# Administration Guide

30 Apr 2024

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# Administration Guide

## Description and Architecture

Imagicle Billing is the ideal solution for the analysis and the accounting of the telephony traffic in a Microsoft Lync / SfB environment, from mid sized companies to large enterprises.

Easy to use, multi carrier and ready to deploy, thanks to Imagicle Billing both single site and multi site companies will be able to centrally report and manage telephone statistics and traffic.

Imagicle Billing is based on a Microsoft® SQL Server database, thus granting maximum security with high level performance even when archives reach millions of entries.

Imagicle Billing automatically organizes data into tables, produces pre configured statistics and, thanks to the dashboard, provides ready to use access to the needed data.

Scheduled Reports and alarms are available to send email concerning information, costs, use, efficiency, proper functioning and more, to help administrators, supervisors and users to get the needed information automatically.

**Note**: mixed (multi -pbx) environments are supported by adding additional drivers on project basis

### Architecture

Imagicle Billing is a software only product that can be installed on a server running a Microsoft Operating System.

Imagicle Billing polls the Microsoft Lync / SfB CDR database to monitor the call activity. Then it gets the relevant call data, calculates the costs based on destination and tariff, and stores the result in the Application Suite database.

Once the calls have been processed and the costs calculated, they are made available to the Application Suite web interface to provide reports, dashboard, alarms.
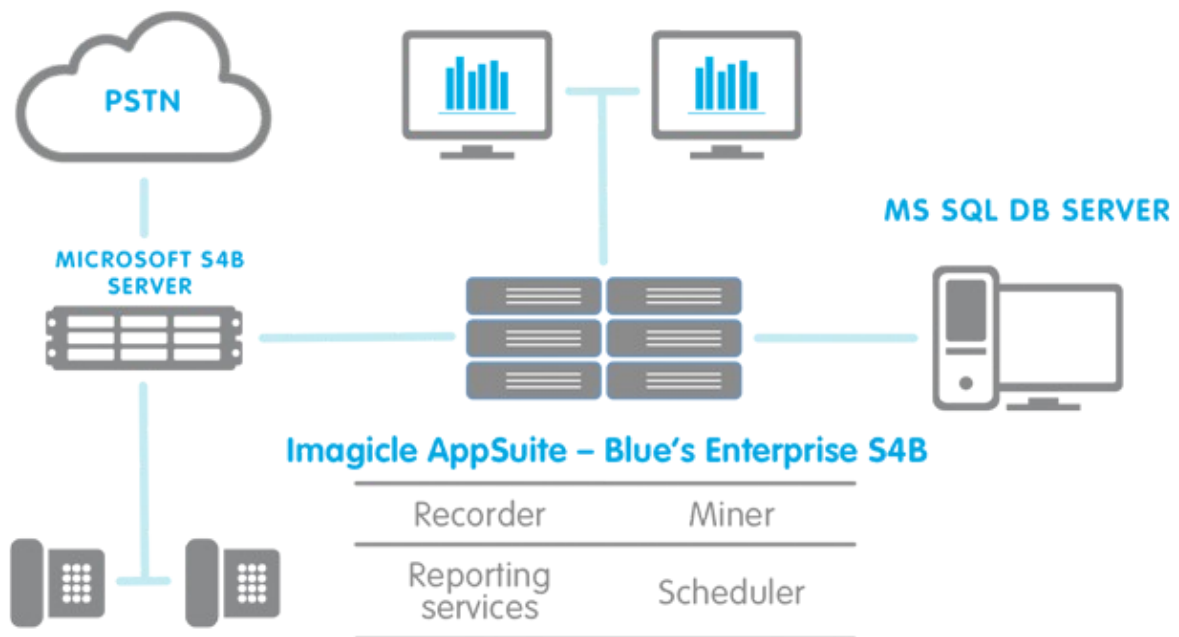


Imagicle Billing processes the calls with these independent steps:

The call data is read from the Lync / SfB database by a service (Recorder) which writes the calls in text files with a standard format.

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A second service (Miner) reads the files, calculates call costs and stores the result in the database.

Once the calls are written into the database, reports can be directly generated or scheduled through the web interface.

## Skype for Business Configuration Wizard

In case deployment has been done with UC Suite installation package, when installation ends, User is automatically asked to run Call Analytics' configuration wizard.

In case deployment has been done with UC Suite Virtual Appliance, Call Analytics' configuration wizard needs to be manually launched by user.

Access to Imagicle UC Suite server with RDP session and hit Windows "Start" menu.

Search for "Imagicle Call Analytics Configuration" and launch the tool as Administrator.
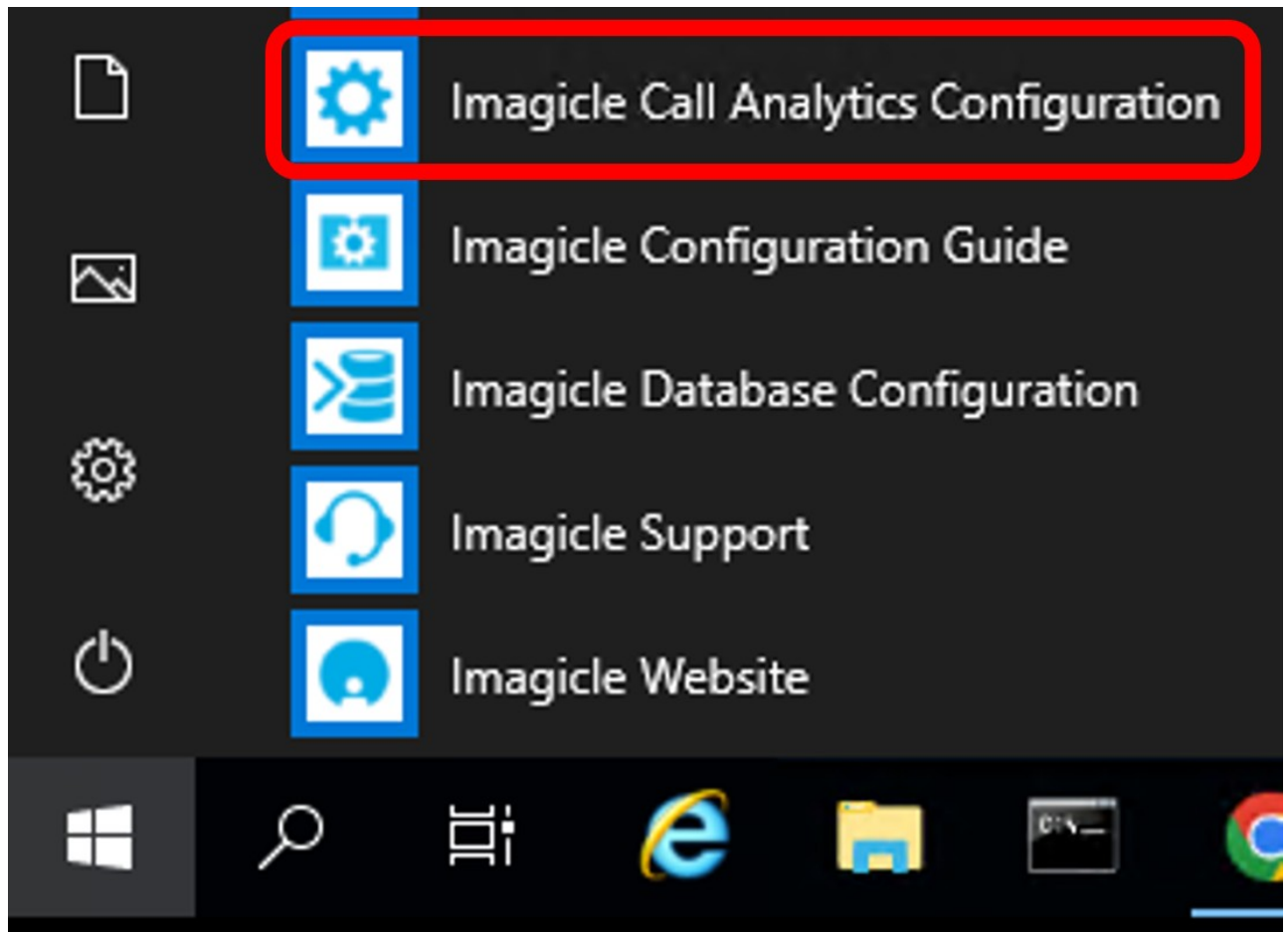


Call Analytics configuration wizard guides the user through the configuration steps described below.

In the next window it is possible to enter the Gateway Connection details.



Imagicle Call Analytics configuration process displays a window with a full summary of the list of the configured S4B Front Ends, click Next to proceed
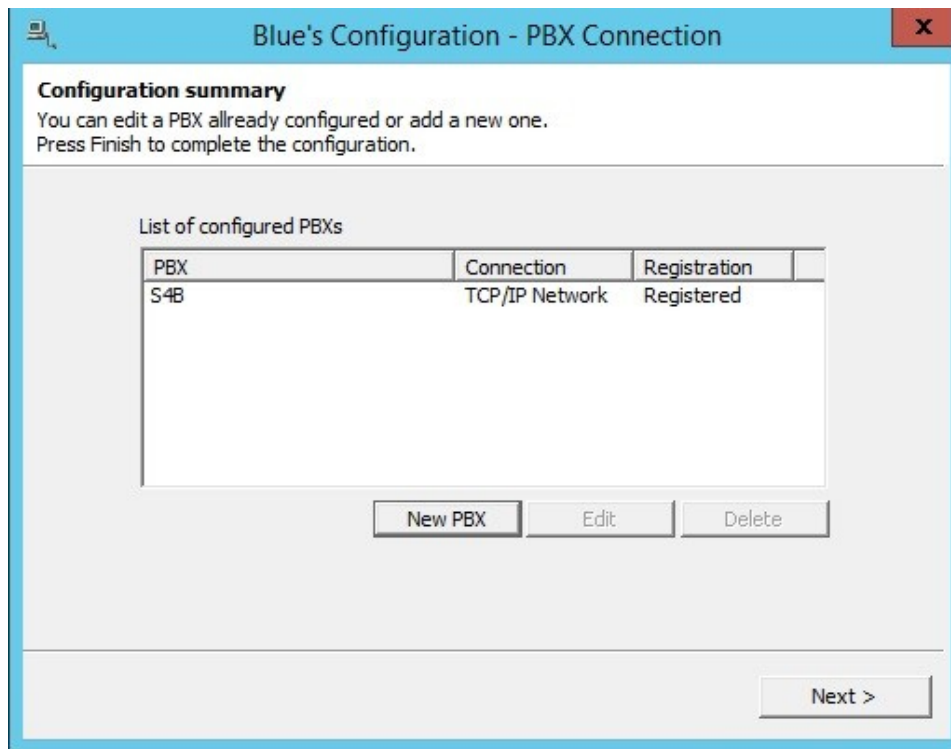
In the next S4B specific window, you can select the driver to be used.
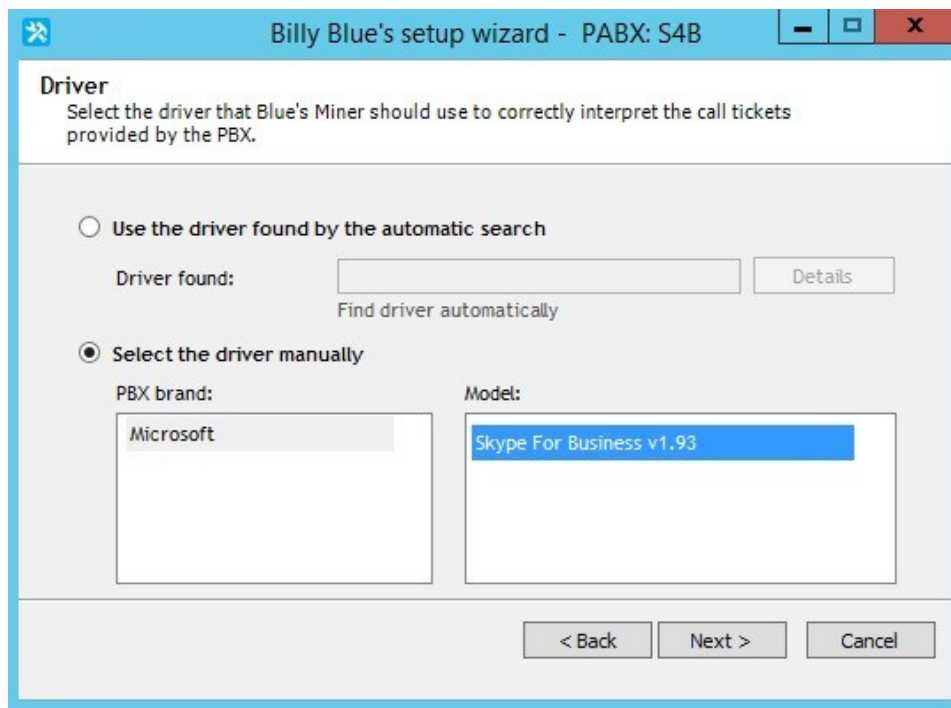


Click on next to check parameters have been properly configured.
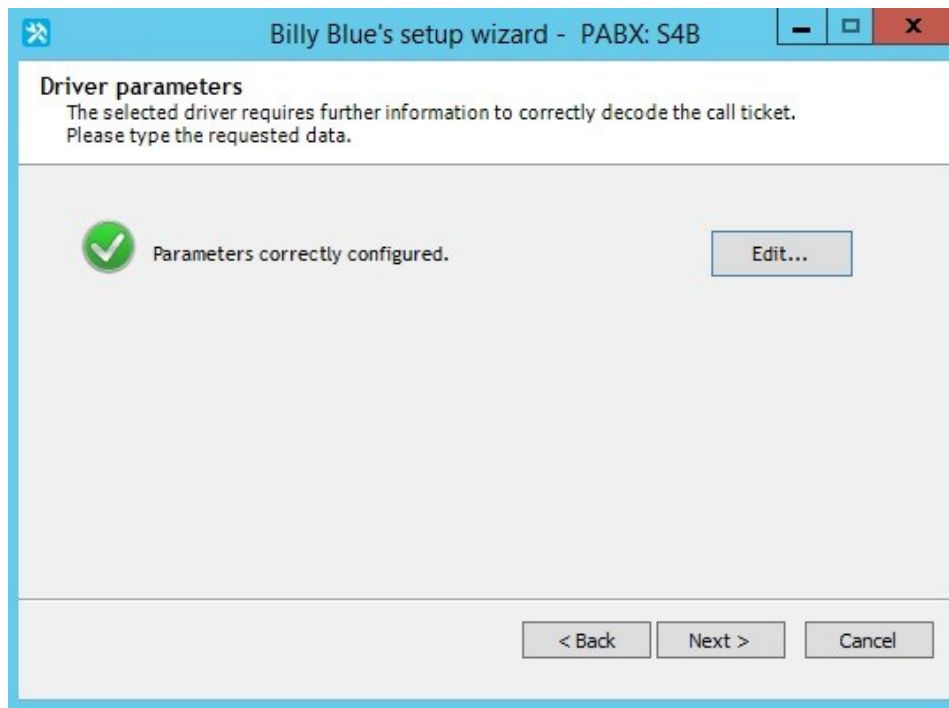
Click on edit to perform additional numbering plan configuration, if required.



Click on OK an then on next to select the type of management for internal calls.

Then click next to enter the Tariffs and Tariff Comparison, explained in the <u>next KB page</u>

# Tariffs and Tariff Comparison

RDP Access is not available for Imagicle UC Cloud suite, please contact Imagicle support for any modification needed

Imagicle Call Analytics is bundled with the definition of the call costs of many well known telephony providers. Imagicle keeps the costs tables up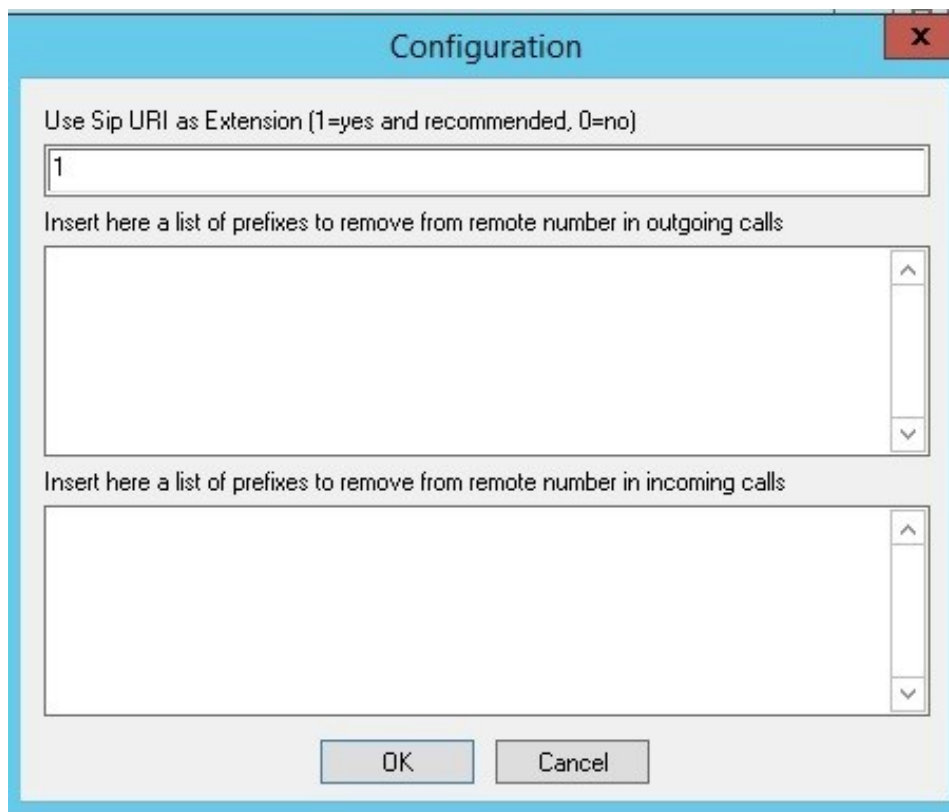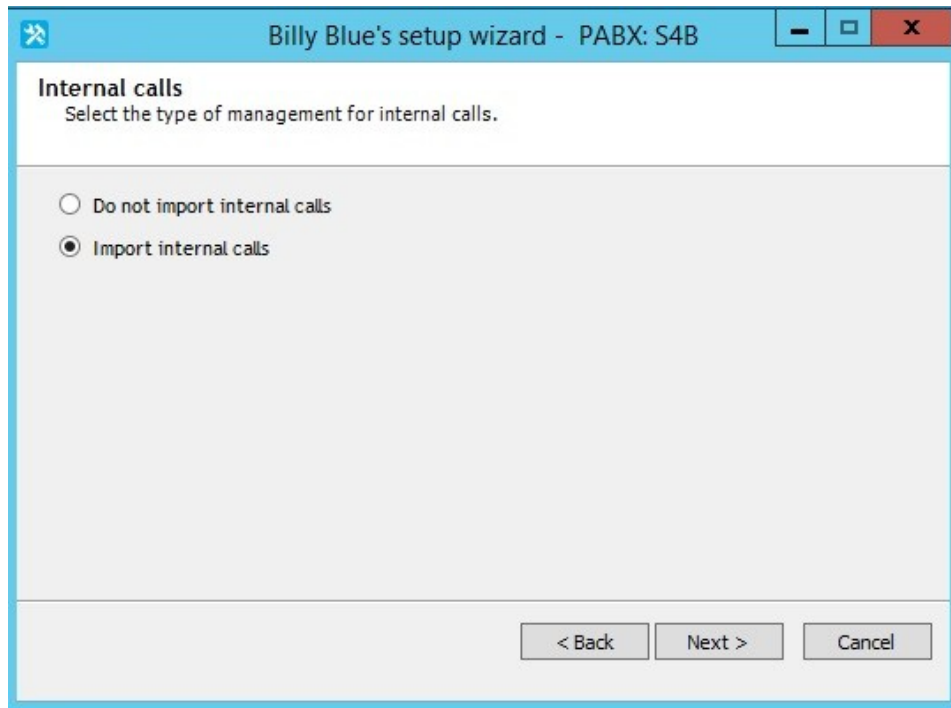dated year by year, but probably there is a custom contract between your organization and its provider. So you'll need to edit a tariff definition to exactly match your contract.

If you want Imagicle technicians to prepare a custom tariff for you as a Professional Service just contact Imagicle Technical Support department.

Tariff definitions and currency can be modified for each gateway, since you can have different gateways in different countries.

To edit a tariff definition, run the configuration wizard, select the gateway an click next until the "Country and Area" form appears. Fill the form and click next.



The list of the tariff that will appear on the next form depends on the selected country.

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**Telephone tariffs**
Please select the telephone tariffs used by the Gateway.



To create a new tariff definition from scratch, click the "new" link". To create a new tariff based on an existing one, click "Duplicate", then select the name of the tariff definition on the "available tariffs" list and click "Modify".

Tariff definitions are stored in .mdb files. If you received a new file from Imagicle Technical Support team you can add it to the list by clicking on the "import" link.

Note: the tariff selection list is filtered by country, that is, only tariff which apply to that country will be shown.

To edit the tariff in use, select it and complete the wizard saving the changes. Then run the configuration wizard again and return to the "telephone tariffs" page. In the "Tariff to be used" list, select the item you want to edit and click on the "modify" link below.

## How to edit tariff definitions

Call costs are calculated on a best match criterion. If a call destination number is 02553344 and you have two entries, one with prefix 02 and one with prefix 0255, the second one will be used because it is more restrictive.

The list to the left displays the prefix groups. They are usually grouped by call destination type.

Clicking on a prefix group displays the list of the associated prefixes.

## Changing the tariff name and General data

Click the **tariff name** to change it, click the carrier interconnection code to set it (if needed), click 'Valid from' to change the tariff validity. Click **monthly fees** to edit them (see the 'monthly fee' paragraph).



**Monthly fee settings:**

Click **Monthly fee** (top right) to display the fee list.



Click **Add** to add a new fee or **Edit** to modify an existing fee. Creating and editing a fee means entering a description, the fee amount and the recurrence. Also, it is required to specify if the fee refers to the single line or not in order to have a correct calculation of the tariff comparison (see below).



## Create or edit the destination groups

The orange buttons on the left display the **destination groups** that contain a list of area codes with *the same time bands* or *the same cost per minute*.
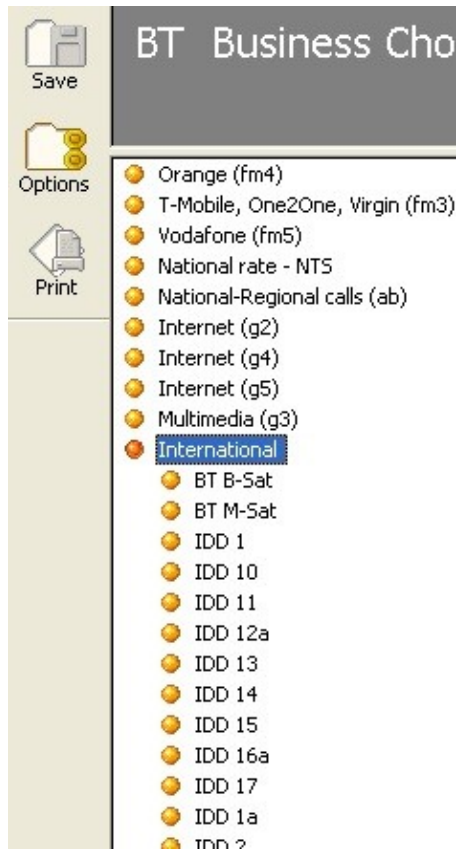
Click New to create a new group and type in the name. Then, hit the enter key. In order to delete a group, click the name next to the orange dot and drag it onto the Bin.

Selecting a group of an existing carrier displays on the right side the costs according to the days of the week and the time bands. Click the cost to edit it and click the ends of the bands to move them.

## Editing Destination Group Costs and Properties

To the right of the destinations list which are included in the group, the group settings are displayed, including costs. The settings (and the costs) apply to all the destinations in the group. If calls made to a given destination has a different cost, it has to be added to another group (existing or new).

Click on them to edit.

**Setup fee**

The fixed cost charged at the call connection, if any.

**Minimum cost**

If set, a call cannot cost less than this number. If the call cost is lower the minimum cost, then the cost is automatically increased to this value.

**Minimum duration**
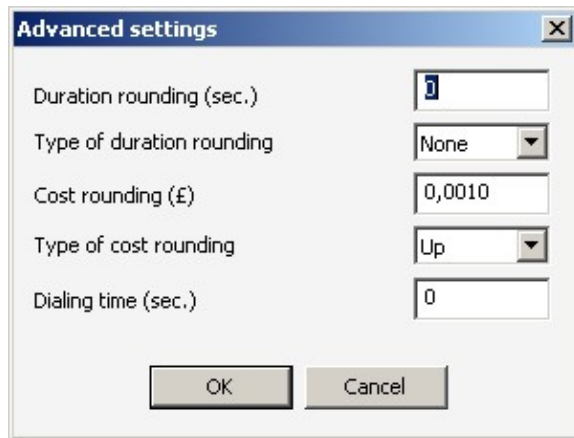
This duration indicates the minimum duration of the call. If for example this value shows 10 seconds and a call ends after 5 seconds, the call cost is calculated as if it was a 10 second call.

**Setup Fee Duration (Ring time duration)**

Time after which the cost per minute begins. The cost setup is applied immediately and, after the ring time duration, the time band cost is applied (see below).

**Note:** Starting from Imagicle UC Suite ver. 2022.Winter.1, we have improved the way we calculate call costs for transferred calls, where multiple legs are associated to a single outbound PSTN call.

## Advanced settings

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**Call duration rounding:** 1 is the minimum value and has no effect. If eg a value of 30 seconds is entered, the duration of the call is rounded to the closest value (up or down), according to the rounding type.

**Cost rounding:** like the duration rounding, but calculated on the cost values. Eg in case this value is set to 10â ¬, a 6â ¬ call will be rounded up to 10â ¬. This feature also replaces the pulse calculation system.
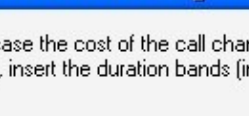
**Dial time:** this feature is useful in case the pbx calculates the call duration starting from the dialling of the number (not very common) because the pbx is not able to establish the moment the called person picks the call up. In this case, the real duration is shorter than the logged one and is unknown. In this case an average duration is subtracted from the duration and the cost calculation is not precise.

The lower part of the window, under the costs per minute, shows the following options.

## Setting the way the costs change

**The cost of the calls changes according to the duration**



In this case the cost per minute changes according to the duration of the call. Eg the first 60 seconds can cost 0,15£ and the rest of the call can cost 0,10£ per minute. The time bands can be more than one, according the tariff plan.

**The cost of the calls changes according to the distance**

In this case the cost per minute changes according to the distance of the destination.

## Changing the tariff costs and relevant time bands

Costs can be edited graphically, as well as the time bands. To create or change time bands, click on the border of the time band and drag the small black square. To edit the costs, click on the number.

All the costs are calculated per minute and are calculated on the length of the conversation (in seconds). Costs do not include taxes (VAT) and are refer to the main currency.
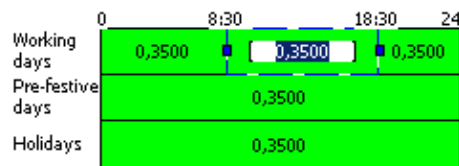


**Note:** Starting from Imagicle UC Suite ver. 2022.Winter.1, it is possible to tweak the tariff to properly calculate the call cost, even if the call is crossing multiple time bands, with different call rates, like above sample. This improvement is enabled from Tariff Editor's top-left "Options" button.

## Editing the list of destinations

In order to change the list of the destination prefixes included in the group, click 'Edit area code list'. The available code list will be displayed on the right side, in place of the costs. Select those to add and use the single arrow to move them to the left hand side. The double arrow moves all the area codes to the left.

A drop down list (top right) will display different **destination types** to chose from.
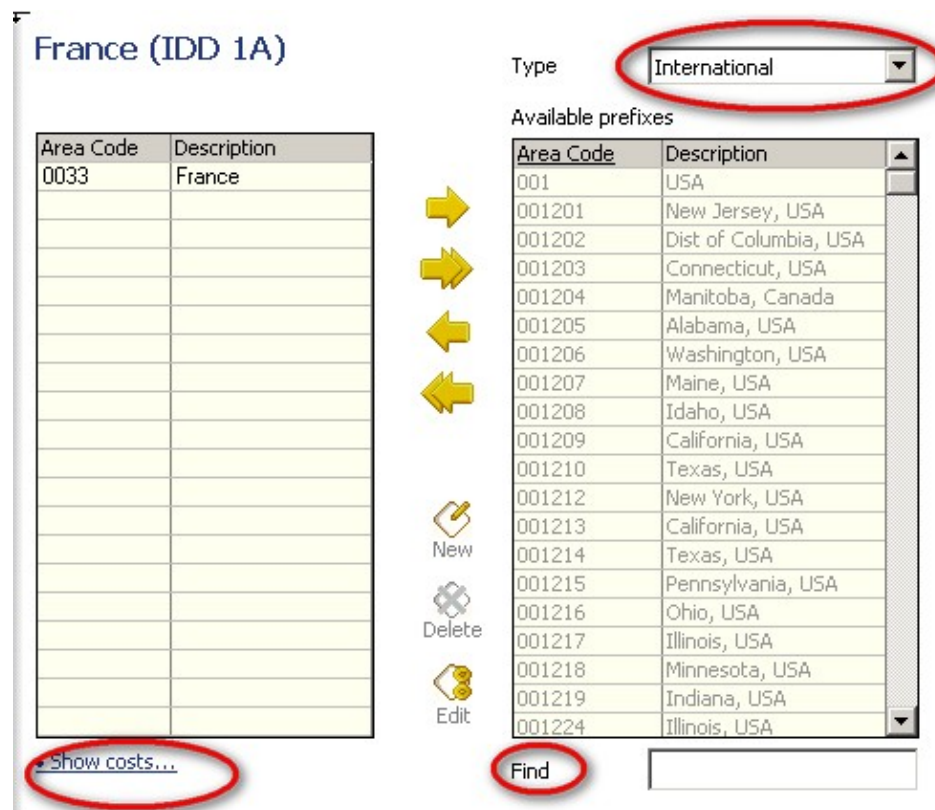
In order to add a new area code that is not available in the archive, select the type of destination to create (top right, eg. National, Mobile, International, etc) and click **New** below the yellow arrows. The type in the code, destination name and, optionally, the latitude and longitude.



**Warning**: please avoid to create duplicates. I.e. a prefix must be included in one destination group only.

## Summary view and print

Below the destination groups, the view summary command is displayed:  Summary view

## Local - direct



- Setup Fee:                              0,00
- Minimum cost:                         0,03
- Mimimum duration (secs.):           0
- Setup Fee duration (secs):          0
- Advanced settings…

## Local rate - NTS



- Setup Fee:                              0,00
- Minimum cost:                         0,03
- Mimimum duration (secs.):           0
- Setup Fee duration (secs):          0
- Advanced settings…

## Dolphin (fm2)



- Setup Fee:                              0,00
- Minimum cost:                         0,03
- Mimimum duration (secs.):           0
- Setup Fee duration (secs):          0
- Advanced settings…

## Tariff Options

During the editing of a Destination Group, you can click top-left "Options" button to pop-up the following configuration window:



Here, for each Destination, you can select the call originating Area, the currency used for cost calculation and how the costs are calculated. If "Fixed rate" is selected, call cost is calculated using only the cost of the time band when call started. If "Variable rate" is selected, call cost is calculated by using all the involved time band costs per minute across whole call duration.

## Tariff comparison

Powerful tool for having an exact calculation of the most convenient tariffs. This tool calculates a month of calls using different selected tariffs, the calculation includes rental, monthly and subscription fees. This tool offers a unique and effective method for evaluating the offer that best fits one's telephone habits. A calculation that is only based on the cost per minute or on the monthly fees is not enough: only an exact simulation would tell how much one can save or waste with different telephone carriers.

In order be able to compare costs, select a second tariff from the list in the "reference carrier" page of the Configuration Wizard. Then run the comparison reports from the web interface.

# License Activation

Imagicle Call Analytics is licensed <u>per number of managed extensions</u> regardless the number of sites or gateways and users. You can monitor the following directory numbers:

- First Extension number and optional First Extension Number Alias (counting as a single license)
- Fax number and optional Offnet fax number (counting as a single license)
- Voice Mail number

After installation, the application will run for 30 days in evaluation mode with full features.

## Acquisition is blocked when the license limit is overcome

If billing is enabled for more than 250 lines, call data will be acquired from the PBX and stored locally, but you won't be able to see them in reports until you disable the exceeding lines. This way you won't loose any call form the PBX, provided gateway configuration has been made. When you bring the number of monitored lines under the license limits, the miner process will start to import them into the database again.

## Evaluation

The application will run for 30 days in evaluation mode. During evaluation, it will allow you to activate the billing feature for a maximum of 250 lines configured in the user's list.

## How to activate the license

The license can be activated by purchasing the product from Imagicle. You can enable the license in the <u>license page</u> as described in the Application Suite common configuration section of this guide.

# Call Analytics in a MS Direct Routing architecture

Imagicle UCX Cloud Suite for Microsoft Teams supports Imagicle Call Analytics (any version) by documenting external PSTN calls and MS-Teams to local PBX calls passing through MS Direct Routing or Operator Connect SBC.

Please note that <u>MS-Teams to MS-Teams internal calls can't be currently documented</u>.

## Requirements

- Please make sure that Imagicle UCCS has been already cloud authenticated, by following <u>this procedure</u>.
- Please make sure that MS-Teams users' list has been provisioned from <u>Azure AD</u>, including the UPN (SIP URI) in each First Extension Number or Extension Number Alias field.
- Some European countries provide call accounting data with partially hidden PSTN numbers, as per local privacy regulations. Check <u>here</u> for more details.

## Procedure

Please contact Imagicle Presales or Advanced Services team to schedule a preliminary session, where you'll be asked to provide a <u>Tenant Administrator user's credentials</u> and the <u>Direct Routing/OpConnect SBCs Public FQDN</u>, reachable from Internet.

During the session, Imagicle is going to generate a token and create an Imagicle Call Analytics connector to authorize CDRs retrieval from MS-Teams Cloud.

To double check proper connector enablement, you can connect to <u>https://myapplications.microsoft.com/</u> with Tenant Admin credentials. The list of available applications should include Imagicle Call Analytics Connector, as per below sample:
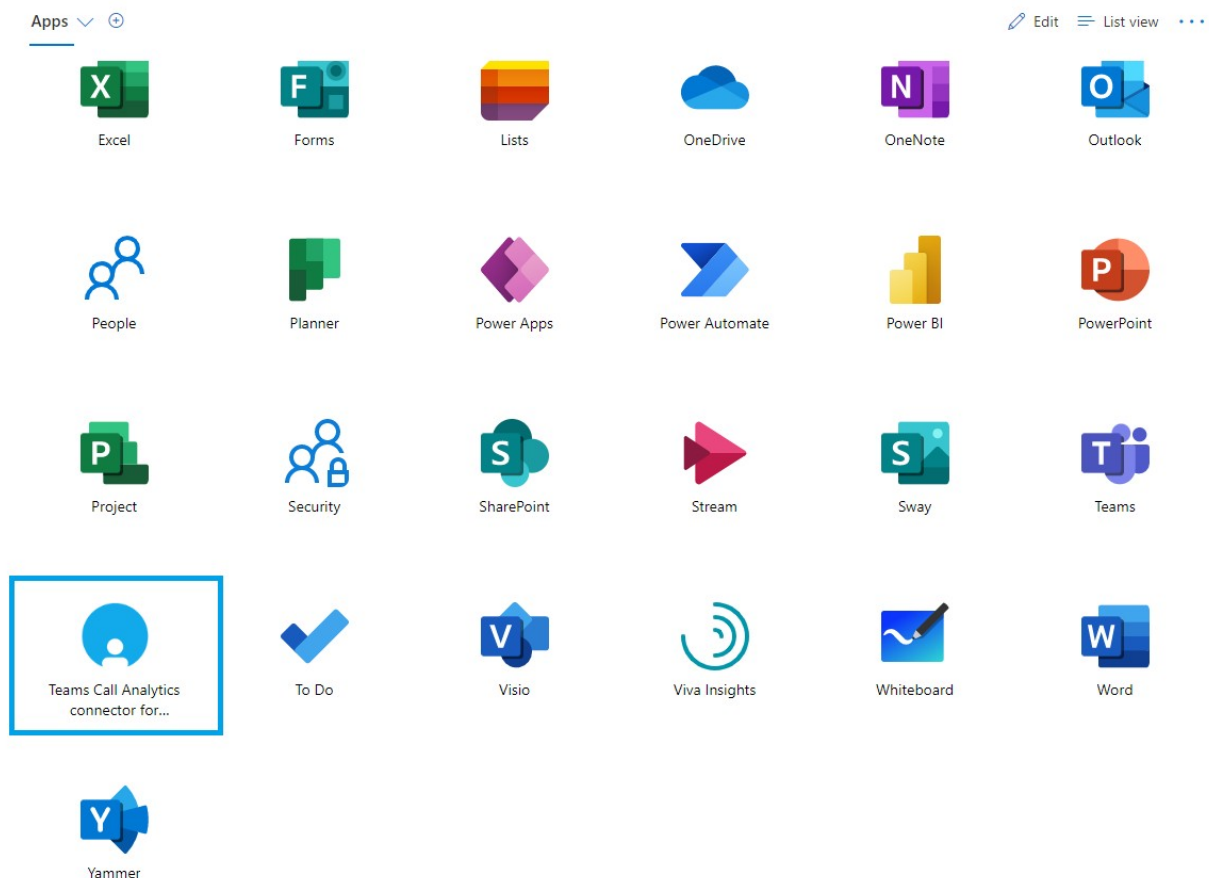
## Imagicle Cloud CDRs Enablement

Imagicle now needs to configure the CDRs connector in own Cloud and add the Direct Routing/OpConnect SBCs data into Imagicle UCX Cloud Suite instance.

For this purpose, we need the following data:

- Public FQDN of each Direct Routing or OpConnect SBC in use for PSTN breakout.
- If same SBCs are used to provide PSTN access to an additional, local PBX, then Imagicle Call Analytics can also document internal calls between local PBX and MS-Teams. For this purpose, Imagicle needs to know the numbering plan in use in the local PBX, to properly distinguish MS-Teams calls against local PBX calls.

Please allows up to 2-3 days to enable the CDR connector on Imagicle Cloud.

# Configurations for AudioCodes SBC

This admin guide section provides a detailed guide about how to configure both Imagicle UC Suite and AudioCodes SBC to document all calls passing through the SBC, thanks to Imagicle Call Analytics application.

## Requirements

- Imagicle Cross-Platform or Microsoft UC Suite must be available.
- Both AudioCodes SBC and Imagicle UC Suite must work in the same time zone, synched against same NTP source.
- Imagicle Call Analytics can correctly handle configurations where the SBC is hooked to PSTN gateways or SIP trunks of a single phone district, in a single Nation. If gateways/Trunks are pointing to different nations or phone districts, in different time zones, local and national call destinations might be wrongly associated.
- SBC should be configured with some translation rules to route PSTN DID calls to PBX, using internal numbering plan.
- SBC sends CDRs via SFTP protocol, therefore it is required to install SFTP Server on Imagicle UC Suite. For this purpose, please follow the guide available <u>here</u>.

## UC Suite Configuration

If you got an Imagicle Cross-Platform UC Suite prior to 2020.Summer.2 release or if you got an Imagicle UC Suite for Microsoft UC, please download the following AudioCodes driver files, attached as ZIP archive to this KB article:

- Audiocodes Mediant SW sbc.drv
- DriverPro.tll

If you have an Imagicle UC Suite for Microsoft UC, please rename above .drv file as `Microsoft Audiocodes Mediant SW sbc.drv`

Then copy both files here: `C:\Program Files (x86)\StonevoiceAS\Apps\Billyblues\Engine\Driver`

## Call Analytics Configuration Wizard

1. From Windows Start menu, please launch "Imagicle Configure Blue's Enterprise 4"
2. Add a new PBX, by hitting "New PBX" button

â
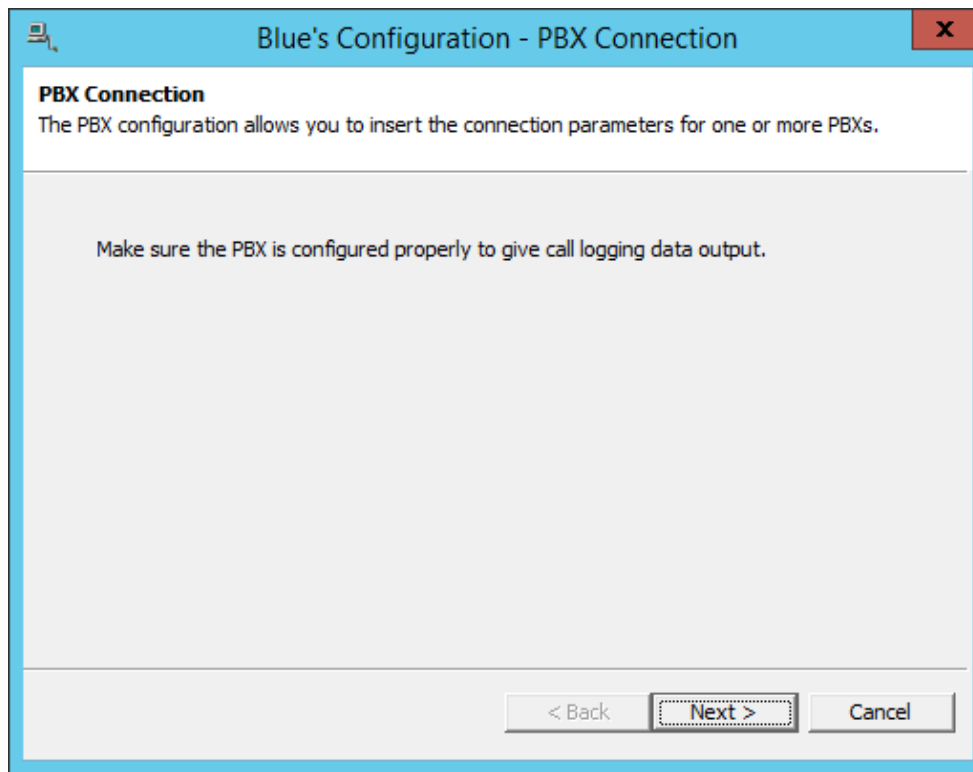
3. Enter a name identifying AudioCodes SBC, like "SbcImagicle" and select "File Acquisition" entry from TCP/IP connection. Hit Next
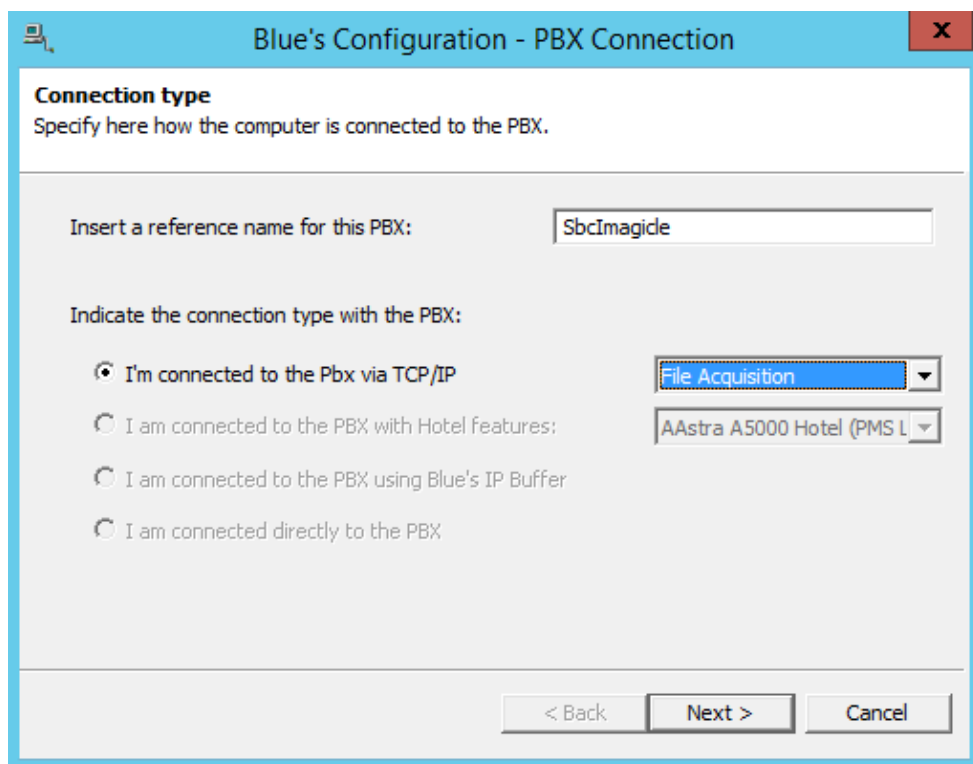


4. Enter the Windows folder where AudioCodes CDRs are placed, together with a file retention of 7 days. Hit Next

5. Click on "Finish" to end the configuration.



6. Select SBC Pbx just added and hit "Edit" to continue the configuration. Hit Next a couple of times, until you reach the driver configuration window. Here please select "Mediant SW SBC" driver from "AudioCodes" brand.

â   â
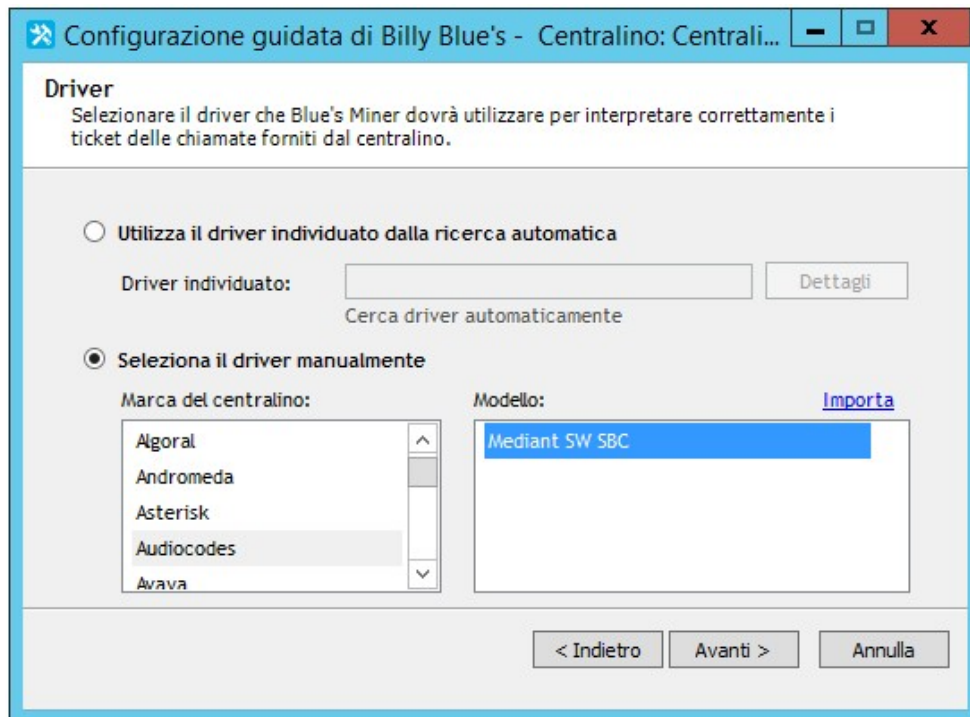
If you are configuring an Imagicle UC Suite for Microsoft UC, then you will find same driver into "Microsoft" brand.

7. Hit Next and then click on "Edit" button.
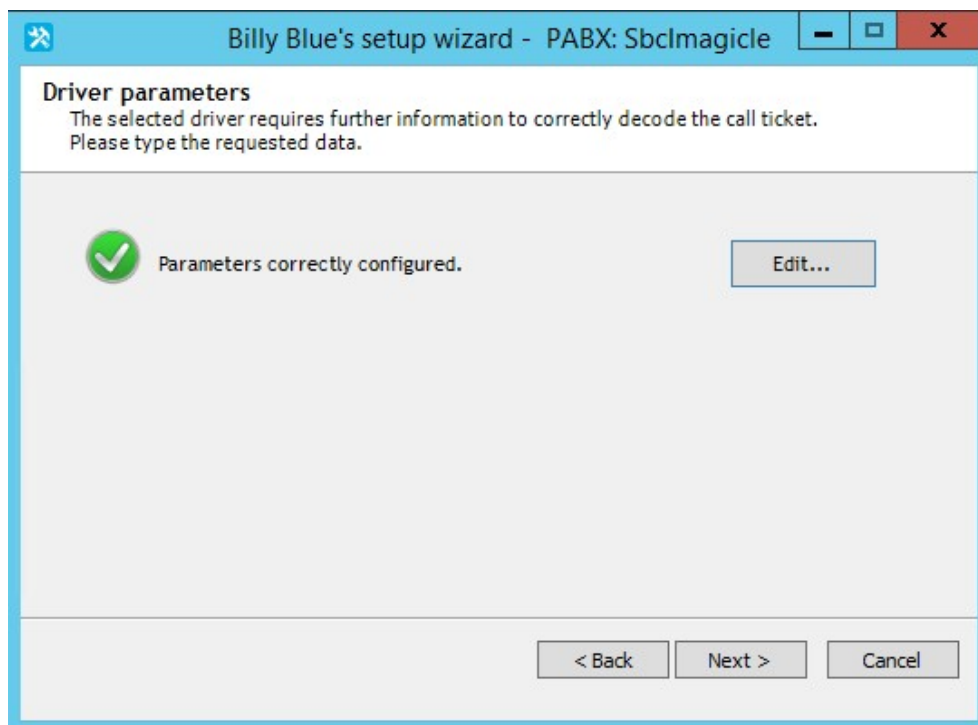


8. The SBC configuration window appears. Please enter the following data:

- **PSTN Voice Gateway IPs or PSTN SIP Trunk IPs**: Please add the IP addresses of all gateways or SIP trunks hooked to PSTN. Those addresses are used to identify external calls. Calls reaching any of these gateways/Trunks are considered external inbound; calls routed to any of these gateways/Trunks are considered external outbound; calls including none of these gateways/Trunks are considered internal.
- **Remove these prefixes from external numbers on outgoing calls**: Please add here any dial-out prefix to be dialed for an outbound external call. This parameter is optional.
- **Remove these prefixes from external numbers on incoming calls:** Please add here any prefix which might be added by SBC before routing the incoming external call. This parameter is optional.
- **Remove these prefixes from extension number:** Please add here any prefix which might be added by SBC before routing internal calls across multiple PBXs. This parameter is optional.

9. Hit OK once done, and then hit Next. Please select "Import internal calls" only if there are multiple PBXs connected to AudioCodes SBC. Otherwise, just import external calls. Hit Next.

Billy Blue's setup wizard - PABX: SbcImagicle

**Internal calls**
Select the type of management for internal calls.

◉ Do not import internal calls

○ Import internal calls

&lt; Back    Next &gt;    Cancel

10. Select the Country and Local Area of the Site.

Billy Blue's setup wizard - PABX: Pbx1

**Country and area**
Please specify where the site is located. This information will be used to correctly determine the cost of calls.

| | |
|---|---|
| Country: | Italy |
| Local area: | Milano (02) |
| Time zone and daylight savings time: | (GMT +01:00) CET Central European (Italy) |
| Country currency: | Euro (€) |
| Tax name: | IVA    Rate (%): 22 |

&lt; Back    Next &gt;    Cancel

**NOTE:** Imagicle Call Analytics can correctly handle configurations where the SBC is hooked to gateways or SIP trunks of a single phone district, in a single Nation. If gateways/Trunks are pointing to different nations or phone districts, local and national call destinations might be wrongly associated.

**Report Field Labels Update**

While AudioCodes SBC provides CDR data in a different format than standard Call Accounting drivers, you must change the label names appearing in Call Analytics reports. Please perform the following SQL queries by using HeidiSQL:

```
UPDATE NomiCampi set sAlias = 'SourceInterfaceId' where sNomeCampo = 'sLinea' and
sNomeTabella like '%Chiamate%'

UPDATE NomiCampi set sAlias = 'DestInterfaceId' where sNomeCampo = 'sCampo1' and
sNomeTabella like '%Chiamate%'
```

Execute the following additional queries to verify that label changes have been correctly accomplished:
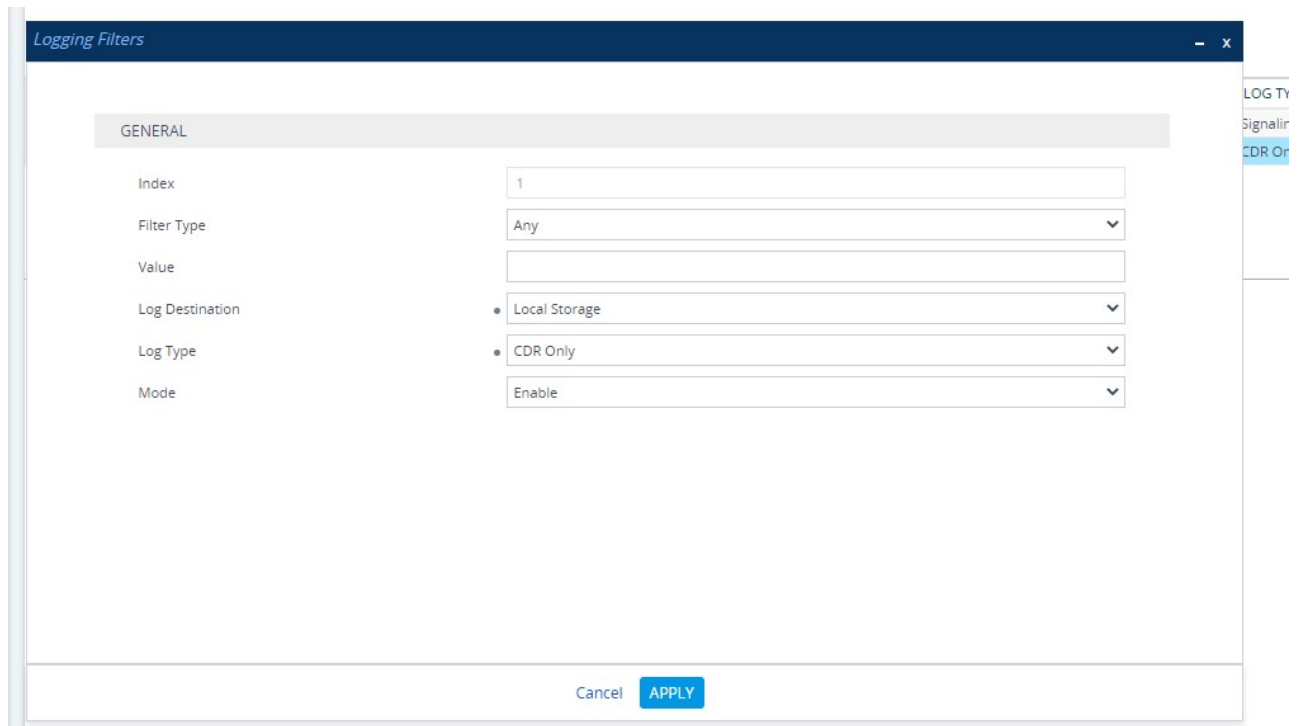
```
SELECT * FROM NomiCampi where sNomeCampo = 'sLinea' and sNomeTabella like '%Chiamate%'

SELECT * FROM NomiCampi where sNomeCampo = 'sCampo1' and sNomeTabella like '%Chiamate%'
```

## AudioCodes Mediant SBC Configuration

SBC should be configured to place CDRs into an Imagicle UC Suite Windows folder. SBC generates CDRs in CSV format and they are transferred to Imagicle Suite via SFTP.

## Local Storage Configuration

1. SBC should be instructed to forward call accounting-related CDRs only, to avoid the reception of useless data.
2. Please access SBC web portal and navigate to **Troubleshoot â Logging â Logging filters** and create a new logging filter including the following parameters:



3. Hit APPLY to save configuration
4. Now it is important to define the SBC's Local Storage, used for CDR buffering before sending them to Imagicle UC Suite server. Navigate to **Troubleshoot â Call Detail Record â Call Detail Record settings** and enter the following parameters:

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| CDR SERVERS | |
|---|---|
| CDR Servers Send Period | 1 |
| CDR Servers Bulk Size | 10 |
| Pending CDR files: | 4 |

| CDR LOCAL STORAGE | |
|---|---|
| File Size (KBytes) | 10240 |
| Number Of Files | 5 |
| Rotation period (min) | 2 |
| CDR File Name | CDR__%y.%m.%d-%H.%M.%S_%qqqqq.csv |
| Compression Format | None ⌄ |

- **Pending CDR files** shows current number of CDRs saved in Local Storage.
- **File Size** dictates the maximum CDR file size. If exceeded, file is closed, sent to Imagicle UC Suite and a new one is created.
- **Number Of Files** dictates max number of CDR files that are buffered in SBC's Local Storage. Please configure this parameter to grant enough CDRs buffer during UC Suite is not available or not reachable, otherwise older CDRs are deleted and relevant call data is lost.
- **Rotation Period** dictates the interval to wait before closing a CDR file, sending it to Imagicle UC Suite and create a new one.
- **CDR File Name** includes the template in use for generating CDR files, which are queued in Local Storage. You can leave the default template or, better, apply a template which allows to alphabetically sort CDR files and get a chronological order.
- **Compression Format** should be set to None, otherwise CDRs are sent as ZIPPED files.

6. Now please define a CDR Remote Server where SBC is going to send CDRs, saved into Local Storage, to Imagicle UC Suite server via SFTP protocol. Navigate to **Troubleshoot â     Call Detail Record â     SBC CDR Remote Servers** and create a new CDR Remote Server pointing to UC Suite's IP on port 22, with same credentials specified during manual SFTP Server installation:

| GENERAL | |
|---|---|
| Name | • ImagicleSFTP |
| Priority | • 1 |
| Address | • 192.168.6.2 |
| Port | 22 |
| Username | • imagicleSFTP |
| Password | • * |
| Path | • / |
| Connect Timeout (sec) | 15 |
| Max Transfer Time (sec) | 120 |
| Last Transfer Time | 2020-07-24T15:43:31Z |
| Last Transferred File | CDR__20.07.24-17.43.11_00002.csv |

7. Hit APPLY to save configuration

8. Once SBC configuration is accomplished, AudioCodes CDRs are sent to this UC Suite folder:

`C:\Program Files (x86)\StonevoiceAS\Apps\BillyBlues\Engine\ccm5cdr`

`C:\Program Files (x86)\StonevoiceAS\Apps\BillyBlues\Engine\ccm5cdr`

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# Troubleshooting

If you were able to configure and run Imagicle Call Analytics services, but you think that Imagicle Call Analytics is not behaving as it should:

- Access and review the System Status page in the administrative panel
- Run the Configuration Wizard again to correct the problem

## System Status Page and basic diagnostics

You can easily diagnose configuration problems through the Service Status page. This page can be accessed through the "Administrative Page" link on the Call Analytics services menu.

**Basic test:** Check the gateway configuration, make a test call and see if it has been received. If the "Last acquisition date" in the Recorder panel changes then the call has been transferred form the CDR file to a local backup file which will be read by the Miner. This means that the PBX is correctly configured and that the FTP service is working. Check also the "Last Succesfully Imported Calls" list.

### Recorder

**Recorder service status**

🟢 Started

Help info:

**Gateway info**

| Gateway Name | Gateway Ip | Site Name | Last Acquisition Date | Data File Path |
|---|---|---|---|---|
| San Jose | 192.168.204.50 | | 2009.03.07.13.59.04 | C:\Program Files\StonevoiceAS\ |

**Tariffs and call costs:** When the miner is able to calculate call costs, the "Last Imported Call" date and time changes in the Miner panel.

Note: You might see an old date such as 1981... This means that no call has been imported.

### Miner

**Miner service status**

🟢 Started

Help info:

**Configured Sites**

# Configured Gateways    1

| Enabled | Gateway Name | Gateway Code | Country | Local Area | Total Calls | Today Calls | Yesterday Calls | Last 30 days Calls | Last Imported Call | Data F |
|---|---|---|---|---|---|---|---|---|---|---|
| True | San Jose | SITE | Ireland | Ardee | 1 | 0 | 1 | 1 | 3/6/2009 6:27:30 PM | C:\Prog Files\St |

**Extension List:** on this panel you can verify that the monitored extensions are the one you expect.

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**Extension list**

# Extension Configured:1

| Number | Name | Department | Cost Center | Username | # Total Calls |
|--------|------|------------|-------------|----------|---------------|
| 1008 | Johnson Tom | | | 1008 | 2 |

Issues on call importation (i.e. when the call is dropped) are mostly related to extensions which are not configured or enabled. In the following table you can check the number of the extensions being monitored. The maximum number of monitored extension is limited by the product license.

**Extension list**

# Extension Configured:0

Total imported calls :118

Total calls from configured extensions:0

No Data Found

✖ Warning: no extension configured. The call importation will be suspended. Please enable billing for at least one extension in the User Managemer section of Stonevoice Application Suite.

Here you can see if your call has been imported into Imagicle Call Analytics database:

**Last Succesfully Imported Calls**

10 20 50 100 200

| Type | Ext. | Name | Number | Date | Time | Duration | Cost | Gateway |
|------|------|------|--------|------|------|----------|------|---------|
| ✖ | 1008 | Johnson Tom | 1007 | 3/6/2009 | 6:27:33 PM | 00:00:00 | 0.00 | SITE |
| ✖ | 1007 | | 1008 | 3/6/2009 | 6:27:33 PM | 00:00:00 | 0.00 | SITE |
| ✖ | 1008 | Johnson Tom | 02987200 | 3/6/2009 | 6:27:30 PM | 00:00:00 | 0.00 | SITE |

If scheduled reports do not run, check the service status here:

**Scheduler & Email**

**Scheduler service status**

🟢 Started

Help info:

Press the "Refresh" link to update the panels.

## Advanced Diagnostics and Troubleshooting

If you experience problems of technical nature, before calling technical support please:

• Read the Most Common Issues section to have hints on what the cause of the problem might be
• Review the advanced checklist

## Common issues

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## Call Analytics records not showing under home and dashboard in the web interface

After adding the Imagicle server under CDR management in the serviceability section of CUCM, no CDRs are shown under home and dashboard section of the Imagicle interface. In case this happens, the following actions should be taken:

- Check that the CDRs are received under  C:\Program Files (x86)\StonevoiceAS\Apps\BillyBlues\Engine\ccm5cdr
- If they are not received, check that in CUCM CDR management (found under Cisco Unified Serviceability-->tools) you have input the correct credentials and IP address of the Imagicle server.
- Check that the CDR services (check below) are running on all the CUCM nodes.
- Check that under "Control center-Network services" , the following CDR services are running:
    - Cisco CDR Repository Manager
    - Cisco CDR Agent
- If all of the above checks passed, try the following steps:
    - Restart  "Cisco CDR Repository Manager"
    - Check that under service parameters-->Cisco CallManager service--> the following parameter is set to true: "CDR Enabled Flag"
- Check that the "Call Analytics Miner" process is started under Call Analytics â     Administrative page
- Verify that no Antivirus on the server is blocking the "bminer" process. Common Antiviruses like Symantec Enterprise protection (SEP) block the bminer process responsible for the importation of the call records from the CDRs files. They usually confuse this process with Crypto mining processes due to similarities in the name, so they block its activities. In order to solve that problem, the Antivirus admin should not only whitelist the bminer.exe from being scanned and protected but the whole StonevoiceAS directory which is by default located under: C:\Program Files (x86)\StonevoiceAS on the server for the Call Accounting optimal operation.

## Some Call Analytics records not showing under home and dashboard in the web interface

- Check if there are some extensions that exist on the CUCM but are not defined on the Imagicle server. In order to verify that, go to Call Analytics â     Administrative pages â     System Status â     "show extensions not defined" for each CUCM and gateway added. Check that the user with the corresponding Call Analytics extension are created under "user management" and has the option "enable Call Analytics for first extension number" checked.
- Check if there are discarded calls under Call Analytics â     Administrative Pages â     "show discarded calls". If there are a number of discarded calls next to that button, check that there is enough Call Analytics licenses to accommodate for all the extensions.

## Specific scenarios troubleshooting

This section describes typical problem scenarios and their causes. Please test incoming and outgoing calls first. When they work you can test calls between internal extensions. Then test international calls.

## No call is imported From Any Gateway

You made both internal and external calls from and to different numbers but the calls do not appear in the Home page or in the Call List report.

-> On the license page, check that the evaluation period is not over or that the license is valid

-> Log out from the server, then check the status of the services from the service page. Both the Recorder and the Miner must be still running. If the icon close to the service name is not Green, restart the service from the web interface

-> Check the number of discarded calls. If all the calls are discarded, it can be a license issue. Check the maximum number of allowed extensions on the diagnostic page. If no extension appears in the extension list, edit the users list and make sure that both the "first extension" and the "Enable Call Analytics for first extension" fields are set

## All the calls are reported as internals

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The calls do appear in the home page, but even if the caller or the called is an external long number, it is reported as internal and the calculated cost is 0.

-> One or more of the gateway IP addresses are wrong. Please run the configuration Wizard again. Remember that if the CDR come from the CuCM, when you configure a gateway you must select "I'm connected to the PBX with CallManager". If the CDR come directly from the CuCME, you must select "I'm connected to the PBX with CallManager Express".

## A specific call is not imported

Outgoing calls from some extensions are billed as expected (regardless the exit gateway). External calls originated from a specific extension are not.

-> The call has been discarded. Check the extension list in the Diagnostic Page and look for that extension. Then look in the User Management list and make sure that  the "first extension" corresponds to the extension the user is using and the "Enable Call Analytics for first extension" field is set. Then you can try re-importing discardes calls (Administrative Page->Reprocess discarded calls).

## Calls are imported randomly

Some extension has the call reported, other extensions do not, but you cannot tell which one and why.

-> This is a license issue or a voice gateway not listed during gateway setup. Register the product, run the configuration wizard again and add the missing gateway. Remember that all the calls exit points must be added to the gateway list, including SIP providers, GSM gateways...

## Imagicle Call Analytics suddenly stops importing calls

-> This could be a license issue (e.g. evaluation over) or one of the services not running.

## The call is reported but some information is missing

You can check this condition by the Call List report.

-> Configure all the user's fields. Updated information will be available for new calls. If you want to update report information for old calls, recalculate the Telephone calls costs.

## You can run reports from web portal, but you cannot get them by email

You configured a report, tested it interactevely to ensure that it does not produce an empty report, but still you cannot get the scheduled reports through email.

-> The issue is probably related to an antispam program or to the maximum attachment size on the email server. Try also a different report.

## Some costs are not calculated, or wrongly calculated

In the Home Page some call shows no cost even if it is reported as outgoing answered (length > 0).

-> Most probably you did not set the dial out prefix or the prefix to be stripped from incoming calls for one or more gateways. You'll see a leading 0 or 9 in the called or calling number in the Home page. Run the configuration wizard again, enter the prefix, and check that it is stripped from the called / Calling number.

-> If the called number is correct, then the destination is missing in the tariff. Run the tariff editor, click "show costs" and look for the destination of the call by entering the prefix in the search textbox.

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## The phone numbers in the reports are not as expected

-> Probably the international prefixes configured on the gateway list do not match the incoming number format. Enter the right prefix through the Configuration Wizard or change the PBX configuration, then Reprocess the discarded calls.

## Some calls are listed in reports or Home page with wrong date/time

Check IAS date/time settings are correctly configured on both IAS instances (Windows NTP synch). Please check also the time zone applied into each gateway, from Call Accounting Wizard.

## Running any Call Accounting report shows empty results

Check that the windows server where the Imagicle applications are installed, has the right date and time.

## Call Accounting "Miner" application is stopped and I can't restart it from Imagicle admin web portal

- Open Windows services console (start -> run.. | services.msc)
- Stop Blue's Service Host (right click -> stop)
- Manually start Miner and Recorder by executing relevant apps:
    - ◆ <StonevoiceAS>\Apps\BillyBlues\Engine\Bminer.exe
    - ◆ <StonevoiceAS>\Apps\BillyBlues\Engine\BluesrecPro\BrecPro.exe
- Open Windows services console (start -> run.. | services.msc)
- Start Blue's Service Host (right click -> start)

## FTP-related troubleshooting

If no CDR comes from the PBX, it is most probably an issue with the PBX credentials. A firewall may be blocking FTP. To ensure that the FTP service and the CuCM are properly configured, make a test call, wait five minutes and check the FTP log files.

Log files are located in these folders:

- Windows 2003 `C:\WINDOWS\system32\LogFiles`
- Windows 2008: `C:\inetpub\logs\LogFiles\FTPSVC1`
- Windows 2012: `C:\inetpub\logs\LogFiles\FTPSVC2`

## Check CUCM CDR services are running

In CUCM, check that under "Control center-Network services" , the following CDR services are running:

- Cisco CDR Repository Manager
- Cisco CDR Agent

If both services are running, try the following steps:

- Restart  "Cisco CDR Repository Manager"
- Check that under service parameters-->Cisco CallManager service--> the following parameter is set to true: "CDR Enabled Flag"

## Check Imagicle Call Analytics services

Imagicle Call Analytics engine relies on four different windows services and one database, as described in the application architecture chapter:

- Imagicle Call Analytics Recorder parses the CRDs generated by the PBX and stores call data in standard format

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- Imagicle Call Analytics Miner reads the stored calls, calculates call costs and puts them in the database
- Imagicle Call Analytics Scheduler manages scheduled alarms
- Imagicle Call Analytics Service Host starts and stops the other three services

You can check the status of Imagicle Call Analytics services, start and stop them through the **Administrative page**, clicking on **Service Manager**.

## Recorder

If the recorder does not start check the gateway configuration by running the Imagicle Call Analytics Configuration Wizard from the Start menu. When the Recorder is working and the CuCM is sending CDRs, the file StoricoSITE.txt located in the c:\Program Files\StonevoiceAS\Apps\BillyBlues\Engine\BluesRecPro gets bigger.

If the CDR are dropped to the local folder but the file StoricoSITE.TXT does not grow, the CuCM driver is not configured.

## Miner

The miner cannot run if the database is inaccessible or not configured. To setup the database connection Imagicle Call Analytics Configuration Wizard from the Start menu. See also Database Maintenance.

The files BluesRecSIT*.txt located in the c:\Program Files\StonevoiceAS\Apps\BillyBlues\Engine\BluesRecPro are reset when the Miner service writes the call information into the database. On the contrary, if they continuously grow, the Miner is not working. If they are empty but your calls are not reported, the Miner is working but the calls are being discarded.

## Scheduler

The scheduler sends reports by SMTP. Ensure that the email parameters are correct and test them through the Configuration Wizard. Ensure that no firewall or antivirus is blocking outgoing SMTP connections or email attachments. Check also the Email server log files.

## Service Host

The service host is always running and usually there is no need to restart it. Imagicle Call Analytics Service Host status can be checked through Windows service management console (the name of the service is "Blue's Service Host"). If none of the other three services can be started, check the status of the Imagicle Call Analytics Service host on the machine.

## Service account

If the services do not start the issue may be related to users' security permissions on the server.

By default the services are run using the account which has been created by the IAS setup package. If Call Analytics Service Host is running, but Call Analytics services do not start, try changing the service account through the "Change Service Account" button on the web interface. Enter the credentials of a local administrator or domain administrator. If you use a local administrator, in the "domain" field enter "local", "." (dot), or the Computer Name.
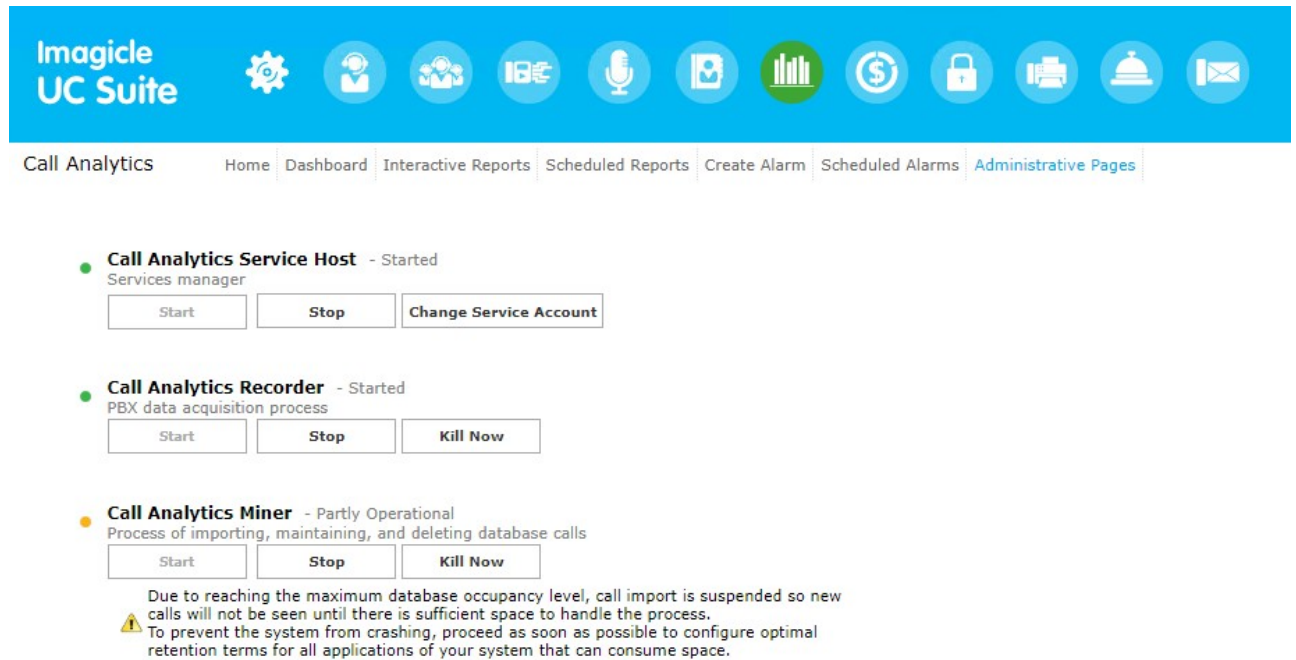
## Check that Antivirus is not blocking the "bminer" service

Verify that no Antivirus on the server is blocking the "bminer" process. Common Antiviruses like Symantec Enterprise protection (SEP) block the bminer process responsible for the importation of the call records from the CDRs files. They usually confuse this process with Crypto mining processes due to similarities in the name, so they block its activities. In order to solve that problem, the Antivirus admin should not only whitelist the bminer.exe from being scanned and protected but the whole Stonevoice directory which is by default located under: C:\Program Files (x86)\StonevoiceAS on the server for the Call Accounting optimal operation.

## Call Analytics data acquisition stopped due to SQL Server Express saturation

Call Analytics Miner cannot import new calls when the database size approaches the threshold limit imposed by the MS-SQL Server Express license i.e. 10GB, but it can still deal with the retention policy.

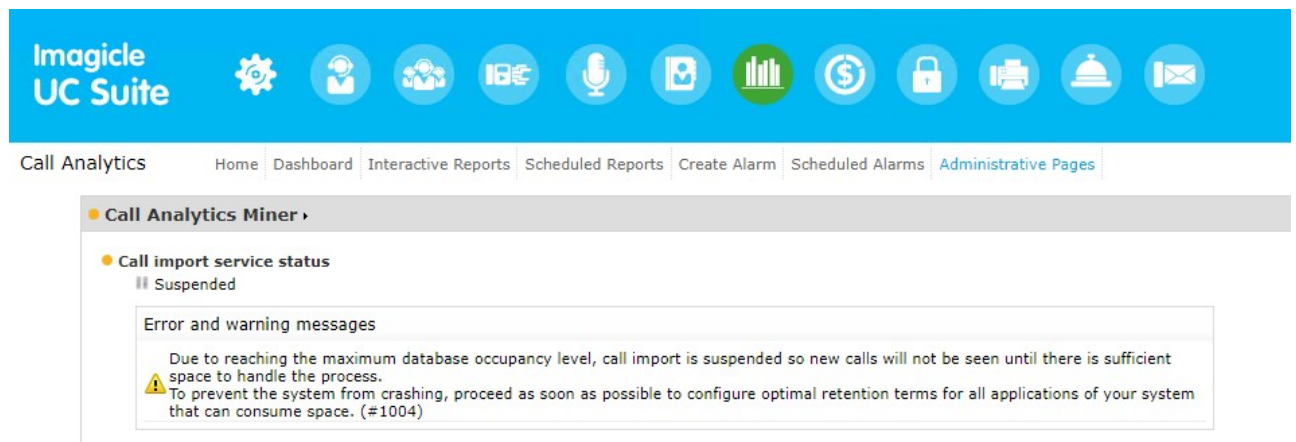Therefore, in this scenario, a dedicated warning message is shown in the Administrative pages â Service Manager:



Similar error message appears also in Administrative Pages â System Status:



If this scenario occurs, the retention policy must be changed to avoid database saturation. See here for more details.

## Database Maintenance

The first time you run the Configuration Wizard, it creates connection to the SQL server. Then it creates a database named "IAS". Once it is created, the Wizard adds tables and stored procedures.

The database structure is automatically updated by the Miner service. If this service cannot start the database structure can be corrupt or incomplete.

You can check the presence of the tables by accessing it through a suitable tool, such as Microsoft Management Studio Express.

## Check that System Requirements are met

Poor machine performance may affect Imagicle Call Analytics functionality. If the web interface is slow, or if you cannot access reports, log onto the IAS server to check memory usage and free disk space.

Please ensure that the server or the virtual machine conforms to minimum system requirements stated in the Hardware and Software compatibility list in the product home page on Imagicle web site.

## Check license

If Call Analytics seems to discard calls randomly it can be that your license doesn't cover all the extensions you need. You must not enable Call Analytics for more extensions than your license allows.

## Check Number Translations

The exit codes configured on each gateway must match the Voice Gateway translation rules, and the number transformations configured into the Call Manager's translation patterns. When they do not, you'll experience problems with cost calculations and some call will be dropped.

## Log Configuration

This page lets you tune the way log files are generated. Do not change these parameter under normal circumstances, since the log level affects performance.

You can enable log separately for each service. You can also enable log files for the web interface.

The **Clear** button resets log files, while the **Create Info File** generates an archive which contains useful information to be sent to Imagicle Technical Support. No personal information is collected.

You can also manage and collect log files through the Support Page in the general Application Suite administration menu.

# Product Administration

## Starting Services

The latest step to complete the configuration is starting the billing services by accessing the **Manager Service** link through the Billing menu.

A set of icons will appear, representing Imagicle Billing administrative tasks. Click on the Service Manager icon.

Here you can manage the different components of Imagicle Billing. The icon on each service shows the status:

- green is running
- red is stopped
- yellow is running in debug/manual mode

For Imagicle Billing to correctly import and report calls, all the services must be running **in green status**. Start each component one by one, paying attention to alerts and messages. If one of the components shows a yellow icon, stop and start it again.

**Warning:** The services will be running with the administrative account you choosed during the IAS package setup. If you experience problems in starting them through the web interface you can try changing the account through the "Change Service Account " button.

## Data Retention

It is possible to specify maximum lifetime (in days) of historical data. That is, older data will be periodically deleted. Set it to zero (0) to disable automatic deletion. Please, notice that this setting may impact on the database size.

## Managing reports

The reports list and properties can be managed through the **Administrative pages**, clicking on the **Manage Reports** icon.

## How to Upload a Logo

Imagicle Billing adds a logo on the top right corner of each report. It is possible to customize the logo by browsing a bmp, jpg, gif, png, ico image to upload. It is also possible to restore the original logo through the "Restore Default" button.

## The Report Manager

The Manage Reports section allows the administrators to change the **level of permission** required to use a report. For a description of the permission levels available to Imagicle Billing users, please refer to the User's list configuration in the General Appilcation Suite Configuration section of this guide. Users who do not have the selected level of permission won't be able to see the report.

## Managing User Reports

The Manage Reports section allows administrators to apply changes on Personal Reports. By clicking on the "Edit" button you can modify:

- Report Name: the displayed name of the report
- Group: the category of the report used to group on the Interactive Reports page.
- Minimun Role: who can access the report
- Question: Report description
- Order: Report position on the list

# Time Zones Handling

Starting from Imagicle 2021.Spring.1 release, Imagicle Call Analytics supports the definition of multiple time zones, to be used for correctly tag call accounting data to the proper local date and time.

Call Analytics "Home" and "Dashboard" pages are displayed using the default time zone, while reports can be executed by applying the local time zone, available in each report's options.

Imagicle Call Analytics can handle up to 10 different time zones in a single appliance, plus the system time zone. The list of chosen time zones can be populated from web portal: *Call Analytics â    Administrative Pages â    Time zones preferences*.

Just move required time zones from left pane to right pane and select the time zone you want to use as default.

---

**Time zone preferences**

Set up the time zones for Call Analytics.
With this configuration you define the time zones that will be made available to convert and display calls in the Call Analytics application.

In addition to UTC, you can select up to 10 time zones.

Time zones not in use

| Time zone set up for use **(4/11)** |
| --- |

**Time zones not in use**

(UTC-12:00) International Date Line West
(UTC-11:00) Coordinated Universal Time-11
(UTC-10:00) Aleutian Islands
(UTC-10:00) Hawaii
(UTC-09:30) Marquesas Islands
(UTC-09:00) Alaska
(UTC-09:00) Coordinated Universal Time-09
(UTC-08:00) Baja California
(UTC-08:00) Coordinated Universal Time-08
(UTC-08:00) Pacific Time (US & Canada)
(UTC-07:00) Arizona
(UTC-07:00) Chihuahua, La Paz, Mazatlan
(UTC-07:00) Mountain Time (US & Canada)
(UTC-06:00) Central America
(UTC-06:00) Central Time (US & Canada)
(UTC-06:00) Easter Island
(UTC-06:00) Guadalajara, Mexico City, Monterrey

**Time zone set up for use (4/11)**

(UTC) Coordinated Universal Time
(UTC-05:00) Eastern Time (US & Canada)
**(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna [Default]**
(UTC+04:00) Abu Dhabi, Muscat

>

<

**Set as default time zone**

🟠 Removing a time zone in use can affect data visualization in all those areas where users can select a time zone preference.
If a selected time zone is no longer available, it will be replaced with the default time zone.
If this substitution does not meet the users' needs, they will have to reselect a preference (E.g. Reschedule the reports with new time zones).

Save    Cancel

---

When you hit Save, you will be prompted to confirm call reprocessing job, required to update existing call accounting data to above time zones. Please be aware that this task might require several time, depending on number of archived call data and the number of selected time zones. Once reprocessing job is started, it can't be interrupted and time zones configuration is locked.

During above calls reprocessing job, you can run reports by selecting already processed time zones (if any) from "Report options" panel.



If you are running a redundant Imagicle HA cluster, time zones configuration can be applied on main cluster node only. Other node(s) can just display time zones configuration.

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If Imagicle Call Analytics already include some scheduled reports, created before UC Suite update, they keep on running by using system time zone. If you want to correctly associate scheduled report to a local time zone, you should delete the scheduled report and repeat the schedule in the chosen time zone.

## Limitations and caveats

- Custom reports developed by Imagicle Advanced Services don't support time zone selection, so they can run based on system time zone..
- Upon report scheduling, recurrence start date and time are both referring to system time zone.
- When Time Zone feature is used, SQL Server occupancy becomes higher. Please consider 990MB per million calls, without HA; 1.35GB per million calls, with HA. As a consequence, embedded SQL Server Express capacity is reduced to 7.4 million calls with HA (10 millions without HA).

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## Users list and extensions

Imagicle Call Analytics needs the users to be configured with specific parameters through the web interface.

### User Parameters

These are the mandatory fields which you need to configure for each user:

- **First extension number**: the internal phone number of the user
- **Enable billing for first extension number**: check box to enable call processing for this extension

Optionally, you can configure these additional fields:

- **First extension number alias**: Alternative directory number or PSTN number (DID) assigned to the user. Call Analytics monitors phone traffic on this alternative extension number, <u>without consuming an additional Call Analytics license</u>.
- **Offnet fax number**: Alternative fax PSTN number (DID) assigned to the user. Call Analytics monitors fax traffic on this alternative number, <u>without consuming an additional Call Analytics license</u>. The flag "Enable Call Analytics for fax number" must be checked.
- **Enable Call Analytics for fax number**: If selected, Imagicle Call Analytics monitors all incoming/outgoing calls including user's Fax number or Offnet fax number. This option consumes an additional Call Analytics user's license.
- **Enable Call Analytics for voicemail number**: If selected, Imagicle Call Analytics monitors all incoming calls hitting user's voice mail number. This option consumes an additional Call Analytics user's license.
- **Number of masked digits in Call Analytics:** If configured, Imagicle Call Analytics reports (executed using the user) will show telephone numbers masked (using * instead of numbers)
- **Cdr User ID**: This field allows to correctly correlate a Cisco CDR to the user, when dealing with Webex Calling MT architecture or while leveraging CUCM Extension Mobility. This field can be automatically populated during users' provisioning.

**Warning:** Only calls of configured named users with extension numbers will be processed by Imagicle Call Analytics, unless <u>Automatic Acquisition</u> has been enabled. In this case, all new extensions will be automatically documented in anonymous way, consuming a license. If acquired DNs are related to Cisco Hunt Groups or Hunt Group members, relevant calls are documented in anonymous way, without consuming additional licenses.

### Overlapped dial plans, using Partitions and Site names

Imagicle Call Analytics supports two fields to handle overlapping dial plans across multiple PBXs and CUCM clusters:

1. **Partition** field (for Cisco UCM only): fill it with the Partition ID to distinguish between users assigned to different partitions. The partition id is prepended to the user line number this way:

```
<partition id>.<line number> E.g. UK.310
```

This line id appears in the call list and in all the reports, and can be used to filter the calls by partition, if needed. To leverage this feature, you have to select the driver labeled "**CallManager (with partition)**" in the Configuration Wizard.

2. **Site name** field (for Cisco UC and legacy PBXs): Fill this field with PBX/GW name assigned in Call Analytics configuration Wizard. In this way, each user can be assigned to a different site, thus supporting overlapping extensions in different PBXs. If Site name is left blank, then relevant user/extension can't be overlapped to different sites.

For more info about above two overlapping options, please have a look <u>here</u>.

### Contact Manager Custom Fields

The ten user's custom fields are available in Contact Manager when a special configuration is activated. They are also available in Imagicle Call Analytics data, and can be displayed in the reports, used for call filtering and to assign permission levels..

### User Permissions

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By selecting the "User permissions" icon from the "Main"->"User Management" link, you can specify the user's level of permission for Imagicle Call Analytics:

- Permission Level 0 no access: billing services are hidden to the user when he/she logs in the web interface
- Permission Level 2, "View Personal calls": access to own calls only
- Permission Level 6, "View calls of user's": access to incoming/outgoing calls belonging to own Department, Cost Center, Office location, Site name or any configured custom field. To leverage this permission level, please make sure that the user has the relevant field compiled, otherwise the user accesses to own data only.
- Permission Level 8, "View all calls": access to all calls, of all users
- Permission Level 10, "Complete Management": administrator: access to all calls, features and reports

| Modify permissions for user 743 | | |
|---|---|---|
| System Management | [default for application] ▼ | |
| Call Analytics | (6) View calls of user's ▼ | Department ▼ |
| Budget Control | [default for application] ▼ | Department |
| Phone Lock | [default for application] ▼ | Cost center |
| Digital Fax | [default for application] ▼ | Office location / Custom1 |
| Contact Manager | [default for application] ▼ | Custom2 / Custom3 |
| IVR Manager Enterprise | [default for application] ▼ | Custom4 / Custom5 |
| Auto Attendant | (10) Complete management ▼ | Custom6 / Custom7 |
| Advanced Queueing | (10) Complete management ▼ | Custom8 / Custom8 |
| Attendant Console Server | [default for application] ▼ | Custom9 / Custom10 |
| Conversational AI | [default for application] ▼ | Site name |
| Call Recording | [default for application] ▼ | |
| VoiceMail | [default for application] ▼ | |
| Hotel Services | [default for application] ▼ | |

Whenever a query is made, an implicit filter is added to the call data so that what the use can see is restricted accordingly to his/her permissions.

**Note**: When configuring Permission level 6 based on Department, user can grant a wider visibility on call data by including additional departments into "List of additional departments" field, separated by semicolon. See sample below:

| Speedy | | | |
|---|---|---|---|
| Published directory number | | Disable caller lookup on phone | ☐ |
| Custom1 | | Custom2 | |
| Custom3 | | Custom4 | |
| Custom5 | | Custom6 | |
| Custom7 | | Custom8 | |
| Custom9 | | Custom10 | |
| List of additional departments (e.g.:Sales;Marketing;Board) | Sales;Tech | | |