

Technical Bulletin

TC2462 ed.07

Rainbow PBX Integration

Rainbow sprint 1.47 and above

Configuration and troubleshooting guide for Rainbow PBX integration with OmniPCX Enterprise

This document provides the configuration details required to install the features linked to Rainbow PBX integration in the context of the OmniPCX[®] Enterprise for UCaaS or CPaaS mode. The troubleshooting part gives tips and tricks in case of issues.

Revision History

Edition 1: July 23, 2018 Edition 2: July 27, 2018	Creation of the document for Rainbow Sprint 1.43 level and above Update of the document for new OXE R12.1 pre requisite
Edition 3: September 12, 2018	Update of the document for OXE configuration, network requirements, gateway deployment and troubleshooting
Edition 4: November 30, 2018	Update of the document for Web RTC Gateway deployment from version 1.67, Remote extension profile for Pure SoftPhone user and new monitoring section
Edition 5: March 5, 2019	Update of the document
Edition 6: July 15, 2019	Update of the document
Edition 7: November 28, 2019	Update of the document

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1 Rainbow PBX integration with OmniPCX Enterprise Server

The deployment guide is delivered to perform the deployment of the Rainbow PBX features with OmniPCX Enterprise Server (OXE).

PBX integration provides the support of several Telephony Services in the Rainbow application to manage communication using the PBX resources:

- Monitor the user devices to perform Call Control from the Rainbow application
- Provide Nomadic feature to route the call received on the PBX to an external number
- Provide VoIP feature for the Rainbow applications through Web RTC Gateway

1.1 DeskPhone monitoring for Remote Control from OXE R12.0

First step of integration from Rainbow UCaaS application with OXE server for the DeskPhone monitoring has been introduced from OXE R12.0, patch M1.403.12.G minimum.

The deployment requires several steps of installation:

1. From Rainbow application, with Business Partner Operation role, create a company and associate an OXE system to create the Rainbow credential for the Call Server.

		Create/Manage Company		Create Equipments		Manage Systems		
		Info / Members invit.		Add Systems		User/Device association		
		BP company	BP company EC company		BP company EC company		EC company	
	Operation Role	YES	YES	YES	YES	YES	YES	
Business Partner	Finance Role	YES	YES	NO	NO	NO	NO	
	Admin	YES	NO	YES	NO	YES	NO	
End Customer (EC)	Admin		YES		NO		YES	



Administration	Channels But	D E	O Contacts	Recents	E Files	Companies	
My company	Manage con	nection					
Business directory	Here is the information you need to connect this equipment to the Rainbow infrastructure. To finalize this pairing, you must enter this information in the equipment management tool.						
General view	Pairing in	formation					
Subscriptions	Equipmer	nt ID	PBX68f9-58	39c-4bca-4f1	lc-97a0-79	95a-1464-a09	2
Consumption	Activation	code	8884				
Equipments	Detailed o	connection statu	IS				
History	Equipmer WebRTC g	nt gateway	Not connect Degraded	ted			- 1
Notifications							-1
My customers							
Dashboard							- 1
Customer companies							

2. On the Call Server, configure an external DNS and HTTP proxy (if required) to provide connection to public network.



(101)csa> netadmin -m
Alcatel-Lucent e-Mediate IP Network Administration
1. 'Installation'
2. 'Show current configuration'
3. 'Local Ethernet interface'
4. 'GPU redundancy'
5. Kole addressing 6. / Somial linko (PDD)/
7 (Tuppel)
8. 'Routing'
9. 'Host names and addresses'
10. 'Copy setup'
11. 'Security'
12. 'DHCP configuration'
13. 'SNMP configuration'
14. 'DNS configuration'
15. 'Proxy configuration'
16. 'VLan configuration'
17. 'Node configuration'
18. 'Ethernet redundancy'
19. 'Uiotonu of loot potiono'
20. History of last actions 21. (Apply modifications)
A. 'Quit'
OI JUTA
What is your choice ?

3. On the Call Server, register the Call Server into the Rainbow infrastructure. At first connection the list of OXE devices is pushed to the Rainbow infrastructure if the parameter "Phone-book sent to Rainbow" is set to "YES".

🕀 🚞 External Services					
🕀 🚞 Inter-Node Links		Enable Rainbow Agent 🤗	ſ	YES	\sim
		5 -	L		
🕀 🚞 DATA		Rainbow domain		openrainbow.com	<u></u>
🕀 🛑 Applications					_
🕀 🔁 Specific Telephone Services		Rainbow ID			
🕀 🚞 ATM		Password status		Temporany	
🕀 💼 Events Routing Discriminator	4	Password status		Temporary	
🕀 🔒 Security and Access Control 👘) E	Phone-book sent to Rainbow		YES	~
🕂 🔁 IP					
🕀 🚯 SIP		Activation code			
🕀 🖶 DHCP Configuration					
🕀 📮 Alcatel-Lucent 8&9 Series		Password Hash			
🕀 💼 SIP Extension					
🕀 💼 Encryption					
🕀 🔁 Passive Com. Server					
🕀 🚞 SNMP Configuration		_			
Rainbow		· · · · · · · · · · · · · · · · · · ·	SAVE	× CANCEL	

4. From Rainbow application, with Business Partner Operation or End Customer Admin role, associate the OXE device and Rainbow account at the user level to activate the monitoring.



1.2 Nomadic mode and Computer mode from OXE R12.1 and R12.2

From R12.1 MD2 and R12.2, two additional features are added to the Rainbow PBX integration to manage the routing of the PBX Calls from the Rainbow applications:

- <u>Nomadic mode (Any Device)</u>: It introduces a routing menu Other Number in the Rainbow application to forward the PBX calls to a second extension configured with an external. It is based on a Remote Extension device on the OXE Call Server.
- <u>Computer mode (Voice Over IP):</u>

It introduces a routing menu Computer to forward the PBX Calls to the Rainbow applications, PC or Smartphone. It requires the deployment of the Web RTC Gateway connected to the Call Server to forward the VoIP flows from the PBX Users/Trunk to the Rainbow applications.

It refers to Rainbow article Release-of-Telephone-Functions-AnyDevice-VoIP

New menus are now available on the applications on PC or Smartphone to switch the routing of the calls:

	← Telephony
Make phone calls with	Decide where to receive your phone calls
🖌 🖵 Computer	RING MY MOBILE PHONE
Office phone	
Work mobile	My number +33630684862 EDIT
📞 Other phone	WITH VOICE OVER IP
	By default, incoming phone calls will ring your mobile phone. Deactivate this option if you
🔅 Call routing	don't want to ring your mobile phone. Set up your mobile phone number if not defined.

When the end user selects a contact, he now has the capability to call on his internal phone number or external phone number, as detailed in Rainbow article <u>How-to-Select-the-Device-to-Use-for-Make-my-Phone-Calls</u>.

For R12.1, the minimum OXE patch is M2.300.21.A.

For R12.2, the minimum OXE is patch is M3.402.13.F.

This version of the document is provided for Rainbow Sprint 1.43 and above.

Note To retrieve the detailed scope of the feature description compatibilities and restrictions consult the corresponding article on Rainbow knowledge center <u>WebRTC to PSTN calling: Installation guide [WebRTC Gateway]</u>



2 Documentation

2.1 Rainbow Help Center

Main page from Rainbow Help Center https://support.openrainbow.com/hc/en-us

Section **Getting started** - for Feature description for End User: <u>https://support.openrainbow.com/hc/en-us/categories/200701684</u>

Section Administration - for Rainbow administration: https://support.openrainbow.com/hc/en-us/categories/360000033164

Section News & Updates - Content of the releases (sprint) https://support.openrainbow.com/hc/en-us/categories/200665684

Section Video (NEW) - Articles for client installation https://support.openrainbow.com/hc/en-us/categories/115000512204

Section **Submit a request** - For further information about the Rainbow features and administration redirect the BP to Rainbow Customer Care on email address support@openrainbow.com or the site https://support.openrainbow.com/hc/en-us/requests/new

Feature List & White List page - Provides compatibilities and restrictions for Rainbow features <u>https://support.openrainbow.com/hc/en-us/articles/115001057424</u>

What Are Rainbow Network Requirements? - Details technical requirements to connect Rainbow clients, Rainbow Server and PBX to deliver Rainbow services https://support.openrainbow.com/hc/en-us/articles/115000301750

2.2 OmniPCX enterprise System Documentation

Netadmin configuration Manual, chapter 3 from the document Maintenance: http://businessportal2.alcatel-lucent.com/8AL91011USAH

Rainbow configuration Manual, chapter 23 from document System Services: http://businessportal2.alcatel-lucent.com/8AL91000USAl

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3 Configuration for DeskPhone Monitoring Feature

3.1 Network/Firewall requirement

Rainbow infrastructure is based on DNS resolution which requires to set up the border equipment to authorize outgoing connection from the OXE system to the Rainbow infrastructure.

DNS service is mandatory for a correct operation of the service.

Details about the protocols and ports are given in the article <u>What-Are-Rainbow-Network-Requirements</u>.

3.2 Association from PBX to Rainbow Infra

3.2.1 Activation of DNS client in OXE configuration

Rainbow services are delivered through public access on Rainbow infrastructure.

As IP addresses are not guaranteed, DNS resolution service must be used to guaranty the continuity of the telephony service:

- On the HTTP Proxy itself, if this is border element is required by the customer
- On the Call Server itself, if the OXE system is connected directly to the public network

One or two DNS Server can be configured on OXE System through the command netadmin -m using option 14. 'DNS configuration':

3.2.2 Activation of an HTTP proxy in the OXE configuration (optional)

If the customer requires to use a proxy to access the public network, it must be configured on OXE System through the command netadmin -m using option 15. 'Proxy configuration':



3.2.3 Connection OXE to Rainbow Cloud Infrastructure

NotePre requisites: From Rainbow application, with Business Partner Operation role, declare a new OXE
equipment in order to get "Equipment ID" and "Activation code" for initial connection.
Review article [Direct Reseller] How-to-Create-a-New-Equipment-PBX

From Rainbow application with Business Partner Operation role

Manage connection Here is the information you need to connect this equipment to the Rainbow infrastructure. To finalize this pairing, you must enter this information in the equipment management tool. Pairing information PBXc0a6-1779-4555-4d09-b905-6564-198f-0e45 Equipment ID 5207 Activation code

In the OXE configuration tool MGR or WBM, open the Rainbow menu:



🕀 🧰 X25	Enable Rainbow Agent
	YES
🕀 🚞 Applications	
🕀 🔁 Specific Telephone Services	Rainbow domain
a 🕀 🚞 ATM	openrainbow.com
🕀 🚞 Events Routing Discriminat	
🕀 🔒 Security and Access Control	Rainbow ID
🕀 💼 IP	PBXf83f-4ae8-c6a8-4fef-bace-4f0c-e3bb-c566
🕀 🚯 SIP	State
🕀 🚞 DHCP Configuration	Teldellester
🕀 📮 Alcatel-Lucent 8&9 Series	Initialization
🕀 🚞 SIP Extension	Phone-book sent to Rainbow
🕀 💼 Encryption	VEC
🕀 💼 Passive Com. Server	TES 🕑
🕀 🛑 SNMP Configuration	Activation code
Rainbow	

- 1. Activate Enable Rainbow agent to YES
- 2. Fill the parameters "Rainbow ID"/"Activation code" with "Equipment Id"/"Activation code" provided by Rainbow application previously.
- 3. Let default value for phone-book to "YES" to send OXE directory to Rainbow Infrastructure
- 4. Save the changes

3.2.4 Check the connectivity of the Rainbow agent

Refresh the menu Rainbow and check that the state switched to Connected:

	Enable Rainbow Agent	YES
.⊕ 🚱 SIP		
🕀 💼 DHCP Configuration	Rainbow domain	openrainbow.com
(+) (-) Alcatel-Lucent 8&9 Series (+) (-) (-) (-) (+) (-) (-) (-)	Rainbow ID	PBXd5f8-f9c9-15b2-45e6-807a-38
+ = Encryption + = Passive Com. Server	State	Connected 🗸
SNMP Configuration	Phone-book sent to Rainbow	YES
	Password Hash	25d89e9c

In addition, incidents will indicate the status of the connection between the Call Server and the Rainbow Infra.

In OXE R12.1 MD2, check the incident generated on CSTA connection

```
(101) xa001001> incvisu -e CSTA
12/06/18 22:29:45 006099M|---/-/-/=4:4017=CSTA server : nouvelle creation 1
135.117.104.105
```

From OXE R12.2, new incidents have been introduced to display rainbow status for each channel of connection

```
(101) xa001001> incvisu -e rainbow
12/06/18 22:27:32
12/06/18 22:29:46 006099M |---/--/=4:4500=rainbowagent: started
12/06/18 22:29:46 006099M|---/-/-/--|=4:4503=rainbowagent: WebSocket
(rainbowagent <->) in service
12/06/18 22:29:46 006099M|---/-/-/--|=4:4505=rainbowagent: XMPP link
(rainbowagent<->Rainbow) in service
12/06/18 22:29:46 006099M|---/-/--|=4:4509=rainbowagent: CSTA link (CSTA
server<->Rainbow) in service
12/06/18 22:29:49 006099M|---/-/--=4:4507=rainbowagent: Config link (PBX
config<->Rainbow) in service
12/06/18 22:32:49 006099M|---/-/--|=4:4511= rainbowagent: API MGT link
(API MGT server <-> Rainbow) in service
```

In case of issue refer to the section Post installation checks



3.3 Association between the OXE device and the End Customer Rainbow members

The last step of configuration must be completed in the Rainbow interface, with Business Partner Operation or End Customer Admin role, to associate the OXE main device to the EC member at Rainbow company level.

Refers to the <u>Rainbow Feature List and Applications</u> to check the list of compatible devices with Rainbow application.

Note Rainbow application can be applied to Business user profiles. It is not compatible with Hotel Room/Guest devices.

To perform the association report to Rainbow article <u>How-to-Associate-or-Modify-PBX-Extensions-of-My-</u> <u>Company-s-Members-in-Bulk</u>

Once this operation is executed, the Rainbow applications PC/Web will then display the DeskPhone icon

The OXE device will be monitored and controlled by the PC/Web application as a CTI application.

In the case where the main OXE device is a Remote Extension, the latter can be attached directly to the EC Rainbow member: use VOIP on Rainbow application PC/smartphone only for voice communication. The Computer icon will be displayed

3.4 Specific configuration in Multi-Tenant context for OTEC-S solution

The OXE feature Multi-Tenant can be used with Rainbow integration only in the context of an OTEC-S system.

It supports a multi-tenant configuration and which is detailed in article:

[VAD] How to Become a Rainbow Distributor and Manage My Resellers

There is a dedicated type of Node OTEC-S available during the declaration of an equipment as VAD and in the customer company.

On the OXE side, the Multi-Tenant configuration must be configured based on the Company Prefix set up.

Note The Multi-Country feature is not yet supported on Rainbow side as a single country code can be managed in Rainbow admin.



4 Configuration for Nomadic feature

4.1 Device management per Rainbow User for UCaaS mode

4.1.1 Create Ghost Z resources for Remote Extension (UCaaS only)

Ghost fictive devices are required, one per simultaneous call thru the WebRTC Gateway.

A pool of Ghost is therefore required. Their number can include letters as there are not directly called, like A12345.

Create new devices with following settings to match the number of simultaneous calls in:

Users / Create

	TONIC	0
🕞 Unsaved#2: 21861411	VoiceMail	Chost 7
🕀 🚞 Users by profile		Chost 2
🕀 🚞 Set Profile	Facilities	Ghost Z Feature
🕀 👫 Groups	Set Characteristics	Remote extension
🕀 🛑 Speed Dialing		

Configure parameter list:

Directory number → internal directory number with digits and letters
Set Type → select Analog
Ghost Z → checked
Ghost Z Feature → set to remote extension
Public Network COS → modify if required, default Public Network COS is set to 2

Note Public Network COS of the Ghost Z will be taken into account when the remote extension will be activated in Nomadic mode. In menu Access COS / Public Access COS, make sure to authorize outgoing calls for all the Area Identifier used in the discrimination rules. It apply to routing Other Number or VoIP.

🕀 🚞 Translator			
😑 🚞 Classes of Service	Area Identifier	1	<u>A</u>
🖂 😑 🚞 Access COS 🛛 😯 32	A cu Menener		
			PUBLIC ACCESS RIGHTS
🕀 🖹 1 • <1111,1111,1111,1111,1111,1111,111	Night		1 🗸
📖 😑 🚞 Public Access COS 🛛 😯 64	Day		1 💙
□ 1 · 1111 □ 2 · 1111	Mode 1		1
È 3 • 1100 È 4 • 1111	Mode 2		1 🔽
5•1111			

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4.1.2 System Settings to modify the entity of the pool of Ghost resources

Define in System / Other System Param. / Local Features Parameters the parameters Entity for OG calls to REX users and REX Entity to be used in ARS to true:



4.1.3 Remote extension device declaration

The UCaaS applications will be associated to a PBX user through a Remote Extension device.

4.1.3.1 Multi-Devices profile with a physical phone

If the user already has a main phone, with possibly secondary devices, create a new device of type Remote Extension with Multi-Line keys and associate it in tandem or multi-tandem in the main device configuration.

Configuration using by WBM or MGR Tool

This management interface provides the possibility to create a Default User that will be used a device profile:

Create an initial OXE user of type Remote Extension with Multi-line keys

 Create the first OXE device of type Remote Extension

Directory number → must be only digits to be monitored by CSTA Set type → select Remote Extension Can be Called/Dialed By Name → set to No Select other fields to customize if required



+ Create × Delete			FORCED DELETE	Memory Re-initialization
General Characteristics				
PIN	Directory Number	21862860		
Assoc.Sets	Directory name	profile		
Rights	Directory First Name	Remote Extension		
Profile	UTF-8 Directory Name			
VoiceMail	UTF-8 Directory First Name			
Facilities	Location Node	99 🔄		
Facilities	Shelf Address	255		
Set Characteristics	Roard Address	255 (6)		
Hotel				
SIP	Equipment Address	255 🖻		
Miscellaneous	Set Type	Remote extension		~
Other	Entity Number	1		

b. Add 2 Multi-line keys to the template device in position 1 & 2. This parameter depends on the number of telephonic function bouton associated to the users. It is recommended to create 2.

Key No.	1	
Function 🥝	Multi-line	
Directory Number 🥑	21862860	
Mnemo (Pocket,Mobile,4040,8&9)		
UTF-8 Mnemo (8&9 Series)		
Direct/Prog (8&9) Key Number	0	

2. Create a new Remote Extension device using the menu Users by profile from MGR/WBM

🕀 🛅 Users by profile

- 3. Define the Remote Extension device settings
 - Phone book Name → User Last name
 - Phone book First Name User First name
 - **Directory number** → must be only digits to be monitored by CSTA
 - Set type → Remote Extension
 - Entity Number → <copy from Main device>



+ Create Save All	
Directory Number 🥝	21862861
Phone book Name (Dial by name) 🥏	UCass
Phone book First Name 🤣	Rainbow
Set Type 🥏	Remote extension
Entity Number 🥏	54
	EQUIPMENT ADDRESS
Shelf Address	255
Board Address	255
Equipment Address	255
Station Profile From 🥝	21862860
Keys Profile From 🥝	21862860
✓ SAV	× CANCEL

4. In the menu Users, select the main DeskPhone device by searching the Directory Number or Directory Name:

Allendani					
🕀 👤 Users	=	Directory Number	Equals		0
🕀 🛑 Users by profile		,			0
🕀 🛑 Set Profile		Directory name	Equals	~	0
🕀 🦺 Groups					0

5. Click tab Assoc.Set.

+ Create X D	elete Save All	
General Characteristi	cs	24202224
PIN	Associated Set No.	21392824
Assoc.Sets	Called Associated DECT set	
Rights	Assistant Directory Number	21392824
Profile		TANDEM
Prome	Tandem Directory Number 🥏	21862861
VoiceMail	Main set in the tandem 🥥	
Facilities	Partial busy	
Set Characteristics	Ringing in partial busy	Long Ring
Hotel	Specific supervision	
SIP		
Miscellaneous		ATTACHED MULTIDEVICE
Other	(+) Add an element	
		SAVE × CANCEL

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- 6. Add the directory number of the Remote Extension device newly created either:
 - a. in the field Tandem Directory Number if empty, then check box for Main set in the tandem
 - b. if the field Tandem Directory Number is already used, go down to Array ATTACHED MULTIDEVICE and select Add an Element

Note It is not necessary to define a destination to the Remote Extension. The field will be set automatically by the Rainbow Infrastructure after the first synchronization of the device.

Configuration with Omnivista 8770 R3.2 in 1 step:

- 1. Create a profile for Remote Extension as Secondary device with Multi-Lines Keys
 - a. Create a new OXE device with Profile function

Directory number→ must be only digits to be monitored by CSTASet Function→ select ProfileProfile Name→ set REX_MultiSet type→ select Remote ExtensionCan be Called/Dialed By Name → set to NoSelect other fields to customize if required

- b. Add 2 Multi-line keys to the profile device in position 1 & 2
- 2. In 8770, select Users application and search for an existing OXE user
- 3. Click on the user and select Add a secondary set then click on entry Add

00509V02011	_	Common automates
Filter		Hierarchy
Delete		User type
Add a secondary set	•	Add
Associate SIP device	►	Search Existing
Import user data	►	First name
Export template	•	User ID
Export user data		8770 password
Export user for template		
Refresh		X

- 4. Select OXE ID and define the mandatory fields:
 - OXE directory number -> must be only digits to be monitored by CSTA
 - Device type → Remote Extension
 - OXE profile -> created in step 1

Note It is not necessary to define a destination to the Remote Extension. The field will be set automatically by the Rainbow Infrastructure after the first synchronization of the device.



4.1.3.2 UCaaS with REX as main OXE device

For this case, several Rainbow clients can be connected at the same time (Smartphone, PC, Web, ...) behind a unique number.

Note Multi-lines keys are recommended to provide extended call handling functionalities for business users. It is however possible to remains in mono-line configuration in case of a single mobile device.

Configuration using by WBM or MGR Tool

This management interface provides the possibility to create a Default User that will be used a device profile:

- 1. Create an initial OXE user of type Remote Extension
 - a. Create the Remote Extension Device in OXE

Name → REX Directory number → must be only digits to be monitored by CSTA Set type → select Remote Extension Entity Number → select the Rainbow users entity Can be Called/Dialed By Name → set to Yes Select other fields to customize if required

- b. Add 2 Multi-line keys to the template device in position 1 & 2 (Not required for mono-line configuration)
- **Note** From Rainbow sprint 49, it is not required any more to configure the **Remote extension number** to initiate the telephonic service on Rainbow applications.

The field will be set automatically by the Rainbow Infrastructure after the first synchronization of the device.

2. Create the new Rainbow users by the menu Users by profile from MGR/WBM

Đ 🛅 Users by profile



- 3. Define the Remote Extension device settings
 - Phone book Name → User Last name
 - Phone book First Name -> User First name
 - **Directory number →** must be only digits to be monitored by CSTA
 - Set type → Remote Extension
 - Entity Number select the same entity than the Ghost Z other Rainbow users

+ Create ✓ Save All	
Directory Number 🥝	21862861
Phone book Name (Dial by name) 🥑	UCass
Phone book First Name 🥏	Rainbow
Set Type 🥑	Remote extension
Entity Number 🤣	54
	EQUIPMENT ADDRESS
Shelf Address	255
Board Address	255
Equipment Address	255
Station Profile From 🥝	21862860
Keys Profile From 🥝	21862860
✓ SAVE	× CANCEL



Configuration with Omnivista 8770 R3.2 or higher:

- 1. Select OXE configuration and create a new OXE device with Profile function for Remote Extension as main device
 - a. Create a new device with below attributes

 Directory number
 → must be only digits to be monitored by CSTA

 Set Function
 → select Profile

 Profile Name
 → set REX_Mono

 Set type
 → select Remote Extension

 Entity Number → select the same entity than the Ghost Z and other Rainbow users

 Can be Called/Dialed By Name → set to Yes

 Select other fields to customize if required

- b. Add 2 Multi-line keys to the template device in position 1 & 2 (Not required for mono-line configuration)
- 2. Select Users application and create a new OXE user
 - OXE directory number > must be only digits to be monitored by CSTA
 - Device type → Remote Extension
 - OXE profile -> created in step 1
 - Key profile → created in step 1

Note From Rainbow sprint 49, it is not required any more to configure the **Remote extension number** to initiate the telephonic service on Rainbow applications.

The field will be set automatically by the Rainbow Infrastructure after the first synchronization of the device.



4.2 Modification of the user Service Subscription per Rainbow user

Access to the new service Nomadic is provided only for Services Subscription Business or Enterprise.

Modify the license on each user in the Services Tab from the Rainbow user configuration:

INFORMATION P_RAII	NBOW N_RAINBO	wc			×
Information	Phone	Services	Roles	Security	
Subscription					
Essential					
Business					
Enterprise					

4.3 Check the availability of the Routing menu on Applications

After the creation of the Remote extension device in OXE configuration, the device creation will be notified to the Rainbow infrastructure in the user account to provide the support for the new services.

Connect to the application Web or PC to check that the routing menu is now available:

	Make phone calls with	
< □	Computer	\mathbf{D}
	Office phone	
0	Work mobile	
e.	Other phone	
۵	Call routing	



Or connect to the Smartphone application to check the Telephony menu is updated with the new settings:



In case of issue refer to the section Troubleshooting the activation of the Telephony Services



4.4 Overflow rules management

Nomadic mode provides the capacity to route internal call to an external number.

Overflow rules can be applied to provide a default routing of the call to the internal voicemail and receive notification of the message on all device of the user.

Timer needs to be adapted to make sure the overflow to associate will be reached before the voicemail of the external number.

Note When the main OXE DeskPhone is put out of service, in case of exchange or move of device, the call is not overflowing on the REX extension to the Rainbow clients.

4.4.1 Overflow to associate

1. Overflow timer has to be defined in the entity of the Main device, the step is 100 ms

	^	Overflow Timer <i> I</i>	
🕀 😥 994 • WRG_TG_994 • -1 • NO • NO		150	
🕀 💼 Trunk Groups			

In our example the value of 150 corresponds to 15s.

Modify the corresponding Phone Feature COS to authorize the overflow:

Classes of Service / Phone Feature COS / <ID> /Overfl.on no answer to associate



Define in the user configuration the directory number of associated set, by selecting the tab Assoc.Sets:

- ⊖ 👤 Users 🛛 つ → 😥 21292824 • Multi-Devices • Test	•	General Characteristics	^	Associated Set No. 🥏
_		PIN	=	21297000
_ ⊕ Le Groups _ ⊕ Dialing		Assoc.Sets		Called Associated DECT set

in our example the voicemail directory number 21297000 is associated to the user 21292824.



4.4.2 Overflow to associate/secondary device when main device is out of service

As the rainbow Application may be out of service, it recommended to validate the overflow to associate in the Phone feature COS selected at the user level

Classes of Service / Phone Feature COS / <ID> / Forward if set is out of service

 Classes of Service Transfer COS 	Virtual set on CMP board	0 🗸
+ Private Calls Connect.COS	Forward if set is out of service	1 🗸
😑 🛑 Phone Features COS 🛛 🔽 1		
∃ • 011010000001000111111000111	Accept Hybrid Link Switchover	1 🗸
🕰 💳 Attendant		

In the case of Multi-Devices profile with physical phone, the overflow to secondary device is preferred to the associate and can be activated from the menu

Classes of Service / Phone Feature COS / <ID> / ring all its secondar. If main oos

🖂 🚞 Classe	s of Service				
😑 🚞 Pho	one Features COS (Page 1 👂 😯 1-100/256	Release Timer For Incoming Call	0	* *	ms
🗈 (0 • 011010011001001100001000011111110000000	Polozso Timor For Outgoing Call	0		mc
🗈	1 • 0110110111010000100010000111111100000010000	Release filler for Outgoing can	0		IIIS
	2 • 011011011101000010001000011111100000000	🗸 ring all its secondar. If main oos			
	3 • 011010000001000111111000111111100000000	Ring secondary REX in parallel			
E ·	4 • 011011011101000010001000011110100000000	King secondary KEX in parallel			

System / Other system parameters / System Parameters / Overflw to sec tandem if main OOS



When main tandem is in out of service state, the calls to main tandem will overflow to the secondary tandem.

If the secondary tandem is also in out of service state, the call overflow to the associate of the main tandem.



4.5 Block the deactivation of the Remote Extension

Once Rainbow clients are associated to the Remote Extension, user's telephony routing configuration must be done from Rainbow clients, which provide an easy way for the user to manage whether the GSM is part of the call distribution, from any Rainbow UCaaS application and consequently any location.

This capability is not compatible with the possibility for end users to deactivate the Remote Extension from their DeskPhone, and OXE must therefore be configured so Remote Extension Deactivation is disabled.

For each of the Phone Feature COS applied to Rainbow user disable the capability from menu:

Classes of Service / Phone Feature COS / <ID> / Remote extension Deactivation set to 0



Remote Extension Activation

1 🗸

Remote Extension Deactivation



5 Configuration for VoIP feature

5.1 Pre-requisites

5.1.1 Capacity & Virtual Machine Sizing

A Virtual Machine (VM) must be set-up to host Rainbow WebRTC Gateway.

The WebRTC gateway load depends on the number of simultaneous calls between PBX and Rainbow clients.

The table of Sizing for the VM is detailed in the Pre Sales documentation TBE067 Rainbow WebRTC Gateway.

5.1.2 Topologies supported for UCaaS and CPaaS

The Web RTC Gateway deployment is provided for both UCaaS and CPaaS deployment use cases.

For UCaaS use case, one Web RTC gateway is required for each node having users with a Rainbow Business or Enterprise subscription.

For CPaaS use case with only incoming call from CPaaS application to the native OXE user, a single Web RTC gateway can be managed.

For detailed information about topologies please refer to Pre Sales documentation <u>TBE067 Rainbow WebRTC</u> <u>Gateway</u>.

5.2 Software Download

The WebRTC Gateway Software is subject to export control laws and you need to fill-in a form to request the access to the software (detailed instructions are on the ALE Business Portal).

Software download			8		A- A+	
CURRENT SEARCH		25	 Result(s) per page, of 3 total. 			
SOTTWARE X			Title		Size	Date 🚽
France ×		-	Rainbow WebRTC Gateway		en	05 Jun 2018
	🙁 Reset		To download WebRTC Gateway, please fill-in the form available I	here <u>https://b</u>	ousinessportal2.alc	atel-
Search	Appliquer		The WebRTC Gateway allows establishing VoIP calls between R reached by the PBX. OXE version M2.300.19A is the minimum version M2.300.19A is th	ainbow client	ts and telephony e orting Rainbow We	extensions bRTC Gateway
PRODUCTS / RELEASE	€		use cases. It is in early adoption phase until July12. Please consult Rainbow support website for early adop registration: <u>https://support.openrainbow.com</u> .			

The software is available under OXE Software releases from R12.1:

Note

Retrieve and fill the template for each customer system and send it to the email address of registration webrtcgateway.request@openrainbow.com



5.3 Installation of the Web RTC Gateway

Note

The section below details only the main steps of the deployment. To retrieve the detailed Installation guide consult the corresponding article on Rainbow knowledge center WebRTC to PSTN calling: Installation guide [WebRTC Gateway]

5.3.1 Virtual Machine deployment

1. Deploy the Virtual Machine template in the VMware client (vCenter, vSphere or webadmin)

71	35.117	.104.12	2 - vSphere	Clien	ıt		
File	Edit	View	Inventory	Adm	inistration	Plug-ins	s Help
	New			•	ventory	Di Inve	entory
	Deplo	by OVF	Template		- '	_	
	Expor	t		•			
	Repo	rt		•	esxic.lund	ıma.alca	tel-lucer
	Print I	Maps		F	tting Starte	d Sumr	mary V
	Exit						
_				W	hat is a Ho	st?	

2. Select Thick provisioning as Disk Format and keep the pre-defined size of the Disk

Source OVF Template Details	Datastore:	datastore1
Name and Location Resource Pool	Available space (GB):	180,9
Disk Format		
Network Mapping		
Ready to Complete	Thick Provision Lazy	Zeroed
	O Thick Provision Eage	r Zeroed
	C Thin Provision	

3. Select Power on after deployment and start the deployment

Power on after deployment



5.3.2 Keyboard management

The Virtual Machine has been created with a QWERTY keyboard, you may need to change it. Log in with following credentials: User=kb Password=kb

The wizard to change the keyboard will be automatically started, just follow the instructions on the screen to change your keyboard.

5.3.3 First connection

After the initial deployment use the default login to log on the VMware console:

User=**rainbow** Password=**Rainbow123**

Make sure to change the default rainbow login password.

5.3.4 Initial configuration

The configuration is done using the commands mpnetwork [options...] and mpconfig [options...] in 3 steps:

Step 1 - Set Network Configuration

Step 2 - Configure the WebRTC Gateway account

Step 3 - Reboot the server

 Note
 Embedded commands are listed into the following article on Rainbow knowledge center WebRTC to PSTN

 calling: Installation guide [WebRTC Gateway] in section 1.3 WebRTC Gateway configuration

5.4 Web RTC Gateway upgrade (from version 1.67.2)

New process of the upgrade of the gateway is supported from version 1.67.2.

Note Process is detailed into the following article on Rainbow knowledge center <u>WebRTC gateway upgrade</u> guide



5.5 Rainbow Admin Configuration

5.5.1 Activation of the Web RTC gateway for the OXE equipment

For the OXE connected to the WebRTC Gateway you'll have to select the option "Activate the WebRTC gateway".

Equipment informat	ion			
Server name	Telecom & IT Service Main C	DXE		
Server type	OmniPCX Enterprise	•		
Activate WebRTC gateway				
Used as default route				
Specify equipment ID and activation code				

5.5.2 Modification of the user Service Subscription per Rainbow user

Access to the new services Nomadic and VoIP through the Web RTC Gateway is provided only for Services Subscription Business or Enterprise.

Modify the license on each user in the Services Tab from the Rainbow interface:

INFORMATION P_RAII	NBOW N_RAINBO	w			×
Information	Phone	Services	Roles	Security	
Subscription					
Essential					
Business					
Enterprise					



5.6 OXE Configuration of the SIP Trunk to Rainbow WebRTC Gateway

5.6.1 Pre requisites

In case of spatial redundancy of OXE system, the node name must be set in netadmin and local DNS resolution must be activated.

5.6.2 Trunk Group Creation

Create a new public trunk group with variant ISDN All countries and specification SIP:

Trunk Group / Creation

🛨 💈 Phone Book	Trunk Group ID 🥏	
🕀 🚞 Entities	5	
. 😑 🚞 Trunk Groups 📀 1/69	Truck Crows Ture	
🕞 Unsaved#1: 5 • T2 • Web RTC GW • 1		
🕀 🚞 External Services	T2	~
🕀 💼 Inter-Node Links		
.⊕ 🧰 X25	Trunk Group Name 🤡	
a 🕀 🚞 DATA	Web RTC GW	

Configure parameter list:

Trunk Group ID	➔ New identifier
Trunk Group Name	➔ Web RTC GW
Q931 Signal Variant	➔ ISDN All Countries
T2 Specification	→ SIP

5.6.3 Add Web RTC gateway in the SIP Trusted IP Addresses

SIP / Trusted IP Addresses



Configure parameter list:

Trusted address → IP Address of WebRTC gateway

Note By default, 2 access of 31 channels are created on the SIP trunk to support up to 62 channels through the Web RTC Gateway. For higher provisioning increase the number of access on the SIP trunk into menu *Trunk Groups / Trunk Group / Virtual Access for SIP / Number of SIP Access*.



5.6.4 SIP External Gateway Creation

Create a new External SIP Gateway:

SIP / SIP External Gateway/Create

 ⊕ 6 Security and Access Control ⊕ 5 IP ⊖ ◊ SIP 	SIP External Gateway ID 📀
SIP Gateway	Gateway Name 🥏
SIP Proxy	Web RTC GW
🖹 SIP Registrar	
💷 🕀 🧰 SIP Dictionnary	SIP Remote domain 🤡
🗕 🕂 🧰 SIP Authentication	192.168.1.10
👝 🚞 SIP Ext Gateway 🔽 1	PCS IP Address
□ 🕞 Unsaved#2: 5 • Web RTC GW	
🕀 🛑 Quarantined IP Addresses	
🔄 🕂 🧰 Trusted IP Addresses	SIP Port Number
🕀 🛑 SIP To CH Error Mapping	5060
🕀 🛑 CH To SIP Error Mapping	
🕀 💼 DHCP Configuration	Transport type
🛨 📮 Alcatel-Lucent 8&9 Series	UDP
(+) 🔁 SIP Extension	

Configure parameter list:

SIP Ext Gw ld	→ <some id="RainbowSIPGwId"></some>
SIP Remote Domain	➔ IP Address of WebRTC gateway
Port number	→ 5060
Transport type	→ UDP
Supervision Timer	→ 380
Trunk Group Number	→ <reference defined="" for="" group="" of="" rainbow="" trunk=""></reference>
SDP in 18x	→ False
Minimal authentication method	→ SIP None
Contact with IP address	→ False
Dynamic Payload type for DTMF	→ 101
Gateway Type	→ Rainbow
CSTA User to User	→ False
Support Re-invite without SDP	→ True
Trusted From Header	→ True
Type of codec negotiation	→ Single codec G711

Note This parameter avoids negotiating G729 codec with the WebRTC Gateway that does not support it. It supports the negotiation of G722 wideband codec for local compatible devices.



5.6.5 Manage Country code for OXE

As best practice of OXE management and not specifically related to the WebRTC Gateway, check that "country code" is defined according to the country the PBX is installed in (eg 33 in France).

System / Other system parameters / Signaling string / Country Code

. 🗇 😝 System	^	
😑 😑 Other System Param.		System Option String
🕀 🛑 Compression Parameters		SG Country Code
🕀 🛑 Network Parameters	=	
🕀 🚞 External Signaling Parameters		System Option String Max Length
🕀 🚞 DISA Parameters		8
🕀 💼 Local Features Parameters		
🕀 💼 Attendant Parameters		Country Code
🕀 🚞 Voice Mail Parameters		33
🕀 💼 Accounting Parameters		
🕀 🚞 System Parameters		
🕀 💼 Spec. Customer Features Parameters		
🕀 🚞 MLA Parameters		
🕞 🚞 Signaling String 🔉 1		
🖹 SG Country Code • 8		

5.7 Enabling Calls from PBX to Rainbow

The following configuration is required to allow calls from PBX to Rainbow.

It is required for UCaaS and also some CPaaS cases where calls from PBX to Rainbow App would be relevant.

The major points to configure are:

- Prefix configuration for Rainbow Trunk Seizure
- Discrimination/Routing rules configuration for enabling calls to the Rainbow trunk
- Callback rules, to enable calling back from PBX devices' call logs

5.7.1 Prefix Creation

Create a "Ars Prof. Trk Grp Seiz. With overlap" Prefix to use the Rainbow Trunk Group defined earlier.

Translator / Prefix Plan / Create

. 🗇 🧰 Translator	Number 🥏
🕞 🚞 Prefix Plan 🕟 1/1426	BBB
📑 Unsaved#3: BBB • ARS Prof.Trk Grp Seiz.wit	
🔄 🛨 💼 Suffix Plan 🚽	Prefix Meaning 🥝
🕀 🛑 Numbering Plan	ARS Prof.Trk Grp Seiz.with overlap
🕀 💼 PIN (Personal Ident.No.)	
🕂 💼 Private Call Profile	Discriminator No. 🥝
🕀 💼 External Numbering Plan	5

Rainbow PBX Integration - Rainbow sprint 1.47 and above Configuration and troubleshooting guide for Rainbow PBX integration with OmniPCX Enterprise Copyright © ALE International 2019



Configure parameter list:

Number→ BBBPrefix Meaning→ ARS Prof.Trg Grp Seizure with overlapingDiscriminator→ <select an unassigned number LogicalRainbowDiscri>

The Rainbow prefix is static and set to BBB by default.

Note If the prefix BBB is already used in the numbering plan, contact the Rainbow support at support@openrainbow.com

5.7.2 Numbering discriminator management

OXE needs to know the authorized numbers for the Rainbow Trunk.

Each of the Rainbow user will be affected a 17 digits Rainbow identifier, in the Rainbow numbering plan.

The Rainbow numbering plan uses 1 as first digits. For now, one rule must be created for digit 1.

5.7.2.1 Create a new Real Numbering Discriminator

Translator / External Numbering Plan / Numbering Discriminator / Create

😑 💳 Translator	*			
🔄 😑 🚞 External Numbering Plan		Discriminat	or No. 🥏	
🕞 🚞 Numbering Discriminator 🛛 😡 1/22		5		
🛱 Unsaved#5: 5 • Web RTC GW Discri	Ξ	Nama 🔹		
🕀 🛑 Numbering Plan Description (NPD)	_	Name 🤝		
🕀 🛑 DID numbering translator		Web RTC GW Discri		

Configure parameter list:

Discriminator No.	→ < select an unassigned number RealRainbowDiscri>
Name	→ RainbowDiscriminator

Note Logical Rainbow Discriminator will be associated later to Real Rainbow Discriminator in Trunk entity (CPaaS) or User entity (UCaaS).

5.7.2.2 Create rules for the Real Rainbow Discriminator

The first discrimination rule is required for routing the Rainbow unique number of the Rainbow user.

Translator / External Numbering Plan / Numbering Discriminator / <RealRainbowDiscri> / Discriminator Rule / Create



Configure parameter list:

Call Number→ 1ARS Route List Number→ <RainbowARSRouteList>Number of Digits→ 17

5.7.3 Associate Logical Rainbow Discriminator to Real Rainbow Discriminator

The Real Numbering discriminator must be associated to the Logical Numbering Discriminator that was associated to the Rainbow Prefix definition.

This is done in the Entity object the OXE users and Ghosts Z belong to. Identify the list of Entities in the Users configuration of Rainbow users and Ghosts Z:



Users 1	General Characteristics	Set Type 🥥	
(+) Users by profile	DIN	IPTouch 8068s	~
🕀 🚞 Set Profile		Entity Number	
🕀 🧏 Groups	Assoc.Sets		
🕀 🛑 Speed Dialing	Dialata		

Then select each entity of the list to modify:

Entities / <Entity of PBX Users> / Discriminator Selector

Associate Logical Rainbow Discriminator as defined in Prefix (<LogicalRainbowDiscri>), with the Real Rainbow Discriminator table (<RealRainbowDiscri>).



5.7.4 ARS Route List

5.7.4.1 Create a Route List dedicated to Rainbow trunk

This route list is the one referenced by the discriminator rules.

Translator / Automatic Route Selection / ARS Route List / Create

😑 💼 Translator 🧖		
😑 🚞 Automatic Route Selection		ARS Route list 🥏
🕞 🛑 ARS Route list 🛛 🤉 1		50
🕞 Unsaved#8: 50 • Web RTC GW I		
🕀 🛑 ARS Schedule	_	Name 🗸
ARS Calendar	=	Web RTC GW RL
🕀 🛑 Numbering Command Table		PIN Code
🗇 💳 Codo Toblo Authorization		THE CONC

Configure parameter list:

ARS Route List Name → <ARS Route List mumber define in the Discriminator rules >
 → Web RTC GW RL

5.7.4.2 Create a route

😑 🚞 Translator	•	Route
🗁 🧰 Automatic Route Selection		1
😑 🚞 ARS Route list 😡 1		Name 🤗
😑 🖹 50 • Web RTC GW RL • false		
ARS Route 🔽 1		Raindow Trunk
🕞 Unsaved#9: 1 • Rainbow Tru	'	Trunk Group Source
	Ξ	Route
ARS Calendar		Trunk Group 🥝
🕀 🛑 Numbering Command Table	I.	5
🕀 🛑 Code Table Authorization		
🕀 🚞 Filtered Called Number		No.Digits To Be Removed
🕀 💼 ATM Address List		0
Classes of Service		Digits To Add
Attendant		
(+) Users		
(+) Users by profile		Numbering Command Tabl. ID 🥑
• Set Profile		3
(+) X Groups		
Configure parameter list:		

Translator / Automatic Route Selection / ARS Route List / ARS Route / <RainbowARS> / Create

Trunk Group

Quality

→ <reference of Trunk Group defined for Rainbow> Numbering Command Tabl. ID \rightarrow reference to a Numbering Command Table to create

→ add Speech/Restricted & Unrestricted digital information

5.7.4.3 Create Time based route list

Translator/Automatic Route Selection/ARS Route List/Time-Based Route List/<RainbowARS>/Create



Add route 1 (leave default values)



5.7.5 Numbering command Table creation

Translator / Automatic Route Selection / Numbering Command Table / Create



Configure parameter list:

Table Id→ <some ref> (referenced in ARS route)Command→ IAssociated Ext Gw→ <RainbowSIPGwId>

Note "carrier reference" may be used for accounting ticket.



5.7.6 Callback rules management

To allow callback from PBX device to Rainbow extension (from call-log), Callback rules must be managed as follows.

5.7.6.1 Create a new table

Translator / External Numbering Plan / Ext. Callback Translation Tables / Create

😑 🚞 Translator	*		
😑 🧰 External Numbering Plan		External Callback	Table
🕀 🛑 Numbering Discriminator		5	
🕀 💼 Numbering Plan Description (NPD)	_		
🕀 🛑 DID numbering translator		Country Codes	
🕀 🛑 Default DID num. translator		33	*
🕀 🛑 Node Access Prefix	Ξ	Country Name	
🕀 🛑 Network Access Prefix		Country Name	
😑 🚞 Ext.Callback Translation Table 😯 1		Default	
🕂 🚞 Country Codes			

Configure parameter list:

External Callback Table
Country Codes
Country Name

- → <new number for Rainbow CBT>
- → <country code> (of the country the PBX is installed in, eg 33 for France)
- → Default



5.7.6.2 Create a new rule for the new table

For current usages, a default rule can be created as the behavior is similar for all incoming Rainbow numbers.

Translator / External Numbering Plan / Ext. Callback Translation Tables / Ext. Callback Translation Rules / Create

😑 🚞 Translator	
😑 🚞 External Numbering Plan	Basic Number 🥏
🕀 🛑 Numbering Discriminator	DEF
🕀 🛑 Numbering Plan Description (NPD)	
🕀 😑 DID numbering translator	No.Digits To Be Removed
🕀 🚞 Default DID num. translator	0
🕀 🚞 Node Access Prefix 🗧	Digits To Add
🕀 🧰 Network Access Prefix	
😑 🚞 Ext.Callback Translation Table 😯 1	ВВВ
💷 😑 🚞 Ext.Callback Translation Rule	
Unsaved#13: DEF • 0 • BBB	

Configure parameter list:

Basic Number	→ DEF
Nb of digts to be removed	→ 0
Digits to Add	→ BBB

5.7.6.3 Associate Callback Translation Table to a Specific Entity

The CBT table must be referenced from the entity the Rainbow Trunk Group is part of. A specific entity must be created to avoid overlaps with other existing callback translation tables.

Entities/Create

○ This I for the second se	Gateway • -1 • NO •	Entity Number 🤗	55	A V
 Trunk Groups External Services 		Name 🧭	Web RTC C	ateway
(+) 💼 Inter-Node Links		UTF-8 Name		
Configure parameter list:				
Entity Number Name External Callback Tables	 → <new entity="" li="" number<=""> → <entity name=""></entity> → <callback cr<="" li="" table=""> </callback></new>	er> eated in step 1/>		



5.7.6.4 Associate Rainbow Trunk Group to this new entity

Trunk Groups / Trunk Group / Entity Number → <set Entity Number created in step3>



5.7.6.5 Include the Call Back prefix in the CSTA numbers

The call back prefix must be presented within the calling number to offer the capacity to dial back from the Call log.

Applications / CSTA / Set Callback on Calling Device → Yes

Applications CSTA	*	Set Callback On Calling Device	YES	~

5.7.7 Display management for NOE sets (CPaaS only)

The following configuration allows displaying the Rainbow caller name on NOE sets.

- Note It is only relevant for CPaaS cases where the call comes from a Rainbow App who is not associated to any PBX extension.
 - 1. Note the Phone Feature COS users the rule must be applied to

Users/Rights/Phone features COS → note the ID

2. Then manage display parameter

Classes of Service / Phone Feature COS / <ID> / Calling name display (CNIP/I-CNAM) : 1



Note On SIP devices, the display is managed by the set itself.



5.8 Manage rights to disable external calls from Rainbow trunk (optional)

As long as the use case only requires calls between CPaaS Rainbow applications and internal extensions of the PBX network, or/and as long as only UCaaS use cases are deployed, it is recommended to prevent transit calls between the Rainbow trunk and other public trunks, to protect against unauthorized charged calls to external users.

This is managed as follows:

1. Manage the COS ID of the Rainbow trunk and of other public trunks accessing the public network, so that the Rainbow Trunk COS ID is different from other public trunks.

Review each of the public trunk, and note the public trunk COS ID already in use into: *Trunk Group/<other public trunk>/Trunk Group/Trunk COS*

Review each of the trunk COS and note one which will remain unused: *External Services/Trunk COS* Select this ID different from other public trunks and which will be unused on your system, <Rainbow trunk COS ID>

Change trunk type of <Rainbow trunk COS ID> *External Services/Trunk COS/Change trunk type/*<Rainbow trunk COS ID>/Trunk type + ABC_F

Apply it to Rainbow trunk *Trunk Group/<Rainbow trunk>/Trunk Group/Trunk COS*

2. Manage the trunks Connection COS ID so they are different between the Rainbow trunk and other public trunks

Review each of the public trunk, and note the list of Public Connection COS ID already in use into: *External services / Trunk COS /<public trunk COS ID>/Connection COS*

Select an ID different from other public trunks, <Rainbow Connection COS ID> and apply it to Rainbow Trunk

External services / Trunk COS /<Rainbow trunk COS ID>/Connection COS

3. Manage right to make call between Rainbow trunk and other public trunks

To prevent direct calls from Rainbow trunk to other public trunks modify:

Classes of service / Connection COS / <rainbow Connection COS ID > : set 0 for the list of Public Connection COS ID

Note check that calls from Rainbow Trunk to users is still allowed. Be careful that by default all SIP trunks have the same Connection COS ID as users. Maybe you will need to change the Connection COS for SIP-ISDN trunks on your system (*External services / Trunk COS /31/Connection COS*), to be able to allow calls from Rainbow trunk to users and disable calls from Rainbow trunk to SIP-ISDN trunks.



5.9 Manage the identification of the caller over the SIP trunk

5.9.1 CPaaS mode

The caller identifier has to be forwarded in the SIP trunk exchanges to display the correct name or number on CPaaS application.

1. Manage the CLI format in Applications / Remote Extensions Parameters

Applications	•			
Remote Extension Parameters		CLI Format	Standard Plan	~

Select Standard Plan to forward an external number or Private Plan to forward an internal number.

2. Assign a NPD to use for external forward for Standard Plan, use by default 0 for Private Plan

🕞 🥃 System	^			
Compression Parameters		System Option	NPD for external forward	~
🕂 🧧 Compression Parameters		NPD for external forward	10	
External Signaling Parameters 0 1/32 END for external forward • 10	=			

5.9.2 UCaaS mode

The caller identifier has to be forwarded to Remote Extension to display the correct name or number.

1. Manage the CLI format in Applications / Remote Extensions Parameters

Applications			_
Remote Extension Parameters	CLI Format 🥑	Private Plan	~

Select Private Plan to forward an internal number or Standard Plan to forward an external number.

2. Assign a NPD to use for external forward for Standard Plan, use by default 0 for Private Plan

○				
🗇 🖻 Other System Param.		System Option	NPD for external forward	~
🔅 🕂 🛑 Compression Parameters				_
🕀 🛑 Network Parameters	J	NPD for external forward 🤣	0	
🖂 😑 🚞 External Signaling Parameter 🍕				
(Reference of the second secon				



5.10 Activation of VoIP feature in the Rainbow applications

In the Routing menu of the PC/WEB application, a new icon computer will appear:



In the Smartphone Telephony menu, the entry with VoIP will be accessible

← Telephony	
Decide where to receive yo calls	our phone
RING MY MOBILE PHONE	
My number +33630684862	EDIT
WITH VOICE OVER IP	
By default, incoming phone calls w mobile phone. Deactivate this opti don't want to ring your mobile pho your mobile phone number if not d	vill ring your on if you ne. Set up lefined.

Routing menu description is detailed in Rainbow Article <u>How-to-Select-the-Device-to-Use-for-Make-my-</u><u>Phone-Calls</u>.

In case of issue refer to the section **Post installation checks**

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5.11 OXE specific configuration for Remote Extension devices

5.11.1 SIP Trunking option for Hold and Transfer scenarios

In the SIP External Gateway of the Provider SIP Trunk, the parameter Sendonly for hold must be disabled:



6 Monitoring

6.1 List of OXE incidents to monitor

The following list of incidents can be monitored on OXE or 8770 to generate SNMP TRAP or email.

For SIP external Gateway associated to Web RTC Gateway:

Incident N°	Severity	Description
5812	Information	SIP Gateway put into service
5813	Information	SIP Gateway put out of service

For CSTA link:

Incident N°	Severity	Description
4017	Warning	A new CSTA server is created
4018	Warning	The CSTA server is closed
4019	Minor	Exit of the CSTA server

For Rainbow agent channels:

Incident N°	Severity	Description
4500	Warning	The process rainbowagent is started
4501	Warning	The process rainbowagent is stopped
4502	Warning	Abort of process rainbowagent, rainbowagent will start again
4503	Warning	The WebSocket with the Rainbow host is in service
4504	Warning	The WebSocket with the Rainbow host is out of service
4505	Warning	The XMPP link with the Rainbow host is in service
4506	Warning	The XMPP link with the Rainbow host is out of service
4507	Warning	The Config link (PBX config<->Rainbow) is in service
4508	Warning	The Config link (PBX config<->Rainbow) is out of service
4509	Warning	The CSTA link (CSTA Server<->Rainbow) is in service
4510	Warning	The CSTA link (CSTA Server<->Rainbow) is out of service
4511	Warning	The API_MGT link (API_MGT server<->Rainbow) in service
4512	Warning	The API_MGT link (API_MGT server<->Rainbow) out of service



7 Troubleshooting

7.1 Log files

7.1.1 WebRTC Gateway logs

/var/log/otlitemediapillargateway/portal.log /var/log/janus/janus.log

7.1.2 OXE logs

Rainbow agent logs are available /var/log/rainbowagent.log* The log level can be modified thru the the file /etc/oxe/rainbowagent.properties

In general, for any Support Request, it is required to use the infocollect.sh script to collect the logs from the server.

7.2 Post installation checks

7.2.1 Check the connectivity status in Rainbow interface

The connectivity of the PBX integration can the check in the menu **"Manage connection"** from the Rainbow interface with the Business Partner Operation role.

Manage connection				0
Your equipment is conne	cted to Rainbow	- 6		
Pairing information		rt	Activity	Settings
Equipment ID	PBX9aa2-0949-a162-4b3d-881e-fcbc-5fc2-9455			
Password hash	72234E61		c	1
To obtain a new pairing	Reset connection			Create
Detailed connection stat	us		Status	
Telephony channel	Running		Activated	
Configuration channel	Running		Equipment in	formation
Authentication channel	Running		🛱 Manage conn	ection
WebRTC gateway	Not connected			
		_		

7.2.2 Check the connectivity of the Rainbow agent

Enter OXE configuration through MGR or WBM and select the Rainbow menu:

(\cdot)		•	Enable Rainbow Agent	YES
•	💊 SIP		_	
•	DHCP Configuration		Rainbow domain	openrainbow.com
	Alcatel-Lucent 8&9 Series SIP Extension	₩	Rainbow ID	PBXd5f8-f9c9-15b2-45e6-807a-38
•	Encryption		State	Connected
•	😑 Passive Com. Server			
	SNMP Configuration	Ξ	Phone-book sent to Rainbow	YES
	R Rainbow			
(4	*	Password Hash	25d89e9c

In addition, incidents will indicate the status of the connection between the Call Server and the Rainbow Infra.

In OXE R12.1 MD2, check the incident generated on CSTA connection

(101)xa001001> incvisu -e CSTA 12/06/18 22:29:45 006099M|---/-/-==4:4017=CSTA server : nouvelle creation 1 135.117.104.105

From OXE R12.2, new incidents have been introduced to display rainbow status for each channel of connection

```
(101)xa001001> incvisu -e rainbow
12/06/18 22:27:32
12/06/18 22:29:46 006099M|---/--/==4:4500=rainbowagent: started
12/06/18 22:29:46 006099M|---/--/==4:4503=rainbowagent: WebSocket
(rainbowagent<->) in service
12/06/18 22:29:46 006099M|---/--/==4:4505=rainbowagent: XMPP link
(rainbowagent<->Rainbow) in service
12/06/18 22:29:46 006099M|---/--/==4:4509=rainbowagent: CSTA link (CSTA
server<->Rainbow) in service
12/06/18 22:29:49 006099M|---/--/==4:4507=rainbowagent: Config link (PBX
config<->Rainbow) in service
12/06/18 22:32:49 006099M|---/--/==4:4511=rainbowagent: API_MGT link
(API MGT server<->Rainbow) in service
```

Expected result

The parameter State must be set to Connected meaning that a first connectivity has been established to retrieve a complex password. The list of the OXE users is uploaded in the Rainbow database if the "Phonebook sent to Rainbow" is to "YES". This last authorize to perform the association of the Device and Rainbow accounts in the Rainbow Admin interface.



For OXE 12.1, incident 4017 must be displayed at last.

For OXE 12.2, incidents 4500, 4503, 4505, 4509, 4507, 4511 must be displayed at last.

Actions

If no incident is generated, R12.1 or only incident 4500 is displayed, R12.2:

- 1. Check with command netadmin -m that the DNS server or HTTP proxy are properly configured in the menus 14. 'DNS configuration'or 15. 'HTTP Proxy menu'
- 2. Check the file /etc/hosts doesn't contain the domain openrainbow.com in a static entry and clean the list if required

3. Check the process Rainbow agent and threads are activated

(699)	xa006099>	ps -ed	f gre	ep 1	raink	WOO					
root	21616	3305	21616		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21647		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21648		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21649		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21650		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21651		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21652		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21653		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21654		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21663		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21664		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21665		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21681		13	08:16		00:00:00	/usr/sbin/rainbowagent	log	<pre>/etc/oxe/rainbowagent.properties</pre>
mtcl	22484	22365	22484			08:35	pts/0	00:00:00	grep rainbow		

If the process is aborted or threads are missing, perform a bascul or restart the rainbow agent process with command dhs3 init -R RAINBOWAGENT

- 4. Check with the customer that all border element authorizes to establish the connectivity to the service agent.openrainbow.com on port 443 based on article <u>What-Are-Rainbow-Network-Requirements</u>
- 5. If previous actions didn't succeed to establish the link, perform a network capture in root login using the command:

tcpdump -s 0 -w /tmpd/filename &

Restart the rainbow agent process dhs3_init -R RAINBOWAGENT

Stop the capture:

killall tcpdump

Warning Currently Trusted Hosts feature is not compatible with Rainbow connectivity as the DNS service is mandatory to connect a pool of servers to maintain the service



Create a Service Request to welcome center to OXE support team using email <u>ebg_global_supportcenter@al-</u> <u>enterprise.com</u> and provide the network capture and Infocollect file from the system.

7.2.3 Check the status of the external SIP Gateway on OXE

Use command sipextgw -l to display the status from OXE to WebRTC Gateway connectivity.

```
xm000000> sipextgw -1
Wed Jun 6 08:12:22 CEST 2018
| R E G I S T E R E D S I P E X T E R N A L G A T E W A Y S |
IN SERVICE SIP external gateways list:
1 2 3 4 5
```

Expected Result

The corresponding Gateway should be in the list of IN SERVICE gateway

At startup of the system an incident 5812 will be generated for the corresponding gateway: 000000M|---/--/=0:5812= SIP external gateway 1 is in service

Actions

If the gateway is out of service, check the external gateway configuration from <u>SIP External Gateway</u> Creation

If the configuration is correct start a SIP traces on OXE call Server using commands:

```
xm000000> motortrace 3
xm000000> traced > /tmpd/WebRTCGateway_SIP.log&
[1] 30370
```

Stop the traces using command: xm000000> killall traced [1]+ Done

traced > /tmpd/WebRTCGateway_SIP.log

Create a Service Request to welcome center to OXE support team using email <u>ebg_global_supportcenter@al-</u> <u>enterprise.com</u> and provide the corresponding traces and Infocollect file from the system.

7.2.4 Check the status from the services on WebRTC gateway

Note

For last update about Web RTC Gateway troubleshooting tools please consult the corresponding article on Rainbow knowledge center <u>WebRTC to PSTN calling: Troubleshooting guide [WebRTC Gateway]</u>



The WebRTC Gateway runs different services for the connection to Rainbow and to the PBX:

- otlitemediapillargateway
- janus-gateway-mediapillar
- kamailio

To check their status you can run following commands: mpstatus

Command should return the

- The status from the system processes
- Time synchronization
- Access to the Rainbow infra
- Authentication to the Rainbow infra
- List of monitored users identified by their 17_digits_Rainbow_ID

```
rainbow@rainbow-mgw:~$ mpstatus
kamailio status ...
  [OK] enabled/active
janus-gateway-mediapillar status ...
  [OK] enabled/active
otlitemediapillargateway status ...
  [OK] enabled/active
ntp status ...
 [OK] enabled/active
registration status ...
  traceroute -n -m 4 -T -p 5060 135.117.104.100
  [OK] route 135.117.104.100
rainbow auth status ...
  [OK] [OK]
rainbow registered users
                Contact:: sip:102484609012997890135.117.104.100:33977 Q=
                Contact:: sip:101349280478260530135.117.104.100:60462 Q=
                Contact:: sip:10956733713163289@135.117.104.100:59508 Q=
                Contact:: sip:10201370790844271@135.117.104.100:53702 Q=
                Contact:: sip:10080917772863297@135.117.104.100:43847 Q=
```

Actions

1. Restart the services using command:

```
sudo service otlitemediapillargateway restart
sudo service janus-gateway-mediapillar restart
sudo service kamailio restart
```

2. Check again the status of the services

If result is still not correction after the restart of the service, collect the logs and the commands result and open a ticket of support to Rainbow support team using email: support@openrainbow.com

7.2.5 Check OXE ressources

The WebRTC Gateway doesn't do transcoding so depending on the topology, compressors must be added on the OXE media gateway. To check the compressors available on OXE, #compvisu lio

The equipments (GDx, GAx, INTIP) providing the voice resources used for WebRTC GW transcoding must be set in the default domain. To check this point, these commands can be used: #cnx dom #cnx cc

```
(1)csa> cnx cc
led Nov 27 15:55:10 CET 2019
=== NO ACTIVE CAC ===
SEPLOS_neqt_5471_mcdu_2980
    pt_rall_ipp(DEFINED> state(HS> IP_Address(Not initialized>
SEPLOS_neqt_5485_mcdu_2089
        pt_rall_ipp(DEFINED> state(HS> IP_Address(Not initialized>)
Warning NO COMP in domains which have G711 as extra algorihtm -->Transcoding :
npossible
Max participant in casual conf system parameter is 7 BUT no addo_on conference
circuit of size 7 exist
mx [ cfg | obj | cr | load | WORD_# ]
```



7.3 Troubleshooting loss of Connectivity in the Rainbow Applications

When there is a disturbance of the connectivity of the Rainbow agent, Telephony service is lost on the Rainbow applications of the connected users.

Incident 4018, in R12.1 or incidents 4501, 4502, 4504, 4506, 4510, 4512 in R12.2 should be generated indicating a loss of connectivity on one or several links to Rainbow Infrastructure.

Actions

- 1. Confirm the presence of incidents with command incvisu
- 2. Check with command netadmin -m that the DNS server or HTTP proxy are properly configured in the menus 14. 'DNS configuration'or 15. 'HTTP Proxy menu'
- 3. Check the file /etc/hosts doesn't contain the domain openrainbow.com in a static entry and clean the list if required

Note Currently Trusted Hosts feature is not compatible with Rainbow connectivity as the DNS service is mandatory to connect a pool of servers to maintain the service, CROXES-19318.

- 4. Check in MGR/WBM the configuration of Rainbow service is still correct, meaning that the parameter Enable Rainbow Agent is set to true/Yes and the status is still Connected.
- 5. Check the process Rainbow agent and threads are activated

(699)	xa006099>	ps -ec	df gr	ep	raink	WOO					
root	21616	3305	21616		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21647		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21648		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21649		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21650		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21651		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21652		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21653		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21654		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21663		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21664		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21665		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
root	21616	3305	21681		13	08:16		00:00:00	/usr/sbin/rainbowagent -	log	<pre>/etc/oxe/rainbowagent.properties</pre>
mtcl	22484	22365	22484	0	1	08:35	pts	5/0 00:00:00	grep rainbow		

If the process is aborted or threads are missing, perform a bascul or restart the rainbow agent process with command dhs3 init -R RAINBOWAGENT

6. If previous actions didn't succeed to restore the link, perform a network capture in root login using the command:

tcpdump -s 0 -w /tmpd/filename &

Restart the rainbow agent process

dhs3_init -R RAINBOWAGENT



Stop the capture: killall tcpdump

7. In case of presence of the incident 4502 a core file has been generated and needs to be collected.

Check the rainbow log to confirm the generation of the core file:

2018-08-14 16:14:26:203 [F] rainbowagent [7]#AMgt exception(): caught Poco exception: System exception: cannot start thread 2018-08-14 16:14:26:203 [F] rainbowagent [7]#AMgt **ABORTED core dumped (see** /proc/sys/kernel/core_pattern to find the location of the core dump file)

Read the file /proc/sys/kernel/core pattern to identify the core file location.

Zip the file to reduce the size by the command gzip core.rainbowagent

Create a Service Request to welcome center to OXE support team using email <u>ebg_global_supportcenter@al-</u> <u>enterprise.com</u> and provide the network capture or core dump and Infocollect file from the system.

7.4 Troubleshooting WSS connection loss due to network convergence

Sometimes the Web Socket Secure connection is disconnected because the PONG timeout value on the Rainbow infrastructure is too low compared to the convergence time of the network.

Such issue is reported in the /var/log/rainbowagent.log through the message:

2019-06-14 03:20:25:442 [E] rainbowagent.WebSocketMux [3]#WsMx onWsPongTimeout(): No response received to last WebSocket PING

It is possible to increase this timer to limit the reset of the rainbow agent process:

Edit the file /DHS3data/mao/ccca.cfg and modify the entry WEB_SOCKET_PONG_TIMEOUT to 40s as below:

WEB SOCKET PONG TIMEOUT=40

Then restart the rainbow agent process dhs3_init -R RAINBOWAGENT



7.5 Troubleshooting the activation of the Telephony Services

Telephony services are available after the association of a user provided from OXE database to a Rainbow account.

Once the association is created the telephony services must be activated in the Rainbow application PC/WEB to provide by default the Remote Call Control of the main device.

Expected

In the Rainbow application PC/WEB, a new icon will appear to display the main device selected for the Telephony Services which can be:

- The DeskPhone
- 🛛 Professional Mobile 💾
- Computer or Smartphone for VoIP mode 😐

Actions

If the OXE user is not available in the Rainbow Admin interface setup CSTA traces on the Rainbow Agent:

- login as root and edit /etc/oxe/rainbowagent.properties
- remove "#" at the beginning of these 2 lines (lines 98-99):

```
logging.loggers.cstaConnectionLogger.name = rainbowagent.CstaConnection
logging.loggers.cstaConnectionLogger.level = trace
```

Then restart rainbow agent with mtcl account with the command: dhs3_init -R RAINBOWAGENT

If the menu routing menu does not appear generate the Infocollect file, and create a Service Request to welcome center for OXE support team using email <u>ebg_global_supportcenter@al-enterprise.com</u> with the Infocollect file from the system.



7.6 Troubleshooting activation of services Nomadic/VoIP on a new User

7.6.1 Check the allocation of the Business or Enterprise subscription for the user

Access to the new services Nomadic and VoIP through the Web RTC Gateway is provided only for Services Subscription Business or Enterprise.

Open Rainbow user configuration in the Services Tab to check the current Subscription:

INFORMATION P_RAINBOW N_RAINBOW							
Information	Phone	Services	Roles	Security			
Subscription							
Essential							
Business							
Enterprise							

Expected Result

Business or Enterprise must be selected

Actions

Modify the Subscription on the user

7.6.2 Check the allocation of OXE sets

Side OXE, the services Nomadic and VoIP through the Web RTC Gateway is based on the Remote Extension and Analog Ghost Z sets. To check these resources, these commands can be used #remotesets



(1)csa> remotesets

Wed	Nov	27:	16:20:39	CI	ET 20	ð19	
==== Neqt	===	0639:	========== 2 Numan		2201	Active	ExtNbr = 00609092915 AbrIdx = 370
Neqt	=	0639:	1 Numan	=	2204	4 Active	No external number associated.
Neqt	=	06391	0 Numan	=	2205	5 Active	No external number associated.
Neqt	=	06393	3 Numan	=	2202	2 Active	ExtNbr = 00781936010 AbrIdx = 2009
Neqt	=	0639·	4 Numan	=	3986	0 Active	No external number associated.
Neqt	=	0639	9 Numan	=	3981	l Active	ExtNbr = BBB10824367319481855 No abbreviate
d nu	mbe	r as:	sociated.				
Neqt	=	0639	8 Numan	=	3982	2 Active	No external number associated.
Neqt	=	0639'	7 Numan	=	3983	3 Active	No external number associated.
Neqt	=	0639	6 Numan		3984	4 Active	No external number associated.
Neqt	=	0639	5 Numan		3985	5 Active	No external number associated.
Neqt	=	0640	9 Numan	=	3986	6 Active	No external number associated.
Neqt	=	0640:	1 Numan	=	398	7 Active	No external number associated.
Neqt	=	0640	2 Numan		3988	8 Active	No external number associated.
Neqt	=	0640	3 Numan	=	3989	9 Active	No external number associated.
Neqt	=	0640 [.]	4 Numan	=	3996	0 Active	No external number associated.
Neqt	=	0640	5 Numan	=	3991	l Active	No external number associated.
Neqt	=	0640	6 Numan	=	3992	2 Active	No external number associated.
Neqt	=	0640	7 Numan		3993	3 Active	No external number associated.
Negt	=	0640	8 Numan	=	3994	4 Active	ExtNbr = 00781936010 AbrIdx = 2009
Negt	=	06334	4 Numan	=	2203	3 Active	ExtNbr = 00659979335 AbrIdx = 1992
Tota	1 =	= 20	Maximum	=	20		
====	===						
(1)c	ca)	>					

#remoteghosts

(1)(:sa,	> rei	noti	egnosts						
Wed	Nov	27	16	:19:13	CI	ΞT	201	.9		
====			===						====	
Negt	; =	064:	22	Numan	=	Bf	1599	2		
Negt	; =	064:	23	Numan	=	Bf	1599	1		
Negt	; =	064:	24	Numan	=	Bf	1598	0		
Negt	; =	064:	25	Numan	=	Bf	1598	1		
Negt	; =	064:	26	Numan	=	Bf	1598	2		
Negt	; =	064:	27	Numan	=	Bf	1598	13		
Negt	; =	064	28	Numan	=	BA	1598	4		
Negt	; =	064	29	Numan	=	Bf	1598	15		
Negt	; =	0643	30	Numan	=	Bf	1598	6		
Negt	; =	064	31	Numan	=	Bf	1598	17		
Negt	; =	0643	32	Numan	=	BA	1598	8		
Neat	; =	0643	33	Numan	=	Bf	1598	19		
Negt	; =	0643	34	Numan	=	Bf	1599	0		
Negt	; =	064	35	Numan	=	Bf	1599	3		
Negt	; =	0643	36	Numan	=	BA	1599	4		
Tota	1 :	= 15	M	aximum	=	20)			
===:										
(1)0	sa)	>								

7.6.3 Check the availability of the Routing menu on Applications

After the creation of the Remote extension device in OXE configuration, the device creation will be notified to the Rainbow infrastructure in the user account to provide the support for the new services.

Connect to the application Web or PC to check that the routing menu is now available:





Or connect to the Smartphone application to check the Telephony menu is updated with the new settings:

- Telephony	
Decide where to receive yo	our phone
RING MY MOBILE PHONE	
My number +33630684862	EDIT
WITH VOICE OVER IP	
By default, incoming phone calls w mobile phone. Deactivate this opt don't want to ring your mobile pho your mobile phone number if not o	will ring your ion if you one. Set up defined.

Expected Result

Menu reserved for Nomadic and Voice over IP should be displayed.

It is necessary that the user is registered on the Web RTC gateway to activate the monitoring on the Remote extension device. If the entry remains grey it means the registration to the Web RTC gateway didn't completed.

Actions

Check the status of the Web RTC gateway by the command mpstatus.

Command should return the

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- The status from the system processes
- Time synchronization
- Access to the Rainbow infra
- Authentication to the Rainbow infra
- List of monitored users identified by their 17_digits_Rainbow_ID

```
rainbow@rainbow-mgw:~$ mpstatus
kamailio status ...
  [OK] enabled/active
janus-gateway-mediapillar status ...
  [OK] enabled/active
otlitemediapillargateway status ...
  [OK] enabled/active
ntp status ...
  [OK] enabled/active
registration status ...
  traceroute -n -m 4 -T -p 5060 135.117.104.100
  [OK] route 135.117.104.100
rainbow auth status ...
  [OK] [OK]
rainbow registered users
                Contact:: sip:10248460901299789@135.117.104.100:33977 Q=
                Contact:: sip:10134928047826053@135.117.104.100:60462 Q=
                Contact:: sip:10956733713163289@135.117.104.100:59508 Q=
                Contact:: sip:102013707908442710135.117.104.100:53702 Q=
                Contact:: sip:100809177728632970135.117.104.100:43847 Q=
```

If the menu is not displayed, collect the logs from the application and open a ticket of support to Rainbow support team using email: support@openrainbow.com

7.6.4 Check the update of the Remote extension number in OXE configuration

Modification of the routing menu will generate the modification of the destination of the Remote Extension Number by the Rainbow infrastructure.

This change is done in real time after the modification of the ringing device.

Open the OXE configuration tool MGR / WBM / 8770 application to check the modification of the field.



Expected Result

After switching to Computer mode (Web/PC) or activation of Voice over IP (Smartphone), the Remote Extension Number must show the number BBB+<17_digits_Rainbow_ID> as follow:

Remote extension number	BBB10307147285499262
Remote Extension Deactivation	
Country	Default

After switching to Work Mobile / Other Phone (Web/PC) or deactivation of Voice over IP (Smartphone), the Remote Extension Number must show the number <ARS_Prefix>+<External_Number> as follow:

Remote extension number	
00123456789	
Remote Extension Deactivation	
Country	
Default	~

Note Parameter Remote Extension Deactivation must remain inactive to ring the secondary device. Disable this setting if activated.

Actions

1. Restart the Rainbow agent from OXE using command:

dhs3_init -R RAINBOWAGENT

2. Perform the change the routing in one of the application:

If the value of the Remote extension number remains blank or is invalid, collect the logs from the application and the Web RTC Gateway, then open a ticket of support to Rainbow support team using email: support@openrainbow.com



7.7 Troubleshooting Call establishment in UCaaS mode

7.7.1 Check the provisioning of the monitored users in SIP proxy of the WebRTC Gateway

To check the PBX users registered into the WebRTC gateway SIP proxy, run the command: <code>mpstatus</code>

Expected result

Command should return the

- The status from the system processes
- Time synchronization
- Access to the Rainbow infra
- Authentication to the Rainbow infra
- List of monitored users identified by their 17_digits_Rainbow_ID

```
rainbow@rainbow-mgw:~$ mpstatus
kamailio status ...
  [OK] enabled/active
janus-gateway-mediapillar status ...
  [OK] enabled/active
otlitemediapillargateway status ...
  [OK] enabled/active
ntp status ...
  [OK] enabled/active
registration status ...
  traceroute -n -m 4 -T -p 5060 135.117.104.100
  [OK] route 135.117.104.100
rainbow auth status ...
  [OK] [OK]
rainbow registered users
                Contact:: sip:102484609012997890135.117.104.100:33977 Q=
                Contact:: sip:101349280478260530135.117.104.100:60462 Q=
                Contact:: sip:10956733713163289@135.117.104.100:59508 Q=
                Contact:: sip:10201370790844271@135.117.104.100:53702 Q=
                Contact:: sip:10080917772863297@135.117.104.100:43847 Q=
```

Note

To retrieve the Rainbow_ID follow the section <u>Check the update of the Remote extension number in OXE</u> <u>configuration</u>

Actions

- 1. Restart the Rainbow Applications Web, PC or Smartphone, then check again the list of registered users
- 2. If not yet updated, restart the Web RTC Gateway using command:



sudo reboot

3. Check again the list of registered users

If result is still not correct after the restart of the Gateway, collect the logs and the commands result and open a ticket of support to Rainbow support team using email: support@openrainbow.com

7.7.2 Check the Remote Extension configuration

Dial the directory the remote extension number from an internal user to check the management of the ARS configuration.

In case of failure, check first the incidents from the Call Server with command:

```
xm000000> incvisu -t 50
```

If no incident is generated, set a Call Handling trace on the ARS table and SIP Trunk with commands:

```
xm000000> tuner km ctr cpu cpl tr s at hybrid=on
xm000000> actdbg all=off ars=on isdn=on sip=on
xm000000> mtracer -aug > /tmpd/WebRTCGateway_CH.log&
[1] 30371
```

After reproducing the scenario stop the trace

```
xm000000> tuner km ctr
[1]+ Done mtracer -aug > /tmpd/WebRTCGateway_CH.log
xm000000> actdbg all=off
```

Create a Service Request to welcome center to OXE support team using email <u>ebg_global_supportcenter@al-</u><u>enterprise.com</u> and provide the corresponding traces and Infocollect file from the system.

7.7.3 Check "Activate the Web server" parameter and Nginx

This parameter is used not only by OXE WBM activation but also by the API management used by Rainbow Agent in OXE. To avoid issue for calls from Rainbow application via WebRTC Gateway set this parameter to "True"



Sometimes even though this setting is enabled, errors still appear, check the Nginx with the trace parameters

```
killall traced
mao trace +obj +gen +ch
srvtrace ON
traced -1 /tmpd/trace_mao -s 20000000 -f 99 -d &
```

7.7.4 OXE traces for Rainbow usage

Side OXE, information to check signaling, call flow and delay measurement can de done with these trace parameters

```
trc i
tuner all=off cpu cpl at tr s hybrid=on
actdbg all=off abcf=on isdn=on remote=on cstall=on cnx=on sip=on
mtracer -ag -1 /tmpd/CH_xxx -f 99 -s 20000000 -d&
```

7.8 Troubleshooting in REX or Nomadic mode change

In the cases

- changes on the REX not taken into account on Rainbow application
- Lost Nomadic mode

Can be interesting to compare the the WBM OXE logs with MGR information.

Rainbow and WBM use the same API to request OXE. This API is based on the dynamic memory access (REMANENT) while MGR is based on the MAO, therefore it can be interesting to check the potential inconsistency between WBM OXE and MGR information.

The WBM OXE log files (max 2) can be found in the folder "tmpd".

The size and the level can be changed in the file [root@pfrlmlezpbxcsa tmpd]# cat /usr3/mao/wbm.cfg DEBUGLEVEL 0 LOGSIZE 320000



Submitting a Service Request

Please connect to our <u>eService Request</u> application.

Before submitting a Service Request, please be sure:

- The application has been certified via the AAPP if a third party application is involved.
- You have read the release notes that list new features, system requirements, restrictions, and more, and are available in the <u>Technical Documentation Library</u>.
- You have read through the related troubleshooting guides and technical bulletins available in the <u>Technical Documentation Library.</u>
- You have read through the self-service information on commonly asked support questions and known issues and workarounds available in the <u>Technical Knowledge Center</u>.

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