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# ZULTYS-OPTUS ITSP INTEROPERABILITY DOCUMENT

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This document is produced in good faith by Brisnorth Communications (Zultys Authorised Dealers) in conjunction with YesComms (Optus Business Dealership) for the mutual benefit of the Zultys and Optus Dealer Channels. The examples shown below are based on actual site commissioning of OPTUS SIP Trunks. Names, addresses and other data have been changed for privacy purposes. Users of this document must accept that the information is provided in good faith, and that neither Brisnorth Communications nor Zultys Inc, nor YesComms nor Optus, SingTel nor any of their agents are responsible for any acts, omissions or causes as a result of using this document. Any errors or amendments should be emailed to [support@brisnorth.com.au](mailto:support@brisnorth.com.au) Your revision will be incorporated and you will receive by return an updated version.

## OPTUS EVOLVE VOICE WITH OPTUS MANAGED ROUTER

### OPTUS CONFIGURATION

<b>1.1 SERVICE ACTIVATION/DELIVERY.....</b>	<b>2</b>
<b>1.2 DOCUMENTATION.....</b>	<b>2</b>

### ZULTYS CONFIGURATION

<b>2.1 CREATE ITSP ACCOUNT.....</b>	<b>3</b>
<b>2.2 CONFIGURE CODECS.....</b>	<b>3</b>
<b>2.3 CREATE DIAL PLAN .....</b>	<b>4</b>
<b>2.3 SET UP ROUTING TABLES .....</b>	<b>4</b>
<b>2.5 ENABLING SESSION BORDER CONTROLLER (SBC) ON MX.....</b>	<b>5</b>
2.5.1 NETWORKS .....	5
2.5.2 RTP MAPPING .....	5
<b>2.6 TESTING WITH A USER/DEVICE ON MX SYSTEM.....</b>	<b>5</b>
<b>2.7 MULTIPLE OPTUS “EVOLVE” CONNECTIONS TO A SINGLE MX OR TO MX’S ACROSS A WIDE-AREA-NETWORK OF MX-NETWORKED SYSTEMS.....</b>	<b>6</b>

# OPTUS CONFIGURATION



## 1.1 SERVICE ACTIVATION/DELIVERY

The Optus "Evolve Voice" SIP-trunk is provided in the form of a new internet tail into the Customer Premises. Customer will be required to allocate a Reserved IP-address on their LAN for the purposes of provisioning a SIP gateway. Optus then identify and test cable capacity to Customer site. Once Technical Service Qualification is complete, Optus configure a SIP-gateway device (Managed Router) with the LAN Gateway address provided by the Customer. Optus deliver, connect and test their Router on site, without connecting to Customers LAN.

On commissioning-day, a person on site will need to connect a patch-lead from the Optus Router to the Customers' LAN. (Note it is wise to verify that the IP-address assigned to the Optus Router is indeed still reserved/unused before patching by performing a simple ping test).

## 1.2 OPTUS DOCUMENTATION

In advance of commissioning-day, the Customer will have received an " INTEGRATION INFORMATION PACK FOR IP" which looks like this :

### OPTUS EVOLVE VOICE – OPTUS MANAGED ROUTER

## INTEGRATION INFORMATION PACK FOR IP<sup>1,2</sup>

When you are ready to commence testing with our engineer please send an email including the name of your technical representative, a contact phone number, the date, day & time for the test to [CPG\\_Custares@optus.net.au](mailto:CPG_Custares@optus.net.au). Be advised that the test number range will be blocked until the integration test commences.

Please note that we require 5 working days notice and testing will be conducted between the hours of 9am and 5 pm from Monday to Friday.

Detailed information about the Optus Evolve Voice service is available on request.

If you experience any issues after the integration test, please contact our Faults group on 1300306332

**yes**  
**OPTUS**  
BUSINESS

optusbusiness.com.au

### INFORMATION SHEET

The following table has values taken from the Optus Evolve Design Pack. Please note that this information is subject to change during integration testing as per customer's request.

Customer Site Service Detail:			
Customer Name:	Jeddy Holdings P/L		
Customer Order Solution Order	Access Circuit ID	Voice Trunk Circuit ID	Trunk Type
161127-501617045	44RD J21RD11 D4YR EVC001	D4YR O4MO D1010 EVOM001	QLD State Based
Customer 3 Letter Code	Equipment Location	Customer Location	Primary/Secondary
TDM	campus rack in back office. Label with circuit name tagged by tech	5006 Surfers Paradise Boulevard Surfers Paradise QLD 4217	N/A
Service Number Range	CODEC	LAN Protocol	Signalling Protocol
0756521100 - 299	G.729a	Direct	SIP V2

Customer Service IP Address Detail:	
Field	IP Address
SIP Signalling IP Address of Customer <b>64970438</b> PEX	192.168.0.150/24
RTT Media Gateway IP Address of Customer <b>64970438</b> PEX	192.168.0.150/24
Optus SIP Signalling IP Address	122.102.30.121/32
RTT Media Optus IP Address Range	58.105.248.128/26
MRS Router LAN IP Address	192.168.0.248/24

Two voice codecs as listed and in the order given must be configured on your CPE only. Failure to comply with this rule may result in call failure.

1st Choice	2nd Choice
G.729a	G.711 u-law

To make an outbound call on the trunk, use the following format:  
(e.g. [0401627141@122.102.30.121](mailto:0401627141@122.102.30.121))

**yes**  
**OPTUS**  
BUSINESS

optusbusiness.com.au

The Customer will have received an email from Optus confirming the Test/Commissioning appointment time, and the name and contact details of the Engineer at Optus whom you will be communicating with in the process. Customer should have forwarded that email and the above Information Pack to you well ahead of appointed test/commissioning appointment.

# ZULTYS CONFIGURATION

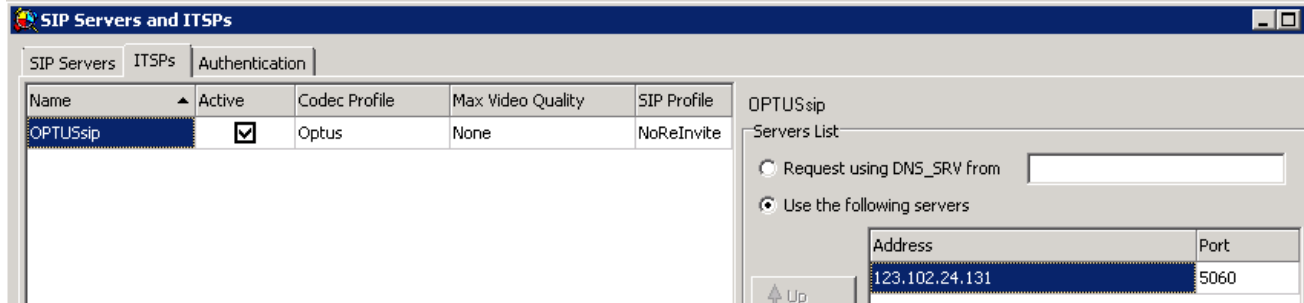
## 2.1 CREATE ITSP ACCOUNT

With reference to the Optus Information Pack, find the ITSP server address:

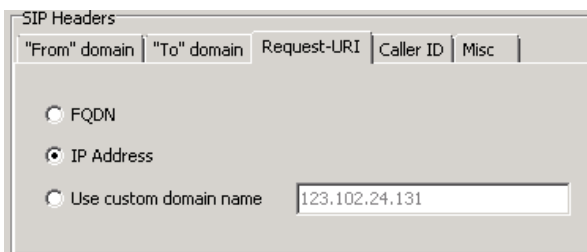
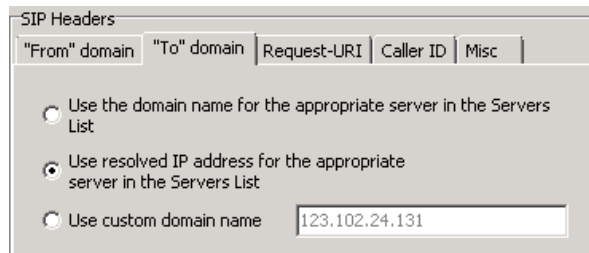
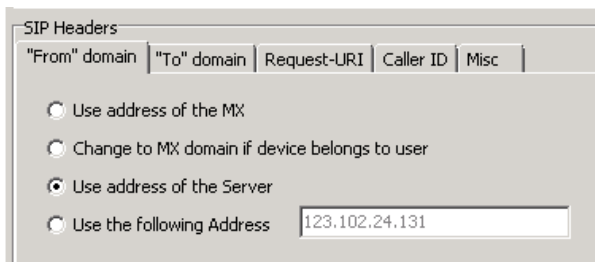
**Optus SIP Signalling IP Address**

**123.102.24.131/32**

In MX-Admin : Provision > Sip Server and ITSP set Optus ITSP with the server address as given:



Then set your SIP-Header info as follows:



To make an outbound call on the trunk, use the following format:  
(e.g. [0401627141@123.102.24.131](mailto:0401627141@123.102.24.131))

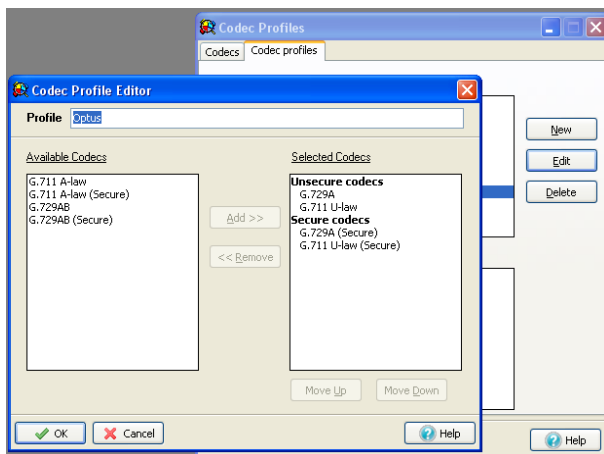
**NOTE: Registration/Authentication is NOT REQUIRED -leave this unticked/blank**

## 2.2 CONFIGURE CODECS

With reference to the Optus Information Pack,

*Two* voice codecs as listed and *in the order given* must be configured on your CPE only. Failure to comply with this rule may result in call failure.

1st Choice	2nd Choice
G.729a	G.711 μ-law



In MX-Admin :

Provision > Codecs > Codec profiles, and click "New" and add a Codec called "Optus" as shown.

Go back to the ITSP account (step 2.1) and assign this Codec to the ITSP

## 2.3 CREATE A (TEST) DIAL PLAN



In MX-Admin :

Configure > Dial Plan > Routing, and right-click to add/create a new plan for External :

Ultimately, post-commissioning, you will create a Dial-plan that looks like this:

All External                      Internal                      XXXXX@                      ITSP : OPTUSsip

But for testing purposes, so as not to interfere with a Live/Production system call routing, create a TEST prefixed Dial Plan something like this : (example shows prefix \*3 used)

Routing						
Outside						
Call Restriction						
	Name	Source	Pattern	Destination	Transformation	Restricted
1	TEST Optus SIP	Internal	*3XXXX@	ITSP : OptusSIP	DDXXXX@	<input type="checkbox"/>

Place the TEST Dial-Plan at the top of the dial plan table. Now you will be able to force calls out via the test-route using a prefix of \*3 in front of any number you dial. All other calls will progress as normal.

## 2.4 SET UP ROUTING TABLES

Explanatory note : The MX will always Route traffic firstly to the Gateway that you have set under Provision > System Settings> IP Addresses. This is set when the MX was first configured, and cannot be changed without entering Console Mode. For the OPTUS EVOLVE SIP TRUNK & ROUTER we will create a new route within the MX's routing table to specifically route traffic related to the DIAL PLAN for the OPTUS-ITSP that we created earlier.

With reference to the Optus Information Pack,

Optus SIP Signalling IP Address	123.102.24.131/32
RTP Media Optus IP Address Range	211.29.150.128/26
MRS Router LAN IP Address	192.168.3.248/24

In MX-Admin **View > Routes**, Right-click and add;

Add a route for EACH of the SIP signalling Address AND the RTP Media range,

Set the Route metric for these two to level "1" and set the "Next Hop" to the Optus Routers LAN address:

IP Network Prefix	Network Mask	Route State	Route Metric	Next Hop	Interface
0.0.0.0	0.0.0.0	Best	5	192.168.3.254	Ethernet 1
123.102.24.131	255.255.255.255	Best	1	192.168.3.248	Ethernet 1
211.29.150.128	255.255.255.224	Best	1	192.168.3.248	Ethernet 1

Filter:  Enable Filter    Network Prefix: 192.168.1.0    Network Mask: 255.255.255.0

Buttons: Cancel, Ping, Help

## 2.5 ENABLING SBC ON MX

The Zultys has built-in Session Border Controller to handle ALG and overcome NAT'ing issues

With reference to the Optus Information Pack,

Optus SIP Signalling IP Address	123.102.24.131/32
RTP Media Optus IP Address Range	211.29.150.128/26
MRS Router LAN IP Address	192.168.3.248/24

### 2.5.1 NETWORKS

In MX-Admin **Provision> SBC>Networks** , right-click and add addresses;

Add one entry each for both the SIP Signalling address, and the RTP Media Range. Tick “trusted”

Network Address	NML	Mask	Trusted network	Port Mapping	Public IP	Ex
10.0.0.0	8	255.0.0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
172.16.0.0	12	255.240.0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
192.168.0.0	16	255.255.0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
123.102.24.131	32	255.255.255.255	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
211.29.150.128	26	255.255.255.192	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

### 2.5.2 RTP MAPPING

Under the Mapping Tab, Tick Mapping for those :

Networks		RTP Mapping					
Route RTP via Session Border Controller for calls between selected network pairs							
	10.0.0.0/8	172.16.0.0/12	192.168.0.0/16	123.102.24.131/32	211.29.150.128/26	0.0.0.0/0	
10.0.0.0/8	<input type="checkbox"/>						
172.16.0.0/12	<input type="checkbox"/>	<input type="checkbox"/>					
192.168.0.0/16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
123.102.24.131/32	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
211.29.150.128/26	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
0.0.0.0/0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 2.6 TESTING WITH A USER/DEVICE ON MX SYSTEM

Optus signaling will check the CallerID of the call, to ensure that it matches the numbers allocated to the “Evolve” Account numbers . If the CND is not within Service Number Range, the call will fail.

!! Be sure that your test user’s account has a Caller-ID that is of the number-range as given in the Information Pack :

Service Number Range	CODEC
0734121200 - 99	G.729a

MX’s built-in SIP-Trace Call Monitor can be used to diagnose any issues with SIP-call progress.

If using a Device that is not assigned to a user, you may need to programme the Prime number of the Service Number Range into the MX’s SystemSettings:

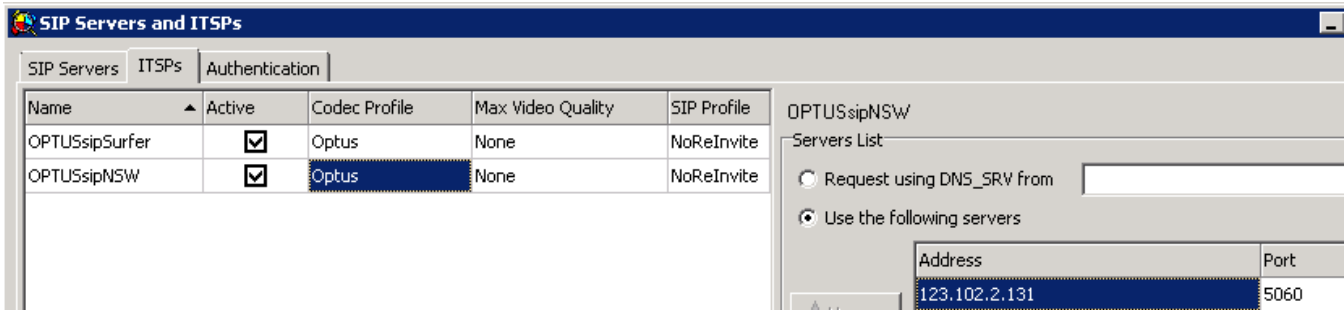
In MX-Admin > Provision>System Settings>Company Main phone number

## 2.7 MULTIPLE OPTUS “EVOLVE” CONNECTIONS TO A SINGLE MX OR TO MX’S ACROSS A WIDE-AREA-NETWORK OF MX-NETWORKED SYSTEMS

Optus will provide a unique “**INTEGRATION INFORMATION PACK FOR IP**” document for each site, and sometimes two documents for a single site if different FNN (Geographical numbers) are provided.

Simply repeat the process for each “account”/ “**INTEGRATION INFORMATION PACK FOR IP**” , creating new ITSP , Dial-Plan, Routing Table, and SBC Mapping

ITSP:



Dial Plan:

NSWdevicesExternal	Location : NSWdevices	XXXXX@	ITSP : OPTUSsipNSW
All External	Location : Surfers	XXXXX@	ITSP : OPTUSsipSurfer

Routing Table:

IP Network Prefix	Network Mask	Route State	Route Metric	Next Hop	Interface Name
0.0.0.0	0.0.0.0	Best	5	192.168.0.254	Ethernet 1
58.105.248.128	255.255.255.224	Best	1	192.168.0.248	Ethernet 1
123.102.2.131	255.255.255.255	Best	1	192.168.0.248	Ethernet 1
123.102.30.131	255.255.255.255	Best	1	192.168.0.248	Ethernet 1
211.29.150.64	255.255.255.224	Best	1	192.168.0.248	Ethernet 1

SBC Mapping:

Network Address	NML	Mask	Trusted network	Port Mapping	Public IP
10.0.0.0	8	255.0.0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
172.16.0.0	12	255.240.0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
192.168.0.0	16	255.255.0.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
123.102.30.131	32	255.255.255.255	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
58.105.248.128	26	255.255.255.192	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
123.102.2.131	32	255.255.255.255	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
211.29.150.64	27	255.255.255.224	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

	10.0.0.0/8	172.16.0.0/12	192.168.0.0/16	123.102.30.131/32	58.105.248.128/26	123.102.2.131/32	211.29.150.64/27
10.0.0.0/8	<input checked="" type="checkbox"/>						
172.16.0.0/12	<input type="checkbox"/>	<input type="checkbox"/>					
192.168.0.0/16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
123.102.30.131/32	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
58.105.248.128/26	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
123.102.2.131/32	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
211.29.150.64/27	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0.0.0.0/0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>