



BeyondTrust

Remote Support Equilibrium Guide

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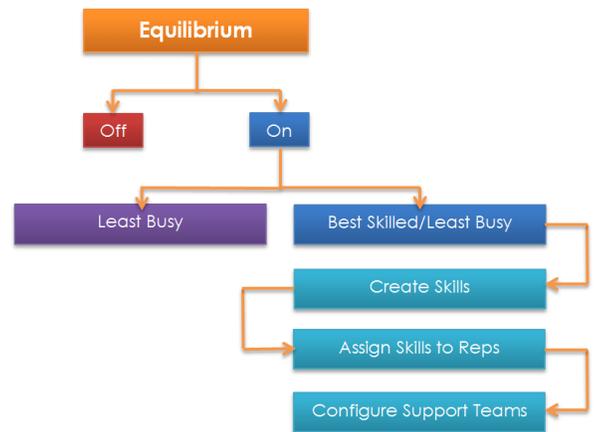
Equilibrium for Automatic Session Routing

Equilibrium allows you to automatically distribute incoming support requests within a team queue. Depending on the algorithm selected, incoming requests can be assigned to the least busy representative or the best skilled/least busy to handle the support issue. If the **best skilled/least busy** algorithm is selected, when a customer starts a session asking for help with a "driver update", for example, that session is routed to the representative best suited to handle this issue. If no perfect match is found, or there are no available representatives with that particular skill set, the algorithm running Equilibrium drops "driver" and looks for "software updates" and tries another match, looking for the next best suited representative to handle "software updates". The process continues until the best match is found or until all skill requirements are removed and the session is simply routed to the next least busy representative.

With Equilibrium set up and support issues routed to the appropriate teams and assigned priorities, you can greatly increase support efficiency and reduce customer hold times, ensuring that sessions are handled by the best qualified representative in the most efficient manner possible.

This document is designed to help you set up Equilibrium so that you can automatically manage how sessions are assigned to your representatives. Since there are several steps necessary when setting up automatic session distribution, it is advisable that you follow the flow process in this guide.

The flowchart on the right shows how Equilibrium works and how it is configured.



Configure Skills to Route Issues to Representatives

The first step to setting up automatic session distribution is to configure skills. Go to the **Configuration > Skills** page and click **New Root Skill**.

 **Note:** In order to be able to edit skills, this permission has to be set per user. Go to **Users & Security > Users**, select a user to edit, scroll down to the **General Permissions** section and make sure the **Allowed to Edit Skills** permission is checked. Administrators are automatically granted this permission.

Enter a display name for the skill. This name is used to associate this skill with issues and with representatives and should therefore be somewhat descriptive but brief. This name must be unique.

Next, enter a code name for this skill. The code name is used by the software. It can only contain letters, numbers, underscores, and hyphens. This still needs to be recognizable as associated with the display name, as the code name is used for API programming and for importing CSV files of skills and representatives. This name must be unique. Click **Save** to save this root skill.

For the simplest setup, you may wish to create only root skills. However, for more intricate setups, you may wish to create skills in a tree format. In this case, after creating one or more root skills, select a root skill and then click **New Skill** to create a child skill under that category.

Create a display name and code name for the new skill, just as you did for the root skill. You must also select a parent skill/category. It is easiest to select a category by first actually selecting the parent category and then clicking **New Skill**, because this automatically populates the **Parent** dropdown with the selected category. However, you can scroll through the list of skills to select a parent category if you selected the wrong parent by accident or if you need to edit the skill later on. Click **Save** to save the new skill.

Each root skill is automatically assigned a rank. All child skills have that same rank. If a session is assigned two or more skills with the same rank, the algorithm searches for a representative with any of those skills using "OR" logic. If a session is assigned two or more skills with different ranks, the algorithm searches for a representative with all of those skills using "AND" logic; if no representative is available, the lowest ranked skill is stripped, and the search is performed again. You can reset rank by clicking **Change Ranking**, dragging and dropping, and then clicking **Save Ranking**.

SKILLS

NEW ROOT SKILL NEW SKILL EDIT DELETE CHANGE RANKING

Skills

Android OS	Rank: 1
Mobile Systems	
Linux OS	Rank: 2
Ubuntu	
Red Hat	
Fedora	
Windows OS	Rank: 3
Mac OS	Rank: 4
Software Updates	Rank: 5

Root Skill Information

Required field

Display Name:

Code Name:

SAVE **CANCEL**

SKILLS

NEW ROOT SKILL NEW SKILL EDIT DELETE CHANGE RANKING

Skills

Android OS	Rank: 1
Mobile Systems	
Linux OS	Rank: 2
Ubuntu	
Red Hat	
Fedora	
Windows OS	Rank: 3
Mac OS	Rank: 4
Software Updates	Rank: 5

Skill Information

Required field

Display Name:

Code Name:

Parent:

SAVE **CANCEL**

SKILLS

CANCEL SAVE RANKING

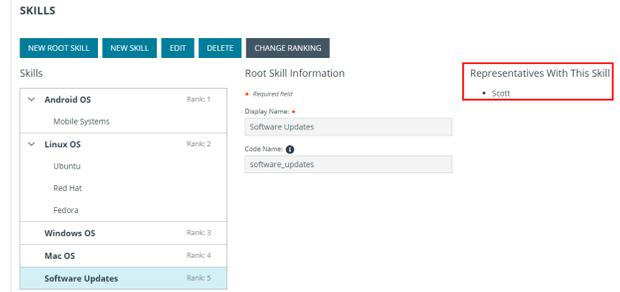
Change Ranking

Android OS	Rank: 1
Linux OS	Rank: 2
Windows OS	Rank: 3
Mac OS	Rank: 4
Software Updates	Rank: 5

Ranking Help

For sessions that have multiple skills from different ranks, the system will first attempt to find representatives who have at least one skill from each rank. If no representatives are found, then the system will perform another match attempt that includes all skills except those from the lowest rank. This process continues until either a representative is found or all ranks are exhausted.

Once you have set up skills, you can select a skill to view its information; click **Edit** to modify its information. You also can view a list of representatives who have been assigned that skill.



The screenshot shows the 'SKILLS' management interface. At the top, there are navigation buttons: 'NEW ROOT SKILL', 'NEW SKILL', 'EDIT', 'DELETE', and 'CHANGE RANKING'. Below these is a table of skills:

Skills	Rank
Android OS	Rank: 1
Mobile Systems	
Linux OS	Rank: 2
Ubuntu	
Red Hat	
Fedora	
Windows OS	Rank: 3
Mac OS	Rank: 4
Software Updates	Rank: 5

To the right of the table is the 'Root Skill Information' panel for the selected 'Software Updates' skill. It includes a 'Request Field' (Software Updates), a 'Display Name' (Software Updates), and a 'Code Name' (software_updates). A red box highlights the 'Representatives With This Skill' section, which lists 'Scott'.

Assign Skills to Representatives

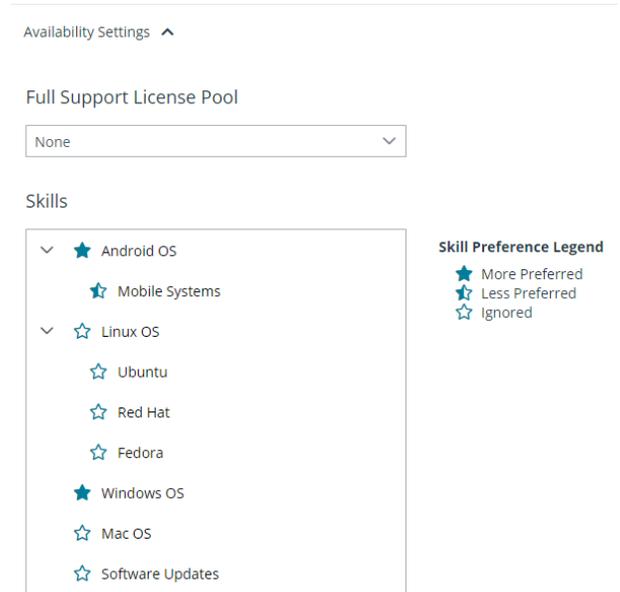
Once you have created the skills you wish to use, you must assign those skills to one or more representatives in order to take advantage of automatic session distribution based on skills match.

Manually Assign Skills

To assign skills to a representative go to the **Users & Security > Users** page and create or edit a user account. Scroll down to the bottom of the page to the **Availability Settings** section, then select which skills you want to associate with this user. Skills are associated with a representative based on their level of competency and are tagged accordingly:

- **More Preferred:** The representative may be considered a specialist in the subject. The algorithm looks for this representative first.
- **Less Preferred:** The representative could be considered a generalist in the subject area and be familiar with a broad set of similar subjects. The algorithm looks for this representative if none tagged as "More Preferred" is found or available.
- **Ignored:** Representative does not have any specific knowledge on this subject.

If you select as more preferred a skill that has child skills, all child skills are automatically marked as less preferred. You cannot manually mark a skill as less preferred. Neither can you select a parent as more preferred and then deselect children; all children of a preferred skill must be either more preferred or less preferred and cannot be ignored. If a representative has a skill marked as ignored and that is the skill marked on a session, the only way that session is automatically assigned to that representative is if there are no available representatives with the session's needed skills and that representative happens to be the least busy.



Availability Settings ^

Full Support License Pool

None

Skills

- Android OS
 - Mobile Systems
- Linux OS
 - Ubuntu
 - Red Hat
 - Fedora
- Windows OS
- Mac OS
- Software Updates

Skill Preference Legend

- More Preferred
- Less Preferred
- Ignored

Import User Skills

When dealing with a larger number of representatives and/or skill sets, it may be easier to assign skills to representatives using bulk import. This is done by uploading a CSV file with the usernames and associated skills. The CSV file should use the following format:

```
"username1", "skill_code_name1"
"username1", "skill_code_name2"
"username2", "skill_code_name1"
```

From the **Configuration > Skills** page, under **Import User Skills**, click **Choose File** and browse to the CSV file you want to import. Please note that the skills listed for a given representative on the import file overrides any skills already associated with that user. If you need to remove all associated skills with a particular user, leave the skill code name empty ("username3", ""). Also note that as with manually assigned skills, the CSV file can only designate "More Preferred" skills.



IMPORT USER SKILLS

Choose File

Upload a CSV file containing the skills to assign to users. The CSV file should be in the following format:

```
"username1", "skill_code_name1"
"username1", "skill_code_name2"
"username2", "skill_code_name1"
```

Skills are only removed for those users explicitly specified in the import file. For each user specified, all existing skills are removed and the skills specified in the import file are added. Specifying a user with an empty skill code name (e.g. "") will remove all skills associated with that user.

Additional User Settings

There are a few more account settings that can affect how a session is assigned to this representative. First of all, this representative must be allowed to provide remote support. If the representative is allowed to manually accept sessions from a team queue, they can bypass session assignment by skills; they could even accept a session for which they have no matching skills. If they can use the **Get Next Session** feature, that representative is assigned the next session, despite any Equilibrium settings handling that session.

If the representative is allowed to opt out of session assignments, they can turn off automatic session assignment so that they are not assigned sessions. You can also set rules to determine when this representative is counted as available and are assigned sessions; this is determined by the maximum number of sessions they should be supporting and the length of time they have been idle.

Assign Skills to Issues

With skills configured and assigned to representatives, you now need to assign skills to support issues. In order to create issues, you must have at least one support team defined.



Note: Users must have the user account permission **Allowed to Edit Issues** enabled in order to create and edit issues. Administrators are automatically granted this permission.

On the **Configuration > Issues** page, click **Add** and enter a description for the issue. The description is the text of the issue as it appears to your customer on the issue submission form of your public site. Therefore, make sure the description is easy to understand and descriptive of a specific problem.

Next, select the support team to which this issue should be routed. When a session with this issue is searching for an available representative, only this team's members are searched.

You can also set a priority. The default setting is **Medium**. If set to **High**, a customer requiring help with this issue is moved to the head of the team's queue. In most cases, the system does not send out alerts for a session with low priority until all high and medium priority sessions have been handled for that queue. Representatives can always manually accept a low priority session from a queue in any order they want. When using the **Get Next** button, the system always routes high and medium priority sessions to that representative before low priority sessions.

Next, check the box if you want to allow representatives to request help for this support issue while in a session. If checked, the issue is listed in the **Request Help** flyout window of the representative console when the **Session Sharing** option is selected.

In the **Needed Skills** area, select one or more skills that this issue should try to match. Skills can be tagged according to relevance to the particular support issue by clicking on the stars and selecting from **More Preferred**, **Less Preferred**, or **Ignored**.

Selecting a child skill as more preferred automatically marks all parent skills as less preferred. You cannot manually mark a skill as less preferred. Neither can you select a child as more preferred and then deselect parents; all parents of a preferred skill must be either more preferred or less preferred and cannot be ignored.

The new support issue appears on the list, showing which team handles it, the issue priority in the queue, and the skills associated with it:

ADD A SUPPORT ISSUE

Required field

Description *

Code Name *

Route To *

Priority *

Allow representatives to request help for this support issue

Needed Skills

- ☆ Android OS
- ☆ Mobile Systems
- ☆ Linux OS
 - ☆ Ubuntu
 - ☆ Red Hat
 - ☆ Fedora
 - ★ Windows OS
 - ☆ Mac OS
 - ☆ Software Updates

Skill Preference Legend

- ★ More Preferred
- ☆ Less Preferred
- ☆ Ignored

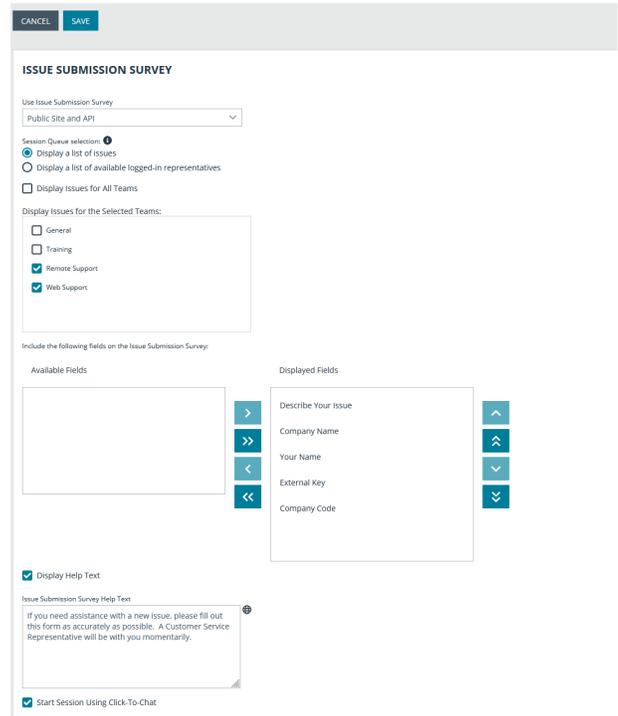
Software Installation	General	Medium	<ul style="list-style-type: none"> • Mac OS • Windows OS 	 
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Configure Team Settings

With skills assigned to sessions and to representatives, it is time to make sure sessions can route to the appropriate representatives. You can set up a routing system through the API, but here we are going to discuss routing via teams.

First, make sure that the issue is visible on your public site. From the **Public Portal > Public Sites** page, edit the site through which you wish customers to be able to submit this issue. Make sure that the **Issue Submission Survey** is enabled, with the list type set to display issues.

Then, either check **Display Issues for All Teams** or **Display Issues for the Selected Teams** and pick the ones you want. Be sure to click **Save** when done.



The screenshot shows the 'ISSUE SUBMISSION SURVEY' configuration page. At the top, there are 'CANCEL' and 'SAVE' buttons. The page title is 'ISSUE SUBMISSION SURVEY'. Below the title, there is a dropdown menu for 'Use Issue Submission Survey' set to 'Public Site and API'. Under 'Session Queue selection', there are three radio buttons: 'Display a list of issues' (selected), 'Display a list of available logged-in representatives', and 'Display Issues for All Teams'. Below this, there is a section 'Display Issues for the Selected Teams:' with a list of checkboxes: 'General', 'Training', 'Remote Support' (checked), and 'Web Support' (checked). The 'Include the following fields on the Issue Submission Survey:' section contains two columns: 'Available Fields' and 'Displayed Fields'. The 'Available Fields' column is empty. The 'Displayed Fields' column contains: 'Describe Your Issue', 'Company Name', 'Your Name', 'External Key', and 'Company Code'. Below the fields, there is a checkbox for 'Display Help Text' which is checked, and a text area for 'Issue Submission Survey Help Text' containing the text: 'If you need assistance with a new issue, please fill out this form as accurately as possible. A Customer Service Representative will be with you momentarily.' At the bottom, there is a checkbox for 'Start Session Using Click-To-Chat' which is checked.

Next, go to **Configuration > Support Teams**, select a team to edit, and make sure the representatives you want to handle the issues assigned to this team are members of this team in some role. Members can be assigned individually or via group policy.

Finally, you must enable Equilibrium by selecting how you want sessions to be routed to teams. Expand on **Equilibrium Settings** and use the dropdown menu to select the appropriate algorithm, depending on how you want sessions to be routed. Options are:

- **None:** no algorithm is selected and session requests remain in the team queue until a representative manually accepts them.
- **Least Busy:** session is assigned to the least busy representative, that is, the representative who has had the lowest number of simultaneous sessions for the longest time.
- **Skills Match, Least Busy:** session is assigned by selecting the representative with the most appropriate skill set match necessary to handle the issue, as well as being the least busy of all qualified representatives.

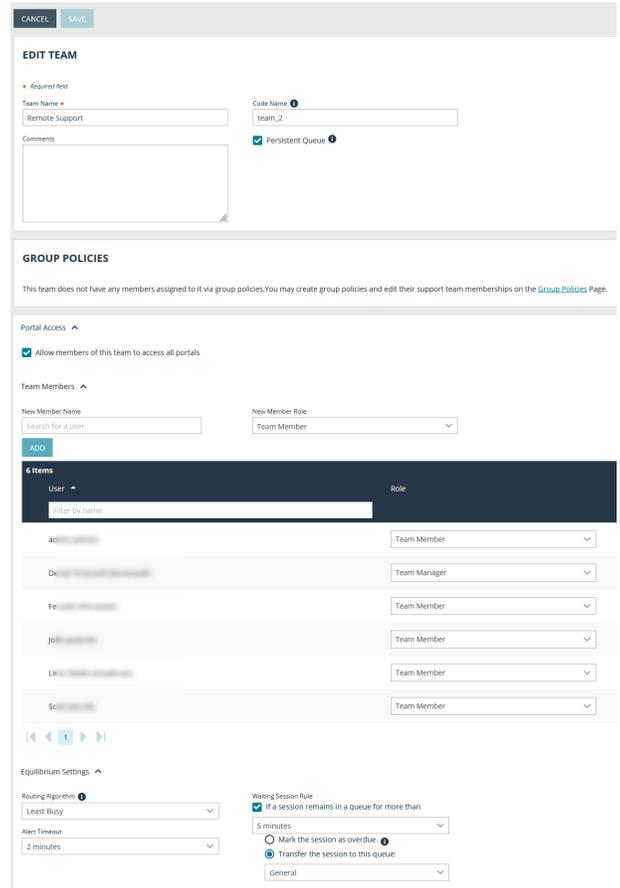
The **Alert Timeout** dropdown determines how long the session remains assigned to the representative's queue before it is assigned to the next representative.

You also can create a **Waiting Session Rule**. If enabled, set how long a session is allowed to remain in this queue. Then choose the action to take if the session waits for longer than the set time. You can either transfer the session to an overflow queue, or you can mark the session as overdue. A session that becomes overdue plays an audio alert, flash in the queue, causes the queue itself to flash, and displays a pop-up notification. These notifications can be modified in the representative console settings.

Test the Configuration

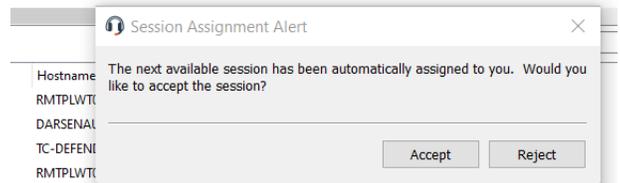
If you wish to test the above configuration, first log in to the representative console using an account with the skills set you wish to test.

Next, go to the public site and submit a support request via the issue submission form. Be sure to select an issue that has skills assigned to it and that routes to one of the representative's team queues.



After the customer client connects, the representative should see a session assignment alert for that session, assuming they are the best match and the least busy of any identical matches.

Queue	Uptime	Priority	Time in Queue	Name	Computer
Remote Support	25:54:36	Medium	🕒 0:00:31	Mario Fratelli	RMTPLWT061



The representative console shows the skills and priority assigned to the issue you selected from the issue submission form.

Public Site	Queue	Uptime	Priority	Time in Queue	Name	Computer	OS	Issue	Total Time
Default	Scott	26:03:14	Medium	🕒 0:00:25	Mario Fratelli	RMTPLWT0004	Windows 10	Software Updates: 3/28/15	0:00:15

Queue	Priority	Customer Name	Customer Issue	Operating System	Required Skills	Public Site	Uptime	Required Skills	Public Site	Uptime	Required Skills	Public Site	Uptime	Required Skills	Public Site	Uptime	Required Skills	Public Site	Uptime
Scott	Medium	Mario Fratelli	Software Updates: 3/28/15	Windows 10 Enterprise x64	Windows OS	Default	26:03:14	Mac OS, Windows OS	Default	26:03:14	Mac OS, Windows OS	Default	26:03:14	Mac OS, Windows OS	Default	26:03:14	Mac OS, Windows OS	Default	26:03:14

Session Assignment and Intelligent Support Collaboration

If Equilibrium is set up to route incoming support requests based on skills match, sessions are assigned to the best-suited representative available. When a session enters a queue that has skills-based routing enabled, that session is automatically assigned to the representative with the best skills match. If there is a tie, the session is assigned to the least busy representative, based on the number of sessions that representative is supporting and how long they have been available.

When a session is assigned to you, you are given a prompt to accept or reject the session, along with visual and audible alerts if enabled. When the invitation is about to expire, visual and audible alerts warn you. If you reject the invitation or the invitation times out, the session is reassigned to the next best matched representative for that queue.

A rejected session is not assigned to the same representative twice unless it is manually transferred into another queue for which that representative is available. If a session cycles through all available representatives for the queue and is not accepted, it remains in queue until someone manually accepts or transfers it.

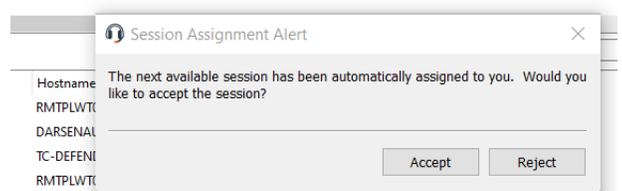
Alternatively, if your administrator has set up a waiting session rule for this queue, the session either gives an audible and visual alert when it is overdue, or it is transferred to an overflow queue. If that overflow queue has a waiting session rule set up that transfers the session back to the first queue, the session could potentially bounce back and forth between the queues until it is accepted.

A session is not assigned to a representative if that representative is unavailable. If you lock your computer or switch to the login screen, you are marked as unavailable. Also, rules within the user permission mark you as unavailable if you are participating in more than a set number of sessions or have been idle longer than a specified length of time. Finally, if you have permission to opt out of session assignments, you may choose not to receive automatic session assignments from:

- the **Support** menu of the representative console
- the **Auto Assign** button at the top of the representative console
- the right-click menu of the system tray icon

You may be allowed to accept a session without being assigned that session in one or more ways. If you have permission to manually accept sessions from a team queue, either double click the customer entry or select the entry and click the **Accept** button.

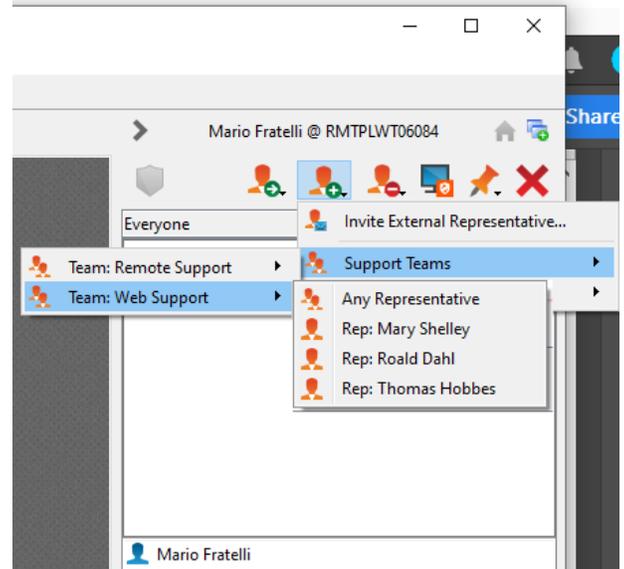
Queue	Uptime	Priority	Time in Queue	Name	Computer
Remote Support	25:54:36	Medium	🕒 0:00:31	Mario Fratelli	RMTPLWTO61



Intelligent Support Collaboration

Equilibrium is used to control the routing of **Intelligent Support Collaboration** requests, where a support session can be shared with one or more representatives. If you need help during a session, you can invite an additional representative to join you by clicking the **Share** button in the session tools. This can be done in several ways. You can use **Request Help** to route your request so that it is targeted at a specific support issue. Only issues that have been configured to allow you to request help display on this list. You can also select a representative listed in the teams displayed to invite them to join the session. If you select **Any Representative**, the invitation is sent to the team queue so that any single representative in the selected team can join the session. You can send multiple invitations if you want more representatives from the team to join your session.

Since share invitations are treated like normal sessions, they can be distributed to the best suited representative, or representatives, who can pick them up by clicking on the **Get Next** button, accepting a **Session Assignment Alert**, or simply by selecting and accepting a request sent to a queue. A created invitation can be associated with a new skill set, priority, and team that have been previously configured by the administrator. When targeted to a support issue, the invitation request uses the **Skills**, **Priority** and **Issue Description** parameters associated with that particular issue.



Skills Routing Algorithms

The tables below are provided to help you understand how routing works in various configurations.

Simple Skills Routing

In this scenario:

- Skills are configured as a list.
- Each representative is assigned one or more skills.
- Each session is assigned one skill.
- Sessions can be routed to any representative with the matching skill.

Given the following skills configuration:

Root Skill	Representative 1	Representative 2	Representative 3
Antivirus	More preferred	More preferred	
Linux		More preferred	
MS Office			

Sessions are routed in the following manner:

Session Skills	Route to Representative(s)
Antivirus	1 or 2, whichever is least busy.
Linux	2
MS Office	Any, whichever is least busy.

Tiered Skills Routing

In this scenario:

- Skills are configured as a tree.
- Each representative is assigned one or more skills.
- Each session is assigned one skill.
- Sessions can be routed to any representative with the matching skill or one of its parent skills.

Given the following skills configuration:

Root Skill	Child Skill	Representative 1	Representative 2	Representative 3
Antivirus		More preferred		
	Bitdefender	More preferred		
	McAfee	More preferred		More preferred
	Norton	More preferred		
Linux				

Root Skill	Child Skill	Representative 1	Representative 2	Representative 3
	Ubuntu		More preferred	
	Red Hat			More preferred
	Fedora	More preferred		
MS Office			More preferred	
	Outlook		More preferred	More preferred
	Excel		More preferred	

Sessions are routed in the following manner:

Session Skills	Route to Representative(s)
Antivirus	1
Bitdefender	1
McAfee	1 or 3, whichever is least busy
Norton	1
Linux	Any, whichever is least busy
Ubuntu	2
Red Hat	3
Fedora	1
MS Office	2
Outlook	2 or 3, whichever is least busy
Excel	2

Preference Skills Routing

In this scenario:

- Skills are configured as a tree.
- Each representative is assigned one or more skills as "More Preferred" or "Less Preferred".
- Each session is assigned one skill.
- Routing rules:
 - Try to route to a representative who is "More Preferred."
 - If no representatives are found, try to route to a representative who is "Less Preferred."

Given the following skills configuration:

Root Skill	Child Skill	Representative 1	Representative 2	Representative 3
Antivirus		More preferred		
	Bitdefender	Less preferred		
	McAfee	Less preferred		More preferred
	Norton	Less preferred		
Linux				

Root Skill	Child Skill	Representative 1	Representative 2	Representative 3
	Ubuntu		More preferred	
	Red Hat			More preferred
	Fedora	More preferred		
MS Office			More preferred	
	Outlook		More preferred	More preferred
	Excel		More preferred	

Sessions are routed in the following manner:

Session Skills	Route to Representative(s)
Antivirus	1
Bitdefender	1
McAfee	3
Norton	1
Linux	Any, whichever is least busy
Ubuntu	2
Red Hat	3
Fedora	1
MS Office	2
Outlook	2 or 3, whichever is least busy
Excel	2

Simple Multi-Skills Routing

In this scenario:

- Skills are configured as a list.
- Each representative is assigned one or more skills.
- Each session is assigned one or more skills.
- Sessions are routed using "skill peeling" logic:
 - Try to route to a representative who has all skills assigned to the session.
 - If no representatives are found, peel away the lowest ranking skill from the session and search again.
 - Continue peeling skills until no skills remain or a representative is found.

Given the following skills configuration:

Skill	Representative 1	Representative 2	Representative 3
Antivirus	More preferred	More preferred	
Linux		More preferred	More preferred
MS Office			

Sessions are routed in the following manner:

Session Skills	Route to Representative(s)	Logic
Antivirus	1 or 2, whichever is least busy.	Representatives 1 and 2 both have the "Antivirus" skill.
Antivirus, Linux	2	Only Representative 2 has both preferred skills; if Representative 2 is unavailable, the Linux skill is peeled away and the session is routed to Representative 1.
Linux	2 or 3, whichever is least busy.	Representatives 2 and 3 both have the "Linux" skill.
MS Office	Any, whichever is least busy.	No representatives have the "MS Office" skill. Fall back to the least busy representative.
Antivirus, Linux, MS Office	2	No representatives have the "MS Office" skill. Peel away "MS Office", the lowest ranking skill. Only Representative 2 has both remaining skills.

Tiered Multi-Skills Routing

In this scenario:

- Skills are configured as a tree.
- Each representative is assigned one or more skills.
- Each session is assigned one or more skills.
- Sessions are routed using "AND" logic for skills with different rankings and with "OR" logic for skills with the same ranking.

Given the following skills configuration:

Root Skill	Child Skill	Skill Priority	Representative 1	Representative 2	Representative 3
Antivirus		1	More preferred		
	Bitdefender	1	More preferred	More preferred	
	McAfee	1	More preferred		More preferred
	Norton	1	More preferred		
Linux		2			
	Ubuntu	2		More preferred	
	Red Hat	2			More preferred
	Fedora	2	More preferred		
MS Office		3		More preferred	
	Outlook	3		More preferred	More preferred
	Excel	3		More preferred	

Sessions are routed in the following manner:

Session Skills	Route to Representative(s)	Logic
Antivirus	1	Only Representative 1 has the "Antivirus" skill.
Bitdefender	1 or 2, whichever is least busy	Representatives 1 and 2 both have the "Bitdefender" skill.
McAfee	1 or 3, whichever is least busy	Representatives 1 and 3 both have the "McAfee" skill.

Session Skills	Route to Representative(s)	Logic
Norton	1	Only Representative 1 has the "Norton" skill.
Antivirus, Bitdefender	1 or 2, whichever is least busy	Find representatives with either "Antivirus" OR "Bitdefender". Representatives 1 and 2 both have at least one of these skills marked as "More Preferred".
Antivirus, McAfee	1 or 3, whichever is least busy	Find representatives with either "Antivirus" OR "McAfee". Representatives 1 and 3 both have at least one of these skills.
Bitdefender, McAfee	Any, whichever is least busy	Find representatives with either "Bitdefender" OR "McAfee". All representatives have at least one of these skills.
Linux	Any, whichever is least busy	No representatives have the "Linux" skill. Fall back to the least busy representative.
Ubuntu	2	Only Representative 2 has the "Ubuntu" skill.
Red Hat	3	Only Representative 3 has the "Red Hat" skill.
Fedora	1	Only Representative 1 has the "Fedora" skill.
Linux, Ubuntu	2	Find representatives with either "Linux" OR "Ubuntu". Only Representative 2 has the "Ubuntu" skill. No representatives have the "Linux" skill.
Ubuntu, Fedora	1 or 2, whichever is least busy	Find representatives with either "Ubuntu" OR "Fedora". Representatives 1 and 2 both have at least one of these skills.
MS Office	2	Only Representative 2 has the "MS Office" skill.
Outlook	2 or 3, whichever is least busy	Representatives 2 and 3 both have the "Outlook" skill.
Excel	2	Only Representative 2 has the "Excel" skill.
MS Office, Outlook, Excel	2 or 3, whichever is least busy	Find representatives with either "MS Office", "Outlook", OR "Excel". Representatives 2 and 3 both have at least one of these skills.
Antivirus, MS Office	1	Find representatives with "Antivirus" AND "MS Office". No representatives have both skills. Peel away "MS Office", the lowest priority skill. Only Representative 1 has the "Antivirus" skill.
Antivirus, Excel	1	Find representatives with "Antivirus" AND "Excel". No representatives have both skills. Peel away "Excel", the lowest priority skill. Only Representative 1 has the "Antivirus" skill.
McAfee, Outlook	3	Find representatives with "McAfee" AND "Outlook". Only Representative 3 has both skills.
Bitdefender, Norton, Outlook	2	Find representatives with ("Bitdefender" OR "Norton") AND "Outlook". Representatives 1 and 2 both have either the "Bitdefender" or the "Norton" skill. Of these two, only Representative 2 also has the "Outlook" skill.
Bitdefender, McAfee, Outlook	2 or 3, whichever is least busy	Find representatives with ("Bitdefender" OR "McAfee") AND "Outlook". All representatives have either the "Bitdefender" or the "McAfee" skill. Only Representatives 2 and 3 also have the "Outlook" skill.

Preference Multi-Skills Routing

In this scenario:

- Skills are configured as a tree.
- Each representative is assigned one or more skills as "More Preferred" or "Less Preferred".
- Each session is assigned one or more skills.
- Routing rules:
 - Sessions are routed using "AND" logic for skills with different priorities and with "OR" logic for skills with the same ranking.
 - Try to route to a representative who is "More Preferred" for the desired skills using "AND" and "OR" logic.
 - If no representatives are found, try to route to a representative who has all of the desired skills but is "Less Preferred" for the lowest priority skill.
 - If no representatives are found, continue iterating through the desired skills until all skills have been searched for using a "Less Preferred" skill level.
 - After all preferences levels are exhausted, peel away the lowest priority skill from the session.
 - After each peel, iterate through all preference levels for the remaining skills, starting with "More Preferred".

Given the following skills configuration:

Root Skill	Child Skill	Representative 1	Representative 2	Representative 3
Antivirus		More preferred		
	Bitdefender	Less preferred		
	McAfee	Less preferred		More preferred
	Norton	Less preferred	More preferred	More preferred
Linux				
	Ubuntu		More preferred	
	Red Hat	More preferred		More preferred
	Fedora			
MS Office			More preferred	More preferred
	Outlook		More preferred	More preferred
	Excel	More preferred	More preferred	Less preferred

Sessions are routed in the following manner:

Example 1:

- Session skills: Antivirus, Linux
- Route to representative: 1

Step	Desired Skills	Logic
1	Antivirus, Linux	Find representatives with "Antivirus" AND "Linux" as "More Preferred" skills. No representatives have both skills at that preference level.
2	-	Because "Antivirus" and "Linux" are root skills, they cannot be assigned to a representative as "Less Preferred". Peel away "Linux", the lowest ranking skill.
3	Antivirus	Find representatives with "Antivirus" as a "More Preferred" skill. Only Representative 1 is "More Preferred" for the "Antivirus" skill.

Example 2:

- Session skills: Antivirus, McAfee
- Route to representative: 1 or 3

Step	Desired Skills	Logic
1	Antivirus, McAfee	Find representatives with "Antivirus" OR "McAfee" as a "More Preferred" skill. Representatives 1 and 3 both have at least one of these skills at the "More Preferred" level.

Example 3:

- Session skills: Bitdefender, Norton, Fedora
- Route to representative: 3

Step	Desired Skills	Logic
1	Bitdefender (More), Norton (More), Fedora (More)	Find representatives with ("Bitdefender" OR "Norton") AND "Fedora" as "More Preferred" skills. No representatives satisfy those conditions.
2	Bitdefender (More), Norton (More), Fedora (Less)	Find representatives with "Bitdefender" OR "Norton" as a "More Preferred" skill AND "Fedora" as a "Less Preferred" skill. No representatives satisfy those conditions.
3	Bitdefender (Less), Norton (Less), Fedora (More)	Find representatives with "Bitdefender" OR "Norton" as a "Less Preferred" skill AND "Fedora" as a "More Preferred" skill. No representatives satisfy those conditions.
4	Bitdefender (Less), Norton (Less), Fedora (Less)	Find representatives with ("Bitdefender" OR "Norton") AND "Fedora" as "Less Preferred" skills. No representatives satisfy those conditions.
5	-	Peel away "Fedora", the lowest ranking skill.
6	Bitdefender (More), Norton (More)	Find representatives with "Bitdefender" OR "Norton" as a "More Preferred" skill. Representative 3 is "More Preferred" for the "Norton" skill.