

Installation and setup

Microsoft Teams Direct Routing

Table of contents

Table of contents.....	2
1 General	3
2 Prerequisites	3
3 Set up sub-domain and DNS.....	3
3.1 <i>Creating the subdomain</i>	3
3.2 <i>Create DNS TXT entry</i>	4
3.3 <i>Enter DNS TXT entry in the FL1 customer portal</i>	5
3.4 <i>Verify the subdomain</i>	6
3.5 <i>Finalising the creation of the subdomain</i>	7
4 Activating in teams.....	9
4.1 <i>Temporary user</i>	9
4.2 <i>Control of temporary users</i>	11
5 General routing settings.....	12
5.1 <i>Create PSTN connection entry</i>	12
5.2 <i>Create SBC entry</i>	13
5.3 <i>Create VoIP route</i>	14
5.4 <i>Create VoIP routing policy</i>	15
5.5 <i>Delete temporary user</i>	15
6 Dialling plans for number manipulation.....	16
7 Assignments to the user.....	17
7.1 <i>Assigning/changing/deleting the telephone number</i>	17
7.2 <i>Assigning/changing the VoIP routing policy</i>	18
7.3 <i>Assigning/changing the dialling plan</i>	19
8 Testing the normalisation rule.....	20
9 Call queues and automatic switchboards	21
10 Power Shell commands	23
10.1 <i>Installation and setup of Powershell</i>	23
10.2 <i>Login and setting up a session</i>	23
10.3 <i>Assigning phone numbers (required per user)</i>	24
10.4 <i>Phone number mutations (change and delete)</i>	24
10.5 <i>Call queues or automatic switchboards</i>	24
10.6 <i>Retrieving information from a subscriber</i>	25

1 General

These instructions are aimed at the administrator of Microsoft 365 to set up a «direct routing» connection via the FL1 trunk.

2 Prerequisites

- A set-up Microsoft Teams environment with your own customer domain.
- If you do not yet have a «Microsoft 365 Phone System Licence», «Microsoft 365 Business Voice Licence» or «Microsoft 365 E5 Licence», you must purchase one (<https://www.microsoft.com/de-ch/microsoft-365/enterprise/compare-office-365-plans?market=ch>).
- Assign the above telephony licences to all users who are to use external telephony.
- Carry out the following settings and add your customised subdomain.

3 Set up sub-domain and DNS

An FL1 trunk with the Microsoft Teams option connects the public telephone network to the Microsoft Teams environment via a subdomain. FL1 assigns outgoing calls from Teams to the customer based on this subdomain. Microsoft also assigns incoming calls to Teams to the customer via this subdomain.

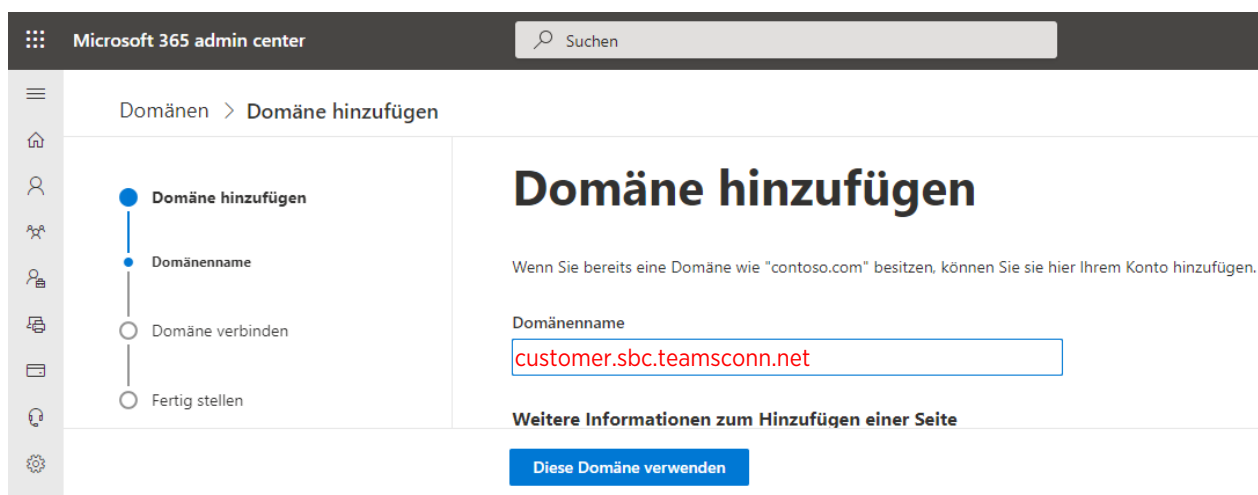
- ***sbc.teamsconn.net*** is the domain for the carrier cloud interconnection (SBC) of the FL1 platform with Microsoft 365.
- Your customised subdomain is a host entry below ***sbc.teamsconn.net*** and will be communicated to you by FL1 on the customer data sheet (example *t143234a.sbc.teamsconn.net*).

In the following, the term «customer» is used as a placeholder for the customised subdomain.

3.1 Creating the subdomain

Open the Microsoft 365 Admin Centre (<https://admin.microsoft.com/Adminportal>) and add your customer-specific subdomain for ***customer.sbc.teamsconn.net***. You have received this on your customer data sheet.

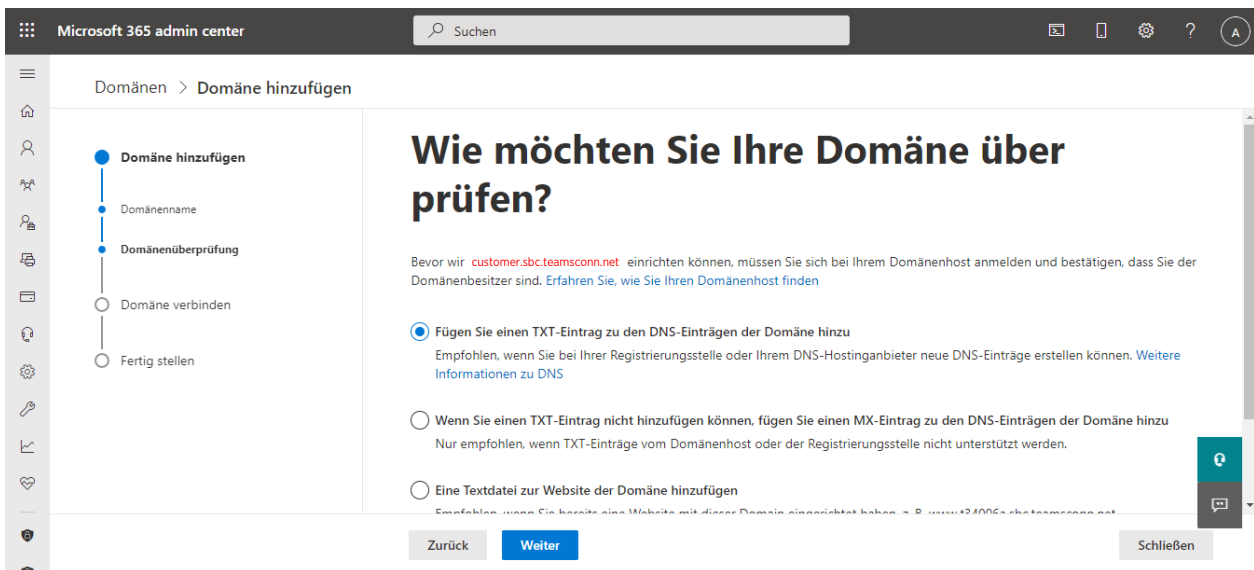
The corresponding menu can be found under «Settings» → «Domains».



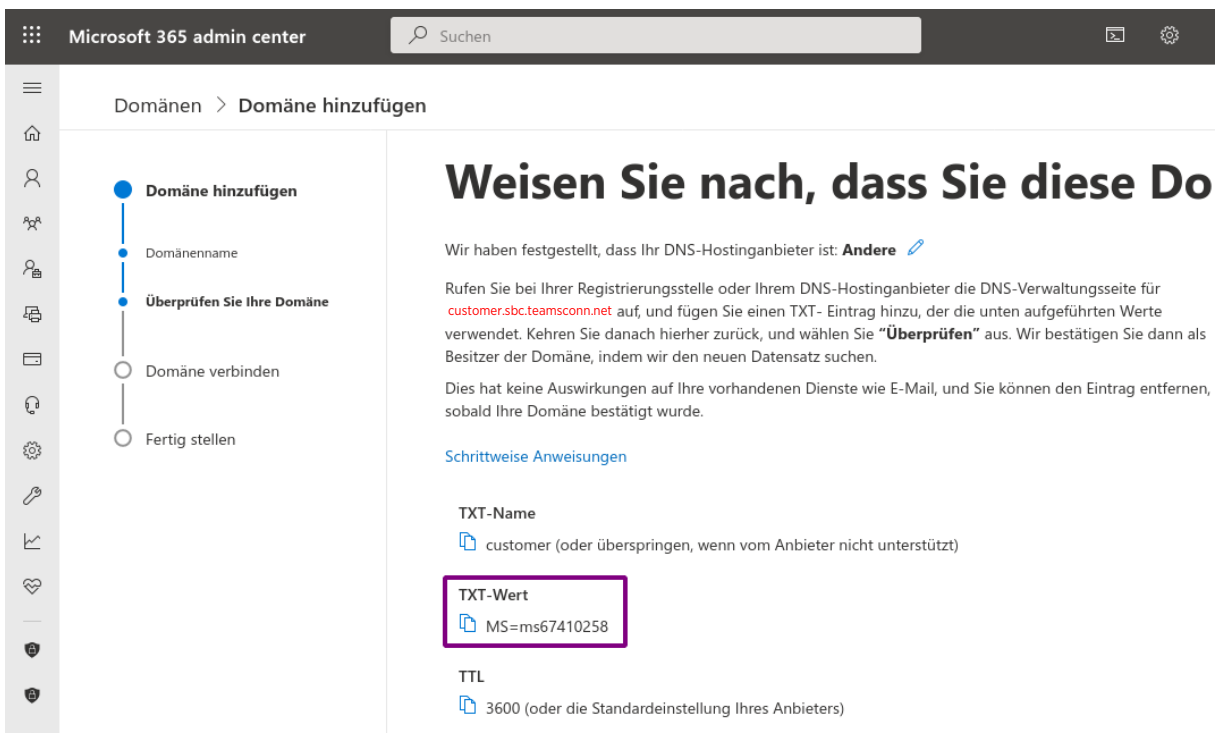
Click on «Use this domain».

3.2 Create DNS TXT entry

Select «Add a TXT record to the DNS records of the domain».



When the subdomain is created, a TXT value is generated for a «DNS TXT entry» in the format [MS=msxxxx].



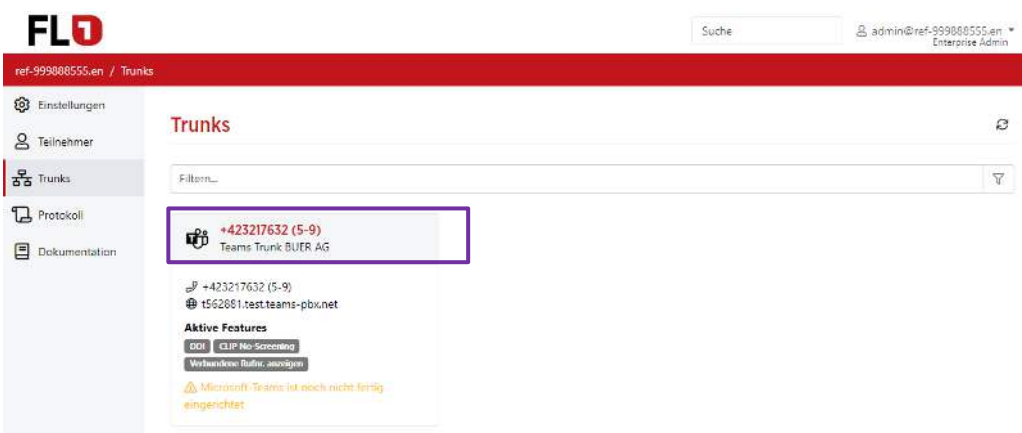
The domain then appears as «incomplete» in the overview.

Domänenname ↑	Status	Spalten auswählen
(Standard)	✓ Fehlerfrei	
customer.sbc.teamsconn.net	ⓘ Setup unvollständig	

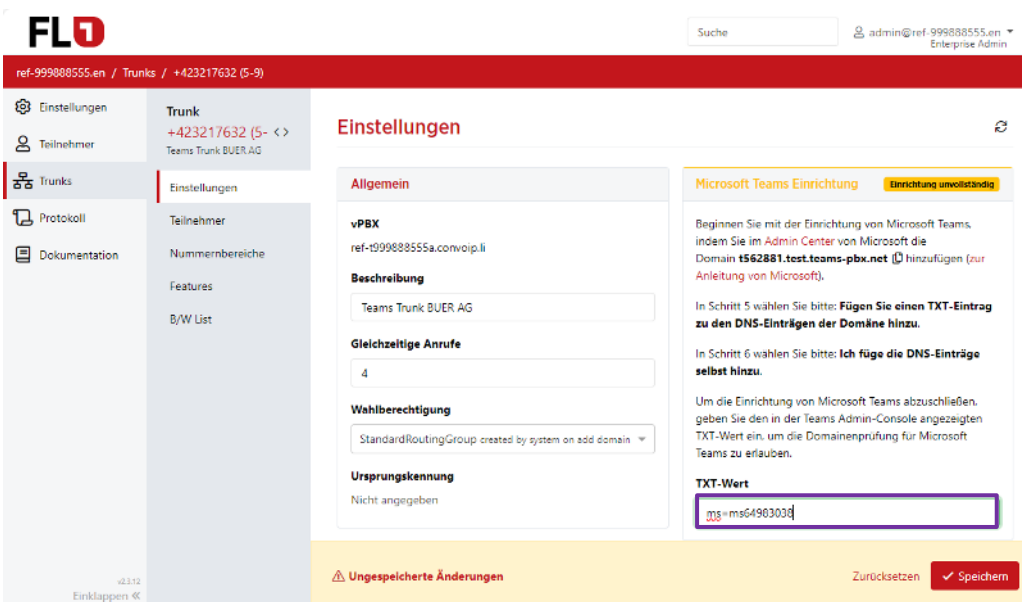
3.3 Enter DNS TXT entry in the FL1 customer portal

Now switch to the FL1 customer portal <https://commplus.fl1.li> to set up the DNS for the authentication of the customer domain.

You have received the access data (username, password) from Telecom Liechtenstein with the customer data sheet.



«Click» on the Teams Trunk prepared by FL1 and enter the TXT value received in the Teams Admin Console.



Then click «Save» to create the entry in the FL1 DNS.

Note: You can also change the TXT value later in this way.

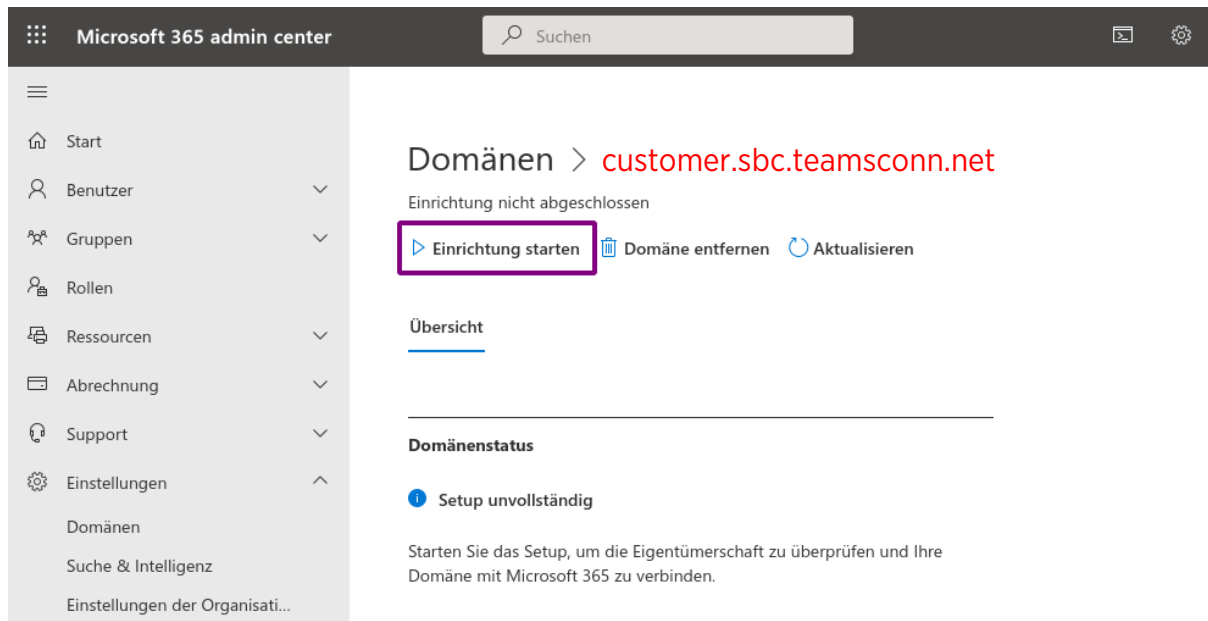
3.4 Verify the subdomain

As soon as you have made the entry in the FL1 customer portal, you can proceed with the verification of the subdomain in the Microsoft 365 Admin Centre.

Don't worry, this will not affect your existing email or other domain services.

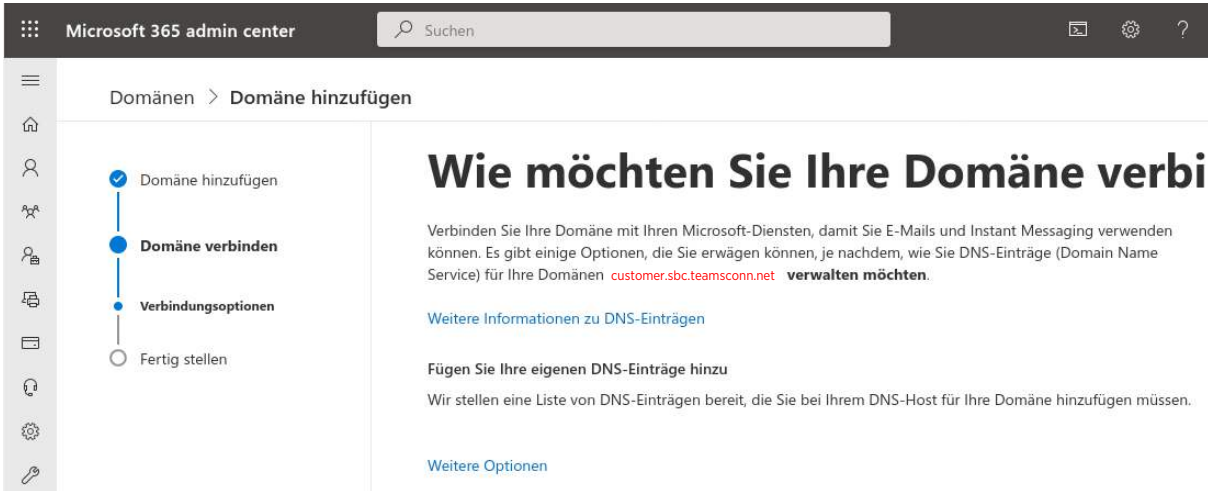
If you have previously interrupted the setup, select the domain again and continue the setup with «Start setup».

The domain must **not be** deleted and recreated, otherwise a new TXT value will be generated.



As described under 3.2 «DNS TXT entry» and you can now check the TXT entry again.

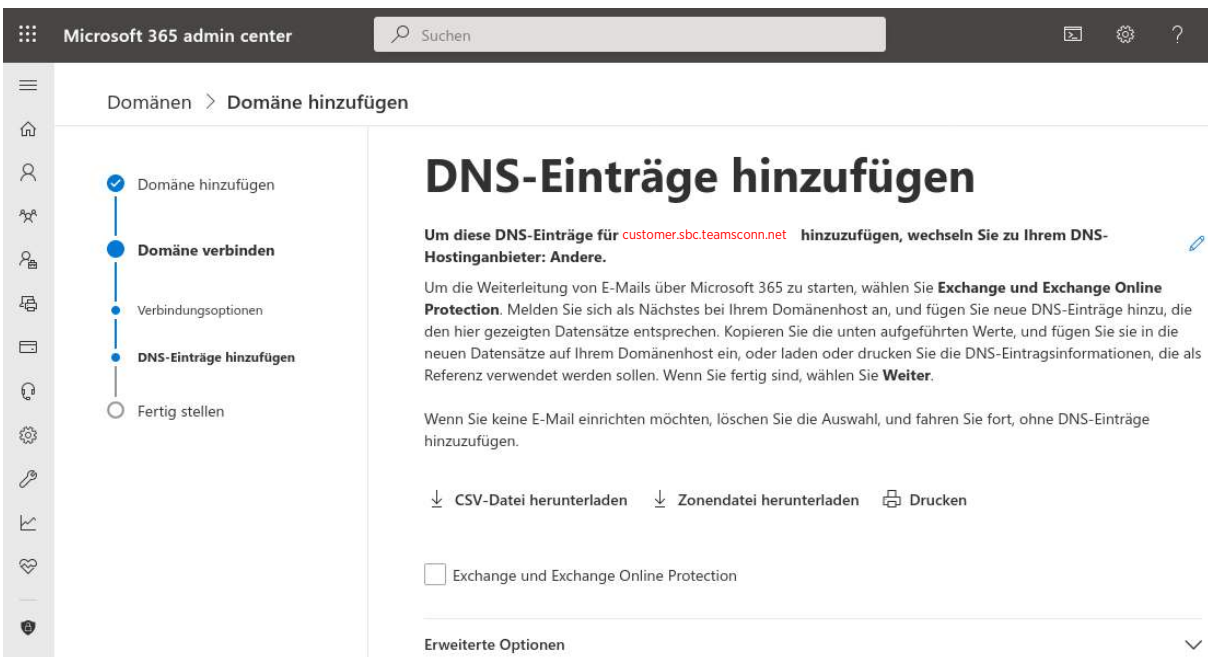
After a successful check, the connection options can be skipped by clicking «Next».



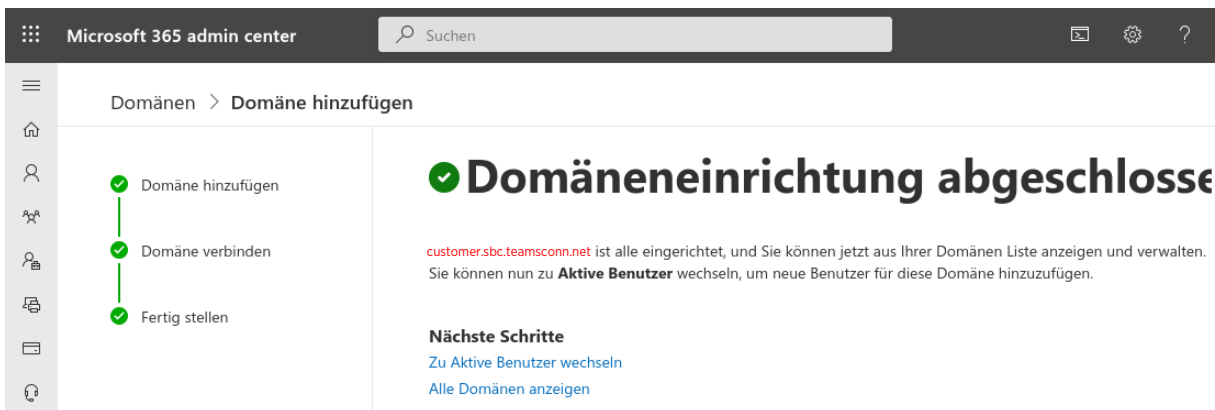
3.5 Finalise the creation of the subdomain

Deactivate any checkboxes for the `customer.sbc.teamsconn.net` domain in order to avoid creating **unnecessary DNS entries**.

Note: «Microsoft Teams and Skype for Business» or «Exchange and Exchange Online Protection» DNS entries should not be set on this sub-domain.



If the setup was completed successfully, you will see the following content and you can create a temporary user in the next step.



The domain now also appears in the overview with the status «No services selected». This is correct as this domain is only required for the connection (direct routing) to FL1.

Domänenname ↑	Status	Sortieren
customer.sbc.teamsconn.net (Standard)	Fehlerfrei	
customer.sbc.teamsconn.net	Keine Dienste ausgewählt	
teamsconn.onmicrosoft.com	Fehlerfrei	

4 Activate in Teams

Next, a temporary user must be created to publicise the domain set up in Teams. This requires three things:

- Domain must be set up successfully.
- A user with this newly created domain must be created.
- This user must be temporarily assigned a user licence (at least MS365 Business Premium or higher) including a telephone system licence.

Only once these steps have been fully provisioned in the Microsoft Cloud can the other tasks begin.

4.1 Temporary user

Once the domain setup has been successfully completed, a (temporary) user must be created within the **customer.sbc.teamsconn.net** domain with at least one E1 licence including a telephone system licence.

However, this user must not be used for Powershell operations. Any other admin user from the main domain must be used.

This temporary user together with the appropriate licence makes the domain **customer.sbc.teamsconn.net** known within Office 365. Only then can this be used to create the «direct routing» trunk.

Note: The temporary user's licence can be released again once the «Direct routing» setup has been successfully completed.

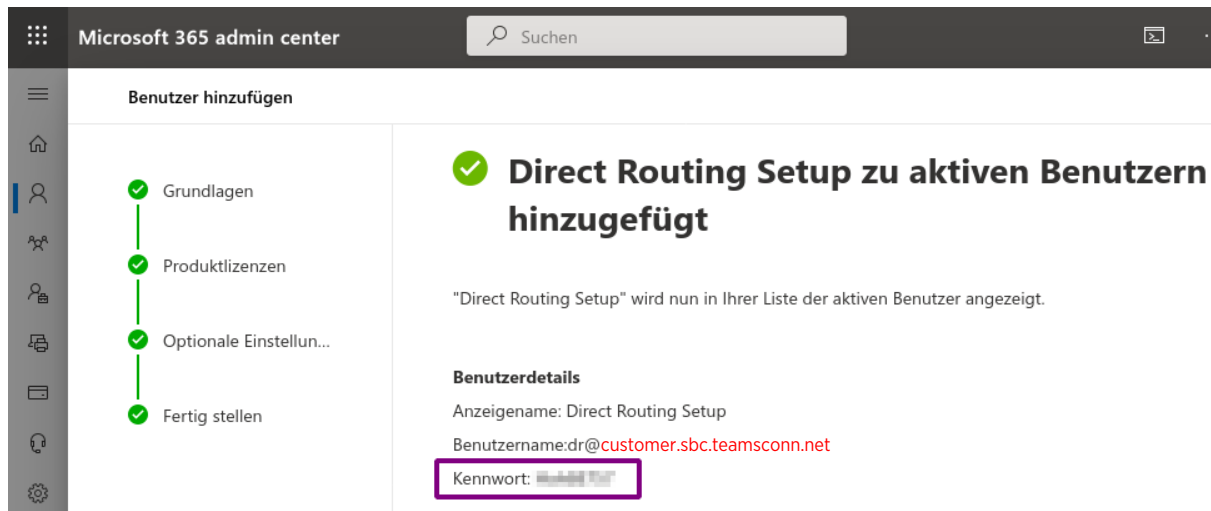
Add the product licence:

The screenshot shows the 'Benutzer hinzufügen' (Add user) page in the Microsoft 365 admin center. The left sidebar has a progress indicator with four steps: Grundlagen (checked), Produktlizenzen (active), Optionale Einstellungen (unchecked), and Fertig stellen (unchecked). The main content area is titled 'Zuweisen von Produktlizenzen' (Assign product licenses). Below the title, there is a search bar and a yellow warning box: 'Aufgrund der erhöhten Nachfrage kann es bis zu 24 Stunden dauern, bis user in Teams vollständig eingerichtet ist. Bis dahin können Sie ihnen keine Teams-Richtlinien zuweisen, und sie haben möglicherweise keinen Zugriff auf Teams-Funktionen wie Anrufe und Audiokonferenzen.' Below the warning, there is a dropdown menu for 'Speicherort auswählen *' (Select storage location) with 'Liechtenstein' selected. Under 'Lizenzen (2)*' (Licenses), there are three options: 'Benutzer eine Produktlizenz zuweisen' (selected), 'Benutzer ohne Produktlizenz erstellen (nicht empfohlen)' (not recommended), and two checked license options: 'Microsoft 365-Telefonsystem' and 'Office 365 E1', both with a note: 'Sie haben keine Lizenzen mehr. Wenn Sie dies aktivieren, versuchen wir, eine zusätzliche Lizenz für Sie zu kaufen.'

No further settings are necessary:

The screenshot shows the 'Benutzer hinzufügen' (Add user) page in the Microsoft 365 admin center. The left sidebar has a progress indicator with four steps: Grundlagen (checked), Produktlizenzen (checked), Optionale Einstellungen (active), and Fertig stellen (unchecked). The main content area is titled 'Optionale Einstellungen' (Optional settings). Below the title, there is a search bar and a message: 'Sie können auswählen, welche Rolle Sie diesem Benutzer zuweisen möchten, und zusätzliche Profilinformationen eintragen.' Below this, there are two dropdown menus: 'Rollen (Benutzer: kein Verwaltungszugriff)' (Roles) and 'Profilinformationen' (Profile information).

After confirming the summary, the user is now created.



4.2 Control of temporary users

The creation of the user and the associated setup for «Direct Routing» in the Microsoft Cloud can take some time (**up to 24 hours**)! Please wait until the creation of the user has been completed.

The user can check this under «Licences and apps». **As long as a warning message is displayed here, the setup is not yet complete.**



5 General routing settings

This is where the guidelines are created as to which calls are routed to which «SBC» if several trunk connections are provided for your Teams environment. At least one «SBC» and one «VoIP route» are always required as described below.

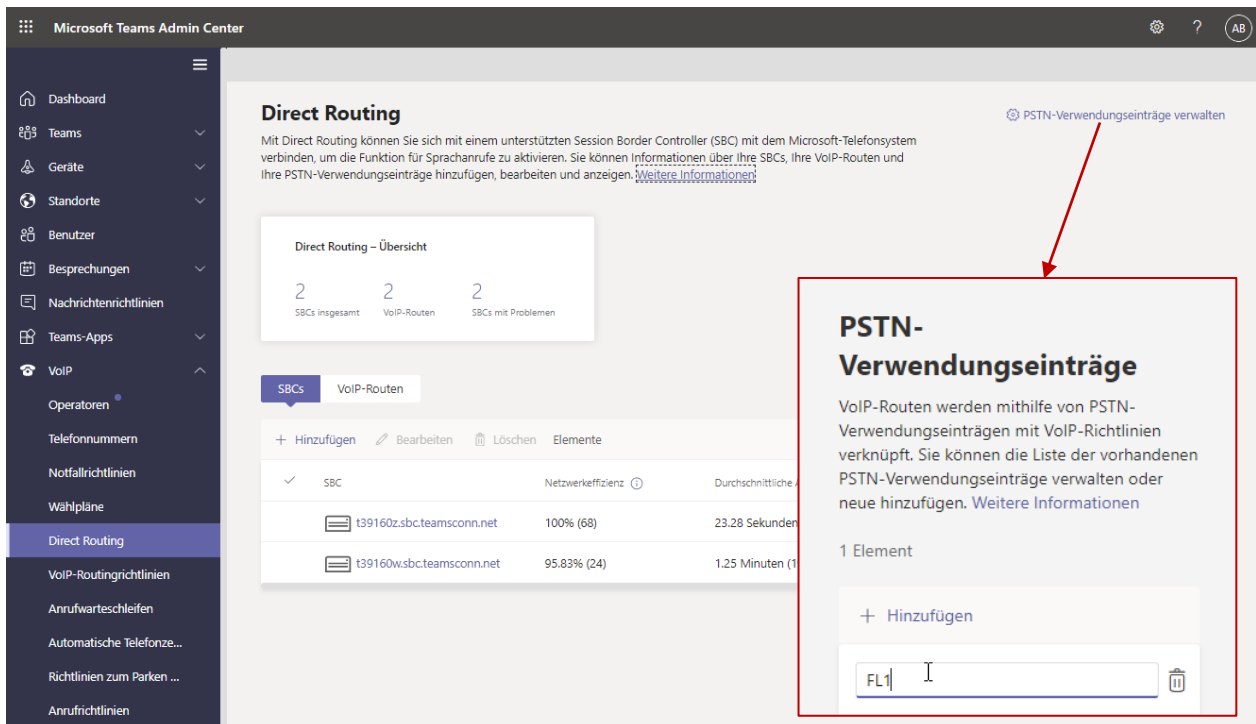
To do this, switch to the Teams Admin Centre in the Office 365 portal!

The Teams Admin Centre can be accessed directly at <https://admin.teams.microsoft.com> or via the Teams link at <https://admin.microsoft.com>.

These routing settings are only necessary for initial commissioning! If several trunk connections are planned, this setup must be made for each trunk with different names.

5.1 Create PSTN connection entry

- Add a new «PSTN usage entry» with the name «FL1».
 1. Under the menu item VoIP > Direct Routing, click on «Manage PSTN usage entries» at the top right.
 2. «Add» an entry «FL1» and confirm this with «Apply».



5.2 Create SBC entry

- Add a new SBC entry as described below:
 1. Click on «SBCs» under the menu item VoIP > Direct Routing.
 2. Enter the **same** subdomain name **customer.sbc.teamsconn.net** in the top line of this SBC, as you have entered under the domain (according to point 3.1).
 3. Set the «Capacity for simultaneous calls» parameter to the value you ordered from FL1 for your FL1 Trunk product.
 4. Set the parameter «Preferred country/region for media data traffic» to Liechtenstein if you have an FL1 trunk with LI phone numbers or to Switzerland if you have an FL1 trunk with CH phone numbers.
 5. Set all other parameters as shown in the following illustration.
 6. Press «Save».

The screenshot shows the Microsoft Teams Admin Center interface for adding a new SBC. The domain field is filled with 't[redacted]w.sbc.teamsconn.net'. The 'SBC-Einstellungen' section shows the following configuration:

Parameter	Value
Aktiviert	Ein
SIP-Signalisierungsport	5067
SIP-Optionen senden	Ein
Anrufweiterleitungsverlauf	Ein
P-Asserted-Identity (PAI)-Header weiterleiten	Ein
Kapazität für gleichzeitige Anrufe	8
Failover-Antwortcodes	408, 503, 504
Failoverzeit (Sekunden)	10
SBC unterstützt PIDF/LO für Notrufe	Aus

The 'Standortbasiertes Routing und Medienoptimierung' section shows the following configuration:

Parameter	Value
Medienumgehung	Aus
Umgehungsmodus	Keine
Bevorzugte/s Land oder Region für Mediendatenverkehr	Schweiz
Standortbasiertes Routing	Aus
Gatewaysite-ID	Keine

Notes:

1. Immediately after the SBC is created, no real values are displayed for «Network efficiency» and the SBC symbol is marked with a red dot. Only after the first calls have been made via this SBC will this information be displayed «correctly».
2. The «Inactive» for «TLS connection status» and the «Warning» for «Status of SIP OPTIONS» can be ignored.

5.3 Create VoIP route

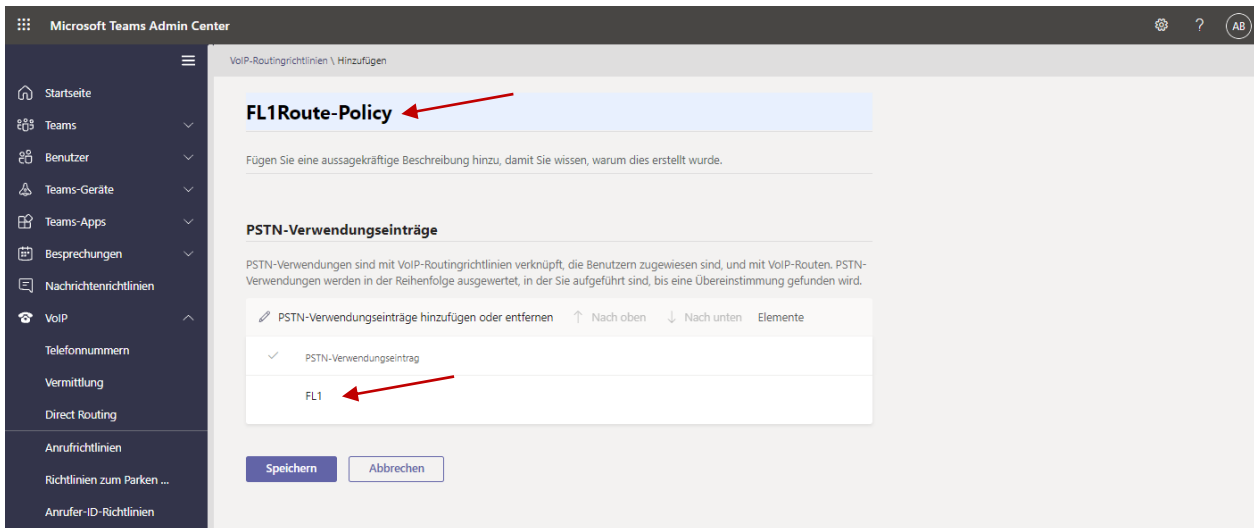
- Add a new VoIP route «FL1Route»:
 1. Click on «VoIP routes» under the menu item VoIP > Direct Routing.
 2. Give this VoIP route the name «FL1Route» in the top line.
 3. In the submenu that opens, add the following entries
 - a. under «Registered SBCs» the just created SBC `customer.sbc.teamsconn.net`
 - b. under «PSTN connection entries», select the «FL1» entry created above
 - c. under «Selected number pattern» the value [.*]
 4. Press «Save».

The screenshot shows the Microsoft Teams Admin Center interface for configuring a VoIP route. The left sidebar is expanded to 'Direct Routing'. The main content area is titled 'VoIP-Routen \ VoIP-Route hinzufügen'. The route name is 'FL1Route'. The 'Beschreibung' field is empty. The 'Priorität' is set to '1'. The 'Gewähltes Nummernmuster' is set to '.*'. Under 'Registrierte SBCs', a table lists one SBC: 't[redacted].sbc.teamsconn.net'. Under 'PSTN-Verwendungseinträge', a table lists one entry: 'FL1'. Red arrows point to the route name, the number pattern, the SBC name, and the PSTN entry name. At the bottom, there are 'Speichern' and 'Abbrechen' buttons.

Note: If you want to connect several direct routing trunks, you can find more information on this at <https://docs.microsoft.com/de-de/microsoftteams/direct-routing-voice-routing> .

5.4 Create VoIP routing policy

- Add a new VoIP routing policy:
 1. Go to the menu item VoIP > VoIP routing guidelines.
 2. Give this VoIP routing policy the name «**FL1Route-Policy**» in the top line.
 3. Under «PSTN connection entries», add the «**FL1**» entry created above (add with «Apply»).
 4. Press «Save».



5.5 Delete temporary user

The licence can now be removed from the temporary user and the user deleted again:

6 Dialling plans for number manipulation

Microsoft Teams offers a standard set of election rules for each country based on the «Storage location» / «UsageLocation». However, these rules do not cover all needs and can be optimised using these additions. An additional «FL1 dialplan» must therefore be set up.

FL1 dialling plan: Adjustments for outgoing calls:

Rank	Name	Description of the	Sample	Translation of
1	National-CH	0315244031 to +41315244031	<code>^O([1-9]\d{4,})\$</code>	+41\$1
2	International	0041 to +41 or 00423 to +423	<code>^OO([1-9]\d{4,})\$</code>	+\$1
3	Codes	Service *21*	<code>^([*#],+)</code>	\$1

- Add a new dialling plan:

1. Go to the menu item VoIP > Dialling plans
2. Click on «Add»
3. Give the dialling plan the name «FL1 dialling plan» in the top line
4. Click on «Add» under «Normalisation rules». The input screen appears on the right.
5. Select the «Advanced» mode to obtain the input errors required for this purpose.
6. Fill in the necessary entries according to the tables above and finalise with «Save».
7. Repeat points 4 - 6 until all rules have been recorded.
8. Press «Save» and save the dialling plans.

The screenshot shows the Microsoft Teams Admin Center interface for configuring dialling plans. The main area displays the 'FL1-Wahlplan' configuration page. The 'Normalisierungsregeln' section contains a table with the following data:

✓	Rang	Name	Beschreibung	Muster	Üb
	1	National-CH	0315244031 zu +4131524...	<code>^O([1-9]\d{4,})\$</code>	+4
	2	International	0041 zu +41	<code>^OO([1-9]\d{4,})\$</code>	+\$
	3	Codes	Service *21*	<code>^([*#],+)</code>	\$1

The right sidebar shows the 'Neue Regel hinzufügen' form with the following fields:

- Name:** 'Einen Namen für Ihre Normalisierungsrege...' (Required)
- Beschreibung:** 'Fügen Sie eine aussagekräftige Beschreibung hinzu, damit Sie wissen, warum dies erstellt wurde. Beispiel:'
- Wann-Bedingung:** 'Die gewählte Nummer entspricht diesem regulären Ausdruck.' (Required). Example: `*(\d{4})$`
- Dann Aktion:** 'Die Nummer auf Grundlage dieses regulären Ausdrucks übersetzen'. Example: `*+1206$1*` (Required)

Note: You can test the dialling plans after completing the assignment of the telephone number to the subscriber (see point 8).

7 Assignments to the user

In the last and final step, which you **must** then **repeat for each user**, the telephone number, the VoIP routing policy and the dialling plan are now assigned to the subscriber. It is also possible to change these settings and remove the telephone number.

Note: Assignment is only possible if the corresponding user has been assigned a telephony licence.

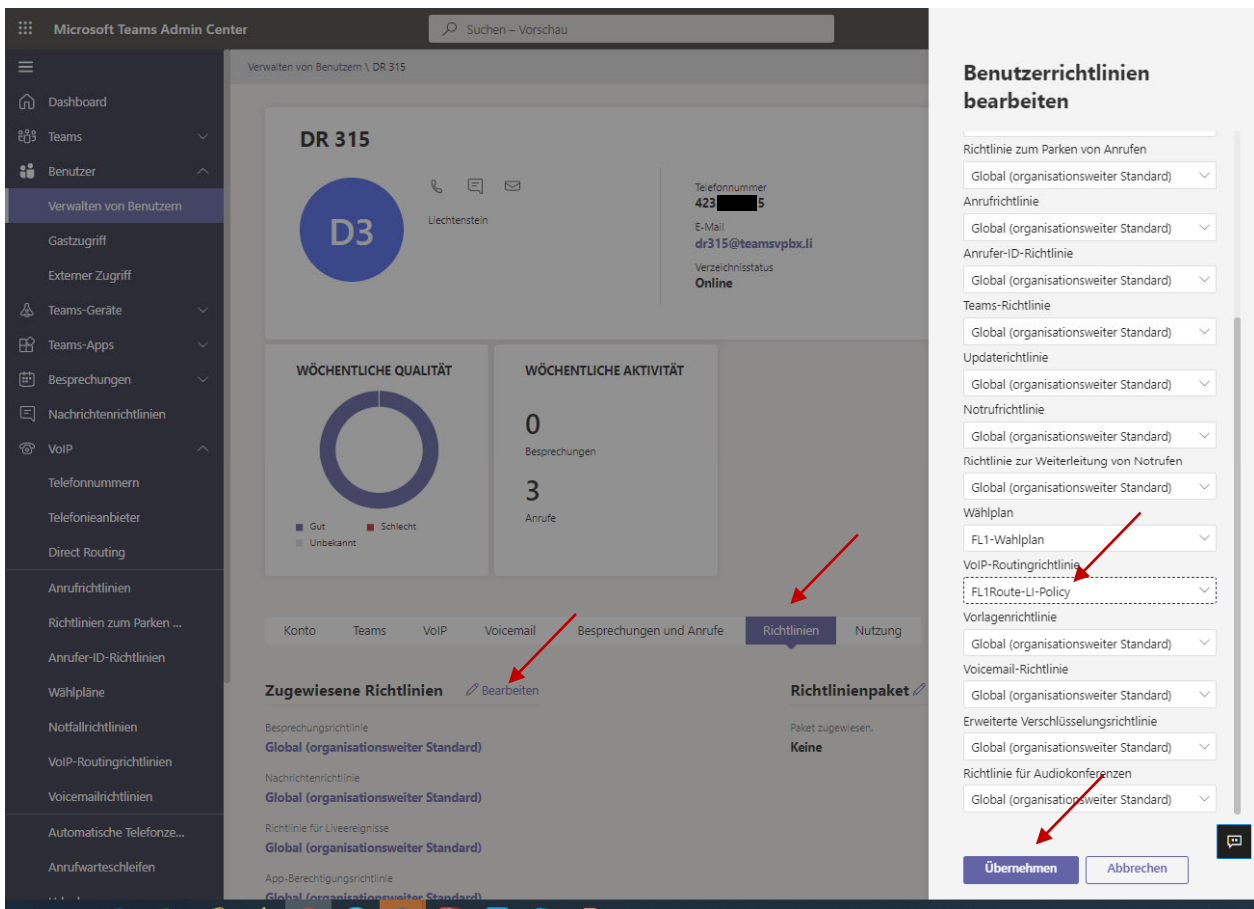
7.1 Assigning/changing/deleting the telephone number

- Add the external telephone number to the user:
 1. Go to the menu item Users > Manage users and select the user.
 2. Press «Edit» next to «General information».
 3. A pop-up menu opens on the right.
 4. Select «Direct Routing» as the type of telephone number and enter the desired external telephone number in the format 423 xxx xx xx or 41 xx xxx xx xx.
 5. Press «Apply».

- To «change» the telephone number, go through the same procedure and enter the new telephone number.
- To «delete» the telephone number, go through the same procedure and delete the entry in the «Assigned telephone number» field.

7.2 Assigning/changing the VoIP routing policy

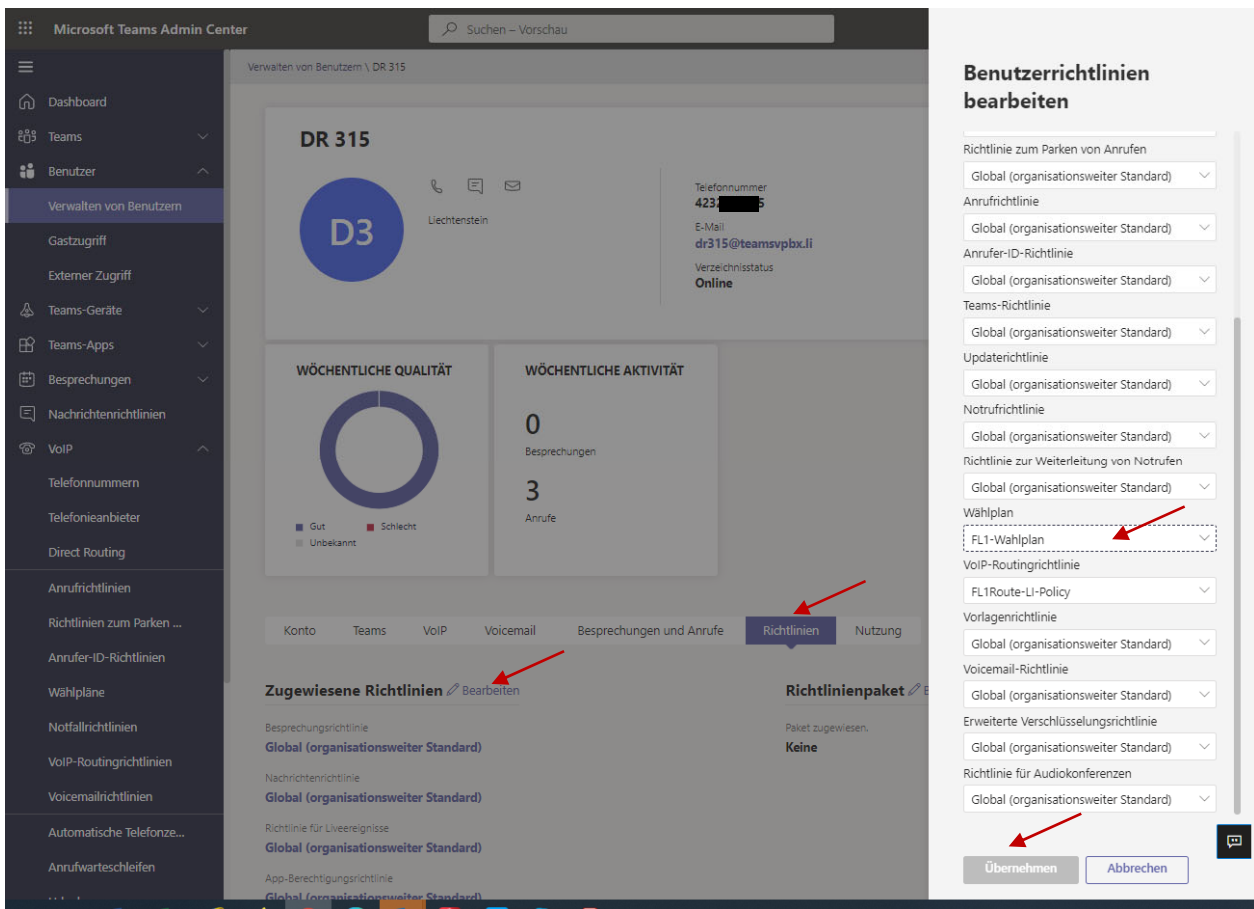
- Grant the user authorisation for the VoIP routing policy:
 1. Go to the menu item Users > Manage users and select the desired user (click on «Display name»).
 2. In the new window, select the «Policies» sub-menu and press «Edit» next to the text «Assigned policies».
 3. A pop-up menu opens on the right.
 4. Under «VoIP routing policy», select the «FL1Route policy» policy created above
 5. Press «Apply».



The customised users can be viewed in the Microsoft 365 Admin Center / Teams.

7.3 Assigning/changing the dialling plan

- You must assign the «FL1 dialling plan» for each user as follows.
 1. Go to the menu item Users > Manage users and select the desired user (click on «Show policies»).
 2. In the new window, select the «Policies» sub-menu and press «Edit» next to the text «Assigned policies».
 3. A pop-up menu opens on the right.
 4. Select the «FL1 dialling plan» created in the dialling plan using LookUp.
 5. Press «Apply».



8 Testing the normalisation rule

The following numbers should be called as a test for customers with Liechtenstein numbers:

- 2377400Customer service FL1
- +4232377400 Customer service FL1
- 004232377400 Customer service FL1
- 8002222 Customer service FL1
- 0715237777 Voicebox access FL1
- +41715237777 Voicebox access FL1
- 161 Time query
- +411811 Enquiry service

The following numbers should be called as a test for customers with Swiss numbers:

- +4232377400 Customer service FL1
- 004232377400 Customer service FL1
- 0715237777 Voicebox access FL1
- +41715237777 Voicebox access FL1
- 161 Time query
- +411811 Enquiry service

9 Call queues and automatic switchboards

If you want to use your main telephone number via a call queue or automatic telephone switchboard, the telephone number must be assigned to these elements using a resource account.

For details on a «call queue» or «automatic switchboards», please contact your FL1 contact person, your Microsoft support partner or refer to the following Microsoft pages.

<https://docs.microsoft.com/de-de/microsoftteams/manage-resource-accounts>

- Assign a phone number to a created resource account via Admin Portal
 1. Go to the menu item VoIP > Resource account and select the desired resource account.
 2. Select the sub-menu item «Assign/cancel assignment».
 3. A pop-up menu opens on the right.
 4. Select «Direct Routing» as the type of telephone number and enter the desired external telephone number in the format 423 xxx xx xx or 41 xx xxx xx xx.
 5. Press «Save».

Microsoft Teams Admin Center | Suchen - Vorschau

Ressourcenkonten

Ressourcenkonten sind nicht aktivierte Benutzerkonten, die zur Darstellung von Systemressourcen verwendet werden. In Teams können Sie Ressourcenkonten erstellen und diese dann Sprachfunktionen wie Anrufwarteschlangen und automatische Telefonzentralen zuweisen. Weitere Informationen

+ Hinzufügen | Bearbeiten | Zuweisen/Zuweisung aufheben

Anzeigename	Benutzername	Telefonnummer
Hauptrufnummerverteiler	hrmv@teamsvpbx.onmicrosoft.com	
Service Rufnummer1	srn1@teamsvpbx.onmicrosoft.com	+423 [redacted]
Service Rufnummer2	srn2@teamsvpbx.onmicrosoft.com	+41 [redacted]
SRN Wien Typ CQ	srn-wien@teamsvpbx.onmicrosoft.com	+423 [redacted]
Hauptrufnummer	hrm@teamsvpbx.onmicrosoft.com	+423 [redacted]
HRN Wien Typ AutoA	hrn-wien@teamsvpbx.onmicrosoft.com	+423 [redacted]
HRN2 Wien	hrn2wien@teamsvpbx.li	

Zuweisen/Zuweisung aufheben

HRN2 Wien

Damit hier eine Dienstnummer aufgeführt wird, kaufen Sie ein Telefonsystem, oder besorgen Sie sich eine Benutzerlizenz für ein virtuelles Telefonsystem, und stellen Sie sicher, dass sie keinen anderen Sprachdiensten zugewiesen ist. Weitere Informationen

Art der Telefonnummer: **Direktes Routing**

Zugewiesene Telefonnummer: **423 8**

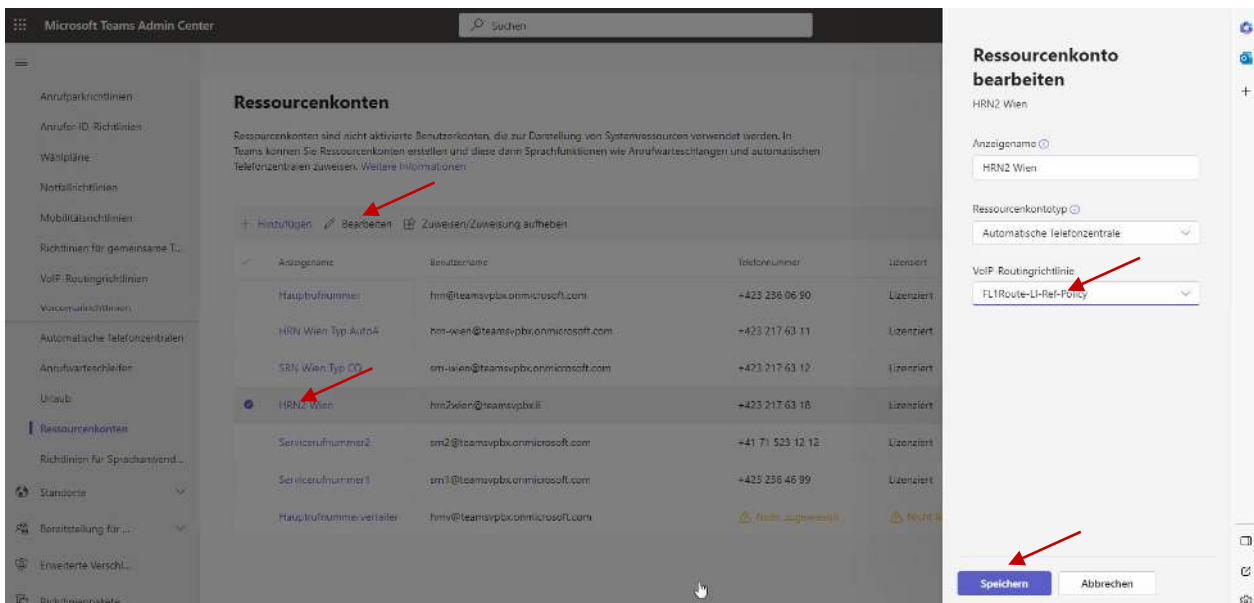
Zugewiesen zu: **HRN Wien**

Your changes must be saved before making any further changes.

Automatische Telefonzentrale auswählen: **HRN Wien**

Speichern | **Abbrechen**

- Assign the VoIP routing policy to a created resource account via the Admin Portal
 - Switch to the menu item VoIP > Resource account and select the desired resource account.
 - Select the sub-menu item "Edit" (or click on "Display name").
 - A pop-up menu opens on the right.
 - Under "VoIP routing policy", select the "FL1Route policy" policy created above
 - Press "Save".



The screenshot displays the Microsoft Teams Admin Center interface. On the left, a navigation pane shows various settings categories, with 'Ressourcenkonten' selected. The main area shows a table of resource accounts. A red arrow points to the 'Bearbeiten' (Edit) icon for the 'HRN2 Wien' account. To the right, a 'Ressourcenkonto bearbeiten' (Edit Resource Account) pop-up is shown. A red arrow points to the 'VoIP Routingrichtlinie' dropdown menu, which is set to 'FL1Route-LI-Ref-Policy'. Another red arrow points to the 'Speichern' (Save) button at the bottom of the pop-up.


✓	Anzeigenname	Benutzername	Telefonnummer	Lizenzart
	Hauptnummer1	hm@teams.vpbx.onmicrosoft.com	+423 236 06 90	Lizenziert
	HRN Wien Typ Auto4	hm-wien@teams.vpbx.onmicrosoft.com	+423 217 63 11	Lizenziert
	SRN Wien Typ CG	sm-wien@teams.vpbx.onmicrosoft.com	+423 217 63 12	Lizenziert
●	HRN2 Wien	hm2wien@teams.vpbx.li	+423 217 63 18	Lizenziert
	Servicesnummer2	sm2@teams.vpbx.onmicrosoft.com	+41 71 523 12 12	Lizenziert
	Servicesnummer1	sm1@teams.vpbx.onmicrosoft.com	+423 236 46 99	Lizenziert
	Hauptnummer verteilte	hmiv@teams.vpbx.onmicrosoft.com		Nicht zugewiesen

10 Power Shell Commands

All the settings described above and many additional settings can also be made using Power Shell commands (including batch commands). The following is an excerpt of commands for managing users. It is generally recommended to run the Powershell as a Global or at least Teams administrator so that they can carry out the necessary installations. As mentioned above, the previously created temporary user must **not be** used for this purpose.

Any Windows 10 workstation can be used to operate the Powershell.

10.1 Installation and setup of Powershell

- Download and installation of Teams PowerShell Module:
<https://docs.microsoft.com/de-de/skypeforbusiness/set-up-your-computer-for-windows-powershell/set-up-your-computer-for-windows-powershell>
- Start the PowerShell  application as **Windows 10 administrator**.
- Before you can start executing the effective commands, it is necessary to download and install the MicrosoftTeams online PowerShell module. To do this, execute the following PowerShell command once on the workstation that you are using for the configuration:

```
Install-Module MicrosoftTeams -AllowClobber
```

- If you have already installed the module on your PC, check whether updates are available:

```
Update modules MicrosoftTeams -Force
```

- Note: You may need to make a policy change to allow the Powershell module to run.

Query of the guideline:

```
Get-ExecutionPolicy
```

The result is either «Restricted» or «Unrestricted»

If «Restricted», then set the policy to «Unrestricted»:

```
Set-ExecutionPolicy Unrestricted
```

10.2 Login and setting up a session

- Start a PowerShell session with the **Windows 10 Administrator** and enter the following commands.

```
Import modules MicrosoftTeams
```

```
Connect-MicrosoftTeams
```

- In the window that opens, log in with the user from your Microsoft 365 environment who has the «Global Administrator» or «Teams Administrator» role and follow the instructions in the login process.

10.3 Assign phone numbers (required per user)

In the last and final step, which you **must** then **repeat for each user**, the telephone number is now assigned to the subscriber. Changes to the telephone number are also possible in this way.

- Assign or change numbers for all users with a telephony licence:

```
Set-CsPhoneNumberAssignment -identity max.muster@customer.com -PhoneNumber  
+IhreFL1Nummer -PhoneNumberType DirectRouting
```

- Grant the user authorisation for the VoIP routing policy:

```
Grant-CsOnlineVoiceRoutingPolicy -identity max.muster@customer.com  
-PolicyName 'FL1Route-Policy'
```

- Grant the user authorisation for the VoIP Dialling Plan:

```
Grant-CsTenantDialPlan -identity max.muster@customer.com  
-PolicyName 'FL1-Wahlplan'
```

The users created can be viewed in the Microsoft 365 Admin Centre / Teams.

10.4 Phone number delete

To make subsequent changes to telephone numbers, log in according to point 10.2 in the Microsoft portal.

- Remove numbers from an existing subscriber.

```
Set-CsUser -identity max.muster@customer.com -LineURI $Null
```

10.5 Call queues or automatic switchboards

If you want to use your main telephone number via a call queue or automatic telephone switchboards, this can be set up using a resource account. Next steps are necessary per resource account. For details, please contact your Microsoft support partner or refer to the following Microsoft pages.

<https://docs.microsoft.com/de-de/microsoftteams/manage-resource-accounts>

- Assign a phone number to the created resource account

```
Set-CsPhoneNumberAssignment -identity max.muster@customer.com -PhoneNumber  
+IhreFL1Nummer -PhoneNumberType DirectRouting
```

- Grant the authorisation of the VoIP routing policy for the resource account

```
Grant-CsOnlineVoiceRoutingPolicy -Identity res-konto@customer.com  
-PolicyName «FL1Route-Policy»
```

- Assign the created "FL1 dialling plan" (call number manipulation) to the resource account:

```
Grant-CsTenantDialPlan -identity res-konto@customer.com  
-PolicyName 'FL1-Wahlplan'
```

10.6 Retrieve information from a participant

The following query gives you a quick overview of a subscriber's telephony configuration.

```
Get-CsOnlineUser -Identity max.muster@customer.com | Format-List -Property  
GivenName, LastName, EnterpriseVoiceEnabled, HostedVoiceMail, LineURI, Us-  
ageLocation, UserPrincipalName, WindowsEmailAddress, SipAddress, OnPrem-  
LineURI, OnlineVoiceRoutingPolicy, TenantDialPlan
```

Example with Liechtenstein phone number:

```
GivenName           : max  
LastName            : pattern  
EnterpriseVoiceEnabled : True  
HostedVoiceMail     :  
LineURI             : tel:+4232377400  
UsageLocation       : LI  
UserPrincipalName   : mm@customer.com  
WindowsEmailAddress : mm@customer.com  
SipAddress           : sip: mm@customer.com  
OnPremLineURI       : tel:+4232377400  
OnlineVoiceRoutingPolicy : FL1Route-Policy  
TenantDialPlan       : FL1 dialplan
```

Example with Swiss phone number:

```
GivenName           : max  
LastName            : pattern  
EnterpriseVoiceEnabled : True  
HostedVoiceMail     :  
LineURI             : tel:+41715237777  
UsageLocation       : CH  
UserPrincipalName   : mm@customer.com  
WindowsEmailAddress : mm@customer.com  
SipAddress           : sip: mm@customer.com  
OnPremLineURI       : tel:+41715237777  
OnlineVoiceRoutingPolicy : FL1Route-Policy  
TenantDialPlan       : FL1 dialplan
```

Note: Note the assignment of the correct UsageLocation

UsageLocation: LI → +423 xxx xx xx
UsageLocation: CH → +41 xx xxx xx xx