Ribbon EdgeMarc 2900A R15.7 Interop with SIP Connect: Interoperability Guide

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Interoperable Vendors

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Document Overview

This document depicts the configuration details for Ribbon EdgeMarc 2900A interworking and compliance against Deutsche Telekom SIP Connect solution. This is a general reference document that requires user input during the configuration of Ribbon EdgeMarc 2900A.

This guide contains the following configuration sections:

Section A: Ribbon EdgeMarc 2900A Configuration

- Captures general Ribbon EdgeMarc SBC configurations for deploying with Deutsche Telekom SIP Connect solution.

Section B: Emulated PBX Configuration

- Captures the Phonerlite configuration which is used as a Emulated PBX.

Deutsche Telekom is a telecommunications company that offers a range of fixed-network services, such as voice and data communication services based on fixed-network and broadband technology. They also sell terminal equipment, other hardware, and services to resellers.

Non-Goals

It is not the goal of this guide to provide detailed configurations that will meet the requirements of every customer. Use this guide as a starting point and build the SBC configurations in consultation with network design and deployment engineers.

Audience

This is a technical document intended for telecommunications engineers with the purpose of configuring both the Ribbon SBCs and the third-party product.

Steps will require navigating the third-party product as well as the Ribbon product using graphical user interface (GUI) or command line interface (CLI).

Understanding of the basic concepts of TCP/UDP/TLS, IP/Routing, and SIP/RTP/SRTP is needed to complete the configuration and any necessary troubleshooting.

> **Note**
> This configuration guide is offered as a convenience to Ribbon customers. The specifications and information regarding the product in this guide are subject to change without notice. All statements, information, and recommendations in this guide are believed to be accurate but are presented without warranty of any kind, express or implied, and are provided "AS IS". Users must take full responsibility for the application of the specifications and information in this guide.

Pre-Requisites

The following aspects are required before proceeding with the interop:

- Ribbon EdgeMarc 2900A SBC
- DT Digitalisierungsbox Premium

Product and Device Details

The following equipment and software were used for the sample configuration provided:

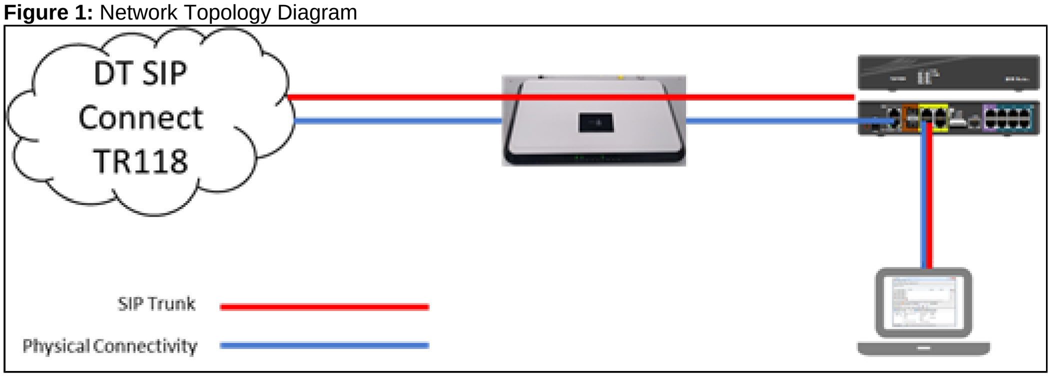
Table 1: Requirements

	Equipment	Software Version
Ribbon Communications	Ribbon EdgeMarc 2900A	V15.7.0
Deutsche Telekom	SIP Connect	TR118
Third-party Equipment	Phonerlite	2.48

Network Topology Diagram

The following network topology diagram shows connectivity between DT SIP Connect and Ribbon EdgeMarc 2900A.

Figure 1: Network Topology Diagram



Section A: Ribbon EdgeMarc SBC Configuration

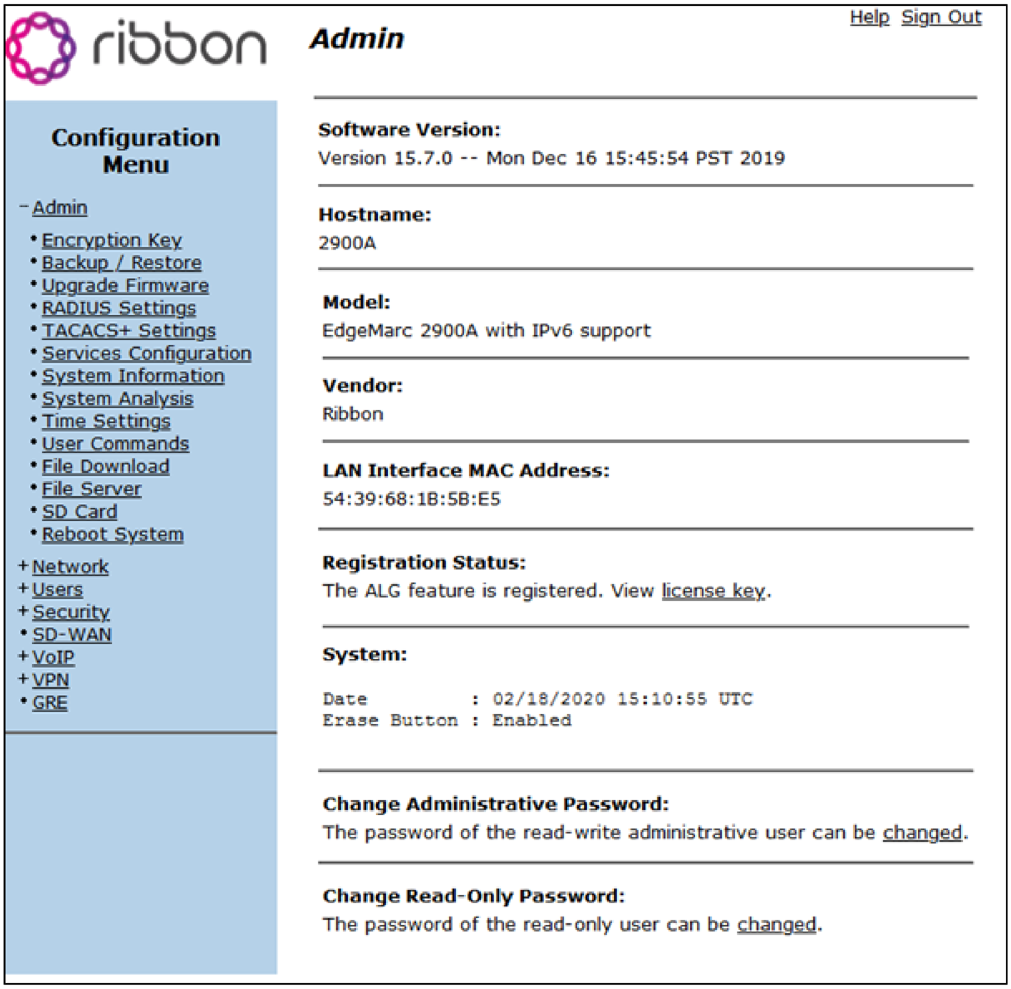
The following EdgeMarc configurations are included in this section:

1. Login
2. Network
3. VoIP
4. SIP Settings
5. Survivability
6. B2BUA Trunking Configuration

1. Login

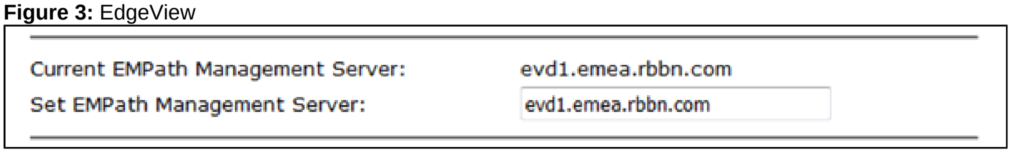
- Login to EdgeMarc and change GUI and SSH Password.

Figure 2: Admin Login



- Optional: Connect with EdgeView by navigating to **Admin** > **Services Configuration**.

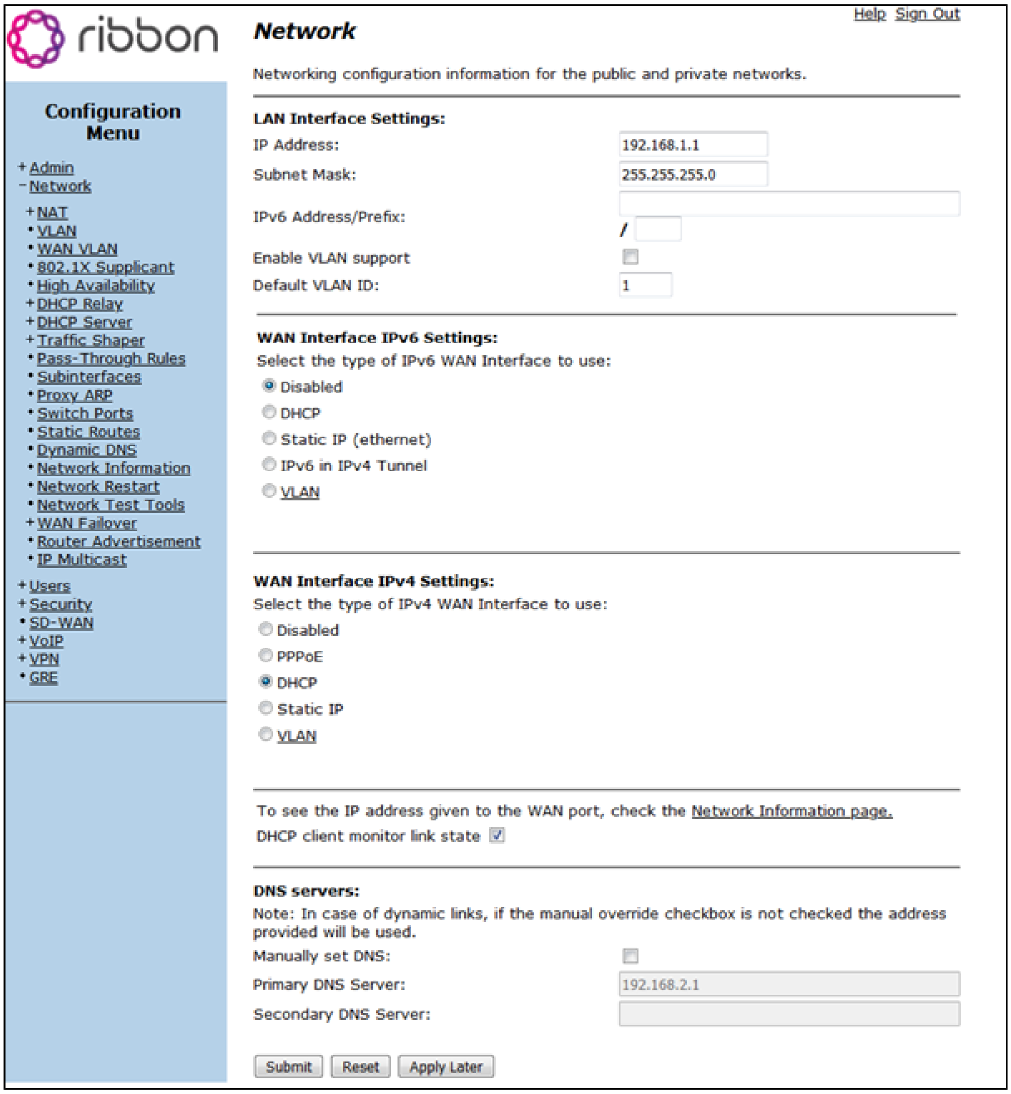
Figure 3: EdgeView



2. Network

- Configure the network to use DHCP on primary WAN port.

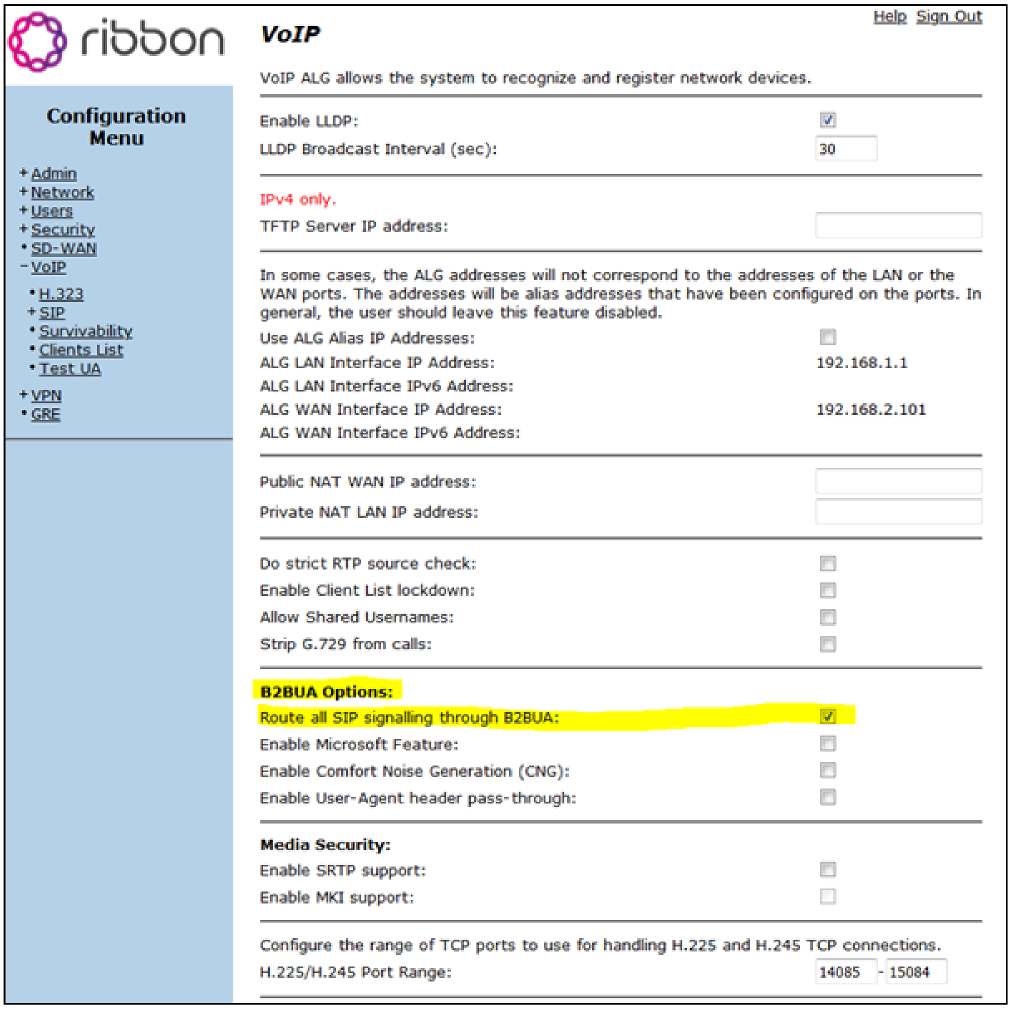
Figure 4: EdgeMarc Network



3. VoIP

1. Navigate to **VoIP** > **B2BUA Options**, and select "Route all SIP signaling through B2BUA".
2. This allows EdgeMarc to act as a back to back user agent and modify signaling exchange according to requirements.

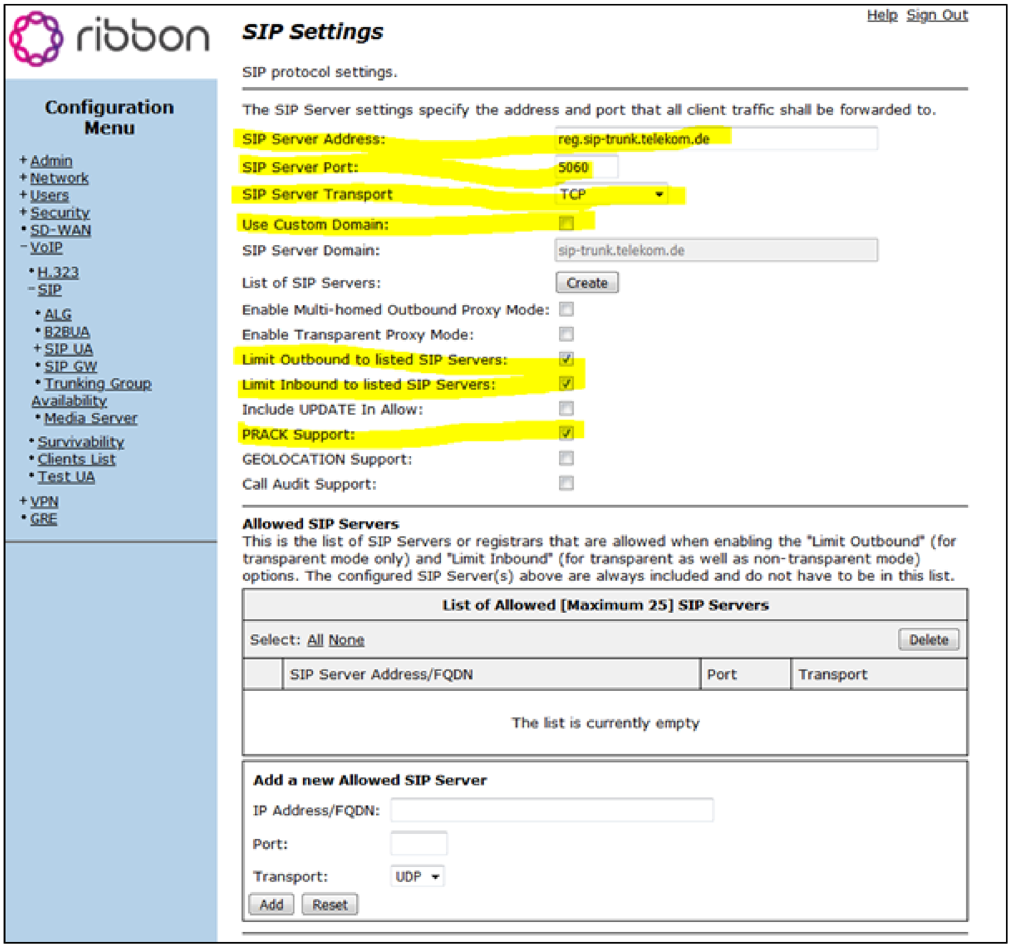
Figure 5: VoIP

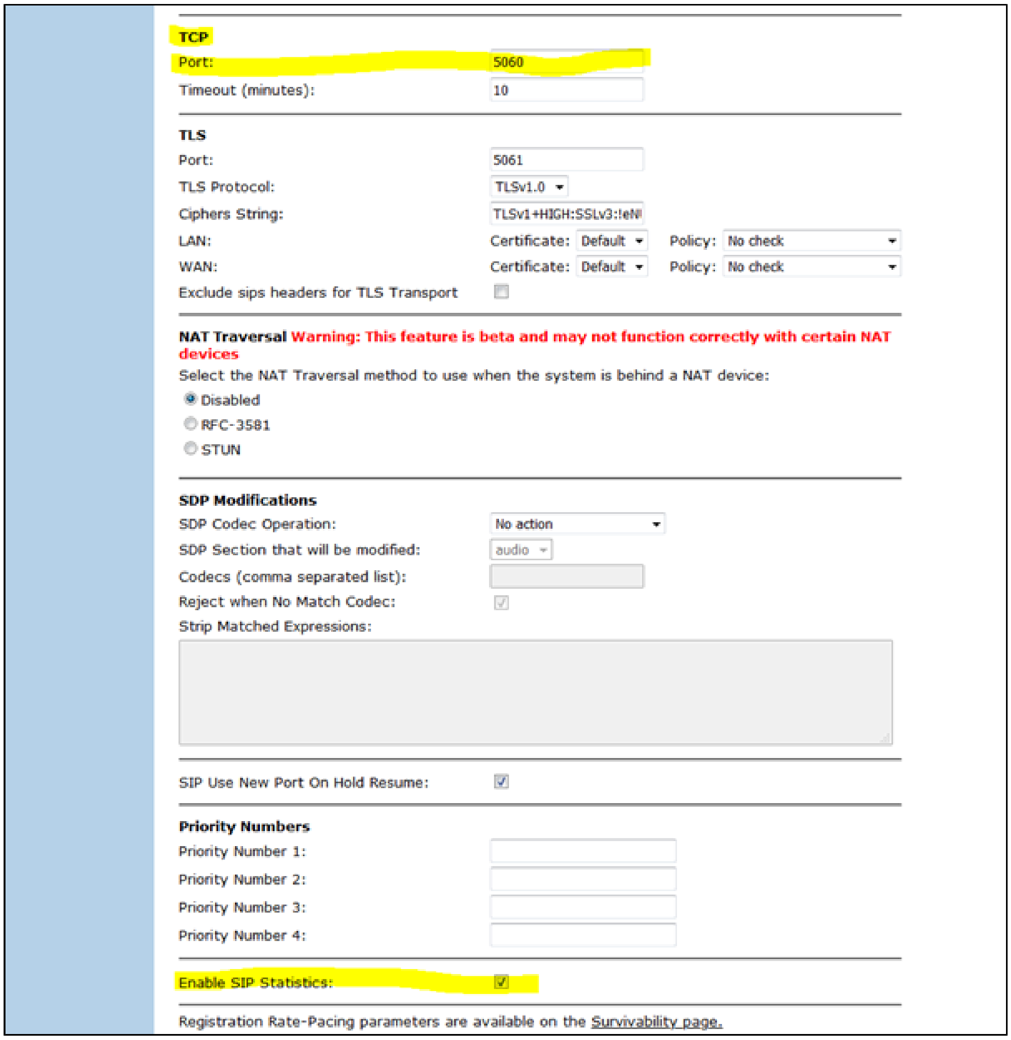


4. SIP Settings

1. Navigate to **VoIP > SIP Settings** to configure the SIP settings.
2. Configure registrar FQDN as supplied. There is no need to select custom domain in this instance.
3. Choose required transport protocol and port number for signaling.

Figure 6: SIP

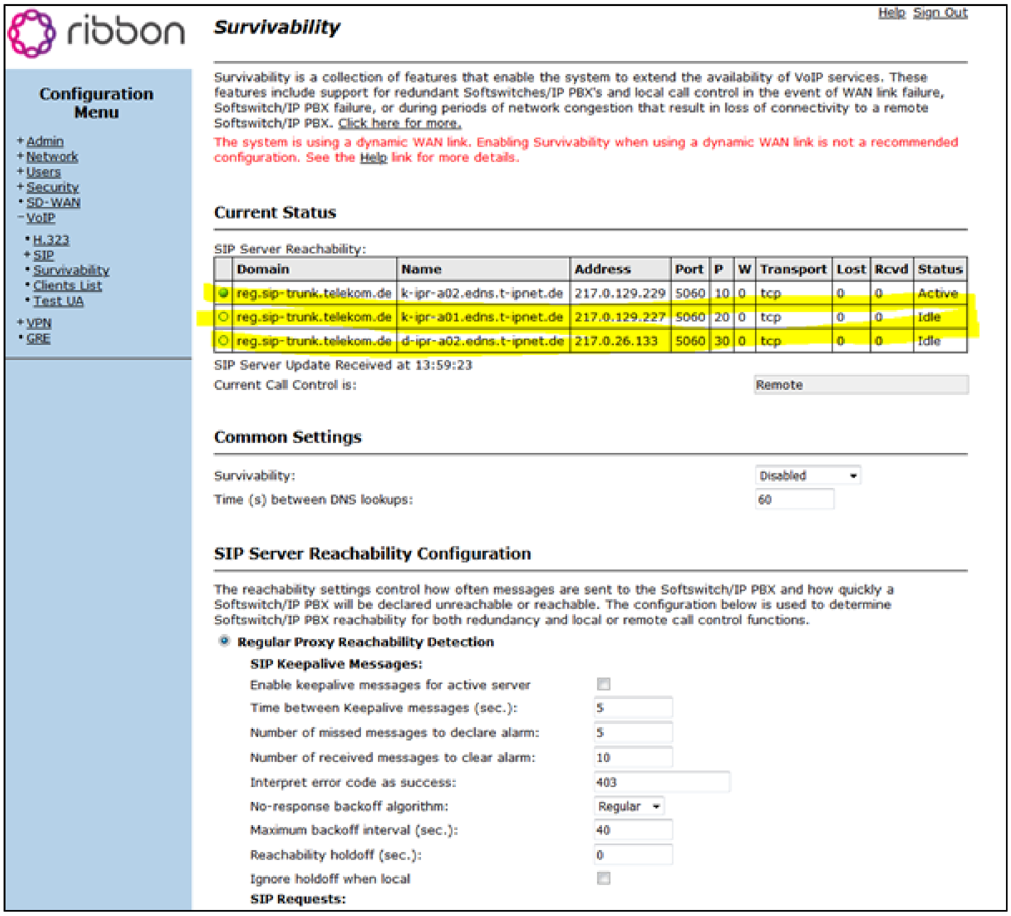

ribbon
SIP Settings
Help Sign Out
SIP protocol settings.
Configuration Menu
+ Admin
+ Network
+ Users
+ Security
• SD-WAN
− VoIP
• H.323
− SIP
• ALG
• B2BUA
+ SIP UA
• SIP GW
• Trunking Group Availability
• Media Server
• Survivability
• Clients List
• Test UA
+ VPN
• GRE
The SIP Server settings specify the address and port that all client traffic shall be forwarded to.
SIP Server Address: reg.sip-trunk.telekom.de
SIP Server Port: 5060
SIP Server Transport TCP
Use Custom Domain:
SIP Server Domain: sip-trunk.telekom.de
List of SIP Servers: Create
Enable Multi-homed Outbound Proxy Mode:
Enable Transparent Proxy Mode:
Limit Outbound to listed SIP Servers:
Limit Inbound to listed SIP Servers:
Include UPDATE In Allow:
PRACK Support:
GEOLOCATION Support:
Call Audit Support:
Allowed SIP Servers
This is the list of SIP Servers or registrars that are allowed when enabling the "Limit Outbound" (for transparent mode only) and "Limit Inbound" (for transparent as well as non-transparent mode) options. The configured SIP Server(s) above are always included and do not have to be in this list.
List of Allowed [Maximum 25] SIP Servers
Select: All None
Delete
SIP Server Address/FQDN
Port
Transport
The list is currently empty
Add a new Allowed SIP Server
IP Address/FQDN:
Port:
Transport: UDP
Add
Reset



5. Survivability

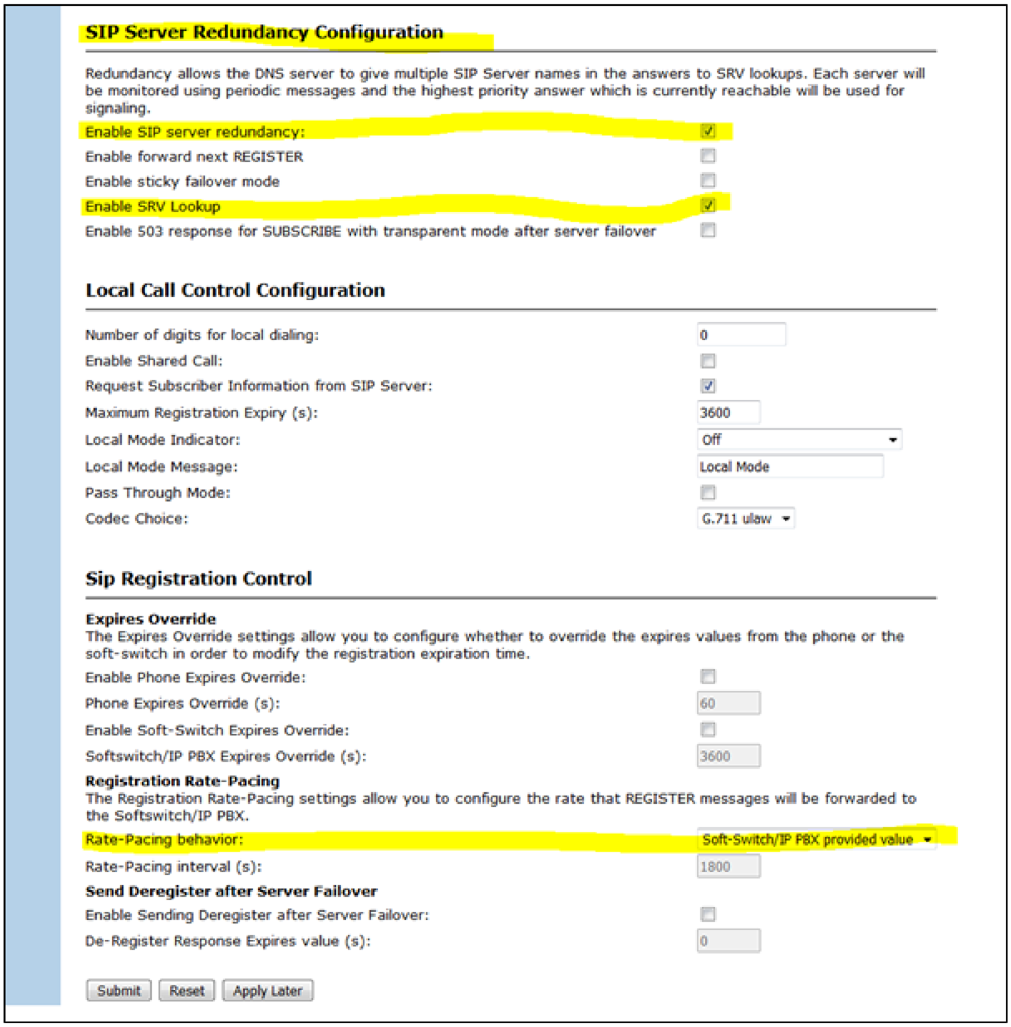
- Check and confirm SIP connectivity is shown for proxy (and that there is name resolution since this requires DNS SRV lookup) under **VoIP** > **Survivability**.
- The SIP Server reachability configuration is optional.
- On the same screen, configure registration rate pacing behavior as provided by Softswitch / IP-PBX.

Figure 7: Survivability



> **Note**
> If you do not have SIP Server Redundancy Configuration (below) enabled and DNS SRV lookup, you will not see the multiple entries shown in the screenshot above.

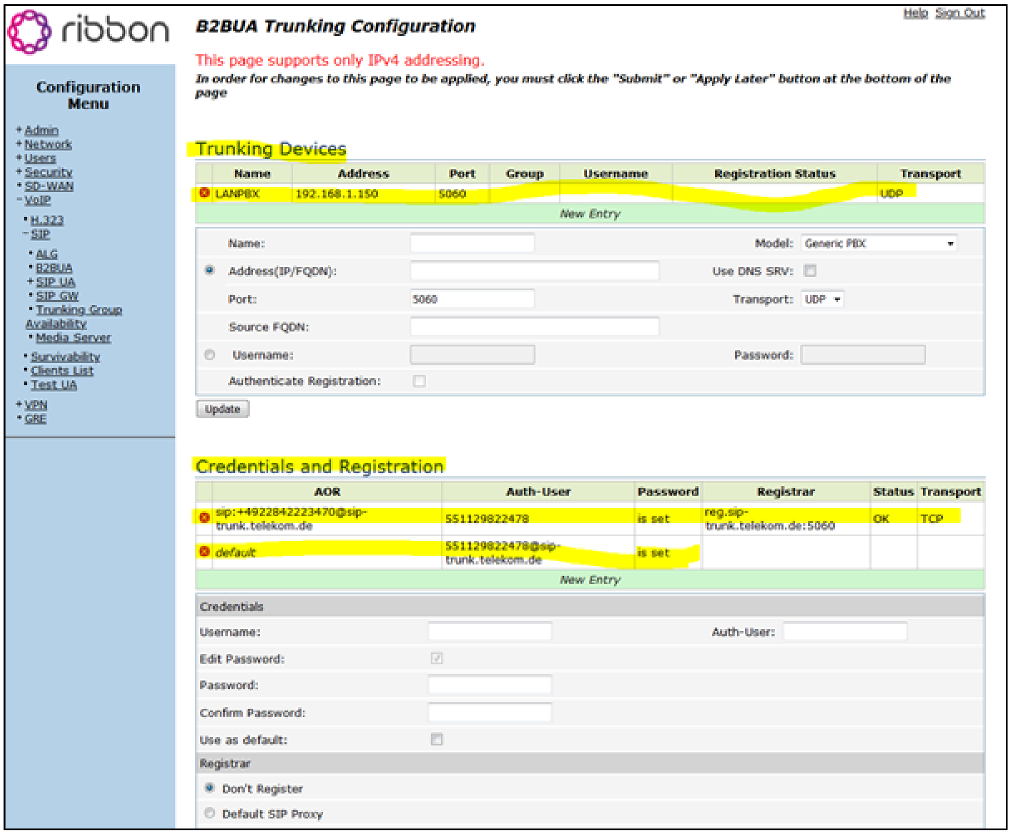
Figure 8: SIP Server Redundancy Configuration



6. B2BUA Trunking Configuration

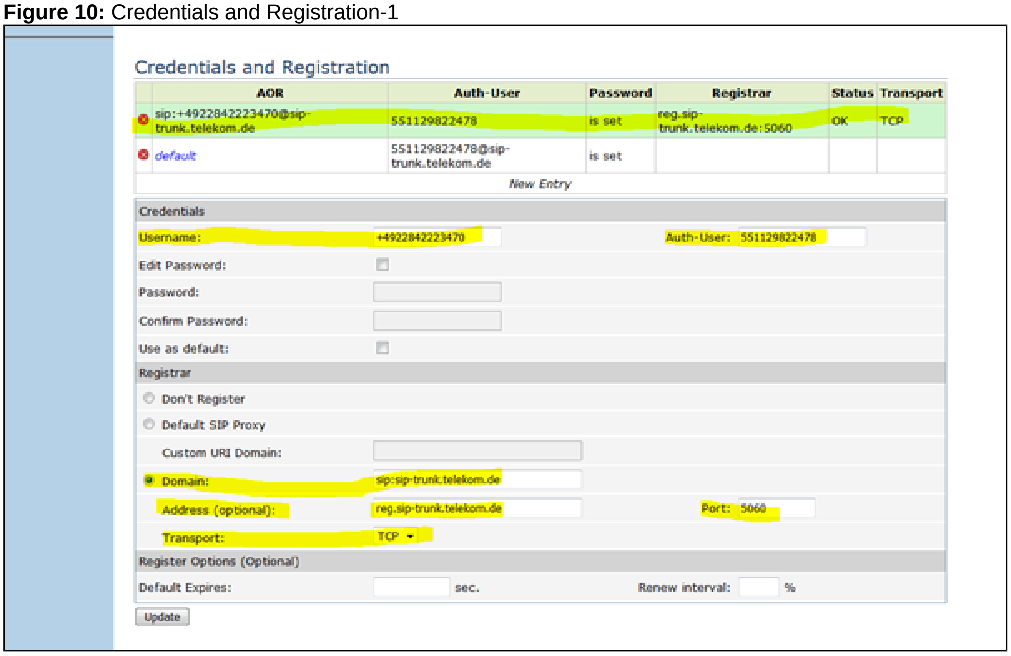
1. Navigate to **VoIP > B2BUA** to configure SIP Trunk on LAN to PBX and WAN to DT Registrar.
2. In the test setup, PBX on LAN was the Phonerlite client on the laptop that had its IP address allocated by EM acting as DHCP server.

Figure 9: B2BUA Trunk Configuration



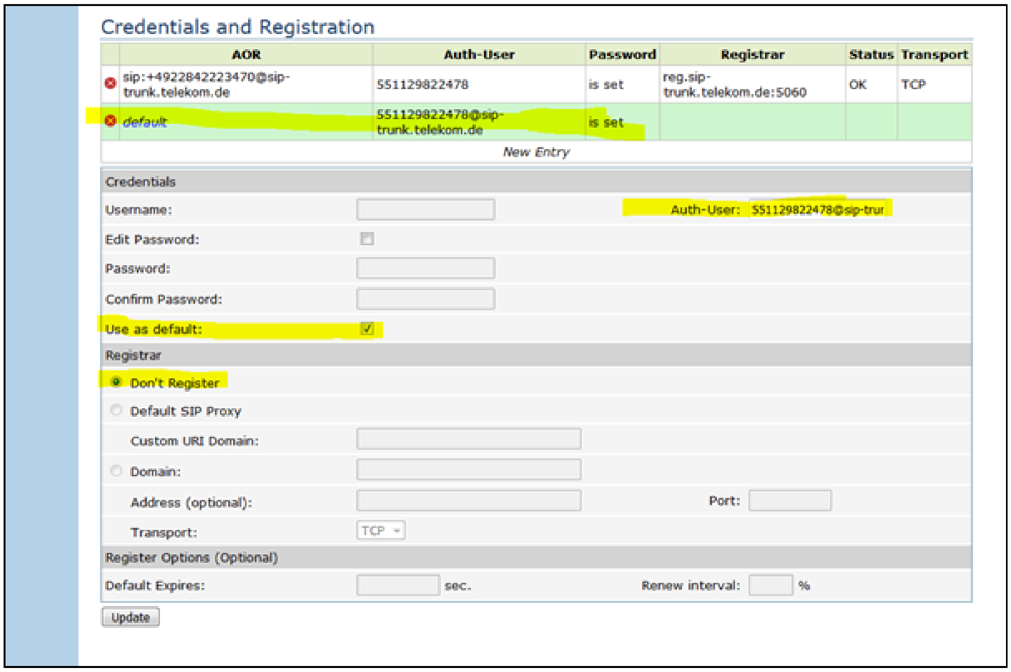
- The first set of credentials is for the REGISTER challenge to register the SIP trunk.

Figure 10: Credentials and Registration-1



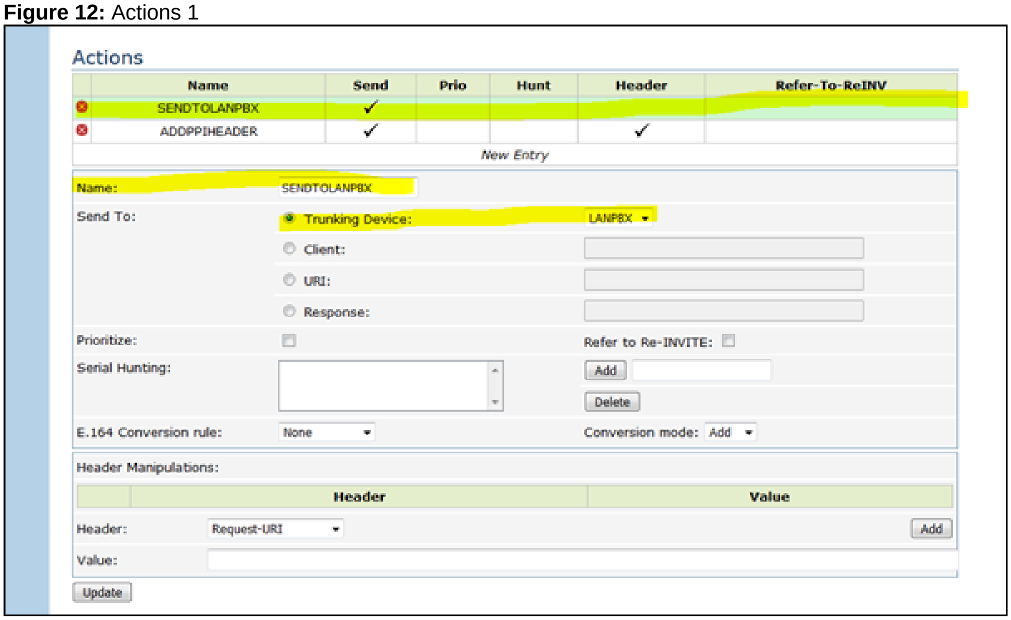
- The next part is for the INVITE challenge when trying to place calls over the SIP trunk.

Figure 11: Credentials and Registration-2



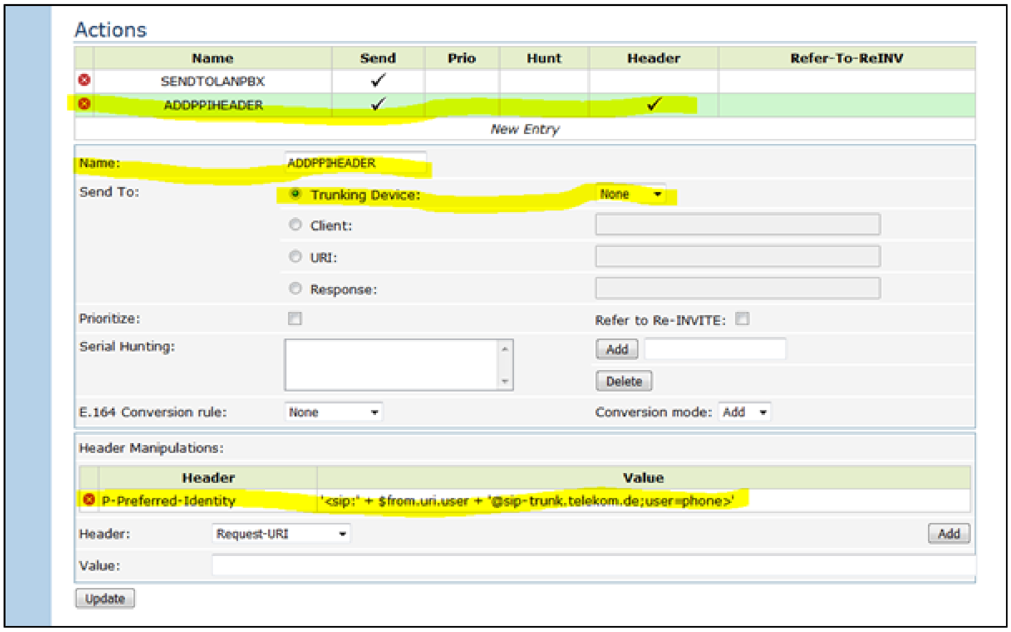
- Action to send incoming calls to LAN PBX.

Figure 12: Actions 1



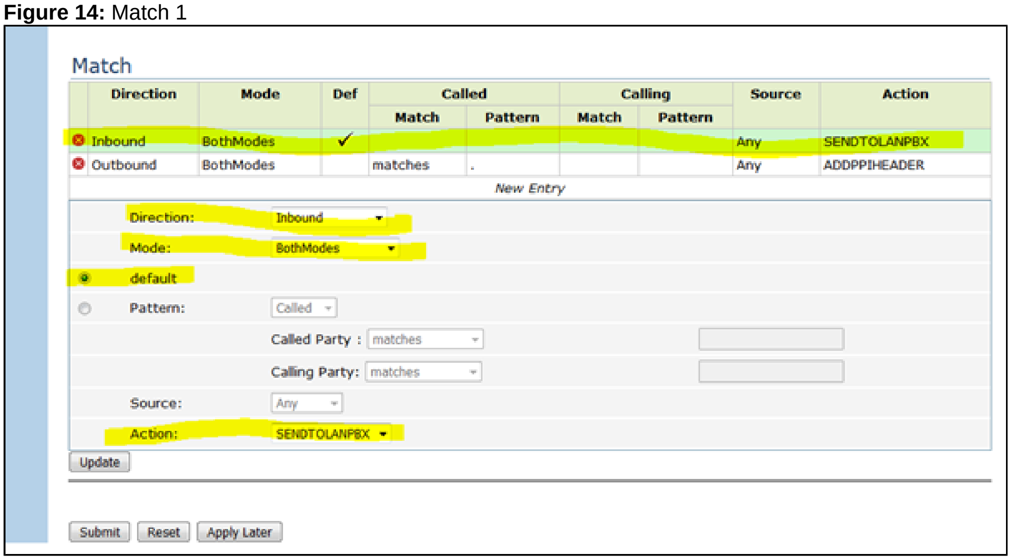
- Action for adding P-Preferred Identity Header to all calls going to the DT SIP Trunk (only needed if PBX is not already adding this).

Figure 13: Actions 2



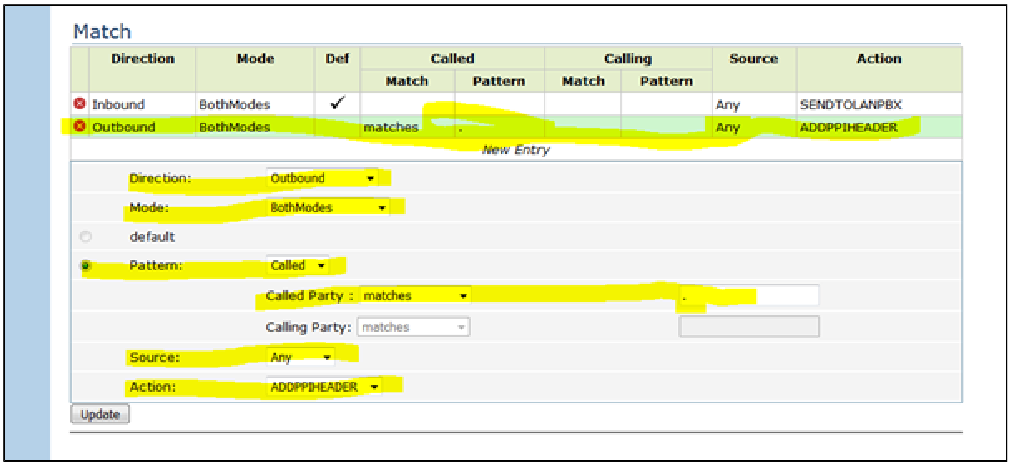
- Match condition for sending all incoming calls to the LAN PBX.

Figure 14: Match 1



- Action to add P-Preferred Identity Header to outgoing calls as required from LAN PBX to DT Trunk.

Figure 15: Match 2



Section B: Emulated PBX Configuration

Phonerlite is used as an Emulated PBX in the current setup.

Figure 16: Phonerlite 1

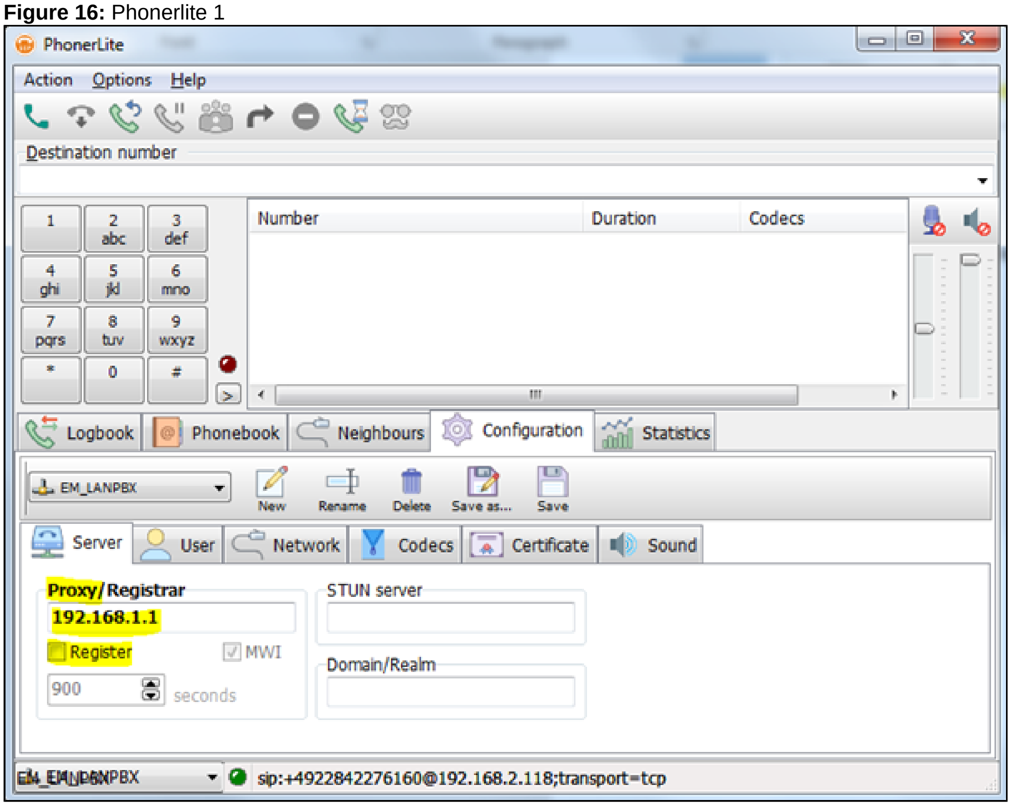
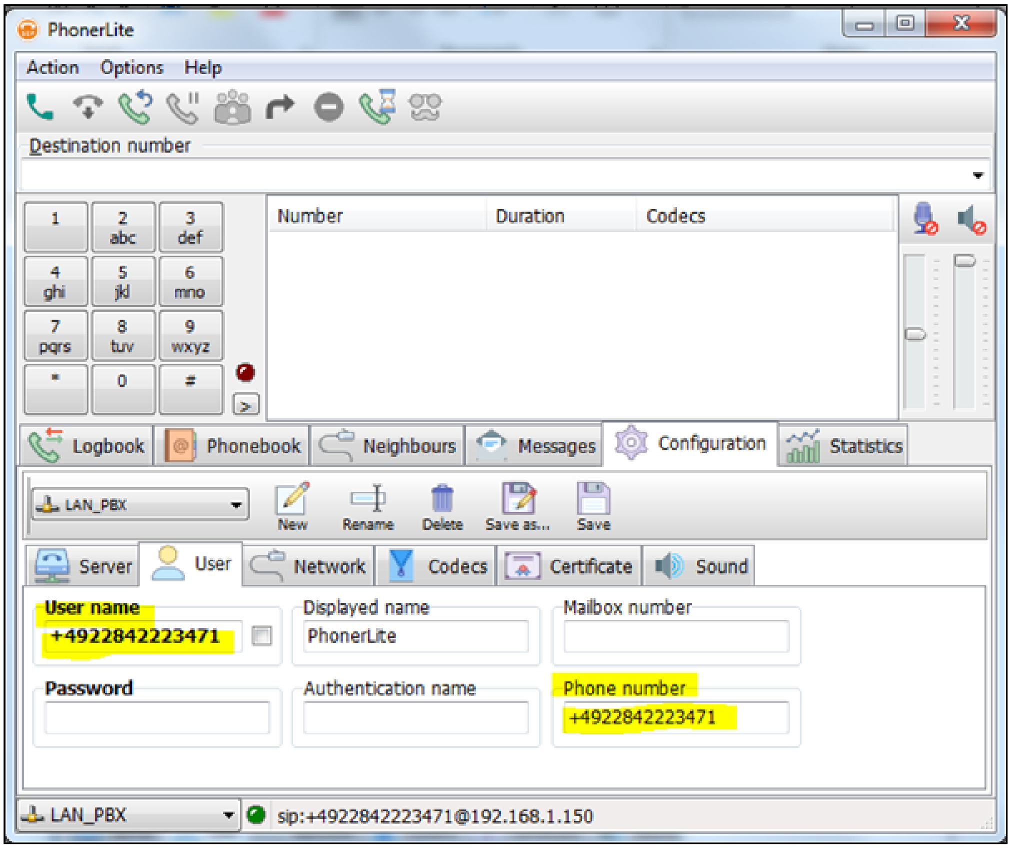


Figure 17: Phonerlite 2



Supplementary Services and Features Coverage

The following checklist depicts the set of services/features covered through the configuration defined in this Interop Guide.

Sr.No.	Supplementary Features/Services	Coverage
1	Basic Registration	✓
2	Basic Inbound Call	✓
3	Basic Outbound Call	✓

Legend

Item	Definition
✓	Supported
✗	Not Supported
N/A	Not Applicable

Support

For any support related queries about this guide, contact your local Ribbon representative, or refer to the following details:

- Sales and Support: 1-833-742-2661
- Other Queries: 1-877-412-8867
- Website: https://ribboncommunications.com/about-us

References

For detailed information about Ribbon products and solutions, visit: https://ribboncommunications.com/products

For detailed information about Deutsche Telekom products and solutions, visit: https://www.telekom.com/

Conclusion

This Interoperability Guide describes a successful configuration covering Deutsche Telekom SIP Connect interop involving the Ribbon EdgeMarc SBC. All the necessary features and serviceability aspects stand covered as per the details provided in this interoperability document.