jtel

Innovaphone PBX v12r1

jtel ACD – Interface Connection

Innovaphone PBX – jtel ACD Interface Connection

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History

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Contents

Chapter

1

Initial Situation and Objectives

This document describes all required settings and setup on the innovaphone PBX homepage as well as on the jtel ACD homepage. The description relates to the innovaphone system version 12r1 sr6 IPVA [12.1022] of the company innovaphone AG (http://www.innovaphone.de).

Presently, all gateways can be connected likewise in accordance with innovaphone. Therefore, the described setups can be used directly to connect the following gateways with a jtel ACD (http://www.innovaphone.com/de/ip-telefonie/gateways.html).

- IP6010
- IP3010
- IP1060
- IP0010
- IP810
- IP800
- IP305
- IP302
- IP38

The purpose of the connection to jtel ACD ist to transfer and control calls, and monitor and control phones.

Waiting queue and call transfer thereby will be completely accepted within the jtel system. No route optimisation (Refer) are performed. No route optimisation (Refer) are performed. At least 2 SIP channels should be used. During the transfer to external or internal targets additional SIP channels should be used.

A CTI connection takes place via the jtel innovaphone connector. No route optimisation (Refer) are performed. At least 2 SIP channels should be used. The status of an extension is therefore always evident.

2

Innovaphone PBX

2.1 Introduction

There are different types of connection and setup. The content of this document will relate to a new type of innovaphone system, in which no significant setups relating to the call handover, such as interfaces, routes, etc. have been performed yet.

The document contains only the necessary information to carry out a connection to a jtel ADC successfully. For detailed explanations related to the setup of the system we will refer to the corresponding Innovaphone documentations and training courses.

2.2 ISDN Gateway

An ISDN gateway of Innovapone becomes necessary when there is an official ISDN interface. This chapter can be skipped for SIP office headers.

Individual ISDN interfaces are set up in ISDN gateway. In addition, each interface is operated in Point2Point modus with protocol EDSS1. The NT modus is inactive in the sample setup.

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In the tab „Gateway", the interfaces are set up and the phone numbers are sent to Innovaphone PBX via a SIP trunk.

In addition, the corresponding transmission is stored under Interfaces.

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The name of the interface and the gatekeeper can be assigned independently. It is important that the gatekeeper address points at the Innovaphone PBX.

Generally, a jtel ACD will be connected to the codec G711. Although other codecs are possible, they have to be considered separately in the corresponding project.

The phone numbers have to be normalized in E164 format. Easiest, it can already take place during the transfer of the phone numbers to the Innovaphone PBX. It can also be adapted inside the PBX once again in different positions.

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In the tab "Routes", phone numbers that should be transferred to the jtel ACD and those that Innovaphone should be handled internal are determined.

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In the sample connection, the 800 within the Innovaphone PBX is used as routing for ACD objects. Therefore, the first three phone numbers (29, 703 and 704) are routed directly within the PBX, and all other incoming phone numbers are transferred to the jtel ACD.

In this tab the rules for the outbound telephony are also determined. In this way the format for the outgoing, signalled phone numbers are set up over here.

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2.3   PBX

In the sample setup the connection is performed with an ISDN gateway. Without an official ISDN interface, the SIP office header will be set up within the PBX, and set within the tab Gateway. Only setups that are necessary for the call handover to the jtel ACD are described. For another detailed we will refer to the corresponding Innovaphone documentation or training courses.

2.3.1   Objects (Users)

First, an object of type "Gateway" will be created in the tab "PBX\Objects". The number "800" will be found here again. The prefix 800 is then either made internally, or the ISDN-Gateway sends the call with the prefix 800, the PBX transfers the call to the ACD object in this way. In the example additional objects, which enable the mediation to various ACD systems were created. Therefore, all calls with the prefix 801 are sent to the test system 1 and so on.

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The extensions of agents are created as follow:

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Since the 17 cannot be chosen directly but should be distributed via ACD, it was not specially stored in the ISDN gateway. It also means for the SIP connection that the 17 for example have to be routed with the prefix of the ACD object to the PBX. If the extensions are directly available, they must obviously be similarly set up to the ISDN trunk and SIP trunk, so that they are transferred directly to the respective user object.

2.3.2   Gatekeeper

Here the different endpoints that are used inside inbound and outbound routes are determined.

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In our example the GKs GW1, GW3, GW5, GW7, GW9, GW11, GW13 and GW15 for which inbound calls, from the jtel ACD view, are used. The PBX sends calls to the respective ACD system throught these routes.

The remaining GKs represent the corresponding return route, in fact from jtel ACD system to PBX.

For the called phone number, jtel ACD will convert the prefix 800 to 807 in country code, area code and office header. For example, if the 4989461495017 is called from the outside, the ISDN gateway gives this as 80017 to the PBX. The PBX converts it now to 4989461495017. Since the phone number can be changed in various positions of the system, differences between the respective project specific connection could exist. It is incombent upon the respective specialist.

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In the input field "Remote Domain" the respective IP address of the 8server, "test8s5" in this example, is entered.

A registration of the PBX in the jtel 8Server doesn't take place, therefore the modus "without registration" is used.

An encryption can be set optionally. However, the innovaphone PBX and the jtel 8Server should be in their own IP address room in a company network, so that here corresponding protective measures such as firewall, could be built up. It is used in the standard codec G711. The protocol used is the standard SIP protocol UDP.

It can happen that after the end of the conversation or in case the caller hangs up the call will be physically separated with a time lag. To avoid this, the feature "No Inband disconnect"in the gateway will be disconnected in the innovaphone system.

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The PBX internal gatekeeper establishes a connection between office connectors and internal core processes. A corresponding entcryption 128-bit, format "SDES-DTLS", and the protocol H.323 will be set up. The local address of the PBX should be entered as IP address:

2.3.3 Routes

In the tab Gateway\Routes the corresponding handover routes between jtel ACD and Innovaphone PBX are determined with the set gatekeepers.

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The first route in the screenshot show outbound route in the jtel ACD view. Here the country code 49 will be changed again in the corresponding prefix.

Route 2 represents, in the jtel ACD view, a route. Here it is crucial that the caller's numbers, I mean the phone number of the participant A, are converted in the corresponding E164 format. Under "Counter CGPN Maps" the prefix will be replaced by the country code or as you can see in our example, deleted for phone numbers that don't come from Germany. Therefore, a French phone number which calls a respective system will enter in the jtel ACD with 33xxxxxx.

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In the jtel ACD view, the property "Force enblock" must be absolutely activated in the Inbound-Route. Otherwise the calls in the by-election process will be sent to the jtel ACD. However, this by-election will no longer be considered or will be interpreted as DTMF input for IVR menus. In order to identify the respective service phone numbers in E164 format, the whole number in block will be needed.

2.3.4   Monitoring and Control of Extensions

For the monitoring and the control of extensions the SOAP interface between innovaphone PBX and jtel ACD can be used. In addition, status information of the extension will be transmitted and sent from the ACD control commands.

For this purpose, a user having full administration rights will be created in the tab PBX\Objects.

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By default, the user "_soap-jtel_" has the password "_soap-jtel_". This can obviously be changed for specific projects. The access data are required in the setup on jtel homepage.

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The group "soap-jtel" will be created. SOAP-user as well as all objects, that are monitored and controlled must belong to that group. It is generally all agent and supervisor extensions.

In unserem Example ist es u.a. die Service Number 17.

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The protocol for the connector can be set to http or https. For this purpose, the following settings in the PBX under Services/Server should be made:

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With these settings both protocol types can ben used.

If several clients are created in the jtel ACD system, it is recommended to create a SOAP-user per client and an associated SOAP-group. The users will be associated with the respective group and therefore with the respective user. The jtel ACD system will correctly synchronize the status of extensions to individual clients like that.

2.3.5   CDR Data for direct calls to and from extensions

Via Innovaphone CDR data for direct incoming or outgoing calls and conversations to and from the extensions can be written. These data flow through the innovaphone connector into the jtel database. In the Innovaphone PBX the following setups have to be activated:

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Type - Must be http.

Address - Address of the jtel Load Balancer, or if desired one of the jtel web server directly.

Port - 80 (for jtel Load Balancer), or 8080 (for jtel web server directly).

Method - external (GET)

Path – permanently set to /jtelInnovaphoneCDRService/write

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The CDR data of the PBX gateways are not needed for the jtel statistic, but only the CDR data of the PBX itself.

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2.4   Redundancy

3

jtel ACD

3.1 Introduction

The settings in the jtel ACD, that are needed to establish a connection between jtel ACD and the Innovaphone system are generally made by jtel itself and therefore within the project implementation. The setups are generally implemented once per project.

For the SIP connection setups that must be implemented, independently from PBX, through jtel on the jtel telephony servers are valid. Therefore, it will not be mentioned in this document.

3.2 SOAP (CTI)

3.2.1 jtel Connector

The jtel Innovaphone connector is installed on a jtel telephony server. The setup takes place in the file JTELInnovaphonePBXService.exe.config. Comments in the setup file simplify the setting. The setup that should be made are highlighted in yellow below.

First, the IP address of the Innovaphone PBX are recorded in both log entries for http and https.

```
<client>
    <endpoint address="https://10.42.10.10/PBX0/user.soap" binding="basicHttpBinding"
        bindingConfiguration="pbxBindingHttps" contract="InnovaphoneV11PBX.pbxPortType" name="https" />
    <endpoint address="http://10.42.10.10/PBX0/user.soap" binding="basicHttpBinding"
        bindingConfiguration="pbxBindingHttp" contract="InnovaphoneV11PBX.pbxPortType" name="http" />
</client>
```

Furthermore, the type of log that should be used indeed will be determined under [pbxEdpointConfiguration].

```
<add key="pbxEndpointConfiguration" value="https"/>
```

The SOAP user, that was stored as described in chapter 2.3.4 will be the next to be recorded in this setup:

```
<add key="pbxUserName" value="_soap-jtel_"/>
<add key="pbxUserPassword" value="_soap-jtel_"/>
```

The following setups affect information from the jtel ACD CarrierPortal and are related to clients whose extensions have to be monitored. If several clients are created in the jtel portal, a connector for each client has to be created. In addition, a user and an individual SOAP group should also be created on the Innovaphone homepage for each user. The user must belong to clients of the security group client administrator.

```
<add key="resellersUID" value="jtel"/>
<add key="clientsUID" value="jtel"/>
<add key="usersUID" value="_soap-jtel_"/>
<add key="password" value="_soap-jtel_"/>
```

The master database of the jtel ACD system will be set below. In addition, the connector for corresponding user data will be written and read.

```
<add key="dbConnect" value="server=testdb2;user=root;database=JTELWeb;port=3306;password=root;"/>
```

To take calls through the jtel Client the portal must send the command via UDP to the connector. For this purpose, the IP address of the 8Server will be stored in the respective connector on which it was installed. The port of each connector must obviously be unique. If a system should be connected to different clients or different locations, then the control through both entries per user of the respective client will be determined. The data will be recorded on respective user in the jtel ACD. If a user on the client take a call, then the UDP command will be sent to address and port in user data.

```
<add key="udpAddress" value="test8s2"/>
<add key="udpPort" value="40406"/>
```

The length of the internal extension will be set up in the following parameter:

```
<add key="numberFormatOutdial_InternalNumberLength" value="2"/>
```

The respective country code and head number must be stored:

```
<add key="numberFormatOutdial_CountryCode" value="49"/>
<add key="numberFormatOutdial_AreaCode" value="89"/>
<add key="numberFormatOutdial_SubscriberCode" value="4614950"/>
```

The extensions will be stored on user under communication also in E164 format. Since the PBX for the monitoring of extensions sends generally only internal phone numbers, the connector must prepend a corresponding prefix. Therefore, the full qualified phone number will be matched with the jtel ACD.

```
<add key="numberFormatMonitoring_PrefixPBXNumbers" value="49894614950" />
```

3.2.2   jtel CarrierPortal

The connector settings are set up in the jtel CarrierPortal in the respective client under "Users/clients master data".

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Via the jtel Innovaphone connector users can be read out from the Innovaphone PBX and strored in the jtel ACD system. For this purpose, you should activate the option "Synchronisation of users from the TK system". The jtel innovaphone connector verifies now if corresponding users that are read out via the SOAP access exist in the jtel ACD system and creates these in the jtel system if necessary.

If the option "Synchronization of the TK user from the TK system" is activated, then all users, that the connector from the system read out, will be recorded in the jtel ACD. The jtel ACD client displays now in the tab "TK" the TK user. Thereby the extensions can be used for outgoing calls oder the transfer of ACD calls to the jtel client.

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In this chapter the option is inactive so that no phone numbers are imported from the Tk system.

One of both settings can be activated in order to synchronise the status of the extensions to the jtel ACD system:

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By default, the syncrhonisation should be based on active phone numbers. Here the respective active phone number of the user are verified. Therfore, the Free-Seating-Principle is given within the Innovaphone connector.

If the synchronisation is based on the user assignments, it has to be assured that the user always uses only one extension. Here a ForeignSystemID that is uniquely stored per user and extension association in the jtel database, will be verified.

Within the project it will be explained how a user can register a respective phone number, and this affects also jtel setups that are indepent from PBX.

3.3 jtel ACD – MyPBX Integration

The Innovaphone MyPBX client can be integrated into the jtel client AgentHome as well as MiniClient. If Innovaphone Softphones are used for the calls, each user can log in in a common client.

For the integration the corresponding URL from which the MyPBX client will be called, are recorded in clients' core data inside the jtel ACD CarrierPortal.

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Users can determine how the MyPBX client should be displayed in the jtel client:

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3.4 Redundancy

If several phone systems are used, then a trunk group for each PBX must be stored in the jtel ACD system. SIP source servers and SIP destination servers will be set up in the settings of the respective trunk group. The jtel ACD system identifies by means of the stored IP address of the SIP source server from which system the call came in. The SIP destination server represents the respective telephony server that accepted the calls. One telephony server can be installed per system, but have not to because a telephony server can also accept calls from different systems.

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Both settings are given with the following syntax:
  <IP-Address>:<Port>
For example:
  SIP source server   10.42.10.10:5060
  SIP destination server 10.42.20.30:5060

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In order that the jtel ACD system sends the call through the right PBX to agents, these settings have yet to be adapted again. The jtel telephony server is stored in the first parameter and the PBX in the second parameter.

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