these records do not exist. Be sure to create a DNS entry for each group/IP created. Dynamic DNS registration is not supported.

**Available Gateways / Selected Gateways**
Move the DxOdyssey members from the Available Gateway column to the Selected Gateway column to add them to the tunnel group. The member at the top of the list will become the primary member. The user can use the up and down arrows to reorder the members in the Selected Gateways column.

**OK**
When the user clicks OK, a confirmation dialog displays asking the user to confirm the changes.
When the user clicks **Yes** on the Confirmation Dialog, DxOdyssey Client will create the group.

**Close**

If the user clicks the **Close** button the tunnel group will not be created and the dialog will close.

**Tunnel Group Detail**

The tunnel group detail view displays the configuration of the selected tunnel group from the entity view.

**Update**

When the user clicks the update button, the following dialog is displayed. This dialog allows the user to reorder the gateway group members in the tunnel group or change the virtual IP.
Stop
When the user clicks stop, the tunnel group is set to disabled and no member is active.

Add Gateway
To add a member to the tunnel group, click Add Gateway. The following dialog is displayed.

Add
The Add button on the right in the tunnel section allows the user to add a new tunnel to the tunnel group.

Delete
The delete button on the right side of the tunnel section allows the user to delete the tunnel from the gateway group. To remove the tunnel from the group but keep the tunnel configuration, click the Assign button.

Assign
To assign or remove a tunnel from the tunnel group, click the Assign button. The following dialog is displayed.
To remove a tunnel, move it from the selected tunnels to the available tunnels. To add a tunnel, move it from the available tunnels to the selected tunnels. To move a tunnel, you can double-click on the tunnel or select the tunnel and use the appropriate arrow.

**OK**

All changes are committed when the user clicks OK.

**Close**

This will close the Assign dialog without making any changes.

**Source Filter Manager**

The Source Filter Manager dialog allows the user to configure specific rules for allowing or denying one or many IP addresses, subnets, ports or ranges.
**Add Source Filter**
Click to create a new rule. The following dialog is displayed.

![Add Source Filter Dialog Image](image)

**Filter Name**
The name of the rule to create.

**Address**
The first column is a text entry that allows input in the following formats:

1. IPAddress – 10.0.0.10
2. IPAddress:Port – 10.0.0.10:2345
3. IPAddress/CIDR – 10.0.0.0/24
4. IPAddress/Mask – 10.0.0.0/255.255.255.0

**Action**
The second column is a drop down with the following selections:

- **Allow**
  Allows the configured address access to the tunnel.

- **Deny**
  Denies the configured address access to the tunnel.

**Delete**
When the user clicks on the “X” in the delete column, the selected IP definition is removed from the rule.

**Default**
Select DENY ALL or ACCEPT ALL for the default rule. What the user selects depends on whether the user wants to deny all connection but allow a specific connection or allow all connections and deny a specific connection.
**Up Arrows Button**
To move the selected IP definition up in the sorting order of the rule.

**Down Arrows Button**
To move the selected IP definition down in the sorting order of the rule.

**Delete Button**
To remove the selected IP definition from the rule.

**New Row**
Add a new IP definition for the rule.

**Submit**
Close the form and commit changes.

**Close**
Close the form without making changes.

**Edit**
Highlight a selection and click edit to modify the rule.

**Delete**
Highlight a selection and click delete to remove the rule.

**Client and Group Manager**

The client and group manager allows the user to add a new remote client, a remote client group, edit a client, or edit a group. This is where the configuration file is generated that allows the user to access one or more tunnels based on which tunnels the user is associated using DxConnect. For more information on DxConnect, please see the DxConnect Admin Guide.
**Grid Navigation Bar**
The navigation bar allows the user to set the number of items per page and navigate to a specific page.

From left to right the actions are:

- Move to first page.
- Move back one page.
- Set the page number manually.
- Move forward one page.
- Move to last page.
- Number of items per page.
- Refresh data.
- Display the details of the selected client (only available in client view).

**Add New Group**
Click this button to add a new remote client group. A remote client group is a unique name used to group members together. The “add new group” window is the same as the edit window, the only difference being the group name cannot be changed.

*Note: The Group Name must be unique, and it is not case-sensitive (i.e. DEVTEAM, devteam and DevTeam are considered the same name; and will be displayed in all capitals – DEVTEAM).*

**Search...**
Click this button to filter the list of clients based on the search parameters.
Add Client
Click this button to create an “add new client” dialog.

Add Arrows
After selecting one or more clients, the user can click this button to add them to the remote group. No changes are saved until the user clicks submit.

Remove Arrows
After selecting one or more client members, the user can click this button to remove them from the current group. Changes are not saved until after the user clicks the submit button.

Grid Navigation Bar
The navigation bar allows the user to set the number of items per page and navigate to a specific page. The last button is to refresh the display.

Submit
Changes are saved and the dialog closes.

Close
Changes are not saved and the dialog closes.

Add New Client
Click this button to add a new remote client user. The “add remote client” dialog is the same as the edit remote client, except the username cannot be changed in edit mode.

Note: The username must be unique, and it is case-sensitive (i.e. Harry and harry are two distinct names).

Submit
This button submits the data and closes the dialog. If apply or submit is not been selected, any information in the fields will not be saved.

Close
This button closes the dialog.
Apply
This button submits the current data and clears the form so the user can add another remote client.

Export Config File
Click this button to export the configuration file. The configuration file will be needed, along with the username and password, for a user to connect to a tunnel using the DxConnect application. For more information on DxConnect, please see the DxConnect Admin Guide.

Advanced Settings
The advanced settings section has additional functionality for more experienced users.

Settings
This section allows the user to set various advanced internal settings for the gateway group itself. This is not typically recommended without specific advice or explanation from DH2i Support or Engineering staff.

Alerts
The alerts screen displays the current alerts and the details of each alert. Below the current history is a grid of past alert history consisting of as many as the most recent 500 alerts since the user logged in. The user can clear the history as needed.
Processes

The processes screen shows all processes initiated against the gateway group from the current server since login. The list of processes shows the process command, the status, and the date it was initiated. There is also a select check box that allows the user to select a process and delete it by clicking on the **Delete Selected** button. When the user clicks on the row, the detailed results of the process are displayed below.

Logs

The collect logs utility automatically bundles selected logs and configuration and stores them on each member for troubleshooting.
**Debug**

The debug commands section allows the execution of commands internal to DxOdyssey. Use of this section is not recommended without a specific request from DH2i Support or Engineering staff.

**Search**

The Search dialog exists to allow the user to search for and select any entity within the connected server from a single pane.
Clicking on search displays a pane and provides a text box to search for arbitrary entities. The user may choose to make the search case-sensitive or clear the search. Clicking any result will show the user the details of that result.

**Support and Other Resources**

**How to request technical support**

For technical assistance, contact DH2i Technical Support through one of the following methods:

- Email: support@dh2i.com
- Web: support.dh2i.com
- Phone: U.S.: (800) 380-5405 ext 2

Before the user submits a support request, please collect the following information:

1. Information on your hardware and software
2. DxOdyssey version.
3. Describe the steps to reproduce the problem.
4. Supply event logs from all members.
5. Exact error message(s).
6. Specify how many times the problem has occurred.
7. State the actual results.
8. Describe the expected results.

1. Supply information on your hardware and software
Use the All programs > Accessories > System tools > System information or other product that will give
details about the software and hardware being run on the system.

2. Supply DxOdyssey version

The version of DxOdyssey can be obtained by using DxOdyssey Client. Navigate to the gateway group
manager detail view and write down the version from the details pane.

Please make sure that the user run the same version of DxOdyssey on all your machines. If for some
reason this is not the case, please state the version of DxOdyssey on each of the members.

3. Describe the steps to reproduce the problem

Please write down the exact steps that led to the problem. If DH2i Technical Support is unable to
reproduce the problem, it may be difficult to identify, investigate and fix the problem.

Due to the distributed nature of DxOdyssey, the user will have to include some additional information as
well. Take notes of the order in which machines were started - this directly corresponds to the order they
enter the gateway group and also affects some other aspects of DxOdyssey operation.

4. Supply System event logs

A. Please send system and application event logs from all your systems forming a gateway group.
   DxOdyssey writes its information in the DH2i event log, but other software (e.g. MS SQL) enters
   important information in the Application event log. All the needed logs can be collected by
   navigating to DxOdyssey Client Advanced Configuration and selecting Collect Logs.

B. Open Windows Explorer and browse to DH2i support folder (e.g. C:\Program Files\DH2i\Support)
on each member.

C. Upload the zipped file to support@dh2i.com.

To help DH2i Technical Support get as much information as possible out of log files, please provide the
approximate time the issue occurred.

5. Supply the error message(s)

If an error message is displayed in a message box, write down the exact text of the message. Please
translate the text into English, if the message is in some other language. Also the user may perform a
screen capture of the error message as follows:

A. Make sure that the error message is the active window. Press Alt+PrtScn to place a bitmap copy
   of the window in the Clipboard.

B. Open the built-in MS Paint bitmap editor, and paste the image.

C. Go to "File->Save as" and choose a filename.

In case a STOP error occurs that leads to a "blue screen of death", it is important to obtain the kernel
memory dump that should be created at %SystemDrive%:\Windows\Memory.dmp. If the user reviews
the memory dump and suspects the STOP error may be DxOdyssey related, compress and upload the
memory dump via the file manager in your account at http://clients.dh2i.com. Then contact support@dh2i.com with a problem description according to the steps provided in this section. A DH2i Technical Support engineer will analyze the memory dump and offer suggestions to resolve the error based on his/her findings.

6. Specify how many times the problem has occurred

The best property a problem may have is to be reproducible every time a particular test is run. Unfortunately, this is not always the case, if a something shows up only once chances are it won't be discovered.

Please specify the frequency with which a particular bug is occurring - every time the user use the same steps, intermittent (how many times in how many tests), just once.

7. State the actual results

Describe the exact results achieved during the test using quantitative values, when possible. For example, avoid saying just "the machine hangs". Instead say something along the lines of "Windows Explorer stopped responding (hanged), we waited for X minutes, nothing changed, we had to kill the explorer process".

8. Describe the expected results

Please describe in detail the expected test results.

References

- DH2i Support Portal
- DxOdyssey v19.5 DxCli Guide

Contacting DH2i

DH2i Company
Technical support:
  Email: support@dh2i.com
  Web: support.dh2i.com
  Phone: U.S.: (800) 380-5405 ext 2
Information requests: info@dh2i.com
Sales inquiries: sales@dh2i.com
Website: www.dh2i.com

Mailing address:
  DH2i Company
  320 East Vine Drive, Ste 321