Administration Guide

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Administration Guide

Description and Architecture

Budget Control is included into Imagicle Call Analytics Enterprise license. Imagicle Budget Control allows you to assign a budget to the calls made by users or group of users in a given time range (day, week, month) and receive notifications in case the budget goes beyond the desired limit.

You may also lock the telephone and prevent it from making further calls (Cisco UCM only)

Thanks to Budget Control you can accurately foresee your telco expenses and prevent abuses.

With Imagicle Call Analytics Enterprise you can accurately monitor your telco expenses; but to prevent a problem is better than solve it later. With Budget Control you can now decide in advance how much to spend.

Main Features

- Upon reaching the budget limit, a notification email is sent to the user, to a manager or to the administrator
- Budget can be easily managed through the web interface
- The budget is renewed automatically at the end of the period. Residual budget can be cumulated to the next period
- If Phone Lock is licensed, the phone can also be automatically locked (Cisco UCM only)
- Tracks and records the budget usage and overcoming. Reports can be exported in Excel and CSV format by the web interface
- Analyse the spending trends by time period and by users group. Create reports on the fly to verify savings. Save personal reports for later usage

The Budget Control module requires a valid Imagicle Call Analytics license. I.e. Imagicle Call Analytics must be correctly licensed and activated on the same machine.

You cannot use or test Budget Control if Imagicle Call Analytics Enterprise is not working correctly. The phone locking feature is optional and available only for Cisco UCM platforms. If Phone Lock is not licensed on the machine, Budget Control simply won't lock the users' phones.

Note: Starting from Imagicle 2020.Spring.1 release, Phone Lock TAPI engine can selectively lock overlapping extensions upon budget reach, if associated to different partitions and different phone devices. To enable this feature please populate relevant "Partition" field in Imagicle Users' list.

Product Architecture

Imagicle Call Analytics Enterprise gathers call data from the PBX and calculates the costs.

Budget Control includes a service which connects to Imagicle Call Analytics Enterprise every ten seconds through Imagicle Call Analytics SOAP api. Every ten seconds, it queries the database for calls belonging to the users to be monitored and sums the costs. For new budgets assignments, it collects and sums all the costs for the selected time range (month or week). Then it collects only the new calls.

When a percentage of the maximum budget is reached, one of the programmed event is fired: notification through email or phone locking.

Phone locking is performed by Phone Lock. Phone Lock monitors the phone activities through TAPI or by using CURRI-ECC method. A TSP must be installed on the machine as described in the General configuration section.

Note: If you are leveraging FAC (Forced Authorization Codes) or CMC (Client Matter Codes) to initiate an outbound call, please do not enable Phone Lock feature. Phone Lock operates at phone device or line level, so other phone devices/lines can still initiate outbound calls using FAC/CMC code of a blocked user.

Budget overcoming events are stored in a table of the main UC Suite database which can be queries through the web interface.

Specific Budget Control reports are available through the web interface.

Configuration Task List

Warning: you must install and configure the Application Suite before being able to configure the single applications. Please go through the AppSuite Deployment, Main Configuration, and User Management sections before reading on.

Preliminary check list

Since Budget Control relies on Imagicle Call Analytics to calculate the costs of the calls and to the Application Suite environment to monitor the phones and send emails, before adding budgets please check the following:

- **Check that global SMTP properties have been setup.** When you perform a clean Application Suite setup, a reminder on the login page suggests you to set the SMTP properties. If you performed an upgrade, the SMTP properties should be already set. Just test the connection to the email server as described in the Shared Parameters chapter.
- **Ensure that calls are processed** by the Call Analytics engine. Log onto the Web interface as administrator and open Imagicle Call Analytics Home page. Make a test call and wait for the call to appear in the call list. If it does not, please refer to the troubleshooting page in Imagicle Call Analytics section of this guide.
- **Check that the tariff you use is complete.** For the budgets to be effectively calculated, you need complete tariffs. Please run the Call list report in Imagicle Call Analytics web interface and verify that the costs are calculated as expected. If they are not, run the Imagicle Call Analytics Configuration Wizard again and edit the tariff/tariffs you are using.
- **Ensure that Call Analytics is enabled** for all the users included in the Cost Centers or Departments you want to assign a budget to.
- Since Budget Control connects locally to a web service to monitor the call costs, ensure that you can login as administrator to the **web interface** and run Imagicle Call Analytics reports. Please check that no antivirus/antimalware or firewall is blocking **local TCP communication** on the machine.

The following applies only if you want Budget Control to lock the IP phones (Cisco UCM platforms only). Budget Control relies on Phone Lock to lock the users' phone lines.

- **Check the Phone Lock license**. If you want to be sure that the Ip phones of the users you assigned a budget to will be locked when the budget has been overcome, the Phone Lock license must be equal or greater than the total number of the Application Suite users.
- Make sure the user's phones can be **monitored through TAPI** and their IP address is known to the Application Suite. You can check that through the **Detected Phones and Devices** page (Main -> System Parameters -> Ip Telephony system parameters -> Detected Phones and devices). Ensure the relevant phones show the "Detected by AXL" and "Detected by TAPI" flag, and that the IP is available. If not, please go through the TAPI, Device association, and AXL configuration again.
- Starting from Imagicle 2020.Spring.1 release, Phone Lock TAPI engine can selectively lock overlapping extensions upon budget reach, if associated to different partitions and different phone devices. To enable this feature please populate relevant "Partition" field in Imagicle Users' list.

Warning: Budget Control is only compatible with the latest version of Phone Lock, available since Application Suite 2012.12.1. If your Phone Lock is operating in backward compatible mode (which is the default if you upgraded from a previous version), please switch it to the new mode from Phone Lock Manage Service web page.

Product Configuration

Product Configuration Task List

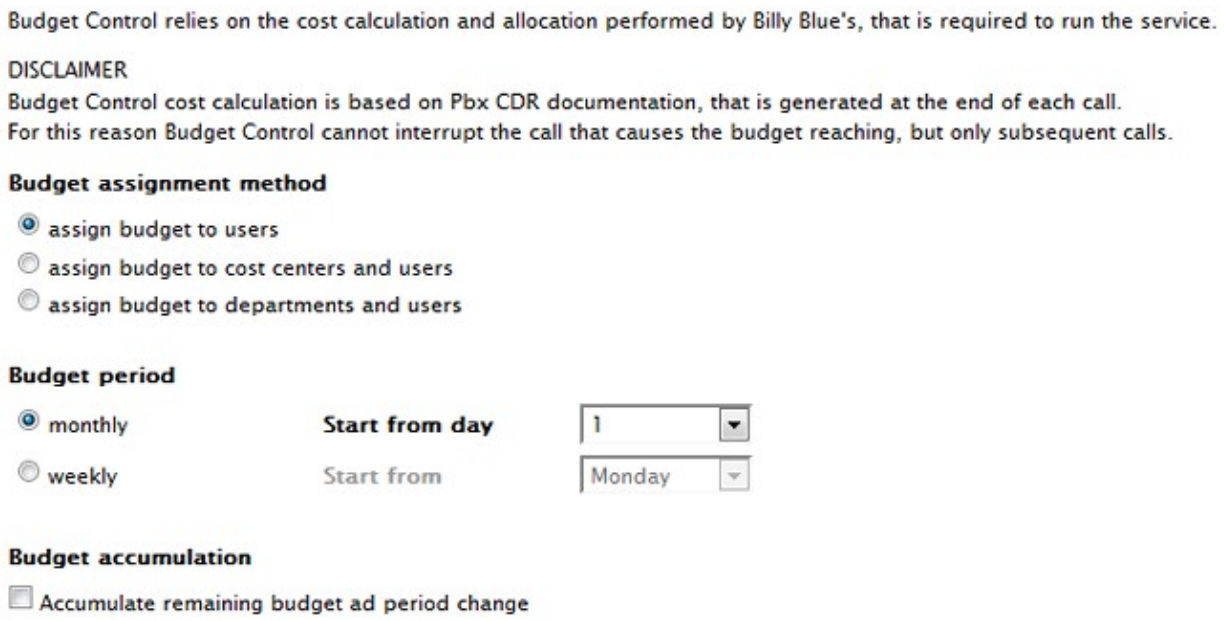
Before assigning new budgets to the configured users, you should complete the following steps.

- Choose the budget assignment method and period
- Select or deselect Budget Accumulation
- Setup the Budget Manager notifications
- Create a list of phone lines which will not be blocked when the budget is reached
- Activate the license or check that the evaluation period is not expired

Budget assignment method and period

To be able to user Budget Control effectively, you must make some preliminary choices on how to use the product. The budget assignment method and the budget period length **must be decided in advance**.

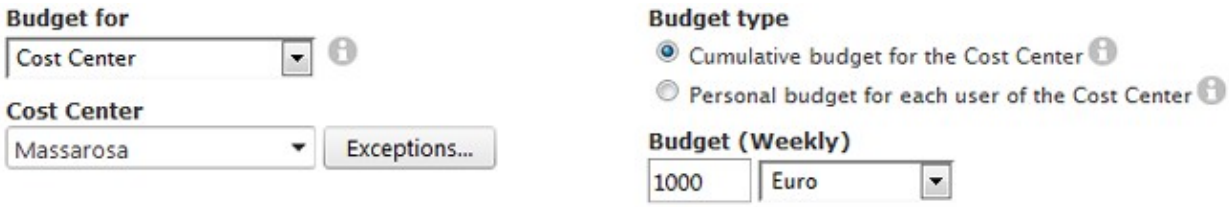
You can set those parameters in the **Global Settings** web page.



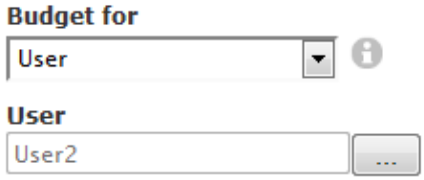
Budget Control can check the expenses of single users or group of users.

1. If a budget is assigned to a group of users (Cost centre or Department), the current expense will be the sum of the money spent by the users belonging to the group. The notifications will be triggered comparing the sum of the expense with the budget assigned to the group.
2. If a budget is assigned to single users, the Budget Control service will just check the sum of the costs divided by user.
3. A third way of assigning a budget is to reserve an amount of money to each user of a Department or Cost centre. This is just a convenient way to assign the same budget to many users.

In the first case, select "Assign budget to cost centers and users" or "Assign budget to departments and users". Go to the **Manage Budgets** web page, press **Assign new budget.** Under *Budget For* select Department (or Cost Center), under *Budget type* select the "Cumulative budget" option.

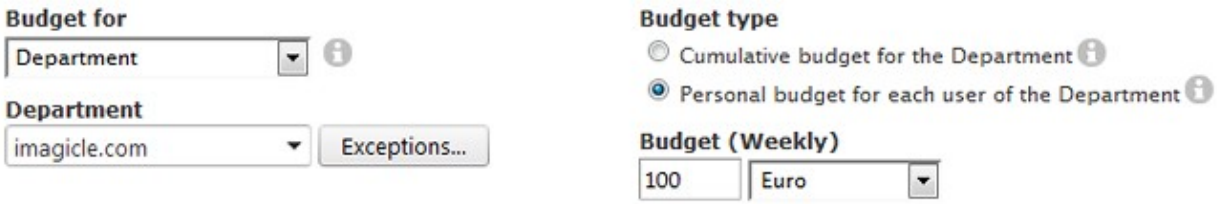


In the second case, under *Budget For* select **User** and choose him or her by pressing the button with the three dots.



In the third case, under *Budget For* choose a department or cost center and under *Budget type* select "Personal budget for each user".

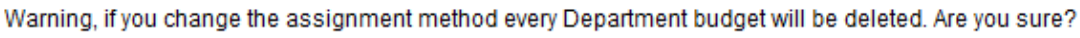
Please remember to save your settings when you make changes.



Warning: The budget computation can only be made when the PBX sends the CDR to Imagicle Call Analytics, that is, when a call is finished. You cannot know how long a call will last in advance. For this reason, budget overcoming events can only be triggered when the call which makes the expense go beyond the budget is finished.

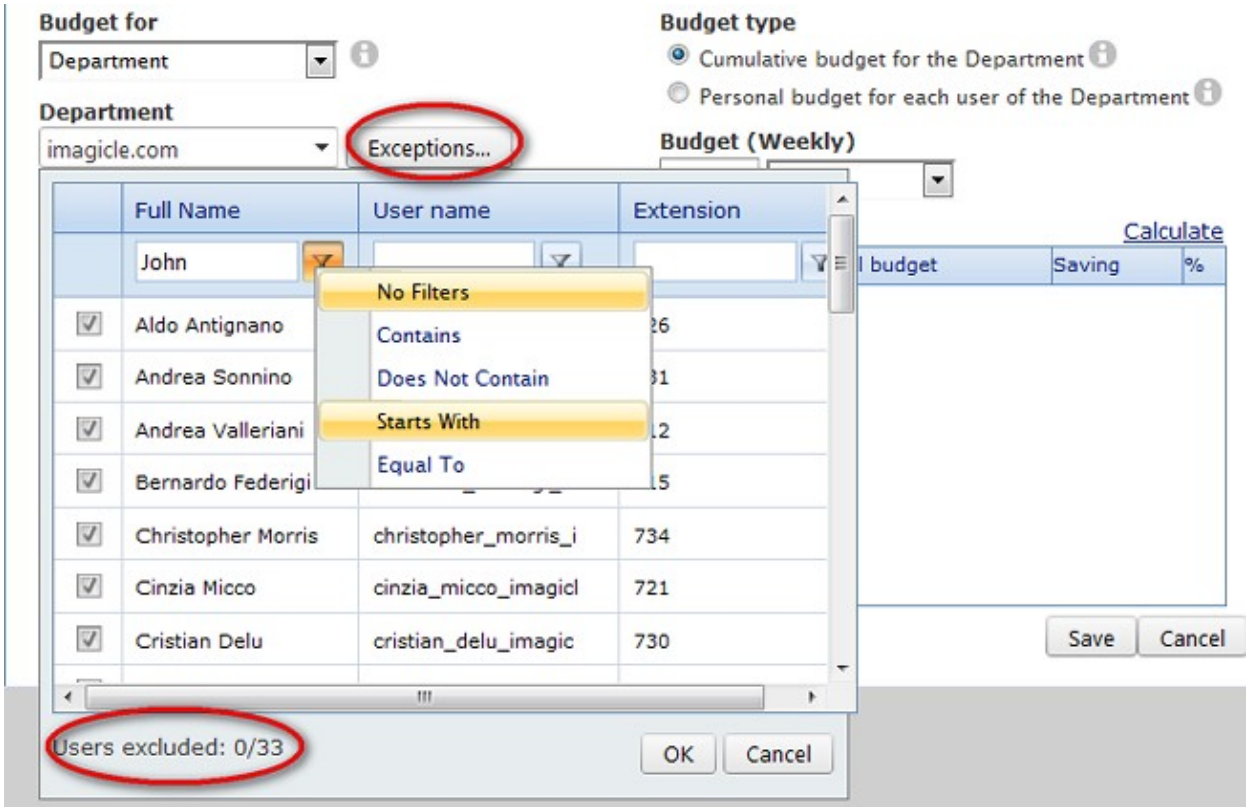
Groups of Users vs Single User Budget

Budget Control allows you to group users either by Cost Center or Department, but not both. To group the users, just fill the Cost Center or Department field in their user profile properties (Main -> **User Management**). If you change the Budget assignment method later, the budget assignment will be reset.



You cannot assign a budget to a user twice. If a user belongs to a group (Department or Cost Center), his or her expenses can be only be cumulated to the group expenses, and cannot be checked separately.

For this reason, you can exclude some users from a department or cost center when you assign the budget. This way you'll be able to monitor the users separately, if you want.



Budget Period and Budget Accumulation

The budget allocation duration must be decided in advance too. If you change it later, the assigned budgets will be deleted.

Warning, if you change the period from monthly to weekly, every monthly budget will be deleted. Are you sure?

From the Global Setting page you can also choose to cumulate the remainder of the budget at the end of a time interval (week or month) with the expense allowed for the next time interval.

Note: to be able to edit the beginning of the period you must press the **Save** button first.

Calculate Historical Data

The best way to choose the amount of the budget to be reserved to the user or group of users is to select it in the **Assign new budget** form and press the "Calculate" link to consult the historical data.

Note: On new Budget Control installations, the total budget column will show only zeroes. The column will be filled when historical data on budgets will be available.

Historical data Calculate

Year	Month	Users	Total avg. cost	Total cost	Total budget	Saving	%
2012	10	10	1.76	17.63	0.00	0.00	0.0 %
2012	5	1	0.00	0.00	0.00	0.00	0.0 %
2012	4	13	7.35	95.60	0.00	0.00	0.0 %
2012	3	15	17.12	256.76	0.00	0.00	0.0 %
2012	2	12	4.48	53.78	0.00	0.00	0.0 %
2012	1	15	6.51	97.63	0.00	0.00	0.0 %
2011	12	15	13.29	199.28	0.00	0.00	0.0 %
2011	11	15	9.16	137.41	0.00	0.00	0.0 %

Notifications

From the *budget notifications* tab you can choose whether to send email alerts when specific events occur. You can only specify one email recipient as budget manager. Detailed notifications can be enabled to individual users when adding a new budget assignment.

Budget Manager e-mail

administration@imagicle.com

System Administrator e-mail

do-not-reply@imagicle.com

Email notifications	Budget Manager	System Administrator	User
send email on budget reached	☑	☑	☑
send email on 80% of budget reached	☑	☐	☑
send email on budget assigning	☐	☐	☑
send summary email at end of the period	☑	☐	☑
send email on phone locking failure	☑	☑	☐

Global phone locking options - list of exclusions

From the Phone Locking tab in the Global settings page you can exclude specific numbers or range of numbers from the phone lock feature.

Note: These exclusions are not related to Phone Lock exclusions. If a phone has been locked by the user or by the administrator through Phone Lock, Budget Control won't be able to unlock it.

You can enter one entry for each row. You can use the character "!" to permit any sequence of digits (i.e. 9! for any number starting with 9). You can use the character "." to permit any single digit (i.e. 90.. for any 4 digit number starting with 90).

List of allowed numbers when phones are locked



To enable the phone locking feature:

- Phone Lock is licensed and the license covers all the monitored extensions
- Phone Lock is not working in the old per-device mode. If so, you'll receive the following warning. Please switch to the new per-line mode on Phone Lock **Manage Service** web page.

  StoneLock is running in old-version mode.

- The extensions can be monitored by Phone Lock. You can check that by clicking the **refresh** link. If the some extension is not monitored, you can troubleshoot the issue through the **Support** and **Detected Phones and Devices** web pages.
- If you are leveraging FAC (Forced Authorization Codes) or CMC (Client Matter Codes) to initiate an outbound call, **please do not enable Phone Lock feature**. Phone Lock operates at phone device or line level, so other phone devices/lines can still initiate outbound calls using FAC/CMC code of a blocked user.

User Permissions

You can change user permissions associated to Budget Control through the **Main -> User Management** web page as usual.

The following specific permissions apply:

- **View own budget**. This is the default for the users. They can login through the web interface and consult their remaining budget(s).
- **Manage own department/cost center budget**. Users who have this level can assign new budgets to other users belonging to their department or cost center. When accessing the Manage Budgets and Assign new budget page, the list of users they'll be able to see will be automatically filtered. Please make sure the users with this access level have a Cost center or Department assigned to them

PBX Configuration

Budget control relies on Imagicle Call Analytics and StoneLock to perform its tasks. No additional PBX configuration is needed.

License Activation

Budget Control module requires a valid Imagicle Call Analytics license activated on the same server.

Budget Control has a separate license and can be purchased separately. Budget Control is licensed per system. This means that each license is able to handle all the users configured on the machine regardless their number. Commercial details can be found on the product page of the the web site.

The Phone locking feature requires a separate Phone Lock license activated on the same server.

Please remember that the Call Analytics application is licensed by the number of managed extensions and Phone Lock is licensed per user. Please ensure that the Imagicle Call Analytics license and the Phone Lock License cover all the users you want to assign a budget to.

Budget Control must be activated on Imagicle web site as described in the Application License Status page in the General configuration section of this guide.

After license activation, you must restart Budget Control service by the web interface.

Product Administration

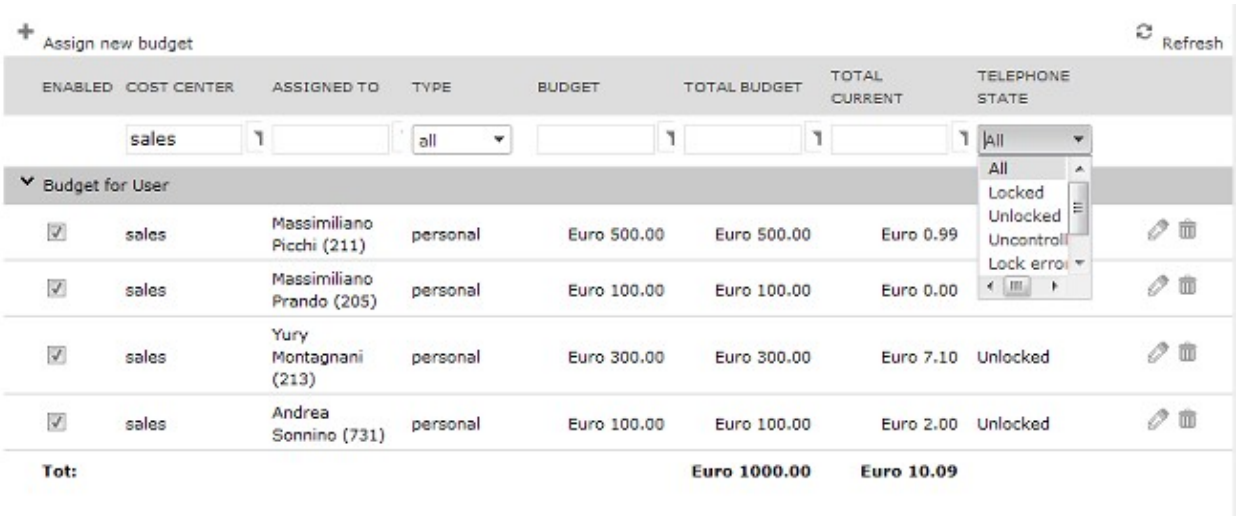
Service Management

You can check the status of the main Budget Control service from the **Manage Service** web page. Restarting the service is only required when you enter a new license string.

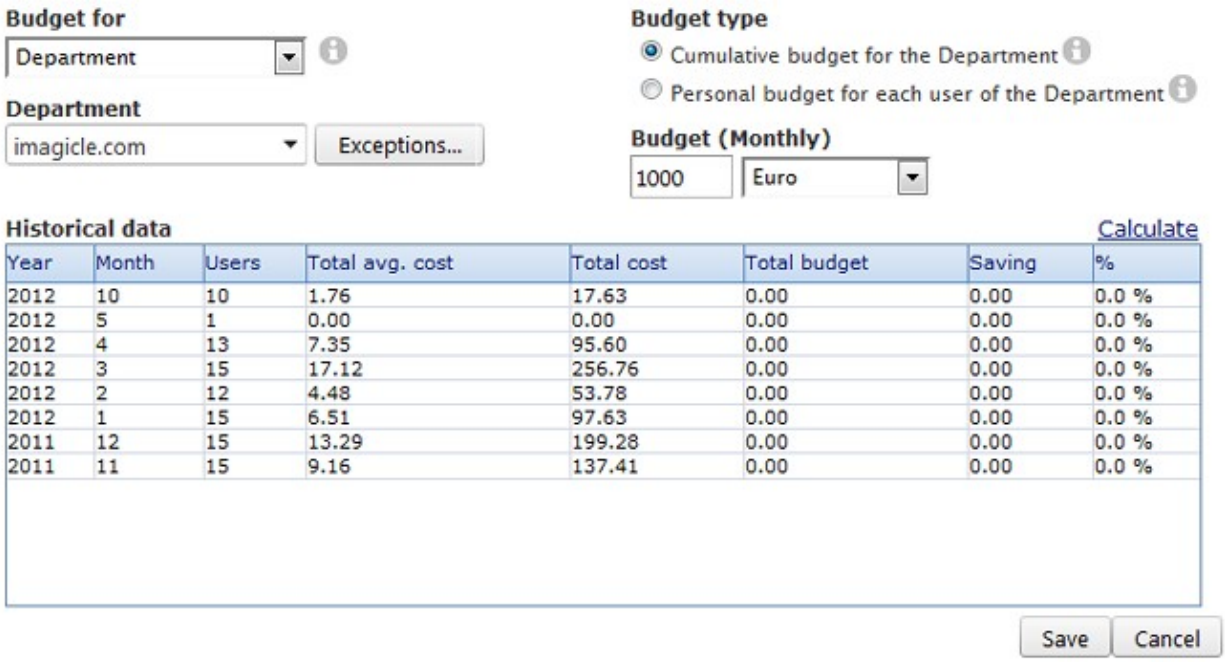
Manage Budgets

From this web page you can add, edit or delete budget assignments. To locate existing budgets you can filter the grid results or click the columns headers to sort the list.

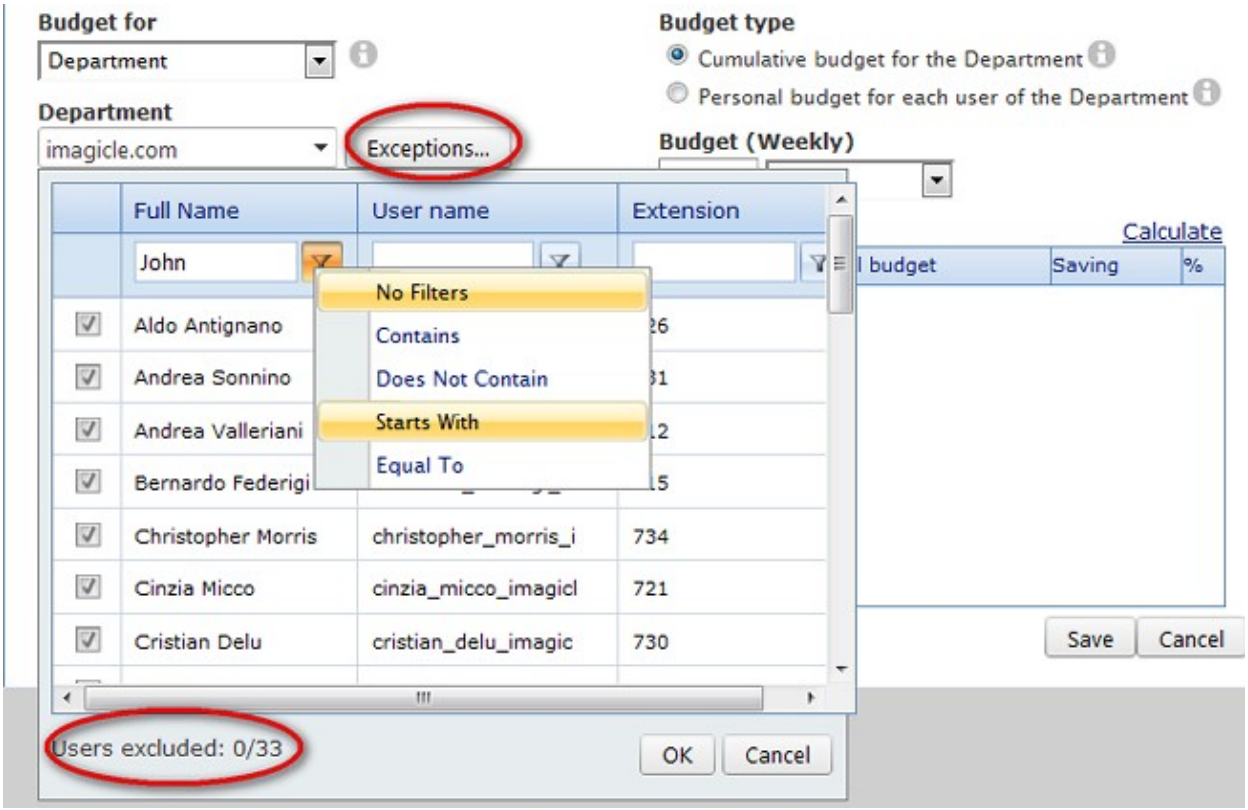
Cumulative budgets can be detailed by clicking the department or cost center name. This way you'll be able to check if the ip phone associated to the user can be monitored by Phone Lock, and its lock status.



To assign a new budget, you must compress the list again and press the link on the top of the list.



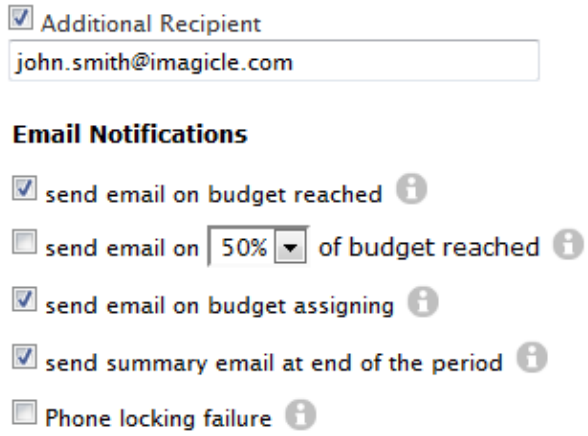
You can exclude users from the group pressing the **Exceptions** button.



To be able to assign a budget to a user included in a department or cost center, you must first exclude him/her from the budget assigned to the group.

Notifications associated to the budget

On the **Budgets Notifications** tab you can override the default behaviour associated to a specific budget. You can also add an additional email recipient for the email alerts.



Notification Templates

To change the email body contents for all the users, please access to Imagicle server's file system through a Remote Desktop session and locate the following folders:

```
C:\Program Files (x86)\StonevoiceAS\Apps\BudgetControl\Locale\XX\
```

Where XX is the language code for the users language: **en, it, fr, es, ar, de**

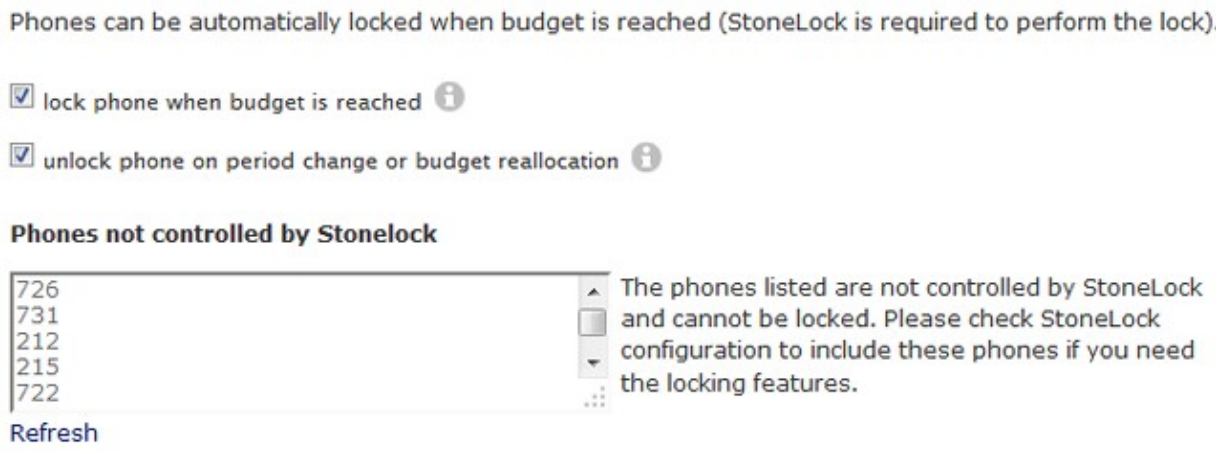
Inside each language folder, you can find a file called **User.mails.template.txt** This file include all possible types of notification messages which can be sent to users.

The template can be customized, keeping in mind that it includes some tags which are set depending on current budget status. Each tag is delimited by question marks, like: ?BudgetValue?, ?BudgetPeriod?, etc.

Phone locking associated to a specific budget

On the third tab you can decided whether to lock all the ip phones associated to a budget when it is overcome, and whether to unlock them at the end of the budget period.

This page is also locked to troubleshoot the phone locking issues, because it shows a list of the phones linked to the budget which **cannot** be locked by Phone Lock, if any. If everything is ok, the list is empty. To see the list, press the *Refresh* link.



Note: please check the phone locking options requirements in the Preliminary check list and in the Product Configuration chapter.

Note: to unlock a locked phone after the budget has been overcome, use this mask. Edit the budget the user is assigned to and uncheck the "lock phone" checkbox.

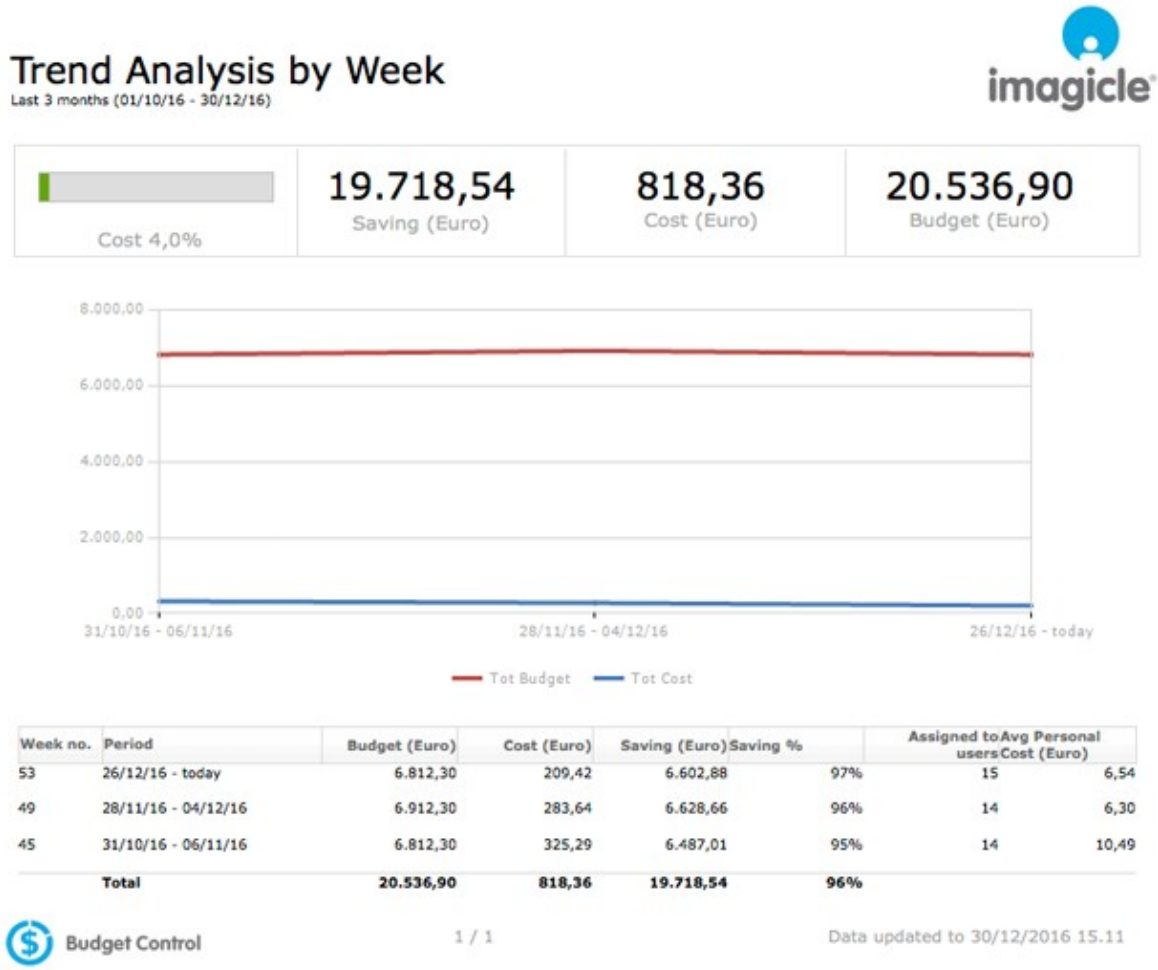
Reports

Example of available reports:

- **Trend Analysis by Week**: Shows the trend of total budget, cost and saving week by week
- **Trend Analysis by Month**: Shows the trend of total budget, cost and saving month by month
- **Organization Analysis**: Shows budget, cost and saving for the entire organization
- **User with personal budget Analysis**: Shows budget, cost and saving for each user with a personal budget

Various options allow you to filter data by period, group or single user depending on the selected report.

You can press the Save button to add the report to a personal report list for later use, or you can export it in PDF or Excel format.



Week no.	Period	Budget (Euro)	Cost (Euro)	Saving (Euro)	Saving %	Assigned to users	Avg Personal Cost (Euro)
53	26/12/16 - today	6.812,30	209,42	6.602,88	97%	15	6,54
49	28/11/16 - 04/12/16	6.912,30	283,64	6.628,66	96%	14	6,30
45	31/10/16 - 06/11/16	6.812,30	325,29	6.487,01	95%	14	10,49
	Total	**20.536,90**	**818,36**	**19.718,54**	**96%**		

My Budgets

This web page can only accessed by users. Here they can see the budget assigned to them and check the remaining budget.

They can also see the list of the events related to their budget.

Questions and Answers (Q&A)

Q: What happens if I change an existing budget amount?
A: The new value applies immediately, possibly locking phones with an expense over the new budget threshold.

Q: What happens if a user subjected to a group (department/cost center) cumulative budget is moved to another group (department/cost center)?
A: Calls previously done will be counted in the previous budget (there are no impacts on the previous budget). New calls will be subjected to the new budget, if any.

Q: What happens if a user subjected to an individual budget per group (department/cost center) is moved to another group (department/cost center)?
A: The budget related to the old department will exist and apply until the end of the budget period (normally until the end of the month). If the phone was already locked for budget reasons, the phone remains locked until the budget renewal date (regardless the fact the user is subjected to a new budget). In order to unlock his/her phone, you need to edit the previous budget and exclude the user from the budget (using the "Exceptions" panel).

If a budget is defined for the new department/cost center, the new budget applies immediately to the new calls.

Troubleshooting

To troubleshoot the application you can:

- Use the preliminary check list in this guide
- Consult the budget history

Budget History

The Budget History page allows you to check and look for past events monitored or generated by the Budget Control service. Its main aim is auditing and troubleshooting.

