

### **Dynamic Emergency Call Routing**

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## **Sunrise**

#### **1** Overview

Description	With Microsoft Teams it is possible to configure and use a location-based dynamic emergency call routing. With your Cloud Connect SBV, you can use this feature. All calls to one of the supported emergency numbers will then be routed based on the location MS Teams client has detected.

	1.1 General routing of emergency numbers								
Description	Dynamic emergency call routing is supported by MS Teams for dedicated configured emergency numbers only. Only calls to these numbers contains a location information, regular calls don't contain location information. If you call a supported emergency number with a valid location information, the call will be routed based on this location. If location information is missing or invalid, the call will be routed based on the location you have configured on Sunrise Business Portal (https://sba.sunrise.ch/) for your CallerID. If this is also missing, the call will be routed based on the main location of your company.								

	1.2 General routing of emergency numbers
Description	The following Emergency Services supports dynamic routing:
	<ul> <li>112: general Emergency Number</li> <li>117: Police</li> <li>118: Fire Service</li> <li>143: «Helping Hand» counselling helpline</li> <li>144: Ambulance</li> <li>147: Helpline for children and young people (Pro Juventute)</li> </ul>
	For testing purposes only, the following number can be used:
	• 111: Sunrise Service Test Number (use only for testing MS Teams configuration).



1.3 Housekey
To make dynamic emergency call routing working, the correct "Housekey" is required for each of your location. The "Housekey" you can find in your Sunrise Business Portal, where you can manage your static emergency call routing (based on CallerID) or you search in the tables provided by Swiss Post (https://swisspost.opendatasoft.com/)
The "Housekey" is a unique identifier per building in Switzerland. This value must be added to your MS Teams Emergency Address in the attribute HNS (House Number Suffix).
<ul> <li>Examples:</li> <li>Thurgauerstrasse 101B in 8152 Opfikon has "Housekey" 76516196</li> <li>Zwingerstrasse 25, 4053 Basel has "Housekey" 40014653</li> <li>Prepare a list of all your locations with the "Housekey".</li> </ul>

	1.4 Presented address at Public Safety Answering Point (PSAP)							
Description	In Switzerland, not the whole address will be transmitted with your call to the Public Safety An- swering Point (PSAP). Each PSAP looks up in a central database called "Directories NOT Services" (https://www.directoriesdata.ch/en/emergency-services-en/not-services) to find a matching ad- dress for your CallerID. This address will be presented to the agent. The presented address may not match to your current location. Dynamic emergency call routing only makes sure, you reach the correct PSAP, which is responsible for your current location.							
	If presented address doesn't match to your regular workplace, please change the emergency ad- dress on your Sunrise Business Portal (SBP). This change will be uploaded once a week to "Direc- tories NOT Services".							

	1.5 SIP – Trunk Requirements
Description	If you use an SBV Cloud Connect with a Sunrise hosted SBC, everything is already prepared for dy namic emergency call routing. If you use a dedicated IMS SIP Trunk from Sunrise with an on-premise SBC, please contact our Service Desk or your Service Manager to enable dynamic emergency call routing on your trunk.



#### 2 Configuring MS Teams

Description	To configure MS Teams for dynamic emergency call routing, please follow the official configuration guidelines of Microsoft for Direct Routing (not for Calling Plan) (https://docs.microsoft.com/en-us/microsoftteams/what-are-emergency-locations-addresses-and-call-routing)
	The next steps only show you a simple configuration for a company with two locations as example.



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	2.2 Emergency Address
Description	For each location, an emergency address must be created. Please search "Housekey" for each location before you start. You must use a Remote PowerShell to MS Teams, because field "House Number Suffix" (HNS) is not available as input field in Web UI. In this field, you must enter "Housekey" value. Execute the following cmdlet per location:
	New-CsOnlineLisCivicAddress -Description "Office Basel" -CountryOrRegion CH -PostalCode 4053 -StreetName "Zwingerstrasse" -HouseNumber "25" -City "Basel" -HouseNumberSuffix "40014653" -CompanyName "Sunrise Communications AG" -Longitude 47.544100 -Latitude 7.593345
	New-CsOnlineLisCivicAddress -Description "Headquater Opfikon" - CountryOrRegion CH -PostalCode 8152 -StreetName "Thurgauerstrasse" - HouseNumber "101B" -City "Opfikon" -HouseNumberSuffix "76516196" - CompanyName "Sunrise Communications AG" -Longitude 47.421855 -Latitude 8.556210
	After a location is validated, which will be done automatically seconds after creating a location, it cannot be changed. If you need to change them, remove existing location and create a new one.

	2.3 Trusted IP Address									
Description	MS Teams needs to know public IP Address of your Internet Router behind your internal Subnets exists. Only Users, which connects from one of this trusted IPs (or Subnets) can search for a location based on Subnet or BSSID. You can use Remote PowerShell to add a Trusted IP: New-CSTenantTrustedIPAddress -IPAddress "195.141.62.10" -MaskBits 32 - Description "Internet Gw Opfikon" New-CSTenantTrustedIPAddress -IPAddress "194.230.98.23" -MaskBits 32 - Description "Internet Gw Basel" You also can use Web UI for this: Teams Admin Portal, Locations, Network topology, Trusted IPs <b>Network topology</b> <b>Network topology</b> Network topology Network topology Network topology Network topology Network topology Network set locations Network topology Network set locations									
	දී Users									
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	2.4	Network Site	es				
Description	Crea	te a Network Site f	or eac	h location and assign all inter	rnal subnets to this	site.	
	<pre>\$NetworkSiteBS = New-CsTenantNetworkSite -Identity "Basel" - NetworkRegionID "Switzerland" \$NetworkSiteZH = New-CsTenantNetworkSite -Identity "Zuerich" - NetworkRegionID "Switzerland"</pre>						
	New- Netw New- Netw New- Netw	-CsTenantNetwo vorkSiteID \$Ne -CsTenantNetwo vorkSiteID \$Ne -CsTenantNetwo vorkSiteID \$Ne	rkSub twork rkSub twork rkSub twork	onet -SubnetID "10.20. SiteBS.Identity -Desc Onet -SubnetID "192.16 SiteBS.Identity -Desc Onet -SubnetID "10.10. SiteZH.Identity -Desc Onfigure Network Sites and S	0.64" -MaskBit ription "Base 8.102.0" -Mask ription "Base 0.0" -MaskBits ription "Opfik	s 26 - Subnet 1" Bits 24 - Subnet 2" 16 - con Subnet 1"	
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	≡≍	Planning	~	192.168.102.0	Basel Subnet 2	24	
	6	Legacy portal		10.20.0.64	Basel Subnet 1	26	
	Figure	2: Network Site Basel					

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	2.5	Networks &	Locat	tions		
Description	Assign subnet to a location with following cmdlets. You can also WIFI Access Points. Refer Microsoft documentation, when switches or ports become supported (currently not supported). Set-CsOnlineLisSubnet -Subnet 10.10.0.0 -LocationId \$LocationZH.LocationId -Description "Opfikon Subnet 1" Set-CsOnlineLisSubnet -Subnet 10.20.0.64 -LocationId \$LocationBS.LocationId -Description "Basel Subnet 1" Set-CsOnlineLisSubnet -Subnet 192.168.102.0 -LocationId \$LocationBS.LocationId -Description "Basel Subnet 2"					
		Image: Microsoft Teams admin center   Image: Optimized State				@ ? (
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	3	Locations	^	on the network subnet and the same network site but you can	associated network site. You can 't associate multiple sites with the	associate multiple subnets with th same subnet.
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	Figure	24: Networks & Locations	~			

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	2.6 Emergency numbers		
Description	Finally, you must configure all eme these calls to our SBC. Normally th Unlimited". <pre>SEmergencyNumberList = 11 \$OnlinePSTNUsage = "Sunri</pre>	ergency numbers and assign an C his PSTNUsage has been created 1, 112, 117, 118, 143, 14 se Unlimited"	OnlinePSTNUsage which routes with the name "Sunrise 44, 147
	[System.Collections.Array	List]\$EmergencyNumbers =	@()
	<pre>\$EmergencyNumberList   %     \$EmergencyNUmber = Ne "\$_" -OnlinePSTNUsage \$On     \$EmergencyNumbers.Add }</pre>	{ w-CsTeamsEmergencyNumber linePSTNUsage (\$EmergencyNumber)	-EmergencyDialString
	<pre>Set-CsTeamsEmergencyCallR @{add=\$EmergencyNumbers}</pre>	outingPolicy -Identity G -AllowEnhancedEmergencySo	lobal -EmergencyNumbers ervices <mark>\$True</mark>
	You also can use Web UI: Teams (Org-wide default): Make sure, op	Portal, Voice, Emergency policies, tion "Dynamic emergency calling"	, Call routing policies, Global ' is activated.
	Microsoft Teams admin center		@?
	Emergency call routing policies \ Global		
	Global		
	Add a friendly description so you know wh	y it was created	
	©		
	Dynamic emergency calling ()	On	
	Emergency numbers		
	Emergency numbers are phone numbers to	at can be dialed by users in the case of an emergen	zy such as 911, 999 or 112.
	Emergency dial string <sup>(1)</sup>	Emergency dial mask 🛈	PSTN usage record
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	+ Add		
	Figure 5: Emergency Numbers		

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### 3 Testing

Description	After you have configured everything, it can take up to 2 hours, until location information is available on the Teams client. Please refer Microsoft documentation to check, which clients supports dynamic emergency call routing. Web client (Teams in browser) doesn't support it!					
	To check, if your Teams client has detected the correct location, start your Teams client, click your avatar, Settings, Calls and scroll down. If a location has been detected, you find a section "Emergency location".					
	Settings	L				
	General	Ringtones				
	🔒 Privacy	Choose a ringtone for	incoming calls			
	Q Notifications	Calls for you	Default	$\sim$ c		
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		A				
		Accessibility Turn on TTY to use text to communicate over the phone line. To get this				
		working, be sure to co	onnect a TTY device.	Ĵ		
		U Turn on TTY m	ode			
		Caller ID				
		Hide my phone number and profile information for all call:				
		Emergency location				
		you're at the following you're at the following your network connect	Teams keeps your location up to date in case of an emergency. We think you're at the following address based on information from your org and your network connection.			
		Sunrise Communications AG, 101B 76516196				
	✓ Thurgauerstrasse, Opfikon 8152, CH					
	Figure 6: Teams Client Client detected Emergency Location					
	If you get a location, you can close Settings page and then dial test emergency number "111					
	Click to "Calling" tab in Teams clier	nt and enter phone nu	mber 111 and press Enter or clicl	к "Call".		





	3.1 Debugging
Description	If no detected location is visible in Teams client, quit client and start again. If location is still not visible 24 hours after you have configured everything, verify over which IP address your client connects to internet and in which subnet your client is connected. If your client has an IPv4 and IPv6 IP address, make sure, you have added both subnets in Teams Admin Portal. If you normally use a web proxy for internet access and configured bypass proxy for all Microsoft services (highly suggested), connection to Microsoft could use another public IP than regular internet connections. Verify this with your network admin and make sure you have added this IP as "Trusted IP". If you call doesn't present the red symbol and your CallerID in the conversation window, please check, if you have configured the dialed number as an emergency number.
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