Kentico CMS 6.0 On-line Marketing Guide

Kentico
unlimited website possibilities

www.kentico.com

Table of Contents

Introduction 6

About this guide ... 6
On-line marketing features ... 7

Getting started 10

Installing the sample Corporate Site ... 10
Enabling On-line marketing ... 14
First sight ... 16

Web analytics 19

Overview ... 19
Using web analytics reports ... 20

Conversions 23

Overview ... 23
Managing conversions ... 23
Logging actions as conversions ... 25

Campaigns 31

Overview ... 31
Managing campaigns (Example) ... 31
Evaluating campaigns ... 38

Contact management 45

Overview ... 45
Contacts ... 46
- Overview ... 46
- Managing contacts ... 47
- Contact statuses ... 53
- Contact roles ... 55
- Example: Creating a sample contact ... 56

Accounts ... 60
- Overview ... 60
- Managing accounts ... 60
- Account statuses ... 64
- Example: Creating a sample account ... 66

Contact groups ... 68
- Overview ... 68
- Managing contact groups ... 68
- Example: Creating a sample contact group ... 72

© 2012 Kentico Software

Merging contacts and accounts ... 75
Overview ... 75
Manual merging ... 76
Automatic merging ... 78
Splitting ... 79
Activities ... 80
Overview ... 80
Managing activities ... 80
Managing activity types ... 83
Example ... 86
Settings ... 88
Overview ... 88
General contact management settings ... 89
Enabling tracking of activities ... 90
Allowing the use of global objects ... 91
Automatic deleting of contacts ... 93

Scoring 97
Overview ... 97
Managing scores ... 97
Example: Creating a sample score ... 102

Website optimization 110
Overview ... 110
A/B testing ... 110
A/B testing overview ... 110
Managing A/B tests ... 112
Example: Sample A/B test ... 119
Analyzing A/B test results ... 125
Multivariate testing ... 128
Multivariate testing overview ... 128
Managing MVT tests ... 130
Example: Sample MVT test ... 136
Analyzing MVT test results ... 141

Content personalization 146
Content personalization overview ... 146
Managing personalization variants ... 146
Example: Creating a personalized page ... 153

E-mail marketing 161
Overview ... 161
E-mail tracking ... 161
Monitoring bounced e-mails ... 165

Security 170
Overview ... 170

© 2012 Kentico Software

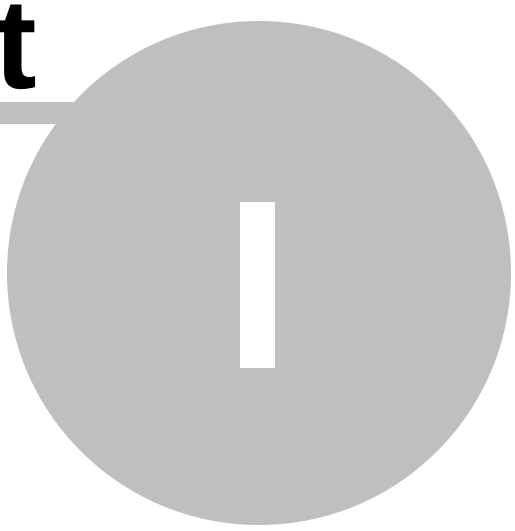
Permissions ... 170
UI personalization ... 176

Internals and API 180

Overview ... 180
Web analytics ... 180
Database tables ... 180
API classes ... 182
Logging conversions using the API ... 183
Contact management ... 184
Database tables ... 184
API classes ... 185
API examples ... 187
Overview ... 187
Managing contacts ... 188
Managing contact groups ... 195
Managing contact roles ... 199
Managing contact statuses ... 201
Managing accounts ... 203
Managing account statuses ... 207
Managing activities ... 209
A/B testing ... 212
Database tables ... 212
API classes ... 213
MVT testing ... 213
Database tables ... 213
API classes ... 214
Content personalization ... 215
Database tables ... 215
API classes ... 216
Newsletters ... 216
Database tables ... 216
API classes ... 218
On-line marketing macros ... 219

© 2012 Kentico Software

Part



Introduction

1 Introduction

1.1 About this guide

This guide contains information about on-line marketing features of Kentico Enterprise Marketing Solution, the full-featured on-line marketing tool based on Kentico CMS. It will guide you through the basics of all the on-line marketing features and explain how your website can benefit from using them. It will also navigate you through the related sections of the user interface and provide step-by-step examples that can be tried out in order to get hands-on experience and see how they behave in real-world scenarios.

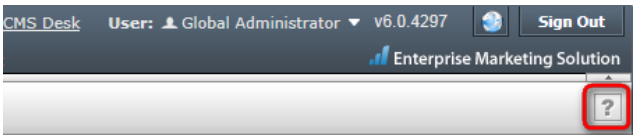
To be able to understand the content of this guide, it is highly recommended to be already familiar with the basics of Kentico CMS. If you are completely new to Kentico CMS and have no previous experience with it, we recommend you to go through Kentico CMS Tutorial before proceeding further in this guide.

In the On-line marketing features topic, individual features are listed with links leading to their dedicated chapters. Before going through the related step-by-step examples and trying out their functionality on your Kentico CMS instance, it is recommended to install the sample Corporate Site and adjust on-line marketing settings to make the features are enabled. It is also recommended to see the First sight topic in order to get familiar with the sections of the user interface where the on-line marketing features are located.

Built-in Context Help

Basic documentation of particular sections of the system's user interface can be found in Kentico CMS Context Help. It is useful in case that you need a quick explanation of the currently used functionality.

If you click the ? icon in the top right corner of each UI screen, you get redirected to the appropriate Context Help page which describes the current UI screen. The Context Help is embedded in the web project, so you don't even need to have Internet connection to view it.



© 2012 Kentico Software

1.2 On-line marketing features

Kentico Enterprise Marketing Solution provides the following features related to on-line marketing:

- Web analytics - measure and analyze key metrics of your website such as visits, page views, file downloads, traffic sources, etc.
  - Conversions - track actions performed by your website's visitors (e.g. user registration, product order, etc.) and record them as conversions.
  - Campaigns - accurately monitor traffic generated by individual on-line marketing campaigns (e.g. banners, marketing e-mails, etc.).
  - Reporting - view analytics data presented in highly flexible reports that contain various kinds of charts and tables.

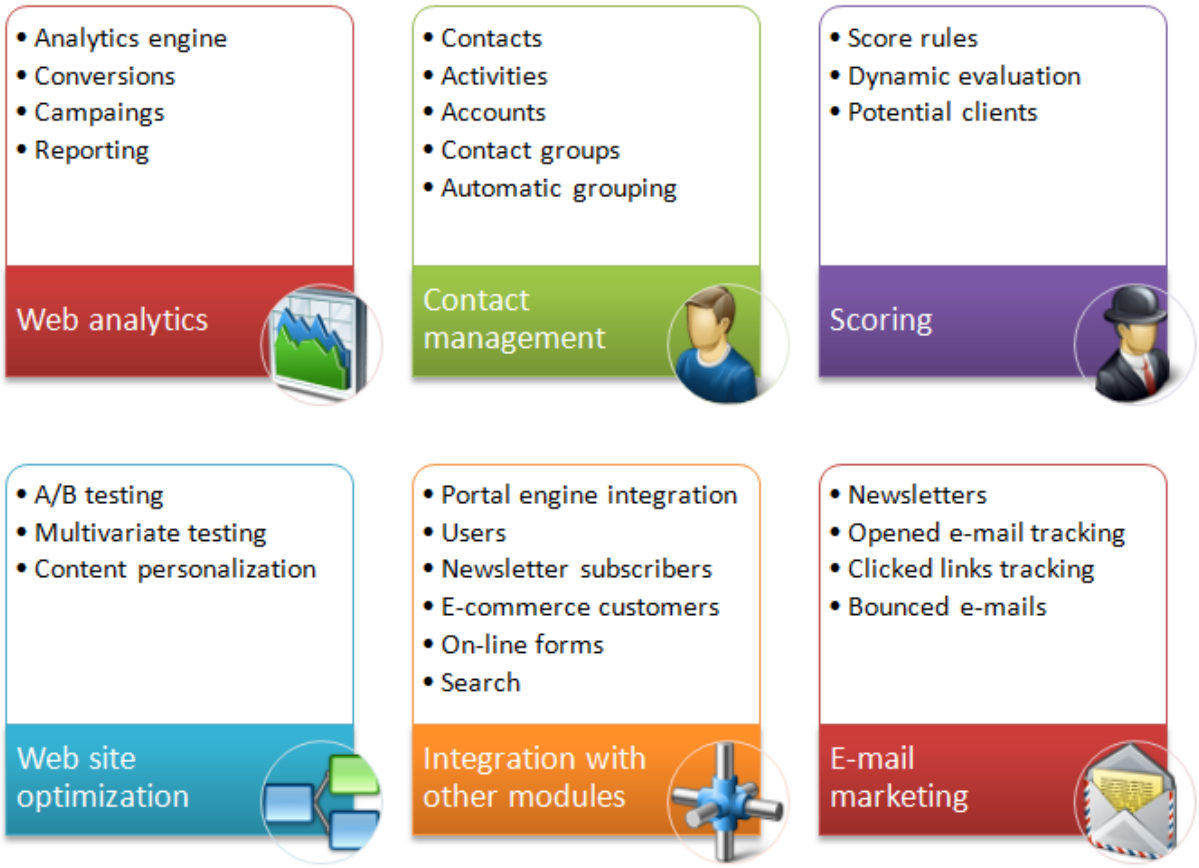
- Contact management - centralized overview of all users who visit your website, used to gather information about them and their activities on the website.
  - Contacts - individuals who visit the website and about whom information is gathered.
  - Accounts - companies or other commercial or non-commercial bodies where contacts operate.
  - Contact groups - organizational units that can be used to group contacts or accounts based on various criteria.
  - Merging - merge contacts or accounts into one in order to avoid duplicities.
  - Activities - analyze behavior and actions that contacts perform on the website.

- Scoring - numerically evaluate individual contacts on multiple scales based on their properties and activities.

- Website optimization - create different versions of pages and evaluate them according to the behavior of the website visitors.
  - A/B testing - create one or more modified versions of a given page, diversify traffic to them and track how individual versions affect behavior of website visitors.
  - Multivariate testing - create different versions of elements on a page and track which versions produce the best results when displayed to website visitors.

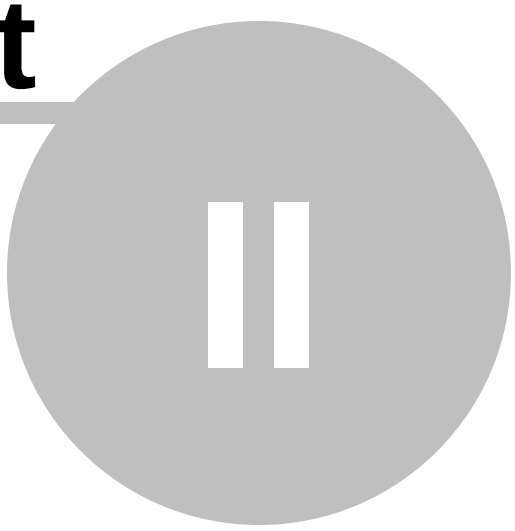
- Content personalization - create pages that display different content depending on the circumstances in which they are viewed.
- E-mail marketing - attract new customers to your website or keep in touch with existing clients by sending marketing e-mails.
- Security - allow access to user interfaces of on-line marketing features only to certain users.
- Internals and API - modify or enhance the out-of-the-box functionality by your custom code using Kentico CMS API.

© 2012 Kentico Software



© 2012 Kentico Software

Part



Getting started

2 Getting started

2.1 Installing the sample Corporate Site

Examples in this guide are based on the sample **Corporate Site**. It is therefore recommended to have this website installed in order to try out the examples in practice. This topic provides information on how to get the website installed and is divided into two parts, depending on if you already have Kentico CMS installed (but without the Corporate Site), or if you are performing a completely new installation.

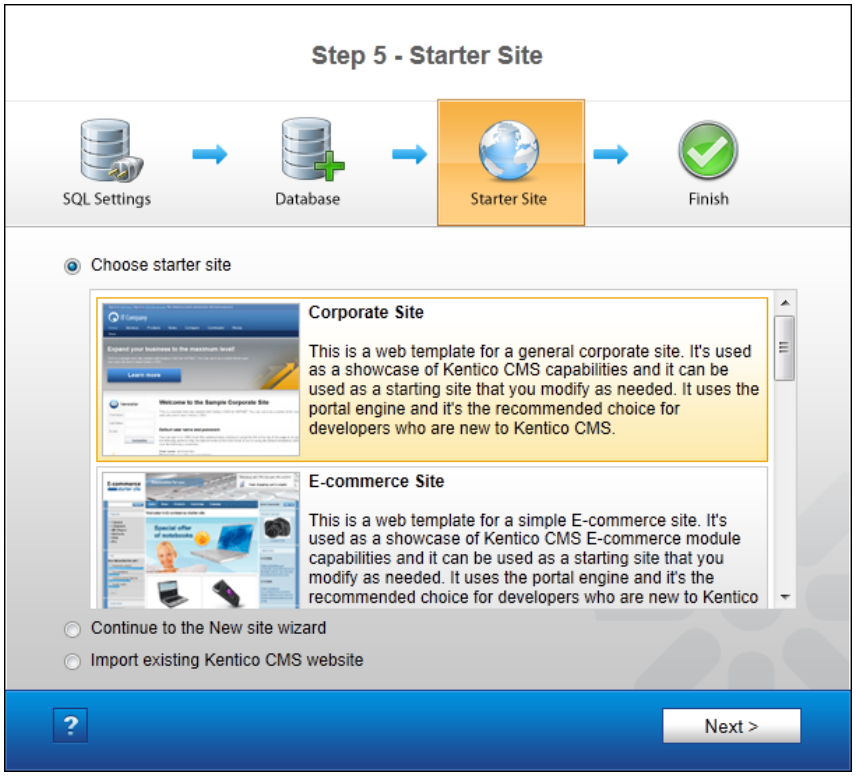
New Kentico CMS installation

Installation of Kentico CMS is fully described in Developer's Guide -> Installation and deployment. The following points sum up which steps need to be taken in order to perform the installation and provide links to the relevant topics in that chapter of the Developer's Guide:

1. Launch *KenticoCMS_<version>.exe* and follow the instruction in Installation procedure -> Setup (KenticoCMS.exe).

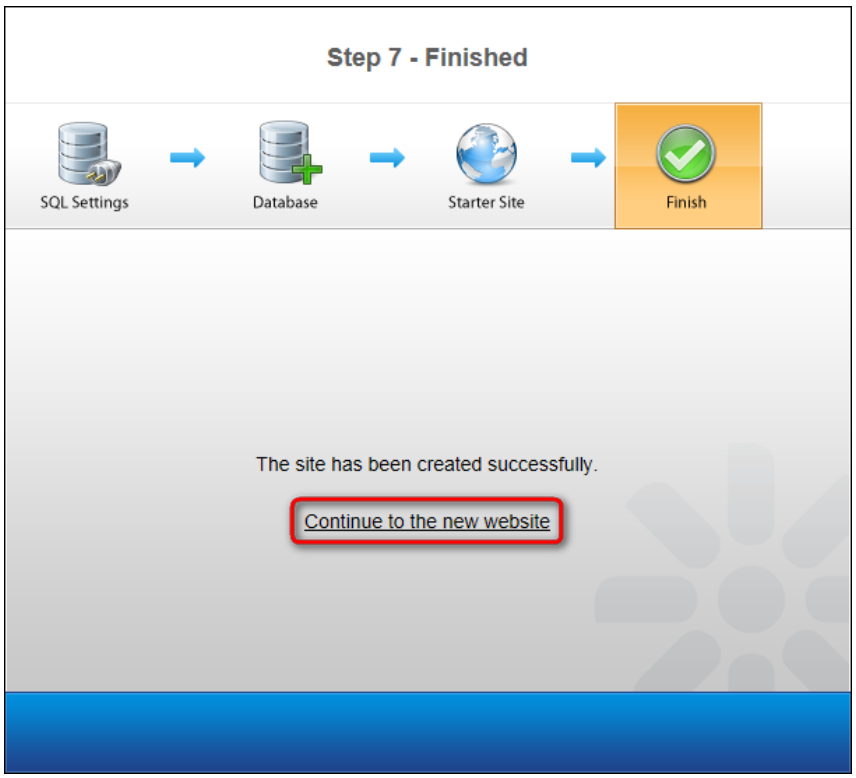
2. Once the setup finishes, launch *Kentico CMS Web Installer* and follow the instructions in Installation procedure -> Web installer.

3. When the *Web Installer* is finished, access the URL of the new website. The first step of the **Database Setup** will be displayed. Follow the instructions in Installation procedure -> Database setup, until you reach the **Starter Site** step (the number of the step may vary). In this step, select the **Choose starter site** option and choose the **Corporate Site** sample site. Click **Next** to continue.



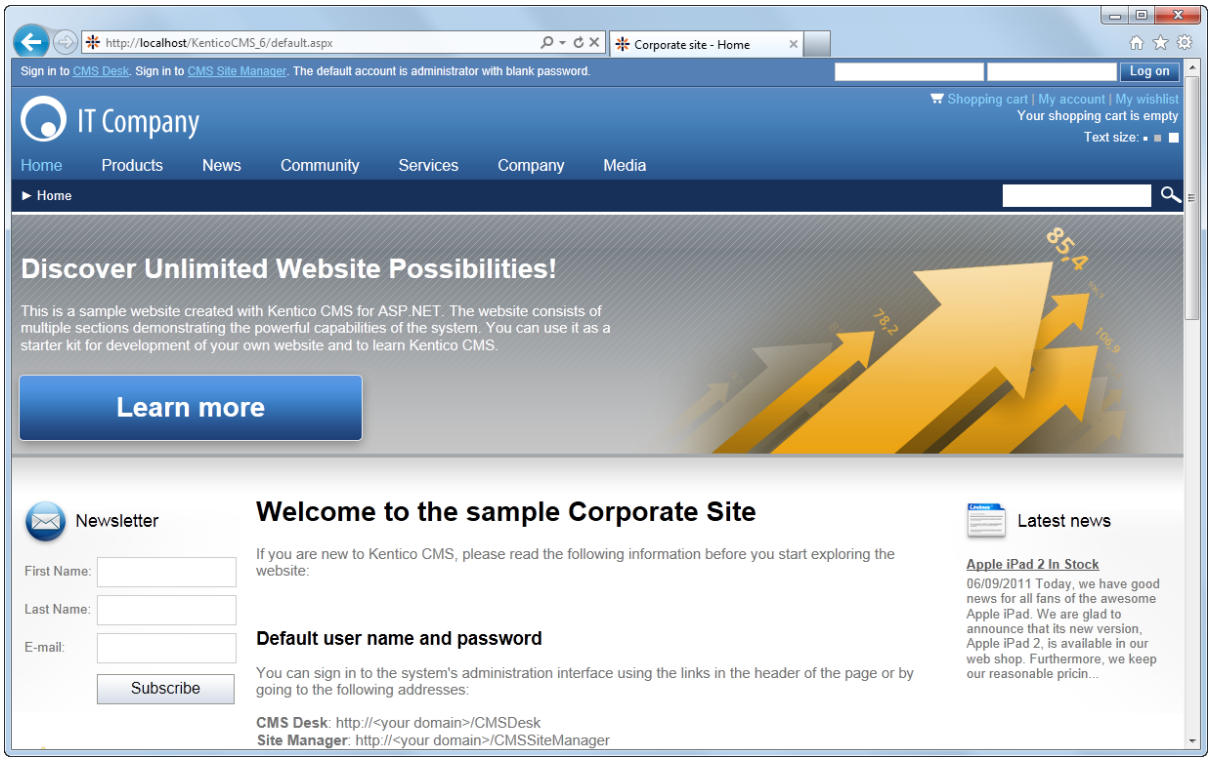
© 2012 Kentico Software

4. Wait until the **Database Setup** finishes importing the site. Once finished, the **Finished** step will be displayed. Click the **Continue to the new website** link highlighted in the screenshot below.



5. You will be redirected to the **Home** page of the website.

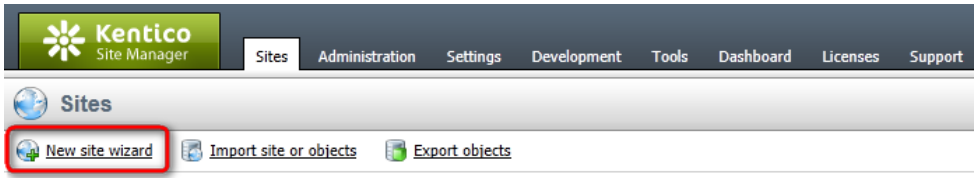
© 2012 Kentico Software



Existing Kentico CMS installation

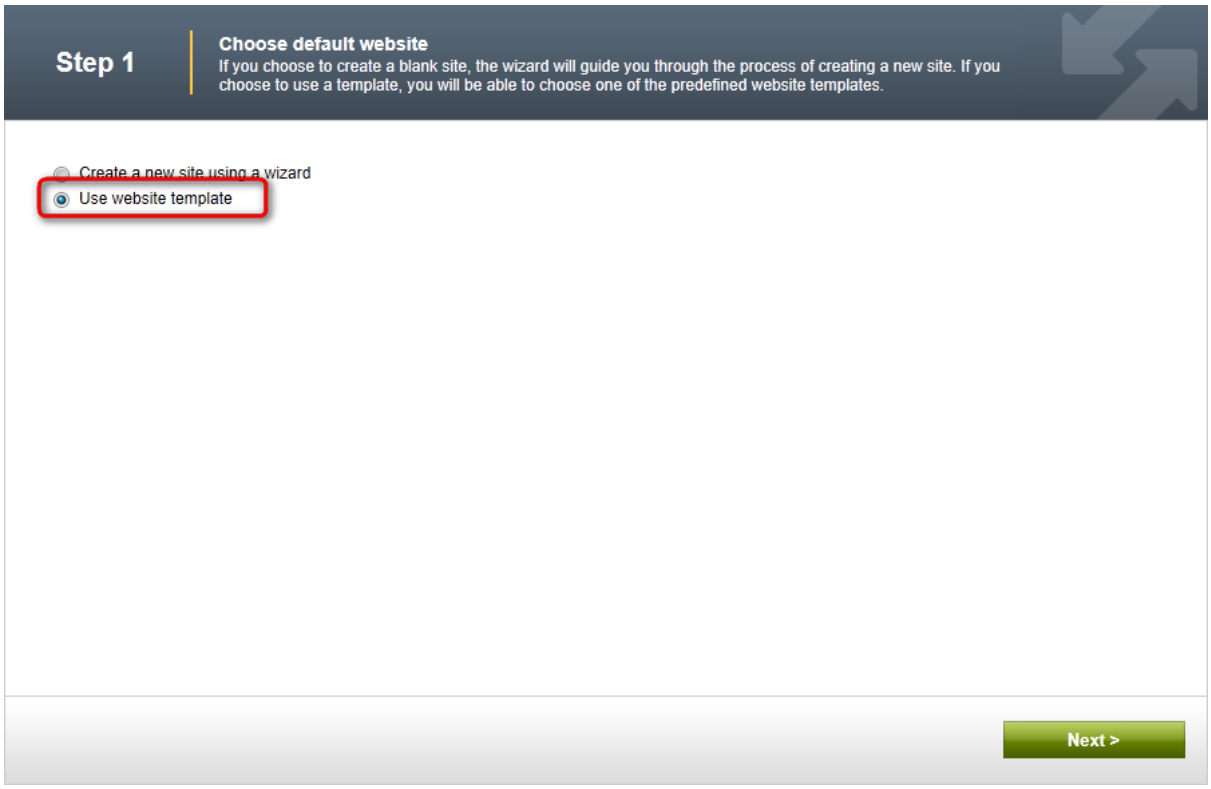
If you already have Kentico CMS installed, but without the sample Corporate Site, you can add it using the New site wizard.

1. Log on to **Site Manager** and on the **Sites** tab, click the **New site wizard** link.

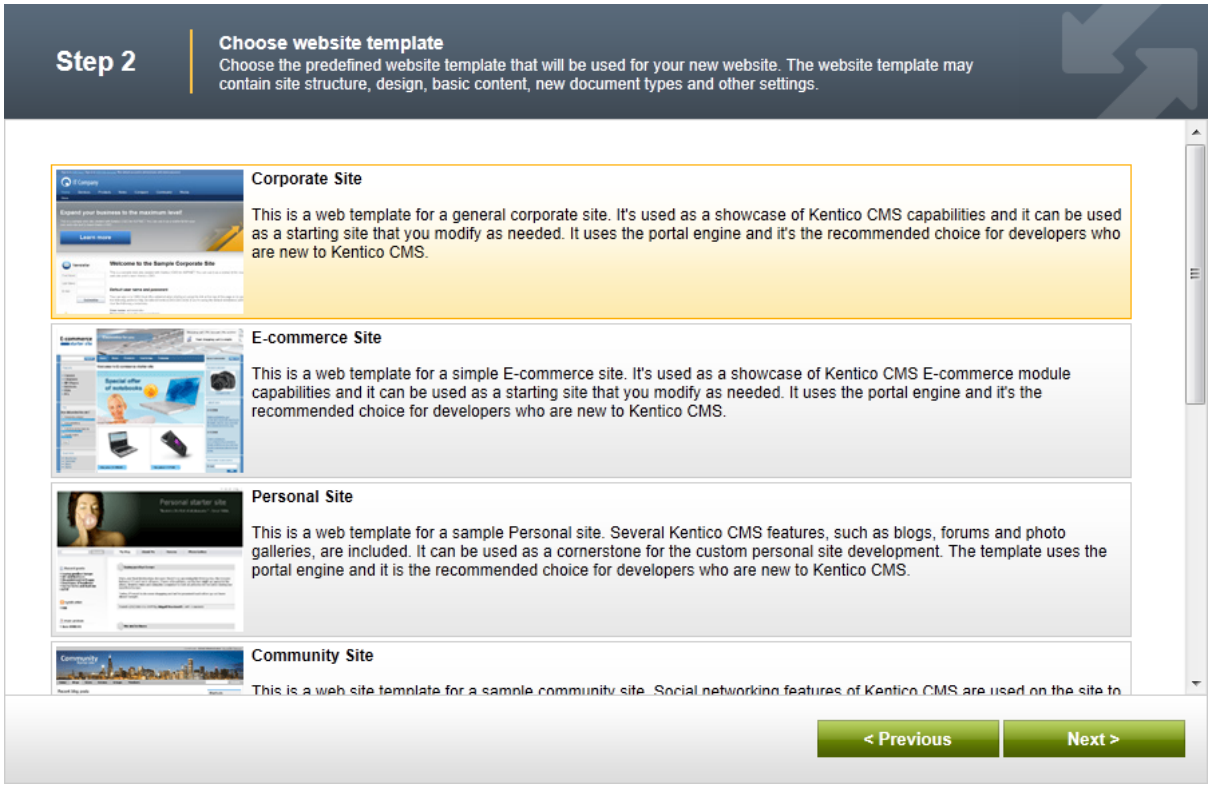


2. In the first step of the wizard, choose the **Use web site template** option and click **Next**.

© 2012 Kentico Software

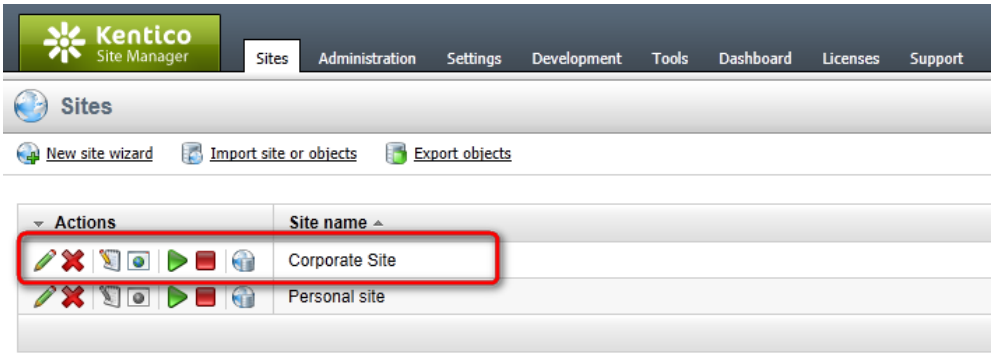


3. In **Step 2**, choose **Corporate Site** from the list of available website templates and click **Next**.

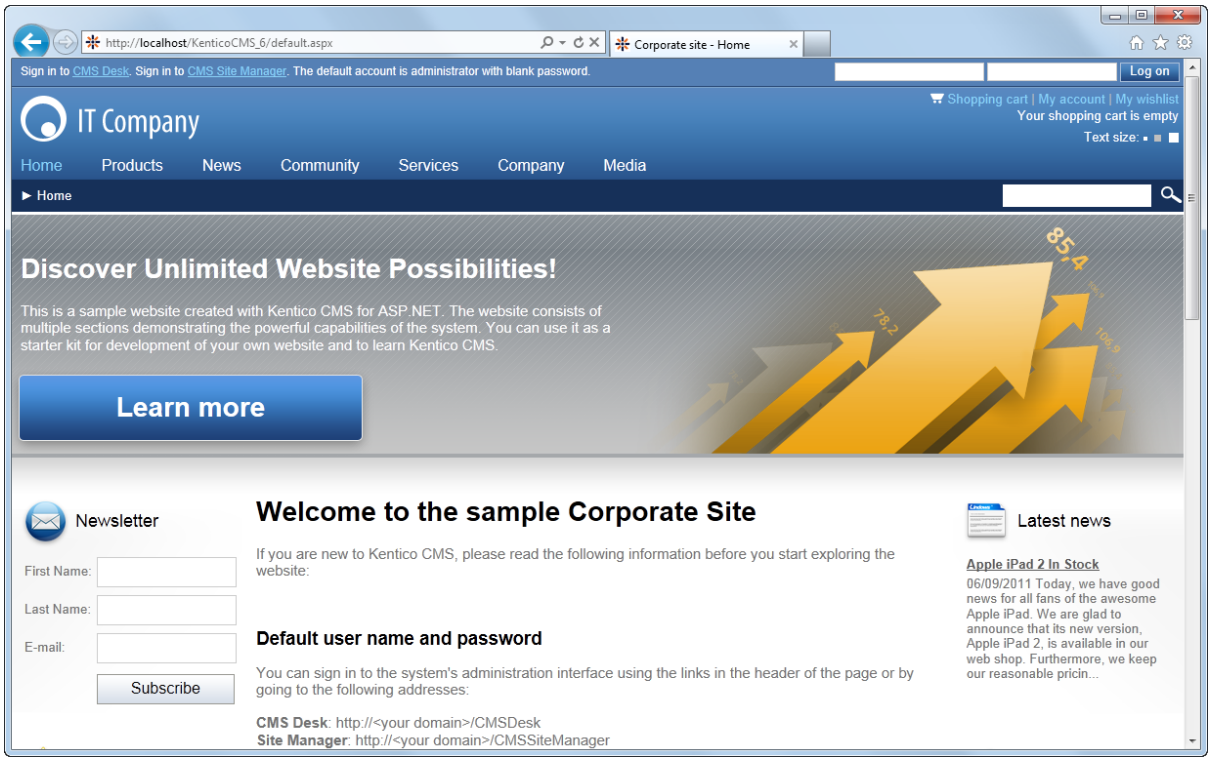


© 2012 Kentico Software

4. Go through the rest of the wizard as described in Developer's Guide -> ... -> New site wizard -> Website template. It is recommended to leave the default settings unless you really need to change them according to your specific requirements. Once the wizard finishes, you should see the website present in the list of websites in **Site Manager -> Sites**.



5. Sign out of the administration interface (use the **Sign out** button at the top right corner of the UI). You will be redirected to the **Home** page of the website.



2.2 Enabling On-line marketing

This topic explains the configuration required to enable the on-line marketing features of Kentico CMS. It only mentions the most important settings necessary to get the examples in the following chapters working and produce meaningful results. Detailed information about all the available settings can be found in the respective chapters of this guide.

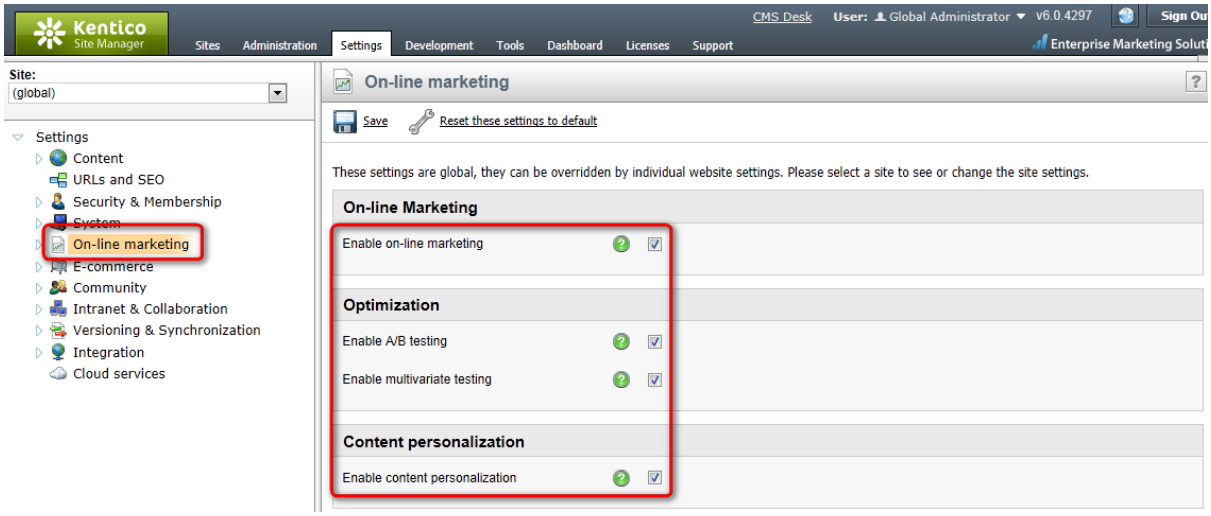
1. Go to **Site Manager -> Settings**. In the Site drop-down list, you can either leave the **(global)** option

© 2012 Kentico Software

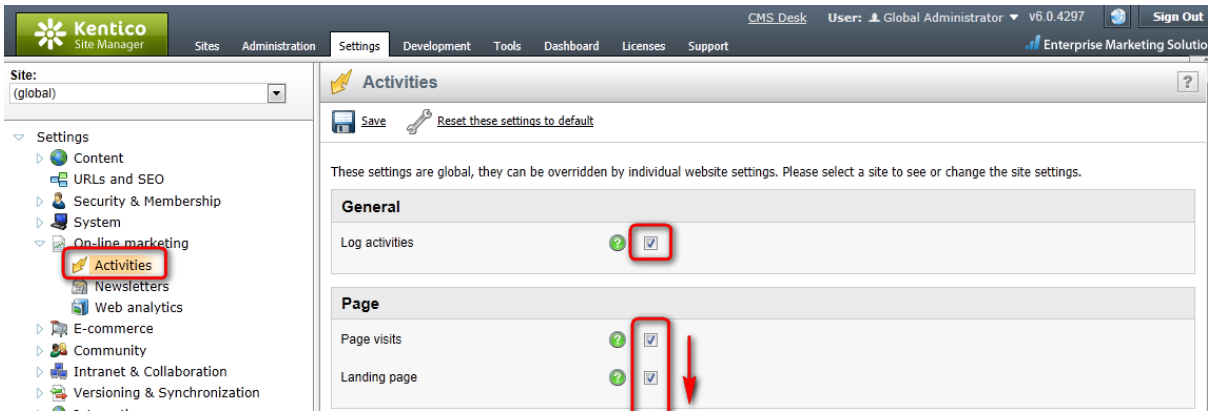
selected and let the global settings be inherited by the Corporate Site, or you can choose **Corporate Site** and adjust the settings only for it in case that you do not want other websites running in the system to be affected. Then choose the **On-line marketing** category in the tree on the left and make sure to enable the following settings:

- **Enable on-line marketing**: enabled
- **Enable A/B testing**: enabled
- **Enable multivariate testing**: enabled
- **Enable content personalization**: enabled

Leave the rest of the settings at their default values and click **Save**.



2. Switch to the **On-line marketing -> Activities** category. Here, make sure that the **Log activities** option is enabled and that logging of all possible types of activities is also enabled by the check-boxes below.



3. Finally, switch to the **On-line marketing -> Newsletters** category and configure the options as described in E-mail marketing -> Monitoring bounced e-mails -> Configuration.

Immediate logging of activities

It is also recommended to add the following key to the *appSettings* section of your projects's *web.config*

file:

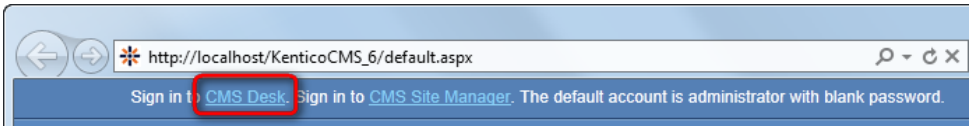
```
<add key="CMSLogActivityImmediatelyToDB" value="true" />
```

This key ensures that activities are logged directly into the system database instead of being logged into a file and periodically batch-processed by a scheduled task. This may generate additional load on the system database, but results in minimal delays in displaying of activity-related data (e.g. activity-based rules in Scoring). It is therefore recommended to use the key when going through the examples in this guide in order to see activity-related results in the user interface immediately.

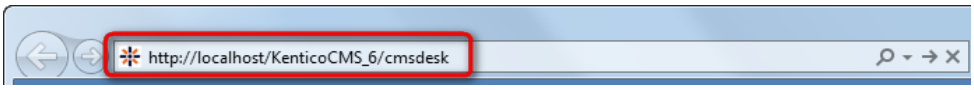
2.3 First sight

Once you have Kentico CMS and the sample Corporate Site installed, it is a good idea to get familiar with the parts of Kentico CMS user interface where the on-line marketing features are located.

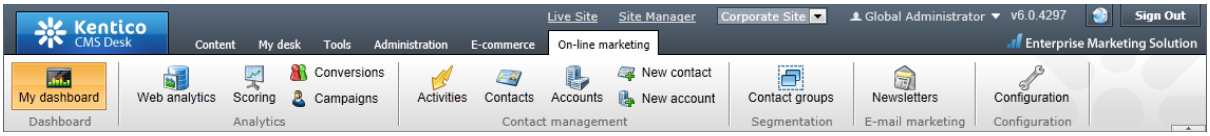
1. To get started, log on to **CMS Desk**. This can be done either by clicking the **CMS Desk** link in the header of the sample Corporate Site ...



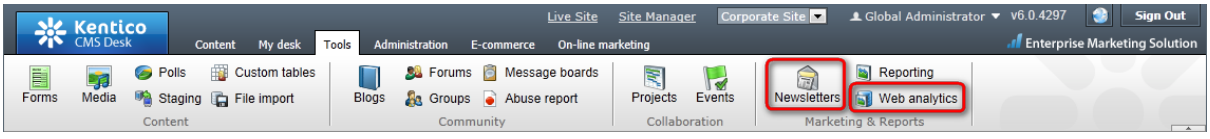
... or by directly entering an address in the following format into your browser's address bar: **http://<website domain>/cmsdesk**



2. Once in **CMS Desk**, navigate to the **On-line marketing** tab. This is the main on-line marketing user interface which encapsulates user interfaces of the most of the on-line marketing features. You can access the individual features using the ribbon toolbar at the top of the screen.

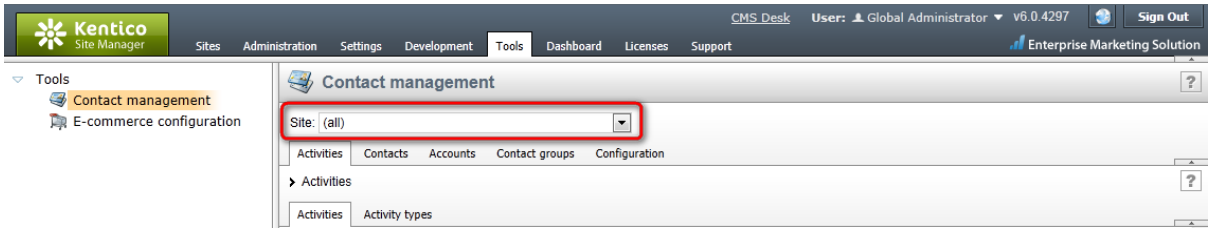


3. The **Web analytics**, **Conversions**, **Campaigns** and **Newsletters** features have duplicate user interfaces also on the **Tools** tab in **CMS Desk**. These user interfaces are identical to the ones on the **On-line marketing** tab, they provide the same options and display the same data. Please note that **Conversions** and **Campaigns** are embedded under **Web analytics** interface on the **Tools** tab.

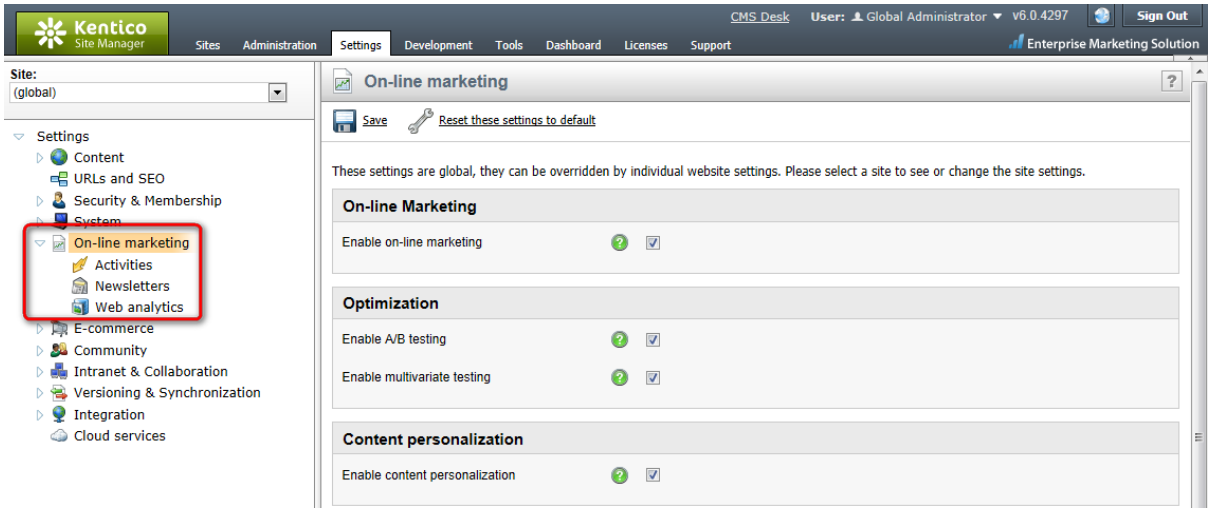


4. The above mentioned interfaces are site-specific, which means that they provide functionality related only to the website currently edited in CMS Desk. In **Site Manager -> Tools -> Contact management**

, there is a global user interface which enables management of Contact management objects and configuration for all websites running in the system. Depending on the selection made in the **Site** drop-down list, you can choose if you want the UI to be related to a specific site, to global objects shared by all websites running in the system, or to all websites running in the system.

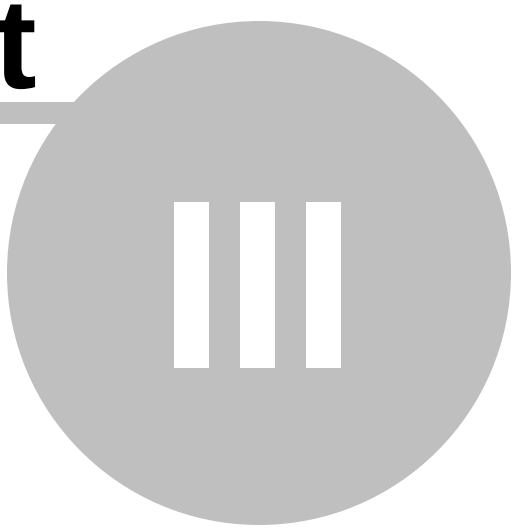


5. Finally, there is a number of settings that can modify behavior of the on-line marketing features of Kentico CMS. These settings can be adjusted in **Site Manager -> Settings** and are located under the **On-line marketing** settings category highlighted in the screenshot below. You can learn more about them in the Enabling On-line marketing topic.



© 2012 Kentico Software

Part



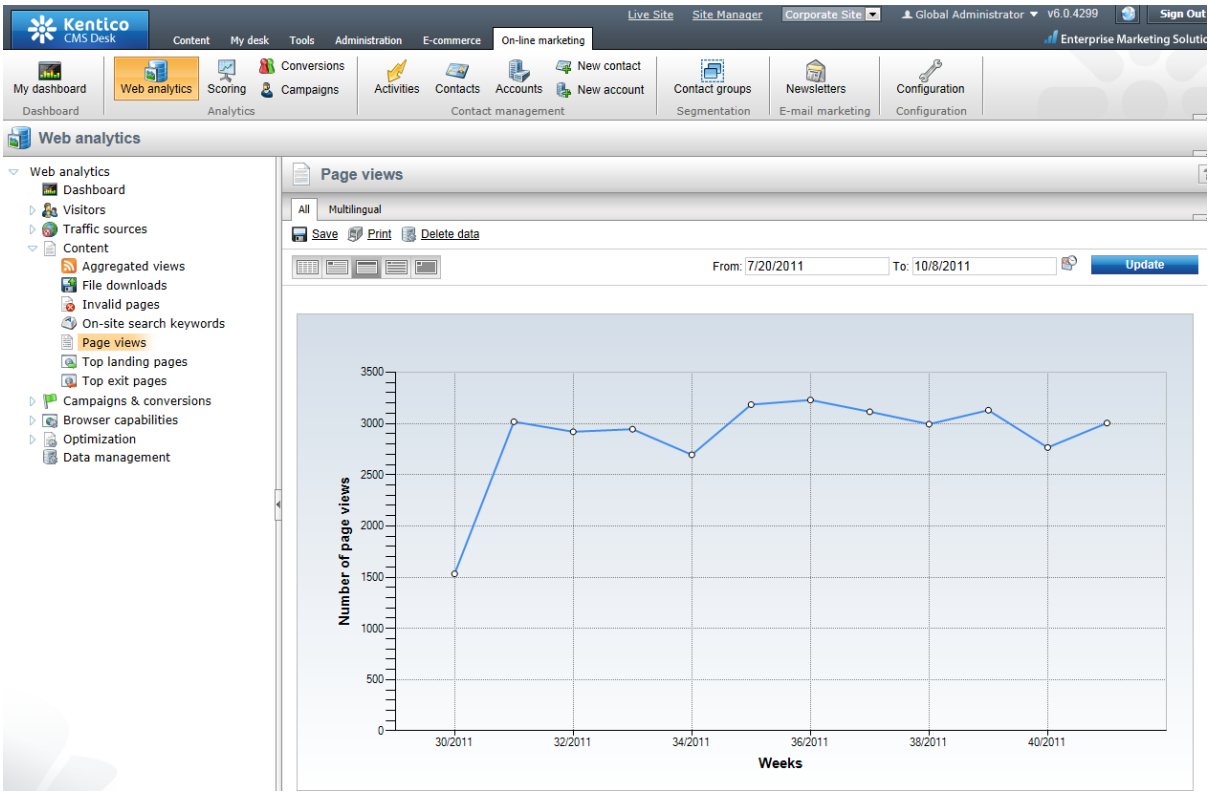
Web analytics

3 Web analytics

3.1 Overview

The web analytics module provides a way to measure and later analyze key metrics of your website such as visits, page views, file downloads, traffic sources and much more. Monitoring is only done on the live site, so actions that take place on the pages belonging to the Kentico CMS administration interface (CMS Desk and Site Manager) are not included in the statistics.

The web analytics interface can be accessed in **CMS Desk -> On-line marketing -> Web Analytics**. As you can see in the screenshot below, there are various types of statistics available that keep track of certain events that occur on the website. When you select a statistic, the corresponding data is displayed in a report.



In addition to measuring various statistics for the website and its pages, web analytics are also used by several other on-line marketing features, including Conversions, Campaigns and Website optimization (A/B or multivariate testing).

To learn about all available features of the web analytics module, its internal mechanics and advanced configuration or customization options, please refer to the full documentation that can be found in the Modules -> Web analytics chapter of the Kentico CMS Developer's Guide.

© 2012 Kentico Software

3.2 Using web analytics reports

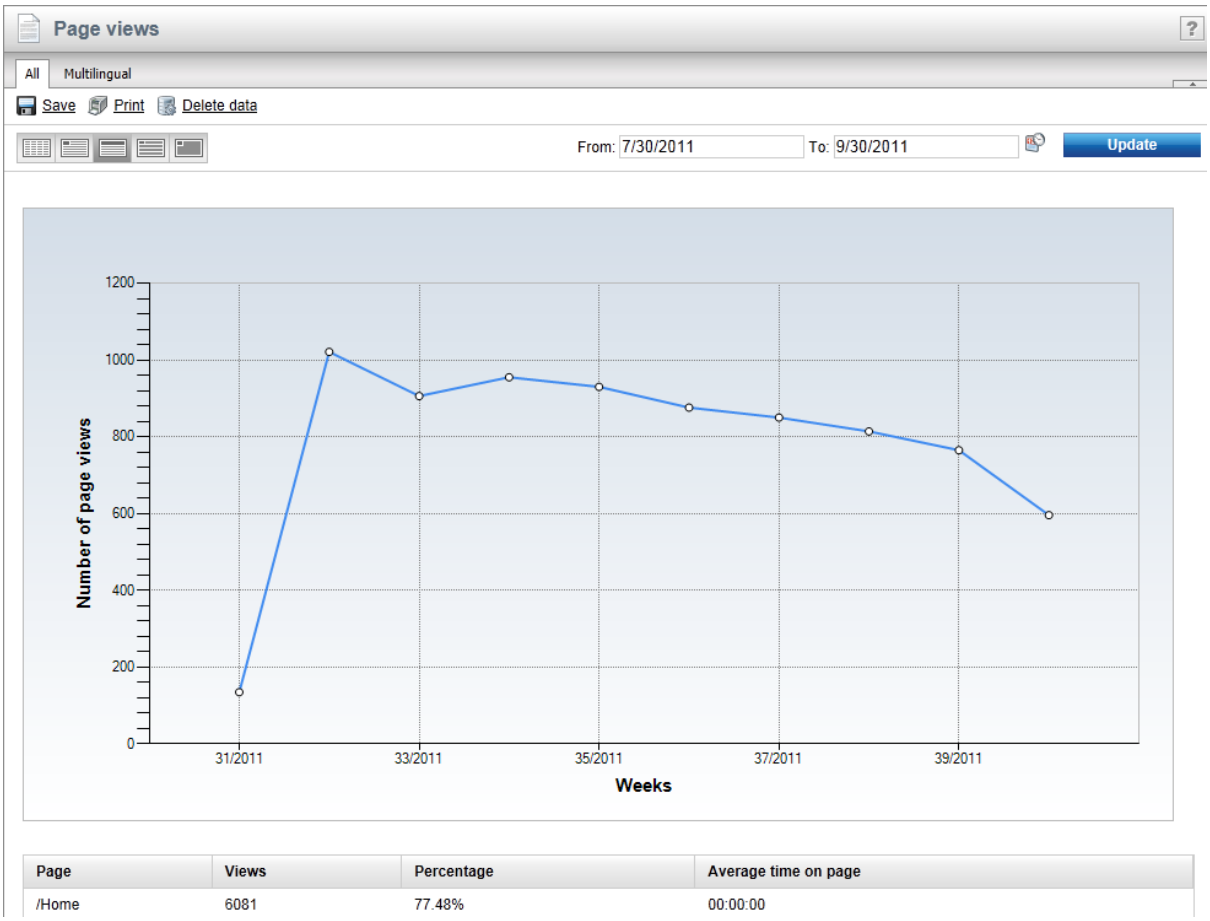
The data logged for web analytics statistics is presented in highly flexible reports that contain various kinds of charts and tables. The same type of reports are also used to display the results of other related on-line marketing features, such as campaigns and website optimization tests.

When viewing a web analytics report, the **From** and **To** fields on the right can be used to enter a time period. Only hits that were logged for the statistic during the specified interval will be included in the displayed data.

The following options allow you to choose which unit of time should be used in the report:

- **Hour**
- **Day**
- **Week**
- **Month**
- **Year**

This selection determines the length of time which is represented by individual units in the report's graphs (if there are any) and the precision that can be specified in the **From** and **To** fields.



The following actions may also be performed for every report:

© 2012 Kentico Software

- **Save** - saves the report in its current state (according to the selected time interval). To view saved reports at a later time, go to *CMS Desk -> Tools -> Reporting*, select the matching report under the appropriate category and switch to the *Saved reports* tab.
- **Print** - allows the report to be printed. The available options depend on the used browser.
- **Delete data** - may be used to clear the data measured for the given statistic. Please note that this permanently removes the data from the database. This action is only available for users who have the *Manage data* permission for the *Web analytics* module.

The data displayed in the reports may also be exported into external files using various formats. This can be done by right clicking on a graph or table in the given report, which will open a context menu offering the following options:

- **Export to Excel** - exports the data displayed by the given object to an XLSX spreadsheet.
- **Export to CSV** - exports data to a CSV file.
- **Export to XML** - exports data to an XML file.

After you select an action from the menu, your browser's standard file download dialog will pop up, letting you open or save the file with the exported data just like when downloading any other type of file.

© 2012 Kentico Software

Part IV

Conversions

4 Conversions

4.1 Overview

The Web analytics module provides a way to track actions performed by your website's visitors and record them as *conversions*. This is typically done for desired events that somehow benefit the website, such as the registration of a new user, a product order, subscription to a newsletter or similar. Conversions are represented in the system by corresponding tracking objects, which are described in more detail in Managing conversions.

Once an action is defined as a conversion, a *conversion hit* is logged whenever it occurs. Additionally, a numerical value may be stored along with each hit to indicate its importance. To learn how you can assign conversions to individual types of actions and ensure that they are logged correctly, please refer to the Logging actions as conversions topic.

Once you start tracking conversions on the live site, you can compare the recorded data with the values of other statistics, such as the total amount of visitors. This allows you to evaluate the website and adjust it as necessary.

While simply tracking all conversions that occur on the website can be useful, in many cases you may also require additional information about the context in which the given actions occurred. For this reason, conversion tracking is integrated with several other on-line marketing features. When used together with Campaign tracking, conversions allow you to record actions only for visitors who arrive on the website in a specific way (e.g. as a result of a marketing campaign).

If you wish to optimize your site to increase its conversion rate (i.e. make it more user friendly to get better results), you may utilize A/B or Multivariate testing. These features allow you to accurately measure how changes made to the content or structure of your website's pages affect the behavior of users.

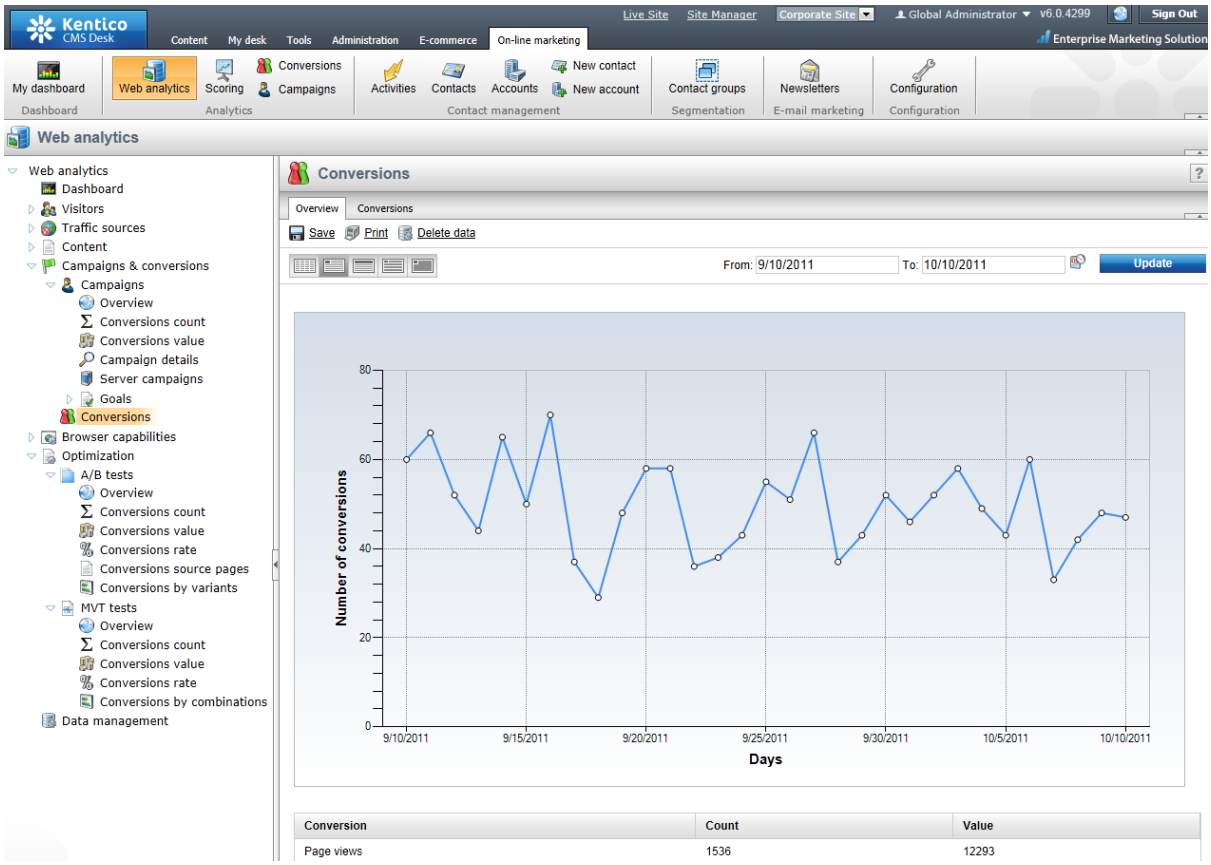
Conversions only record the total statistics of an action and do not store information about the specific users who performed it, or any other details. This advanced type of tracking can however be achieved by using the Contact Management module. It provides a way to log specific actions as Activities, including various information about the context in which the given action occurred.

4.2 Managing conversions

To access the management interface dedicated to conversions, go to **CMS Desk -> On-line marketing -> Web analytics**, expand the **Campaigns & conversions** category in the tree on the left and select **Conversions**. This section of the UI may alternatively be reached by selecting the **Conversions** option directly from the main on-line marketing menu.

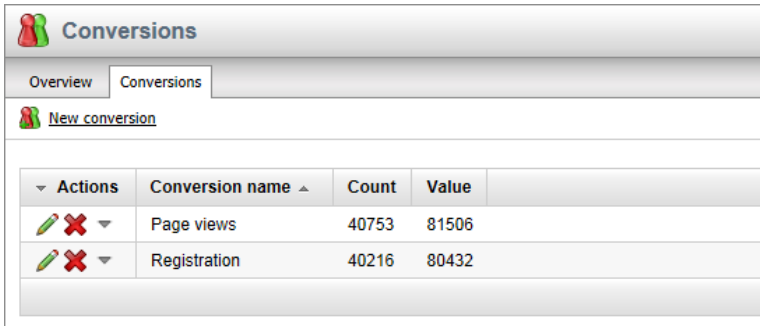
The **Overview** contains a web analytics report displaying the number of conversions that were logged on the website over the specified time period.

© 2012 Kentico Software



This report only provides a general summary of the total conversion statistics. Additional reports with more detailed data for conversions that were logged under special circumstances are available under the **Campaigns** and **Optimization -> A/B tests** or **MVT tests** categories.

If you switch to the **Conversions** tab, you can view a list of all conversions defined for the current site and manage them as necessary.

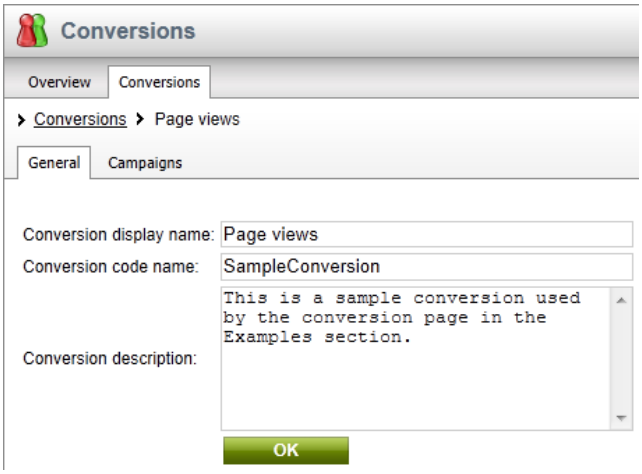


To define a new conversion, click the **New conversion** link and fill in the following properties in the displayed dialog:

- **Conversion display name** - the name of the conversion displayed in the administration interface and in reports.
- **Conversion code name** - sets a code name that serves as a unique identifier for the conversion.
- **Conversion description** - can be used to enter text describing the conversion's purpose.

© 2012 Kentico Software

The entered data may be modified at any time by editing ( ) the given conversion object on the **General** tab.



The **Campaigns** tab allows you to configure which campaigns should track the currently edited conversion as part of their statistics. By default, campaigns log all possible conversions, so it is only necessary to assign campaigns that are configured to work with a limited set of conversions. This type of configuration is not available for A/B or multivariate tests, which automatically keep track of all conversions performed on the website.

As you can see, the objects representing conversions are very simple and do not require any advanced configuration. It is however necessary to assign the conversions to the appropriate actions to ensure that they are logged correctly. This can be done through various other parts of the Kentico CMS administration interface as described in the Logging actions as conversions topic.

4.3 Logging actions as conversions

This topic describes the possible options that may be used to ensure that the system logs specific events as conversions. When assigning a conversion through the user interface, two separate fields are provided.

The first is a standard conversion selector. You can either enter the code name of a conversion into the text box or click the **Select** button to choose from a list of conversions defined for the current site. If you enter a name that does not match any conversion in the system, a conversion with this name will automatically be added. The **New** and **Edit** buttons allow you to create a new conversion or modify the properties of the selected one directly from the given part of the user interface.

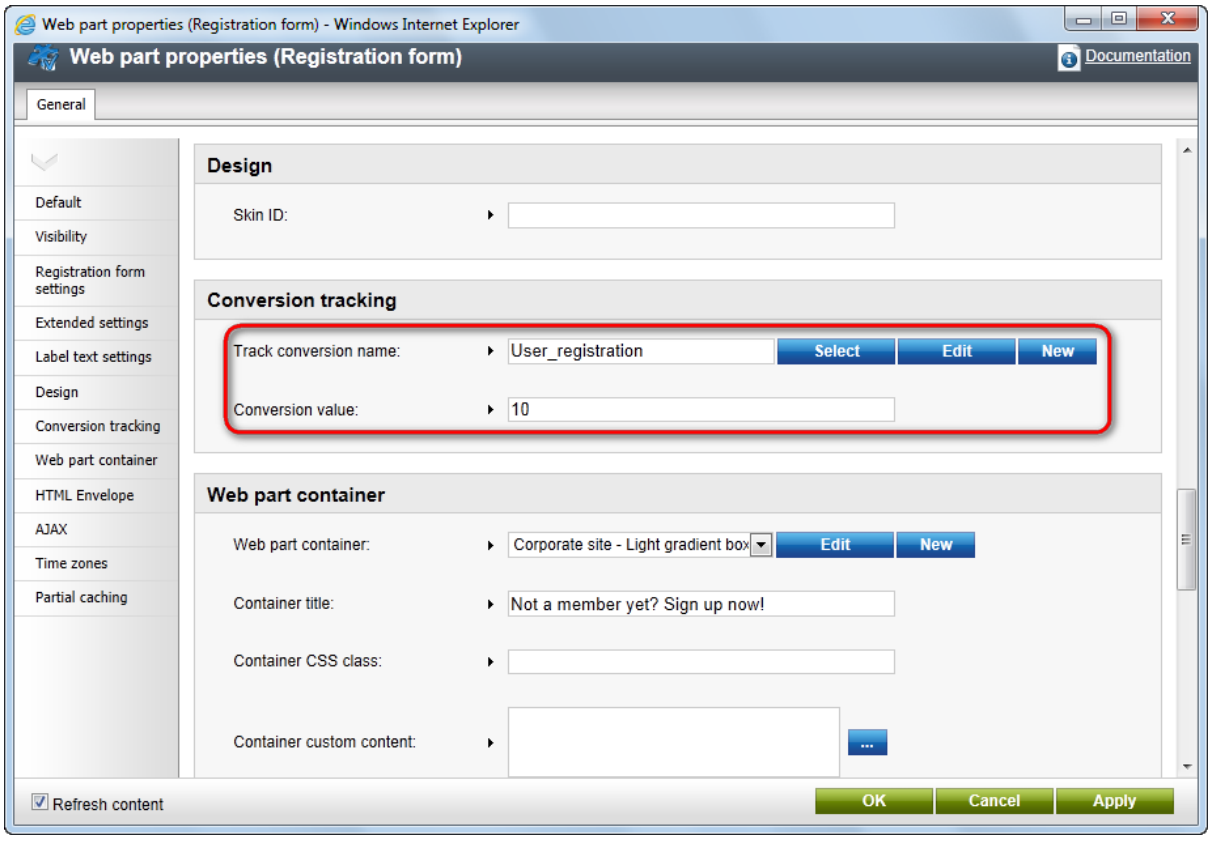
The second field is optional and provides a way to set a number that will be recorded along with the conversion when the tracked action is performed. This may be used to indicate the relative importance of the conversion, the profit generated by a single conversion hit or similar. The values are cumulative, i.e.

© 2012 Kentico Software

when a conversion hit is logged, the specified value will be added to the total sum previously recorded for the conversion. You may insert a Macro expression into this field to dynamically retrieve a value from the current site context. For examples of conversion value macros, please see the sections below dedicated to individual types of actions.

Web part and widget actions

Many of the default Kentico CMS Web parts and Widgets that allow users to perform important actions come with built-in support for conversion tracking. To configure a specific web part or widget instance to log actions as conversions, open its properties dialog and enter the appropriate values into the **Track conversion name** and **Conversion value** properties.



Below you can find a list of all types of actions that can be tracked as conversions through web parts:

Action	Web part(s)
User registration	In this case, the conversion will be logged when a visitor successfully completes their registration using the given web part. There are multiple web parts that allow users to register on the website: • Registration form • Custom registration form • Facebook Connect logon and Facebook Connect required data • LinkedIn logon and LinkedIn required data • Windows LiveID and LiveID required data

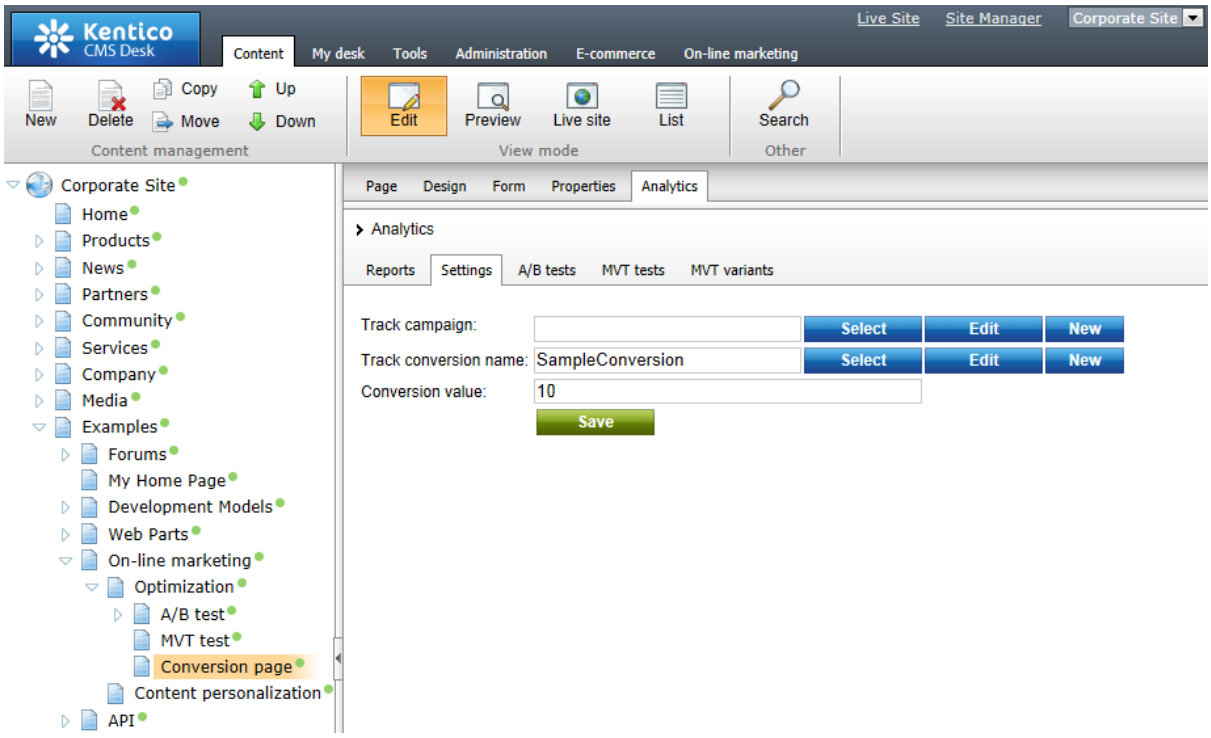
© 2012 Kentico Software

	• OpenID logon and OpenID required data
Newsletter subscription	Newsletter subscriptions may be tracked as conversions through the Newsletter subscription web part. This can also be done for the widget based on this web part.
Shopping cart actions	The Shopping cart web part can be used to track three types of events: • **Registration** - occurs when a customer registers on the website through the shopping cart. • **Order** - logged when a customer successfully completes an order through the shopping cart. • **Add to shopping cart** - occurs when a user adds a product to the shopping cart. You can assign a different conversion and value to each of these actions through the appropriate **conversion name** and **conversion value** properties. The conversion value properties support macro expressions, for example: **Order conversion value**: *{%EcommerceContext.CurrentShoppingCart.TotalPrice%}* This macro is resolved into the total price of all items contained in the order, including tax and shipping. With this configuration, each *Order* conversion will automatically store the price of the given order as its value. **Add to shopping cart conversion value**: *{%ShoppingCartItemInfo.UnitTotalPrice%}* With this macro as the conversion value, the *Add to shopping cart* conversion will log the price (including tax) of the specific product that was added to the shopping cart.
Filling in an on-line form	A conversion can be logged when a user submits a form displayed by the On-line form web part.
Voting in a poll	The Poll web part may be used to log a conversion whenever a user votes in the displayed poll.

Page views of specific documents

You can also use conversions to keep track of the amount of hits received by individual pages. To configure this behaviour for a page, go to **CMS Desk -> Content -> Edit**, select the document representing the given page from the content tree and switch to its **Analytics -> Settings** tab. To assign a conversion and associated value, fill in the **Track conversion name** and **Conversion value** fields as described above.

© 2012 Kentico Software

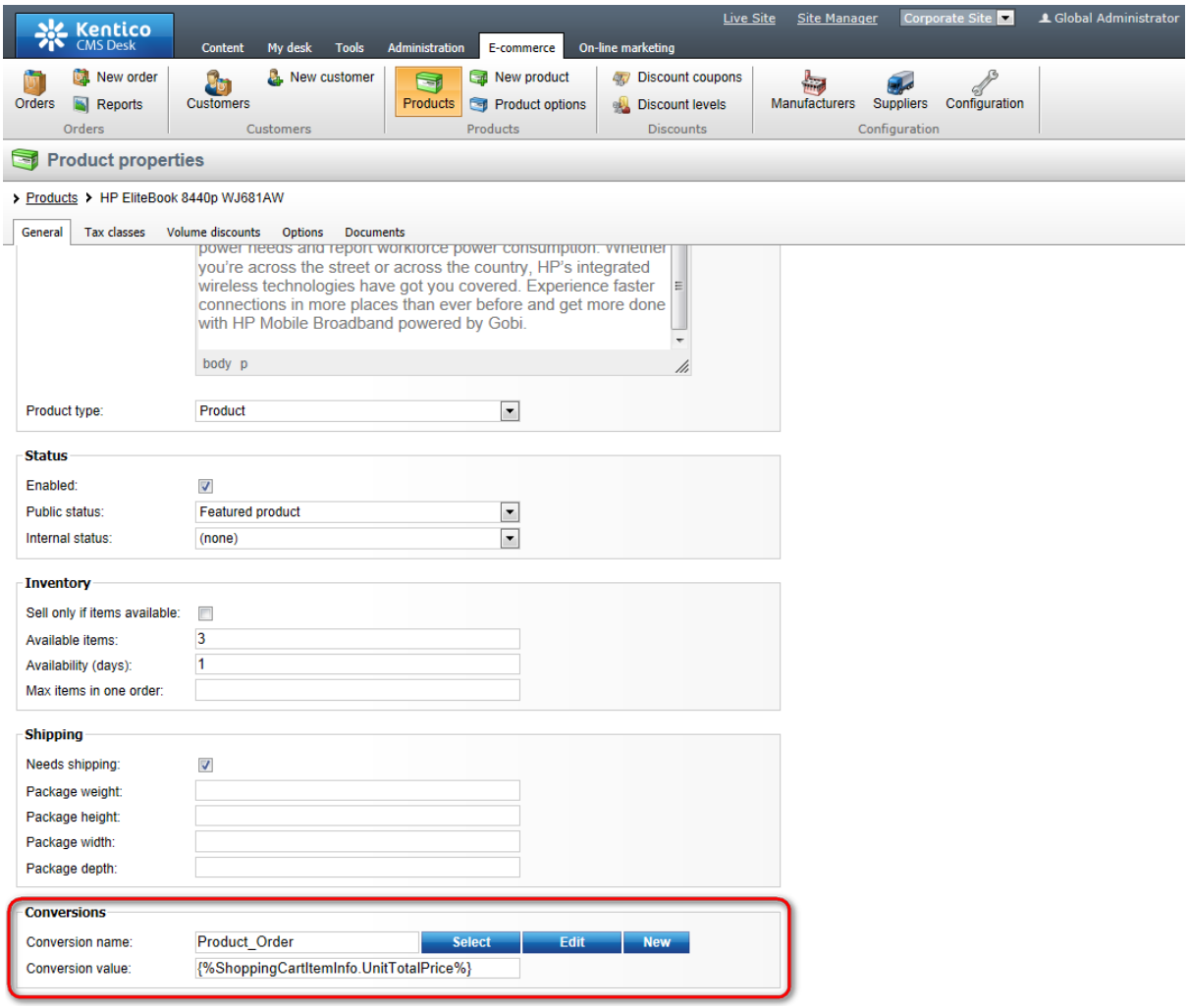


The specified conversion will be logged every time the given page is opened by the website's users. You can find an example of such a page on the sample Corporate Site under the **Examples** sections as shown in the image above.

E-commerce product orders

The **Shopping cart** web part allows you to track entire orders, but in some cases you may wish to log a separate conversion hit every time a product of a specific type is purchased. This can be done by navigating to the product list in **CMS Desk -> E-commerce -> Products** and editing (🖉) the particular product (or by selecting a product document in the content tree and editing it on the **Product -> General** tab).

© 2012 Kentico Software



Here you can assign a conversion through the **Conversion name** property at the bottom of the product's editing page.

The **Conversion value** field can be used to enter an appropriate value that will be recorded for each conversion hit. You may enter a macro expression here, for example: *{%ShoppingCartItemInfo.UnitTotalPrice%}.* This macro allows the conversion to log the price of the given product as its value. The advantage of a macro is that it retrieves the price dynamically, including tax and any potential discounts applied by the given customer.

Please note that these properties are not available for global products, since each site has its own separate set of conversions.

You can also use the same approach to configure different conversion settings for individual product options (via **E-commerce -> Product options -> edit Category -> Options**).

© 2012 Kentico Software

Part V

Campaigns

5 Campaigns

5.1 Overview

One of the most common techniques used to bring new traffic to a website are on-line marketing campaigns. When attempting to determine if a campaign was cost-effective or when measuring its exact results, simply tracking referring sites or URLs may not always provide sufficient data.

In these cases, the campaign tracking support provided by the Web analytics module of Kentico CMS may be used, which allows you to accurately monitor traffic generated by individual campaigns. This can include banners, marketing e-mails or any other method used to present links to your website. In addition to logging the amount of visits, this feature lets you keep records of any important actions performed on the website by users who arrive as a result of a campaign.

How the tracking works

There are several ways to identify visitors who come to your site through a campaign link (further details can be found in the Managing campaigns (Example) topic). When this happens, the system updates the visit statistics and stores a cookie named **Campaign** in the user's browser, which saves the name of the corresponding campaign tracking object as its value. Only one campaign may be assigned to a user at a given time and the current value is overwritten if the user returns to the site through a different campaign.

Until the cookie expires (its duration is 24 hours), any actions performed by the visitor that are defined as conversions will be logged as part of the statistics kept for the campaign. Please refer to the Conversions chapter for information about how the tracking of individual actions can be configured.

The currently active campaign will also be stored among the details of any Activities that are logged by the Contact management module.

If the visitor registers on the website while the cookie is still valid, the name of the currently active campaign will be permanently stored in their user settings (administrators may view the value in **Administration -> edit (✎) user -> Settings -> Campaign**). This data field only serves to provide information about users and is not used to track activity on the website.

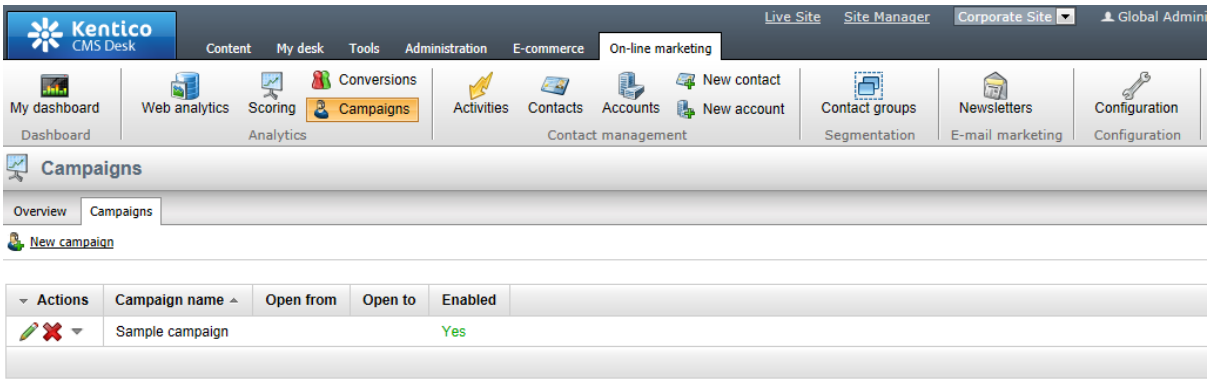
Campaign statistics and results can be viewed using special reports available in the web analytics interface, which are described in the Evaluating campaigns topic.

5.2 Managing campaigns (Example)

Each marketing campaign is represented in the system by a corresponding object. To configure these objects, go to **CMS Desk -> On-line marketing** and select **Campaigns** from the menu. Then, switch to the **Campaigns** tab, where you can view a list of all campaigns defined for the current website and manage them as needed.

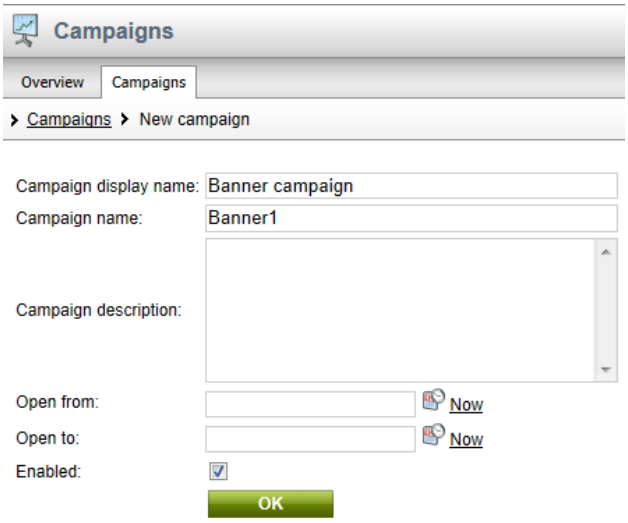
By default, the Corporate Site contains a single campaign called **Sample campaign**.

© 2012 Kentico Software



To better demonstrate the functionality of campaigns, we will need two additional ones. Click the **New campaign** link to create a new campaign and fill in the following properties:

- **Campaign display name**: *Banner campaign*; the name of the campaign displayed in the administration interface (in campaign lists and reports).
- **Campaign name**: *Banner1*; sets a code name that serves as a unique identifier for the campaign. It is also stored as the value of the *Campaign* browser cookie used to identify visitors who came to the website through the given campaign.
- **Campaign description** - can be used to enter a text description for the campaign in order to give information about its purpose, goals etc. You may leave this empty.
- **Open from/to** - sets the time interval during which the campaign should be active. The *Calendar* button () can be used to select an exact date and time. Leave these empty for this example.
- **Enabled** - this property may be used to manually start or stop the campaign. Visitor statistics and actions will not be logged for disabled campaigns. Leave the box checked.



Click **OK** to add the campaign. The **General** tab of the campaign's editing interface will now be displayed, where you can modify the fields listed above at any time. Several additional properties are also available, but these are described later in this chapter.

Return to the campaign list and add a third campaign with the following names:

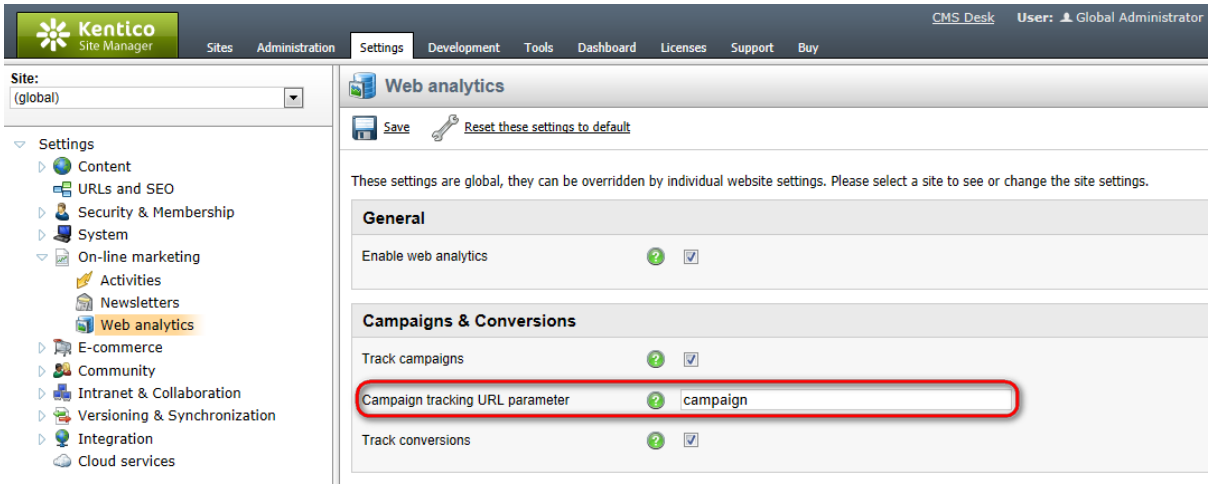
- **Campaign display name**: E-mail marketing
- **Campaign name**: Emails

© 2012 Kentico Software

Now that some campaign tracking objects are prepared, it is necessary to ensure that visitors who access the website through marketing campaigns are correctly identified and assigned to the appropriate object. There are three different ways how this can be done.

1. URL parameter

This method utilizes a URL query string parameter to indicate that the traffic source is a campaign. All you need to do is enter the name of the parameter that you wish to use into the **Site Manager -> Settings -> On-line marketing -> Web analytics -> Campaign tracking URL parameter** setting.



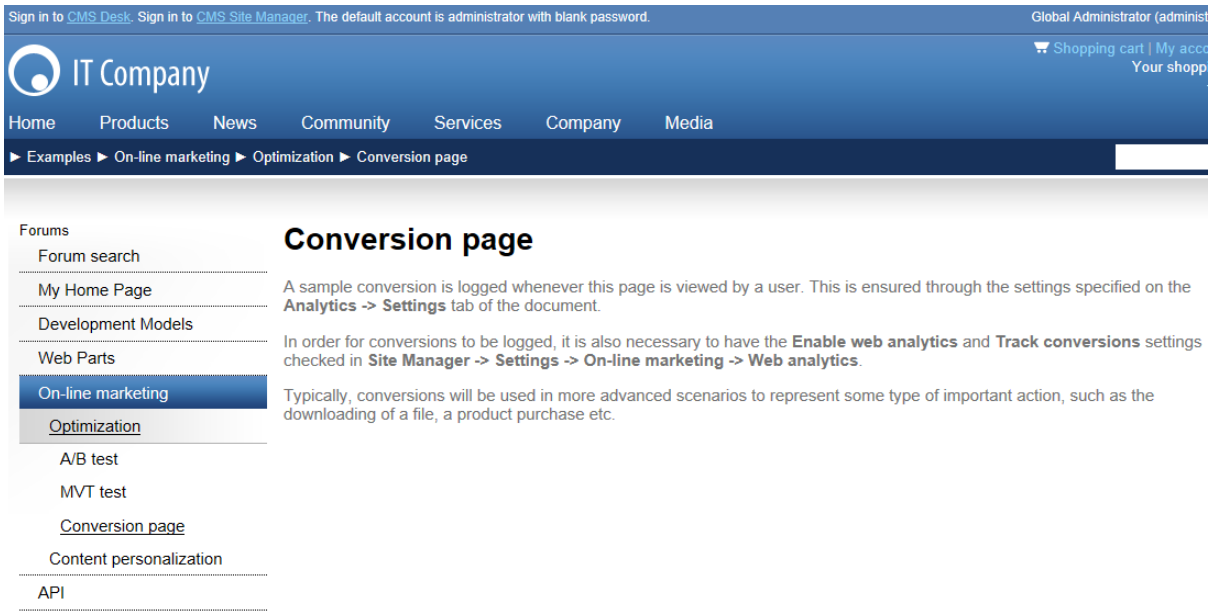
For now, leave the setting with its default value (*campaign*).

Open a new tab in your browser and enter the URL of your site's Home page into the address bar. Include the campaign tracking parameter and set its value to **samplecampaign** (the name of the default campaign):

http://localhost/KenticoCMS/Home.aspx?campaign=samplecampaign

You will have to adjust the URL according to the domain of your website. You may also need to **Close** the preview mode of the page to get to the actual live site. The Home page will be opened as usual, but the system will recognize that you have arrived via a campaign. Scroll down to the bottom of the page and click the **Examples** link under the **Where to learn more?** section. On this page, use the menu on the left to reach **On-line marketing -> Optimization -> Conversion page**, which will cause a sample conversion to be logged.

© 2012 Kentico Software



Because the *Sample campaign* is currently active in your browser, the conversion will also be recorded in the campaign statistics. You can try reloading the page several times to log multiple conversions.

In a real-world scenario, you would need to ensure that all links to your website placed in the given campaign's marketing materials contain the tracking parameter with the name of the appropriate campaign object as the value. This type of campaign tracking is not limited to a specific document and may be used when linking to any page on the website.

2. Document-specific campaigns

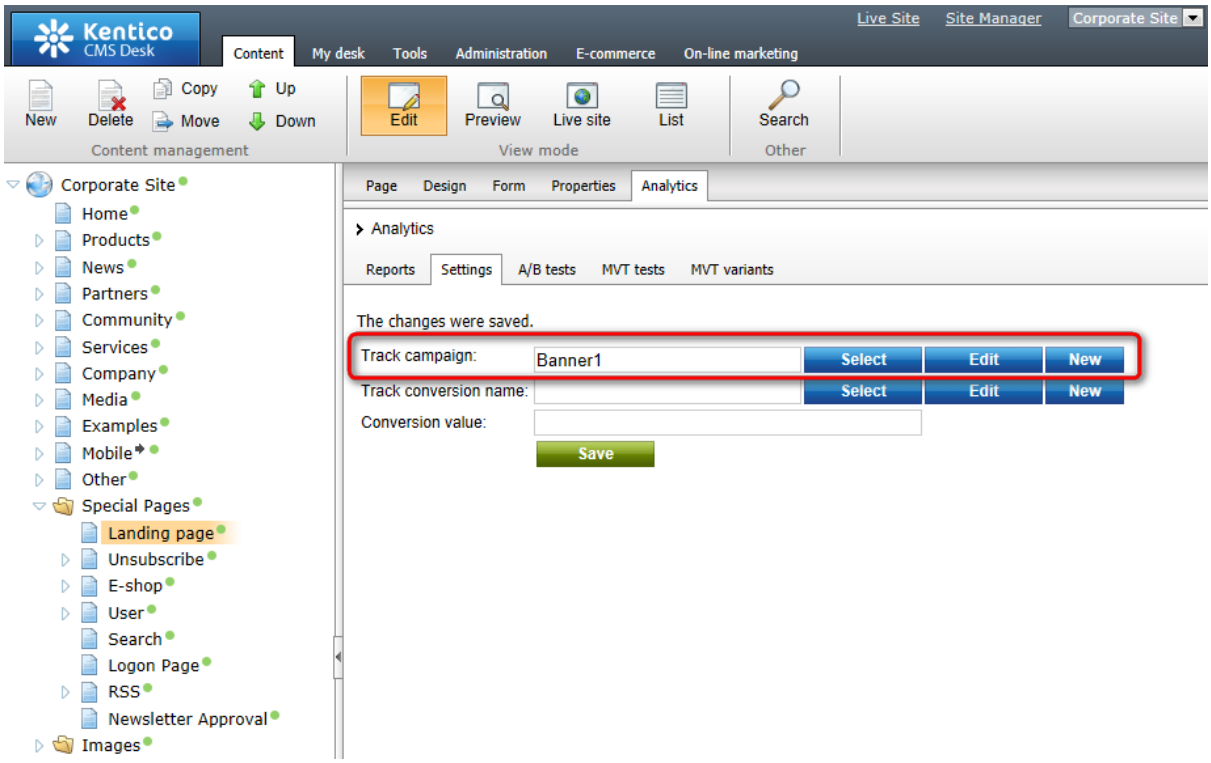
Alternatively, you can configure a document to behave as a campaign landing page. When this type of page is viewed by a user, a specified campaign will automatically be assigned.

To ensure accurate campaign tracking, it is recommended to create a special page that will not be available in the website's standard navigation, since the campaign will be assigned to all users who view this page (and repeated views by the same user will also be logged as campaign visits). When using this approach, all of the campaign's links need to be directed at this special landing page.

Log back in to **CMS Desk**, select the **Special Pages** folder in the content tree and create a **New** page under it named *Landing page*. You can choose the **Create a blank** page option in the template selection dialog, since the content of the page is not important for the purposes of this example.

Select the new document and switch to its **Analytics -> Settings** tab. Here, click the **Select** button next to the **Track campaign** field and choose **Banner campaign** in the displayed dialog. Then click the **Save** button.

© 2012 Kentico Software



Now open this new page on the live site (you can access it through its URL: *<domain>/SpecialPages/Landing-Page.aspx*). The *Banner campaign* will become active, replacing the previously assigned campaign. Navigate to **Examples -> On-line marketing -> Optimization -> Conversion page** again, so that a conversion is logged for this campaign as well.

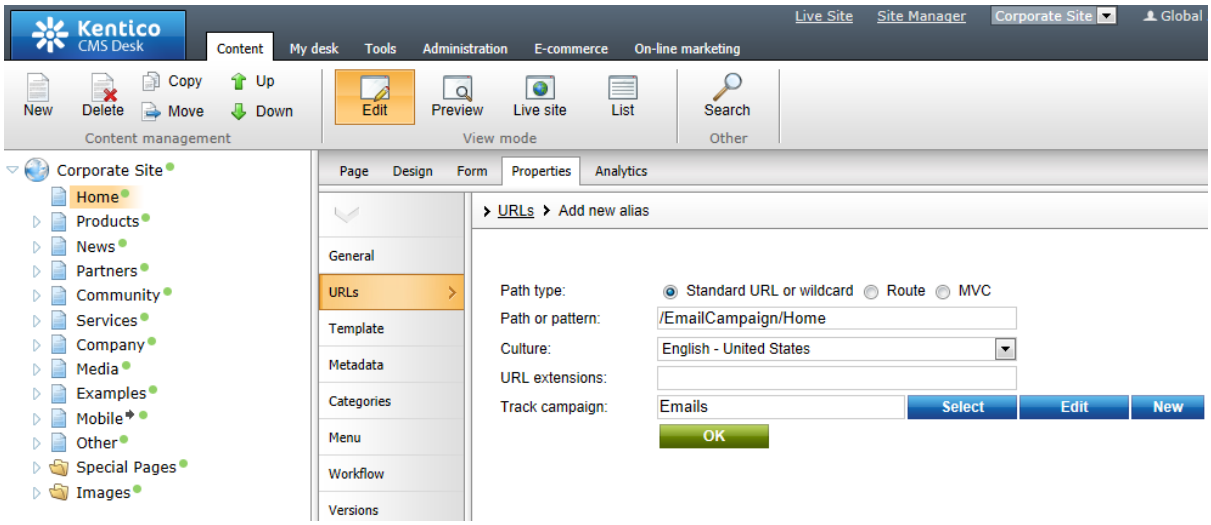
3. Campaigns for document aliases

You can also define campaign tracking for a page's specific Document alias. This approach is useful if you wish for the campaign to link visitors to an easily accessible page, but want to avoid using a query string parameter. The campaign will only be assigned to users who access the document through this alias.

Select the **Home** page from the content tree in **CMS Desk** and go to **Properties -> URLs**. Here, click the **Add new alias** link and configure the alias's settings as shown below:

- **Path type**: Standard URL or wildcard
- **Path or pattern**: /EmailCampaign/Home
- **Track campaign**: select the *E-mail marketing* campaign

© 2012 Kentico Software



Click **OK** and the alias will be created.

To activate the campaign, open the Home page of the site through the URL of this alias (*<domain>/EmailCampaign/Home.aspx*). This will override the previous campaign and you can visit the sample **Conversion page** again.

The campaign tracking methods are listed in the order of their priority. So if a campaign is specified for a document via **Settings -> Analytics**, but the page is also accessed via a URL containing a tracking parameter, the campaign specified via the parameter will be assigned to the given visitor.

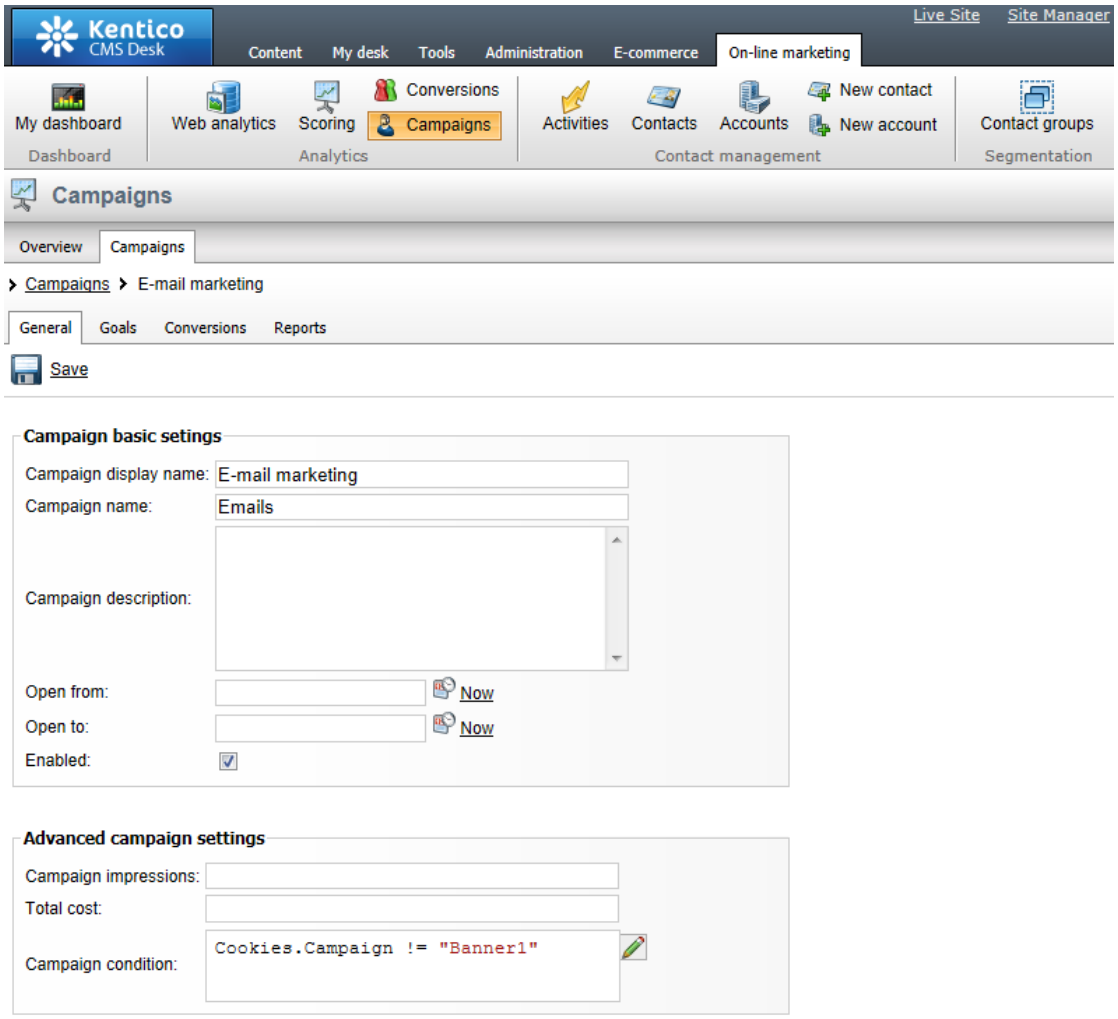
Continue in the Evaluating campaigns topic to see how you can view the results of these steps. Keep in mind that this sample scenario only serves to quickly demonstrate the functionality of campaigns. In the case of a real campaign, visitors would not need to enter URLs manually, but would simply follow the appropriate links and the system would keep track of more practically defined conversions.

Advanced campaign settings

As you may have noticed, there are some additional configuration options that may be specified when editing campaigns in the **CMS Desk -> On-line marketing** interface.

On the **General** tab, the **Campaign impressions** and **Total cost** values may be used to help evaluate the campaign and calculate its goals. An important property is the **Campaign condition**, which allows you to set a macro condition that must be fulfilled in order for the campaign to be assigned to visitors.

© 2012 Kentico Software



For example: *Cookies.Campaign != "Banner1"*

This sample condition checks the value of the *Campaign* cookie and prevents the edited campaign (E-mail marketing) from being assigned to visitors who are already being tracked by the **Banner1** campaign. In practice, this would mean that if a visitor was brought to the site through a banner and then later clicked on a link in a marketing e-mail, the banner campaign would remain active instead of being overwritten.

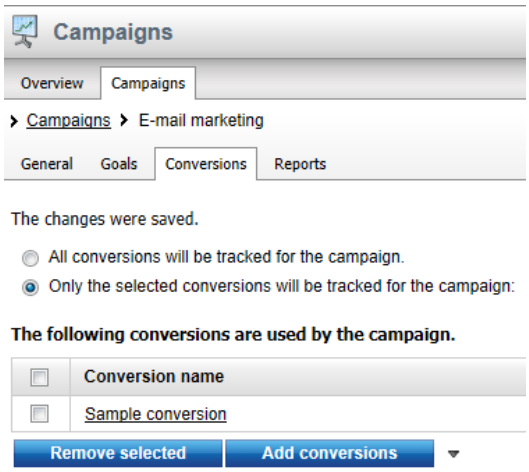
You can write any other type of condition according to your specific requirements. Through the edit icon (), you can open the Macro condition editor, which provides a graphical interface that makes it easier to build complex conditions. For more information about the available macro options, please refer to Internals and API -> On-line marketing macros.

If you switch to the **Conversions** tab, you can configure which Conversions should be tracked by the campaign. There are two possible options:

- **All conversions will be tracked for the campaign** - if chosen, any conversion hit logged on the entire website will be included in the campaign's statistics.
- **Only the selected conversions will be tracked for the campaign** - this option allows you to limit which conversions should be tracked. Specific conversions may be assigned to the campaign by

© 2012 Kentico Software

clicking the *Add conversions* button and choosing from the list in the displayed dialog.



In both cases, only conversions performed by visitors who arrive on the website as a result of the given campaign will be logged.

Automatic campaign creation

When a visitor comes to the website through an undefined campaign (typically specified via the tracking URL parameter), it will be ignored by default and no campaign tracking will be performed.

If you wish to change this behaviour, edit your application's **web.config** file and add the following key to the **/configuration/appSettings** section:

```
<add key="CMSEnableAutomaticCampaignCreate" value="true" />
```

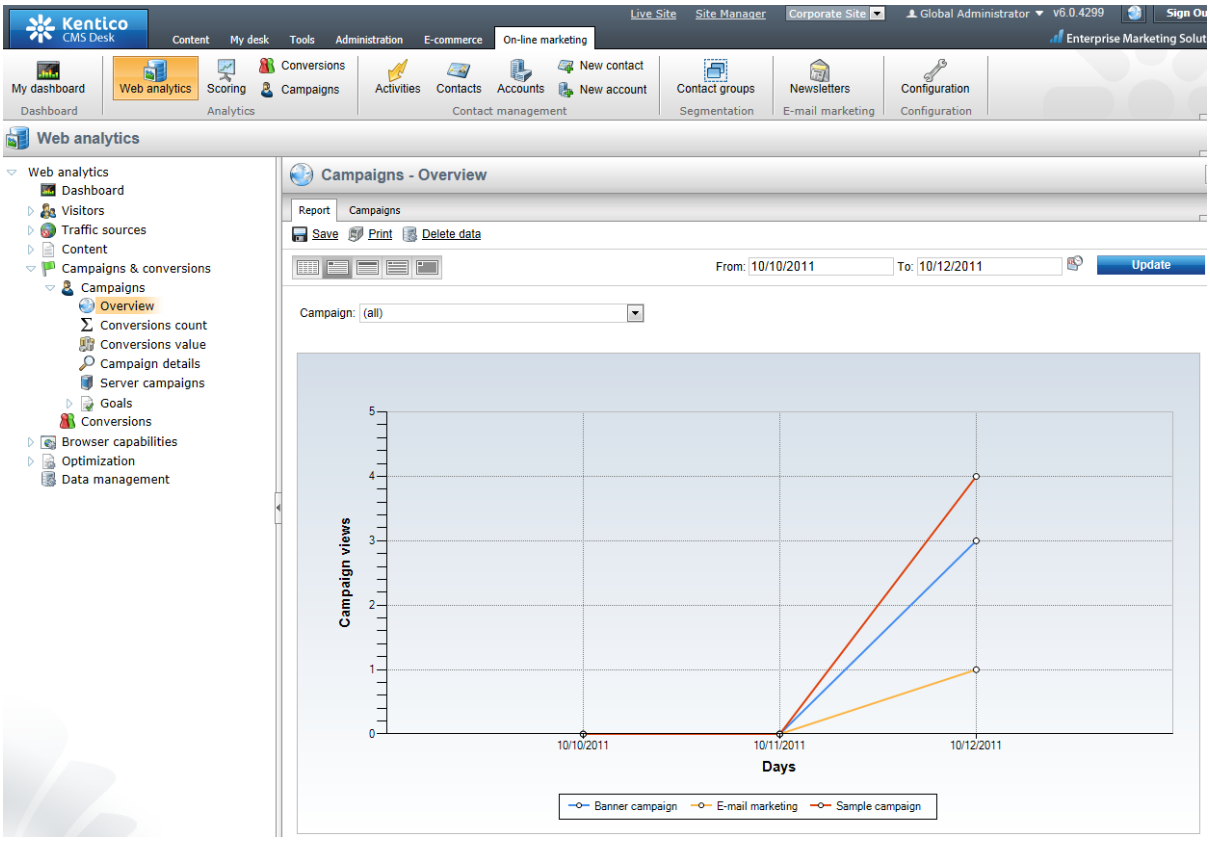
Once this is done, unknown campaigns will automatically be added to the list of campaign objects for the given website.

Campaigns created this way will be enabled by default and active for an unlimited time interval, but they can be configured using the same approach as mentioned above at any time.

5.3 Evaluating campaigns

The statistics logged for campaigns may be viewed using various types of web analytics reports. To access these reports, go to **CMS Desk -> On-line marketing -> Web analytics** and expand the **Campaigns & conversions -> Campaigns** category.

© 2012 Kentico Software



Here you can check the results of the sample campaigns created according to the instructions in the Managing campaigns (Example) topic. Because of the way the analytics log is processed, you may have to wait approximately one minute before conversion hits or campaign visits are reflected in the reports.

Campaign reports use the same basic format as all other web analytics reports, so please refer to Web analytics -> Using web analytics reports for details about the actions that can be used to filter or otherwise manage the displayed data. The following types of reports are available for campaigns:

Overview	Displays the amount of hits that the website received as a result of the selected campaign(s). It contains a line chart that shows the number of visits recorded over time and a table with the total amount of page views generated by the given campaigns during the entire time period.
Conversions count	Displays the number of conversion hits that were performed by users who arrived on the website through the selected campaign. This report includes two types of charts, one that shows the progress of the amount of conversion hits recorded during the specified time period and another with detailed statistics for individual units of time according to the selected report type (hours, days, months etc.).
Conversions value	Displays the sum of the conversion values generated by users who arrived on the website through the selected campaign. This report includes two types of charts, one that shows the progress of

© 2012 Kentico Software

	the conversion values recorded during the specified time period and another with detailed statistics for individual units of time according to the selected report type.
Campaign details	Displays the values of the following campaign metrics: • **Visits** - the amount of hits that the website received as a result of the given campaign. • **Conversions** - the number of conversions that were performed by users who arrived on the site through the campaign. • **Conversions rate** - the percentage of visitors that performed a conversion. This can be higher than *100%* if the average visitor generated more than one conversion. • **Conversions value** - the total sum of the values recorded for all of the campaign's conversions. • **Conversions value per visit** - the average conversion value contributed by the campaign's visitors. • **Total cost** - shows the total cost that was specified for the given campaign. • **ROI** - the rate of investment, calculated as the sum of the campaign's conversion values divided by the total cost. This statistic is accurate only if your conversion values are set to reflect the income generated by the matching conversions. You can either choose to view all campaigns defined for the website and compare their values, or select a specific campaign and analyze the statistics logged for individual types of conversions.
Server campaigns	May be used to compare the results of campaigns created for different sites in the system. You can choose to display the *Views*, *Conversion count* or *Conversion value* statistics for the campaigns belonging under the selected site.

Campaign goals

In addition to the data provided by the reports listed above, you can optionally specify goals that should be achieved by each campaign and then compare them with the actual results.

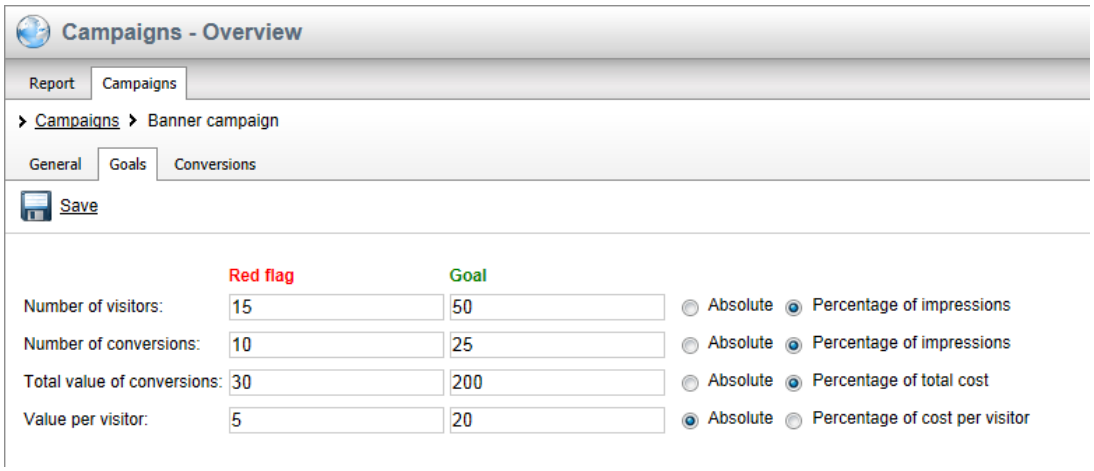
To enter a campaign's goals, select one of the reports and switch to the **Campaigns** tab, which contains the campaign management interface (the same one that is available under the **Campaigns** item in the main on-line marketing menu). Next, edit ( ) a campaign. On the **General** tab, the following two properties are available among the advanced settings:

- **Campaign impressions** - this field can be used to specify how many people were targeted by the given marketing campaign. For example, if you sent marketing e-mails containing a link to the website to ten thousand people, the amount of impressions would be *10000*.
- **Total cost** - allows you to manually enter the total cost of the given marketing campaign. This can be used to determine whether the campaign was a success and when calculating the campaign's goals.

Now switch to the **Goals** tab, where you can configure the following types of target values for the campaign:

© 2012 Kentico Software

- **Number of visitors** - sets how many visitors should be brought to the website by the campaign. It can either be specified directly as an *Absolute* number, or as a percentage of the campaign's *Impressions* according to the value set on the *General* tab.
- **Number of conversions** - specifies the expected amount of conversions performed by users who visit the website as a result of the campaign. It can either be specified directly as an *Absolute* number, or as a percentage of the campaign's *Impressions*.
- **Total value of conversions** - sets a target number for the sum of all conversion values logged as a result of the campaign. It can either be specified directly as an *Absolute* number, or as a percentage of the campaign's *Total cost*.
- **Value per visitor** - this indicator allows you to specify the average conversion value that should be generated by a single campaign visitor. It is calculated as the campaign's *Total value of conversions* divided by its *Number of visitors*. The value can either be specified directly as an *Absolute* number, or as a percentage of the campaign's *Cost per visitor* (i.e. the *Total cost* divided by the *Number of Visitors*).



Each goal may have two values. The **Red flag** may be used to set a number that must be reached in order for the campaign to be at least partially successful (campaigns below this value are considered to have failed). The **Goal** value sets a target that should ideally be achieved by the campaign. The progress that individual campaigns make towards their goals can then be followed using the corresponding reports under the **Goals** sub-category in the web analytics tree.

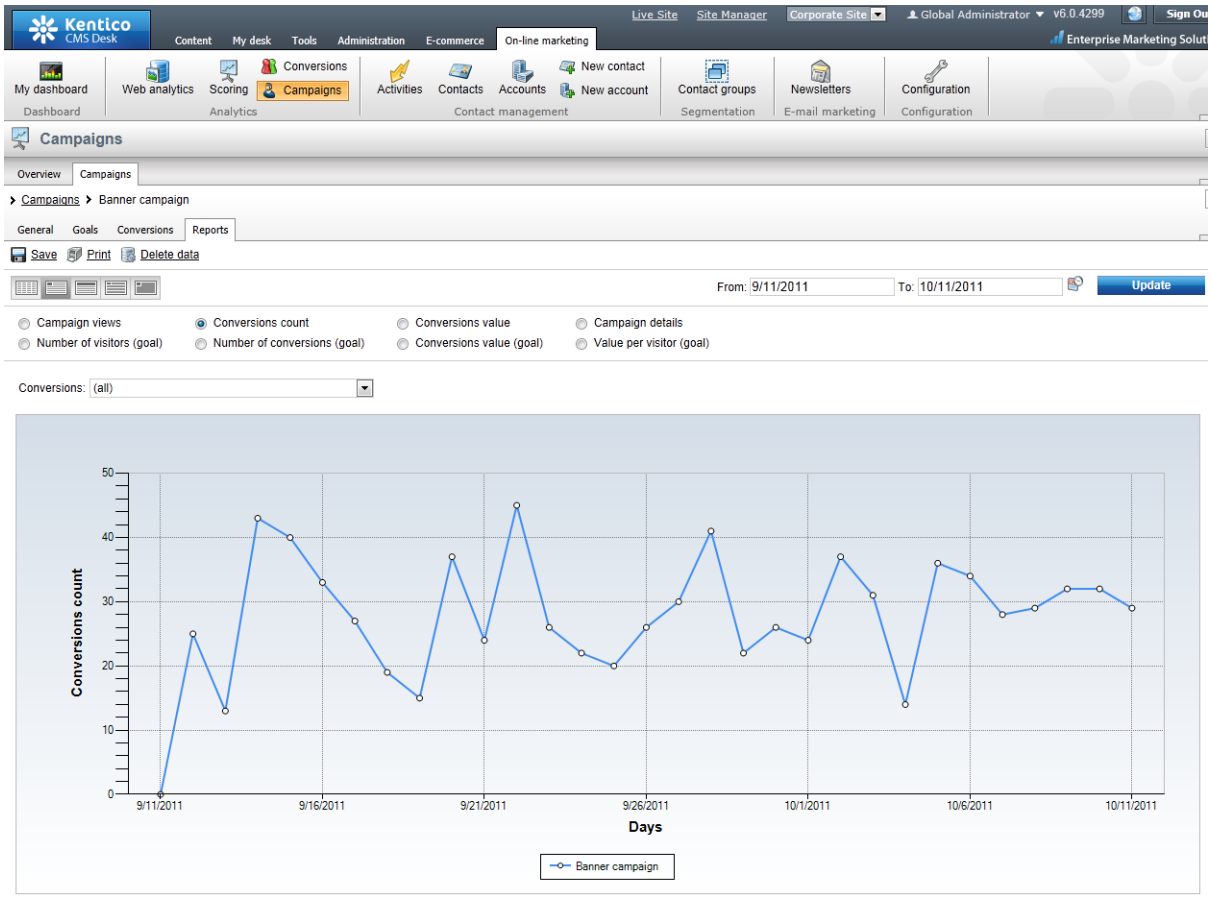
© 2012 Kentico Software

The red flag and goal values configured for the selected statistic are displayed in the reports as red and green lines, so you can easily see the current status of the specified campaign.

Reports for individual campaigns

Any of the reports described above may also be viewed when editing a campaign in **CMS Desk -> On-line marketing -> Campaigns** on the **Reports** tab. You can choose a specific report via the radio buttons at the top of the page.

© 2012 Kentico Software



Only the data logged for the given campaign is displayed here.

© 2012 Kentico Software

Part VI

Contact management

6 Contact management

6.1 Overview

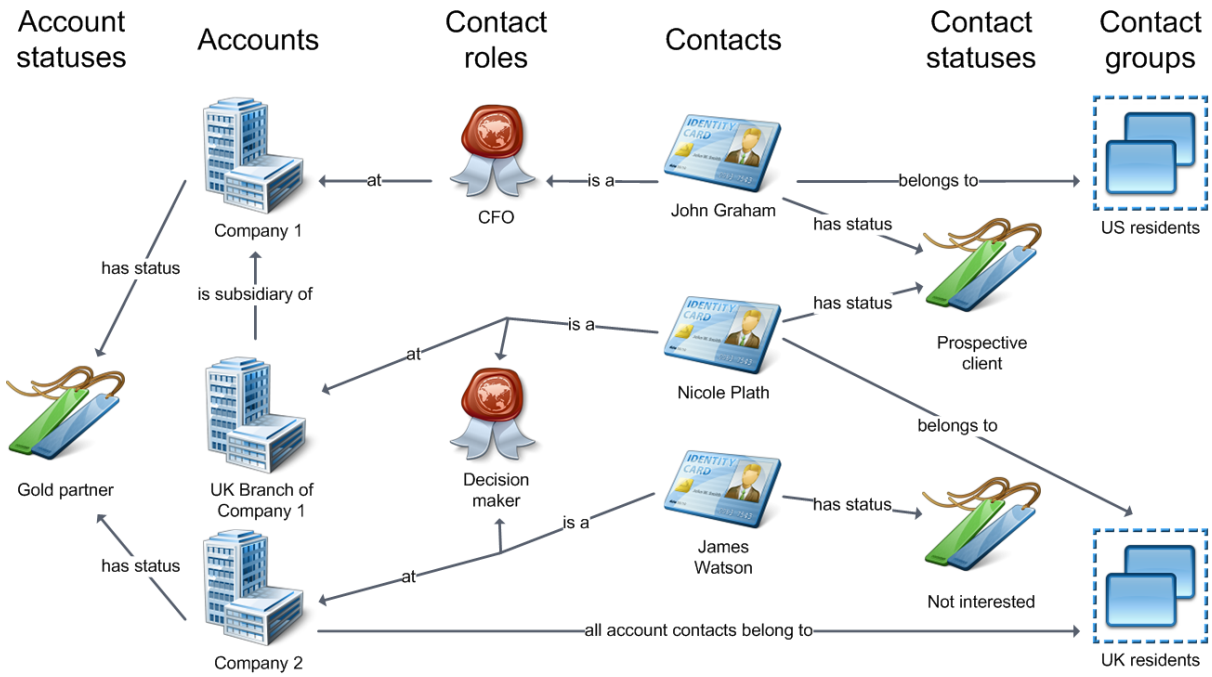
The Contact management module is an on-line marketing tool which provides a centralized overview of all users who visit your website. It can be used to gather information about them and about the activities that they perform on the website. The data gathered by the module can be used to track campaign results, analyze client behavior, optimize content, identify potential buyers and perform other marketing-related actions.

To get started with the module, it is important to get familiar with the following basic terms represented by objects of the module. Click the links to learn more about the particular objects, their management, use and configuration.

- Contact - a single person who visits the website and about whom information is gathered by the module.
- Account - a company or other commercial or non-commercial body where a contact operates. Individual contacts can belong to multiple accounts and an account can be a subsidiary of another account.
- Contact role - the role which a contact has in an account. It is typically a job position or a type of competence which the contact has within the account. One contact can have only one role in one account.
- Contact status - individual contacts can be labeled with pre-defined statuses. One contact can be labeled with only one status at a time.
- Account status - individual accounts can be labeled with pre-defined statuses, similarly as contacts, while there are separate sets of statuses for contacts and accounts. One account can be labeled with only one status at a time.
- Contact group - taxonomy units which enable you to sort contacts into groups. Contacts can be added to groups either manually, or automatically based on dynamically evaluated macro conditions. It is also possible to add an account to a contact group, which makes all contacts belonging to the account belong to the contact group as well.

The sample diagram below depicts how relationships between the objects may look in a real world scenario. It shows three contacts who operate as different roles in three accounts. They are grouped in two contact groups and both contacts and accounts are labeled with statuses.

© 2012 Kentico Software



In certain situations, it may happen that you have multiple contacts or accounts in the system and get to the conclusion that they actually represent one object. In the Merging contacts and accounts sub-chapter, you can learn how to get rid of such duplicate contacts or accounts by merging them into a single object.

Another important part of the Contact management module are Activities. Activities are actions that a contact performs on the website, e.g. visit a page, vote in a poll, add a product to their shopping cart or wishlist, etc. These activities can be tracked and logged so that you can view a log of all activities that individual contacts performed. You can deduce conclusions about the contacts from the activities that they performed and the logged activities can also be used for contact evaluation by the Scoring module.

In the end of this chapter, you can find the Configuration sub-chapter. In it, you can learn how to enable the use of global objects in this module, and how to define account statuses, contact statuses and contact roles.

6.2 Contacts

6.2.1 Overview

A contact in Kentico CMS is an object representing a single person who visits the website and about who the Contact management module gathers information. It can thus stand behind an anonymous visitor identified by IP or cookie or a regular user identified by username or e-mail. A contact can have its website activities tracked and analyzed, it can be grouped together with other contacts, assigned with a contact status (e.g a *V.I.P.* contact) or contact role (e.g. *Designer*) and it can be associated with accounts, i.e. companies and other commercial and non-commercial bodies, in which it operates. Besides, stored as a system table, a contact supports custom fields.

Further in this chapter, you will learn how to manage contacts and you will also see an example of adding a new contact to your Contact management.

© 2012 Kentico Software

6.2.2 Managing contacts

In this topic you will learn how to manage contacts. Contacts can be managed in:

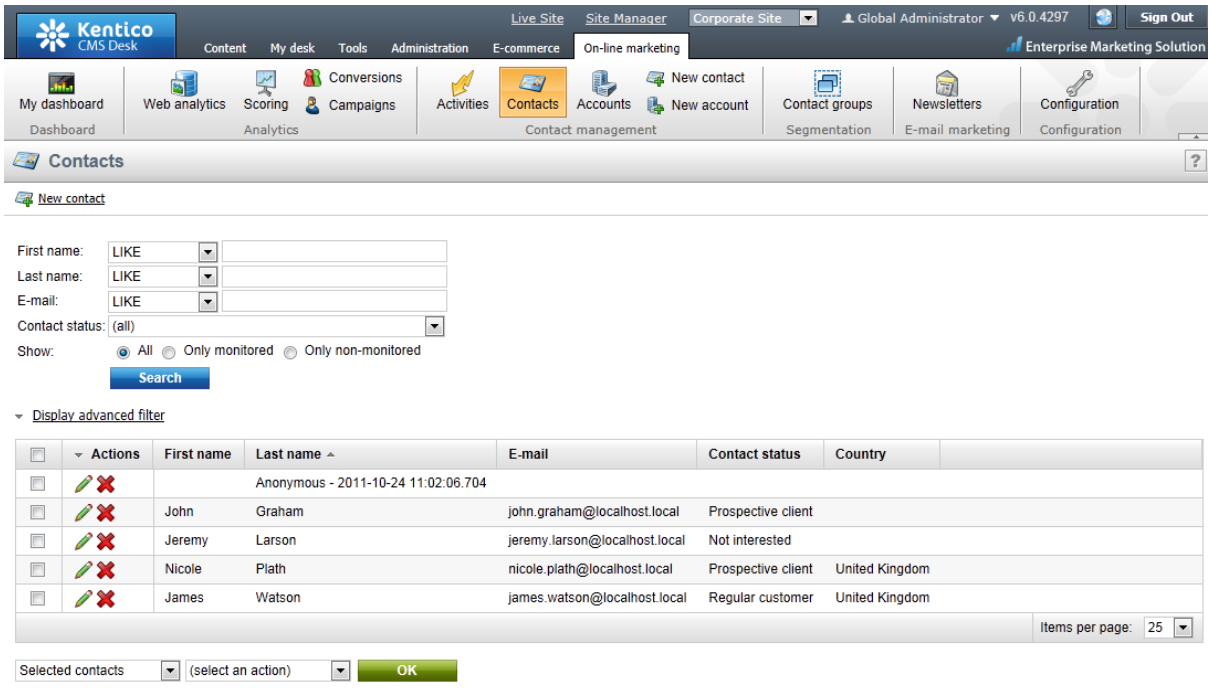
- **CMS Desk -> On-line marketing -> Contacts**
- **Site Manager -> Tools -> Contact management -> Contacts**

The user interface in CMS Desk allows management of contacts that belong to the currently edited website. The one in Site Manager allows management of contacts belonging to all websites running in the system. If global contacts are enabled, they can be managed in both sections.

On the initial page of the user interface, you can see a list of contacts available on the current site. You may need to display only contacts matching certain search criteria (e.g. first name, last name, e-mail etc.). To do so, choose either the simplified or advanced filter, enter the required values and click **Search**.

Individual contacts can be **Edited** ( ) or **Deleted** ( ) and you can also perform **Other actions** such as **Export**, **Backup** or **Restore**. New contacts can be added after clicking the **New contact** link.

Using the pair of drop-down lists below the list, you can perform certain contact management tasks with multiple contacts at once, specifically adding contacts to a contact group, deleting and merging contacts or changing their status. To do this, choose either *Selected contacts* or *All contacts* from the first drop-down list, the required action from the second one and click **OK**.



If editing a contact, the following tabs are available:

- General tab
- Custom fields tab
- Accounts tab
- Membership tab

© 2012 Kentico Software

- Activities tab
- IPs tab
- Contact groups tab
- Scoring tab
- Merge tab

General tab

On this tab you can edit properties of a selected contact. When you have modified the values, click **Save** to save the contact.

General
- **First name** - the first name of the contact.
- **Middle name** - the middle name of the contact.
- **Title before** - allows to define a contact title used before the name.
- **Last name** - the last name of the contact.
- **Salutation** - allows to define a contact salutation.
- **Title after** - allows to define a contact title used after the name.

Personal info
- **Birthday** - the birthday of the contact. Enter the value manually, use the **Calendar** () or use the **Now** link.
- **Gender** - the gender of the contact.
- **Job title** - the job title of the contact.
- **Created** - indicates when the contact was created.

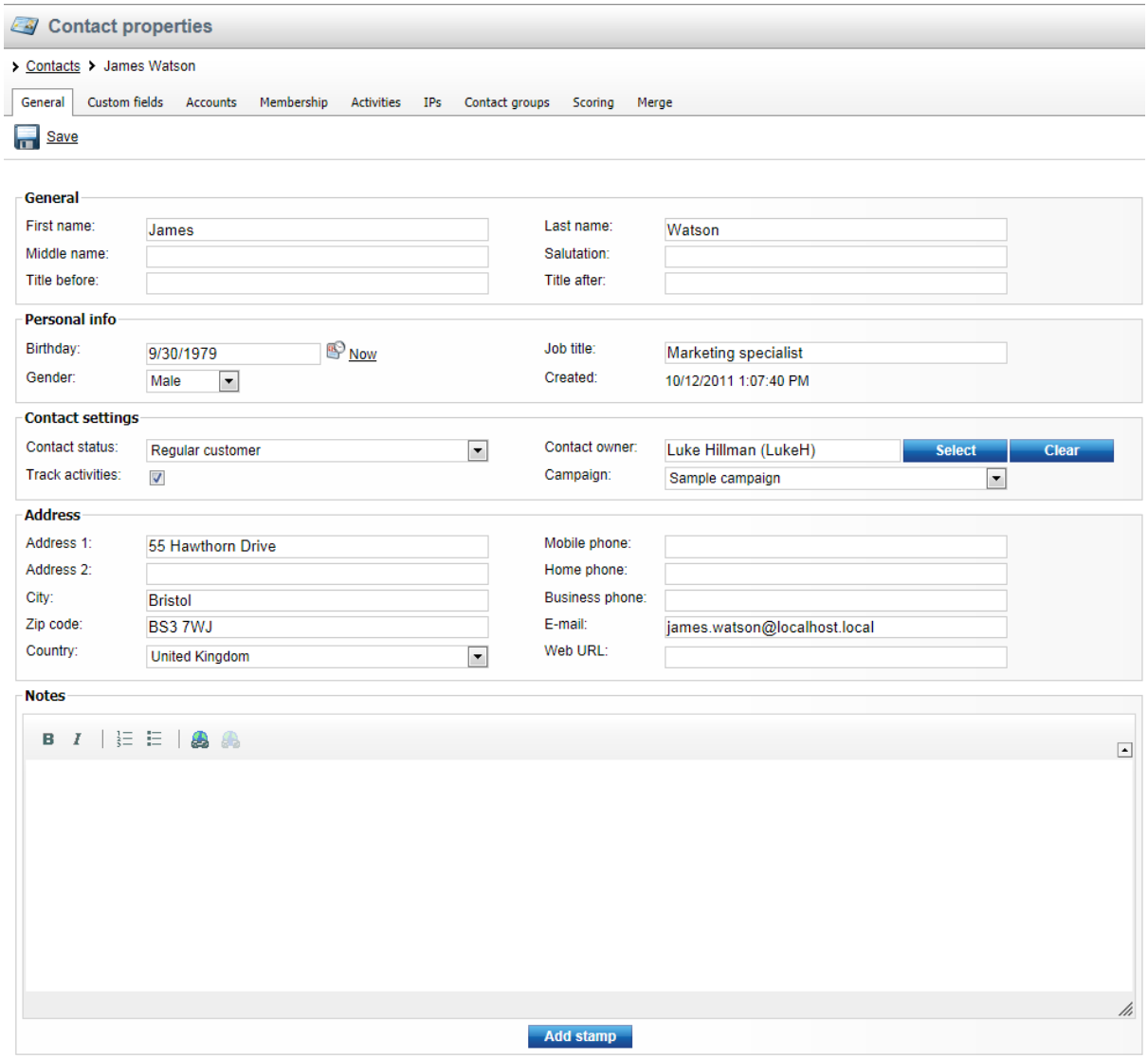
Contact settings
- **Contact status** - allows to select a contact status. If defined, the contact can be labeled with a contact status, e.g. a V.I.P. contact.
- **Track activities** - if enabled, allows to track contact activities.
- **Contact owner** - allows to define a contact owner, i.e. a user responsible for management of the given contact.
- **Campaign** - allows to choose a Campaign to be associated with the current contact.

Address
- **Address 1** - the first line of the contact's address.
- **Address 2** - the second line of the contact's address.
- **City** - allows to define the city where the contact has their address.
- **Zip code** - allows to define the zip code of the area where the contact has their address.
- **Country** - allows to define the country where the contact has their address.
- **Mobile phone** - the mobile phone number of the contact.
- **Home phone** - the home phone number of the contact.
- **Business phone** - the business phone number of the contact.
- **E-mail** - the e-mail address of the contact.
- **Web URL** - the web URL of the contact.

Notes - you can leave contact notes either as plain text or as text with basic formatting, and you can also add your stamp by clicking the **Add stamp** button.

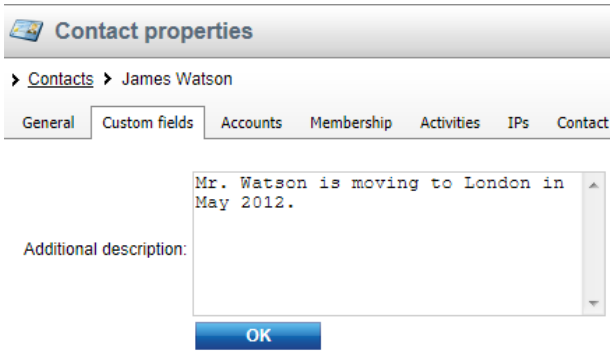
Please note that if you are viewing properties of a merged contact, the **Split from parent** link is available on the page, enabling you to split the current contact from the parent one.

© 2012 Kentico Software



Custom fields tab

On this tab you can enter custom field values of the current contact, as defined in **Site manager -> Development -> System tables -> Edit ( ) *Contact management - Contact*** on the **Fields** tab. When you have entered the values, click **OK** to save the changes.



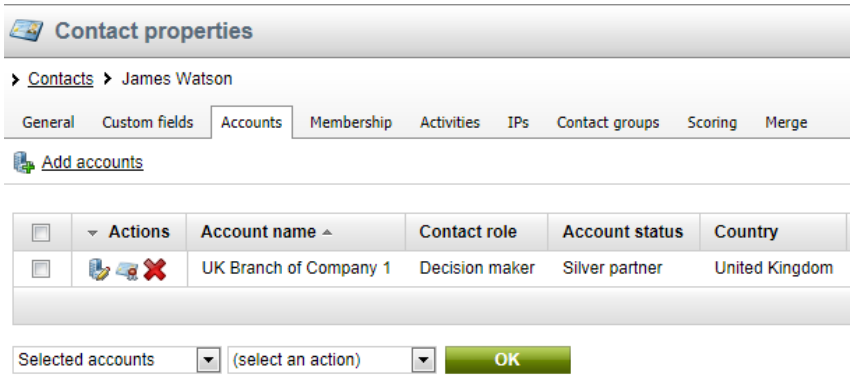
© 2012 Kentico Software

Accounts tab

On this tab you can see a list of accounts assigned to the current contact and you can also assign accounts by clicking the **Add accounts** link. If you decide to do so, the **Select account** dialog opens, enabling you to assign selected accounts to the current contact; optionally, a contact role may be selected (if defined). Please note that if you edit a global contact, only global accounts are offered. Similarly, if you edit a site contact, only current site accounts are offered.

You can **View account details** () of individual accounts and you can also **Select contact role** () or **Remove** () an account. The displayed list can be sorted by account name, contact role, account status and country.

Using the pair of drop-down lists below the list, you can perform certain management tasks with multiple accounts at once, specifically *Selecting contact role* or *Removing accounts*. To do this, choose either *Selected accounts* or *All accounts* from the first drop-down list, the required action from the second one and click **OK**.



Membership tab

On this tab you can manage the current contact's memberships, i.e. users, e-commerce customers and newsletter subscribers that should be associated with the currently edited contact.

The following tabs are available under the **Membership** tab:

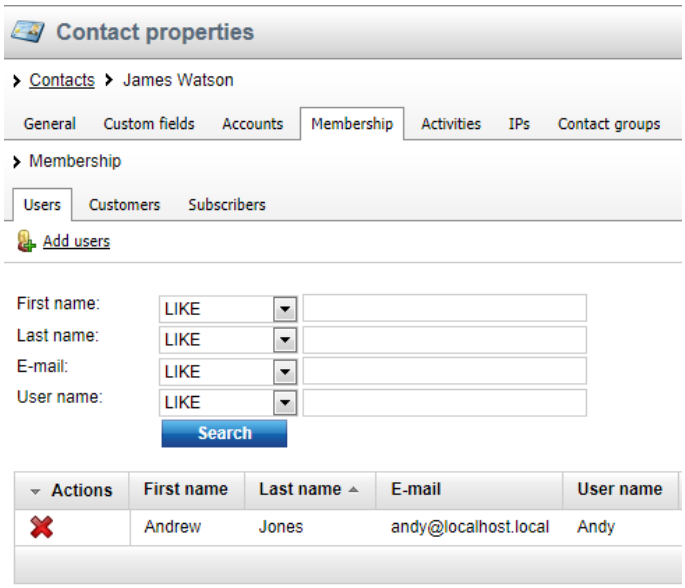
- **Users** - here you can see a list of users under the current contact and you can also manually add users using the **Add users** link. Please note that the usual scenario is that a contact acts as one registered user. However, more users can be assigned to a contact.
- **Customers** - here you can see a list of customers under the current contact and you can also manually add customers using the **Add customers** link.
- **Subscribers** - here you can see a list of subscribers under the current contact and you can also manually add subscribers using the **Add subscribers** link.

On each tab, the listed items can be **Deleted** () and the list can be sorted e.g. by name and e-mail.

You may need to display only items matching certain search criteria (e.g. first name, last name, e-mail) on the respective tabs. To do so, enter the required values and click **Search**.

Detailed information on memberships in Kentico CMS can be found in the Memberships chapter in the same section of the Developer's Guide.

© 2012 Kentico Software



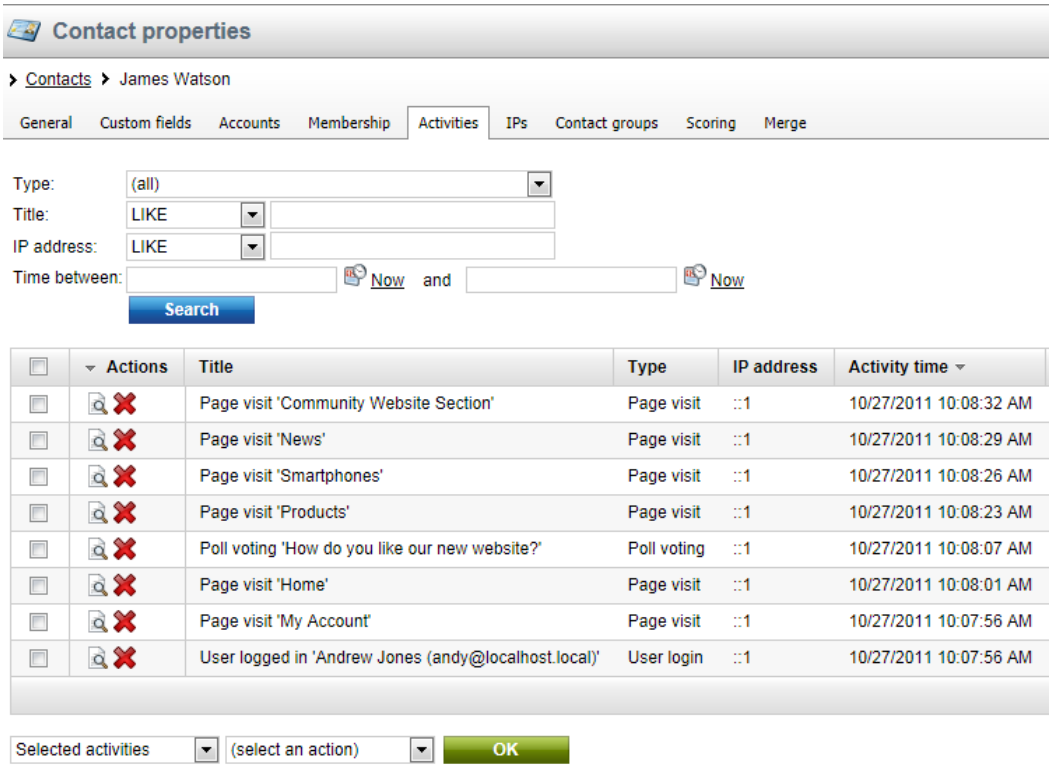
Activities tab

On this tab you can see a list of the current contact's activities, e.g. user registration, blog post subscription, poll voting etc. However, activities are logged only if the **Enable on-line marketing** setting is enabled in **Site Manager -> Settings -> On-line marketing** and the **Log activities** setting is enabled in **Site Manager -> Settings -> On-line marketing -> Activities**.

Individual activities can be **Viewed** ( ) or **Deleted** ( ). The displayed list can be sorted by title, type, IP address and activity time.

You may need to display only activities matching certain search criteria (e.g. activity type, title etc.). To do so, fill in the fields as required and click **Search**.

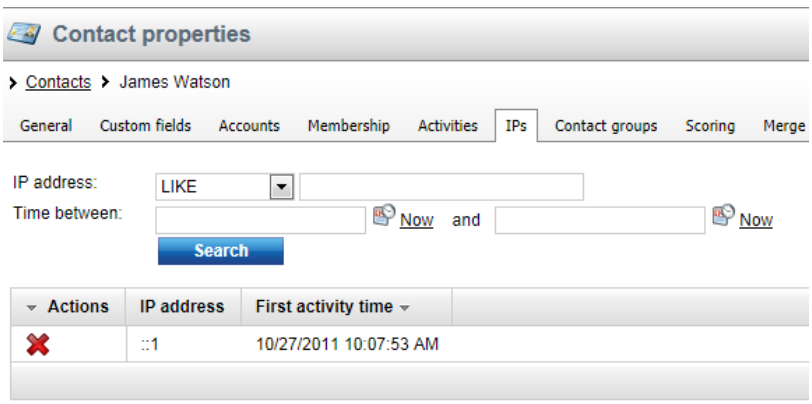
© 2012 Kentico Software



IPs tab

On this tab you can see a list of IP addresses from which the current contact accessed the website. The listed items can be **Deleted** ( ) and you can also **Export** (->) the items. The displayed list can be sorted by IP address and activity time.

You may need to display only IP addresses matching certain search criteria (IP address, time period). To do so, fill in the respective fields as required and click **Search**.

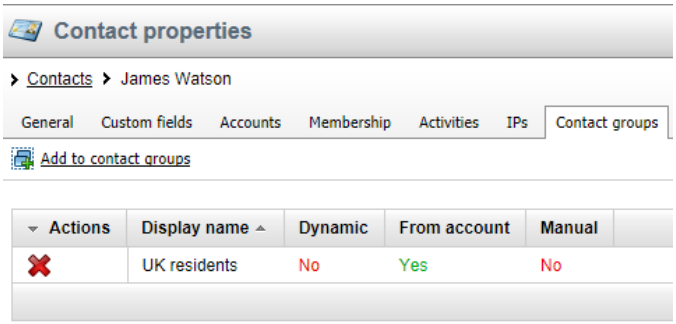


Contact groups tab

On this tab you can see a list of contacts groups to which the current contact is assigned. You can also add the contact to other contact groups by clicking the **Add to contact groups** link. Individual items can be **Removed** ( ) from the list, which results in the current contact being removed from the

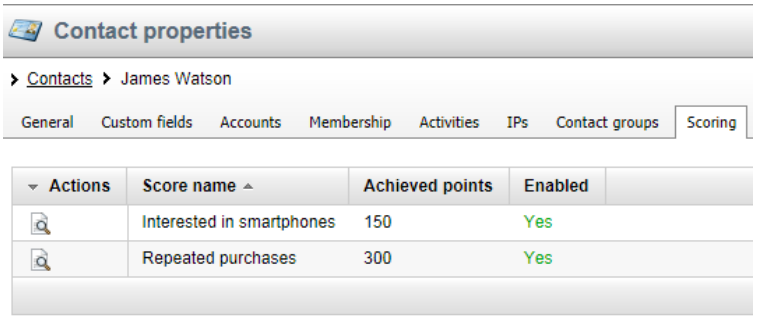
© 2012 Kentico Software

respective contact group.



Scoring tab

On this tab you can see a list of scores in which the current contact achieved some points, together with the actual score point values. By clicking the **View** ( ) icon, the respective score's management interface is opened in a pop-up window. The interface is identical to the one displayed when editing ( ) a score in **CMS Desk -> On-line marketing -> Scoring**.



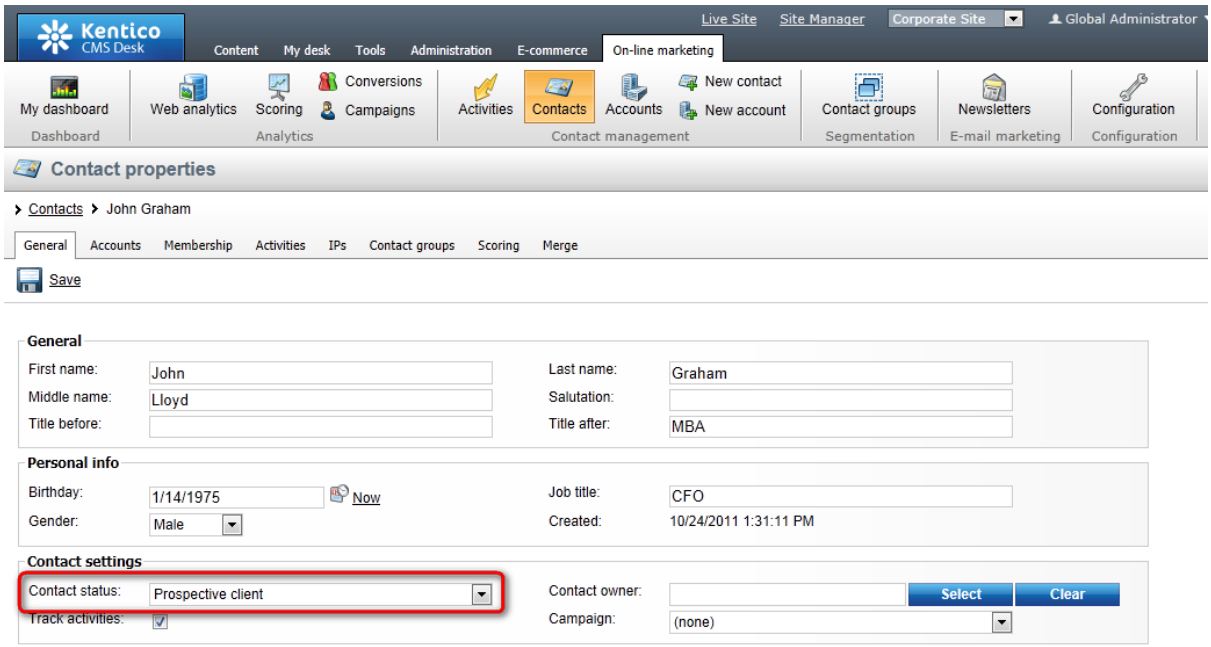
Merge tab

On this tab you can merge other contacts with the currently edited contact so that only the currently edited contact remains. This is useful in cases when you come to the conclusion that multiple contacts actually represent a single real-world person. On the tab, you can also view a list of contact that have been merged with it and split them back into separate contacts if needed. Detailed information on merging in Kentico CMS can be found in the Merging contacts and accounts chapter.

6.2.3 Contact statuses

Contacts can be labeled with statuses in order to reflect their relationship to your organization or to indicate how they are perceived from the marketing point of view. Statuses can be assigned to individual contacts in the **Contact status** field on the General tab of each contact's editing interface. One contact can be labeled with only one status at a time.

© 2012 Kentico Software

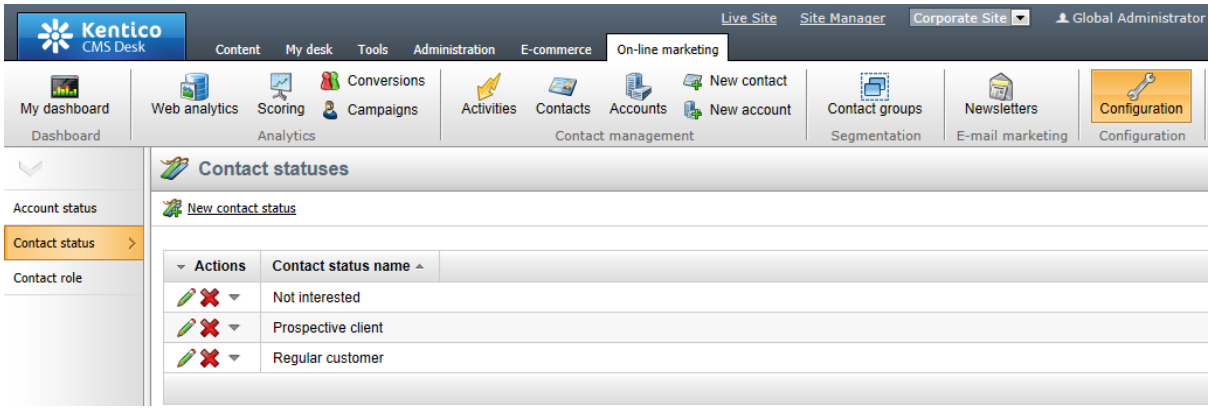


There is a pre-defines set of contact statuses for each website. The sets of statuses can be managed in the following sections of the user interface:

- **CMS Desk -> On-line marketing -> Configuration -> Contact status**
- **Site Manager -> Tools -> Contact management -> Configuration -> Contact status**

The user interface in CMS Desk allows management of contact statuses pre-defined for the currently edited website. The one in Site Manager allows management of contact statuses for all websites running in the system. If global contact statuses are enabled, they can be managed in both sections.

Properties of contact statuses listed in the mentioned sections of the user interface can be edited after clicking the **Edit** ( ) icon in a respective contact role's row. By clicking the **Delete** ( ) icon, you can delete the contact status so that it is no longer present and available in the system. The **Export** ( ) action available in the drop-down menu ( ) in each row enables you to export the respective status into a file and subsequently import it on another Kentico CMS instance.

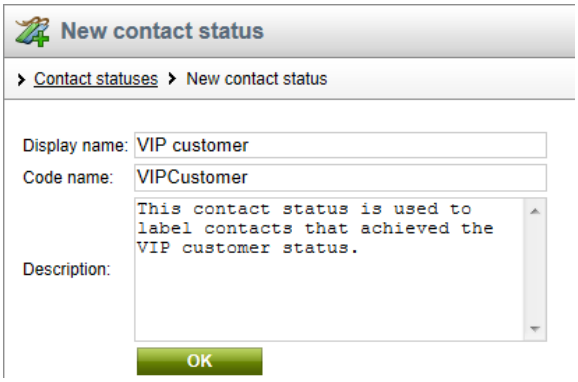


Creating a new contact status

If you want to add a new contact status to the set of listed statuses, click the **New contact status** link above the list. After doing so, you need to specify the following properties in the **New contact status** dialog:

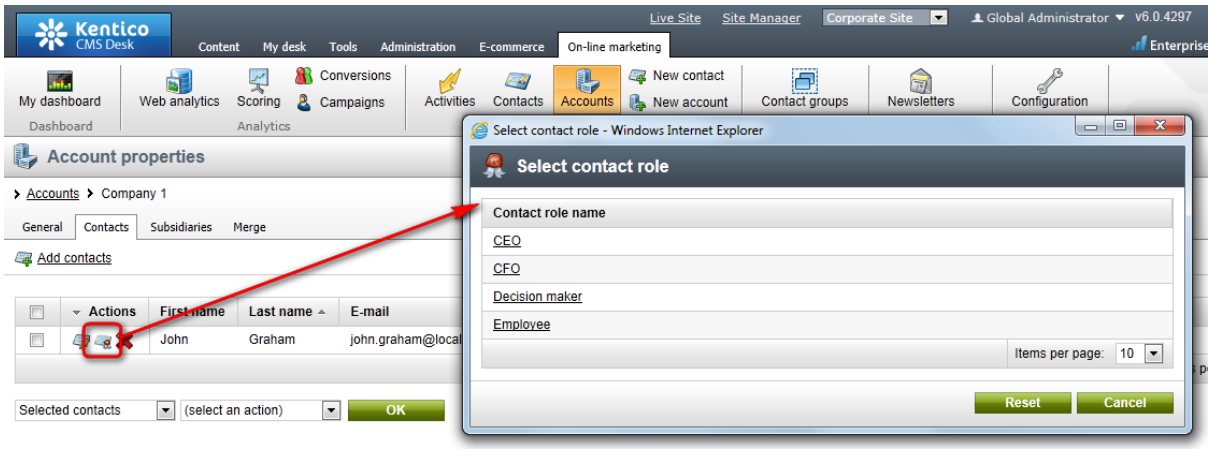
- **Display name** - name of the contact status used in the system's user interface.
- **Code name** - name of the contact status used in web project code.
- **Description** - text describing the contact status.

Once you have the properties specified, click **OK** for the new status to be created.



6.2.4 Contact roles

Contact roles enable you to specify the role of a contact in an account. It is typically a job position or a type of competence which a person has in the organization, e.g. *CEO*, *CFO*, *Decision maker*, etc. The role of a contact in an account can be specified after clicking the **Select contact role** ( ) icon on the Contacts tab of each account's editing interface. One contact can only have one role in one account.



There is a pre-defined set of contact roles for each website. The sets of roles can be managed in the following sections of the system's user interface:

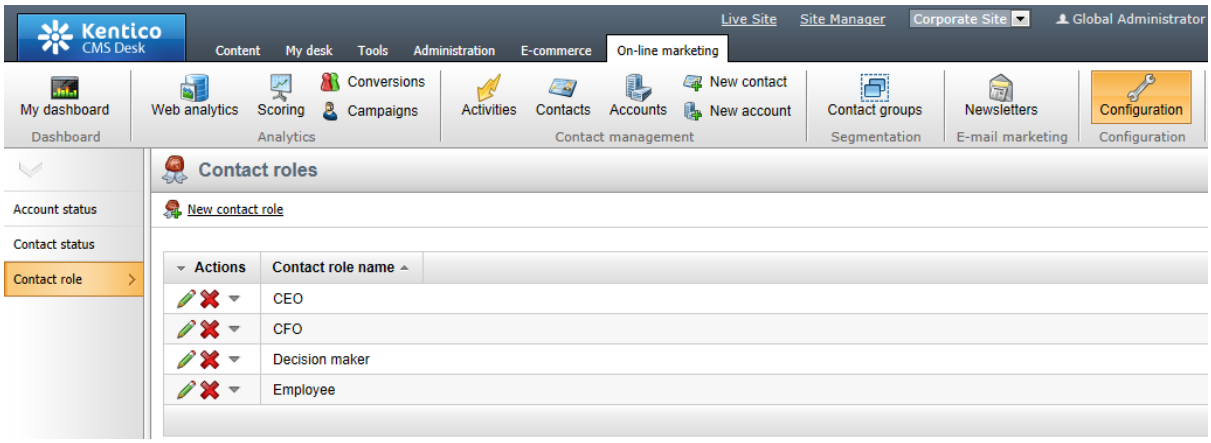
- **CMS Desk -> On-line marketing -> Configuration -> Contact role**
- **Site Manger -> Tools -> Contact management -> Configuration -> Contact role**

The user interface in CMS Desk allows management of contact roles pre-defined for the currently edited website. The one in Site Manager allows management of contact roles for all websites running in the

© 2012 Kentico Software

system. If global contact roles are enabled, they can be managed in both sections.

Properties of contact roles listed in the mentioned sections of the user interface can be edited after clicking the **Edit** (pencil) icon in a respective contact role's row. By clicking the **Delete** (red cross) icon, you can delete the contact role so that it is no longer present and available in the system. The **Export** (green arrow) action available in the drop-down menu (▼) in each row enables you to export the respective status into a file and subsequently import it on another Kentico CMS instance.

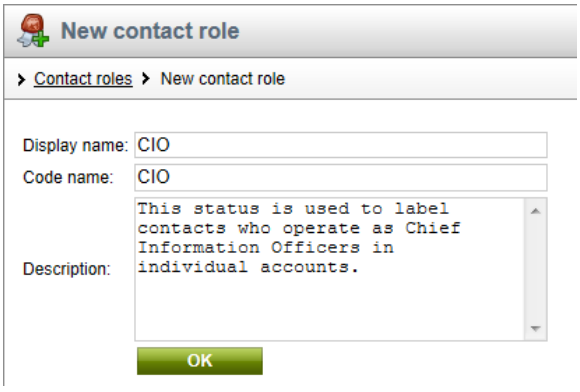


Creating a new contact role

If you want to add a new contact role to the set of listed roles, click the **New contact role** link above the list. After doing so, you need to specify the following properties in the **New contact role** dialog:

- **Display name** - name of the contact role used in the system's user interface.
- **Code name** - name of the contact role used in web project code.
- **Description** - text describing the contact role.

Once you have the properties specified, click **OK** for the new contact role to be created.



6.2.5 Example: Creating a sample contact

Here you will learn how to create a new contact.

A new contact can be created automatically on the live site, e.g. if an anonymous visitor browses the website for some content or if a new user registers there, and manually in the administration interface.

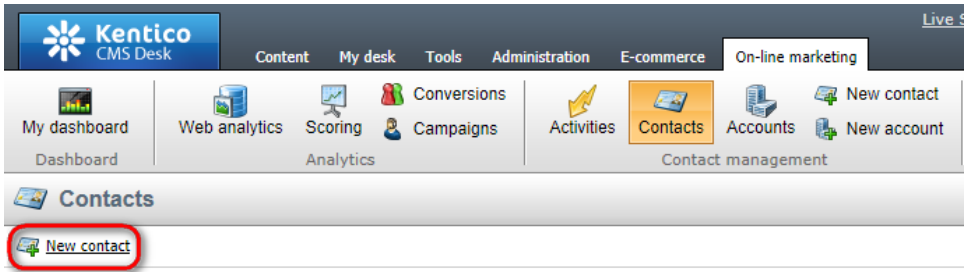
© 2012 Kentico Software

On the live site

When an anonymous website visitor comes to the website for the first time, a contact is created for them automatically. When the same visitor registers on the live site as a new user, a new contact An example of creating a new contact on the live site can be found in the Activities -> Example topic in the Contact management section of this guide.

In the administration interface

1. Sign in as an administrator, go to **CMS Desk -> On-line marketing -> Contacts** (alternatively, you can navigate to the **Contacts** tab in **Site Manager -> Tools -> Contact management**) and click the **New contact** link.

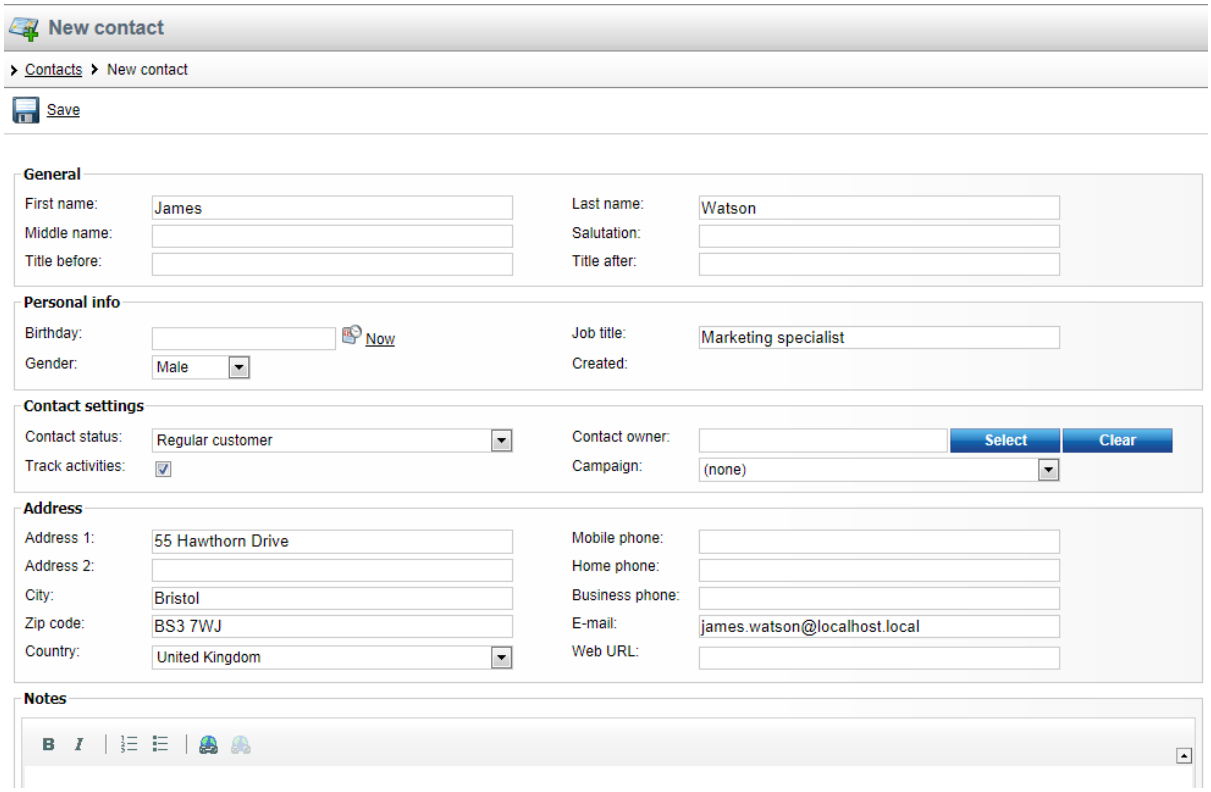


2. In the **New contact** dialog, enter the following properties:

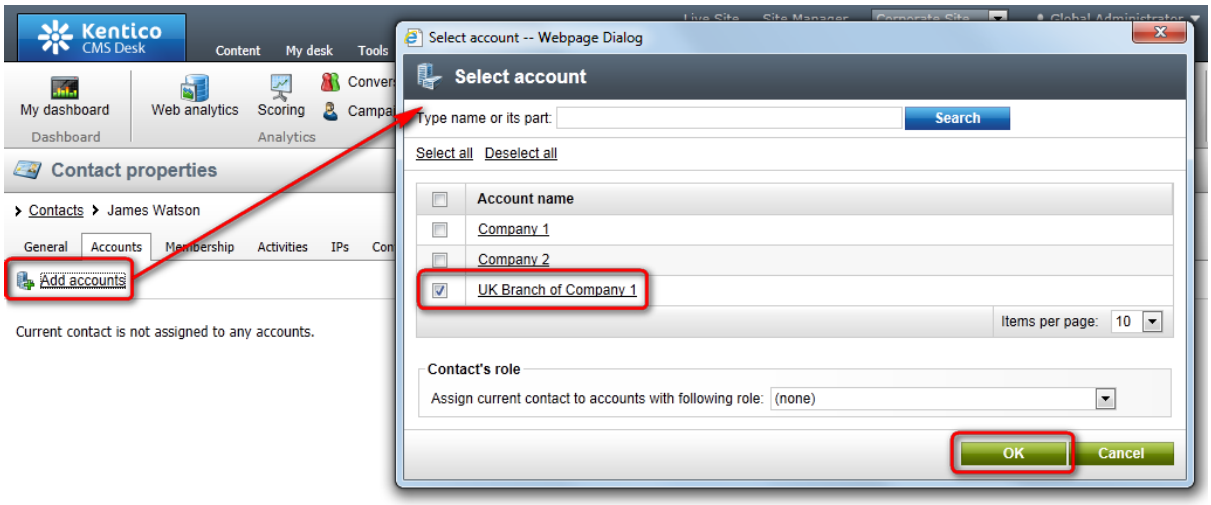
- **First name:** James
- **Last name:** Watson
- **Contact status:** select a contact status, if no statuses were defined yet, please refer here to see how to do it
- **Gender:** Male
- **Job title:** Marketing specialist
- **Address 1:** 55 Hawthorn Drive
- **City:** Bristol
- **ZIP code:** BS3 7WJ
- **Country:** United Kingdom
- **E-mail:** james.watson@localhost.local

Once entered, click **Save** () for the contact to be created.

© 2012 Kentico Software

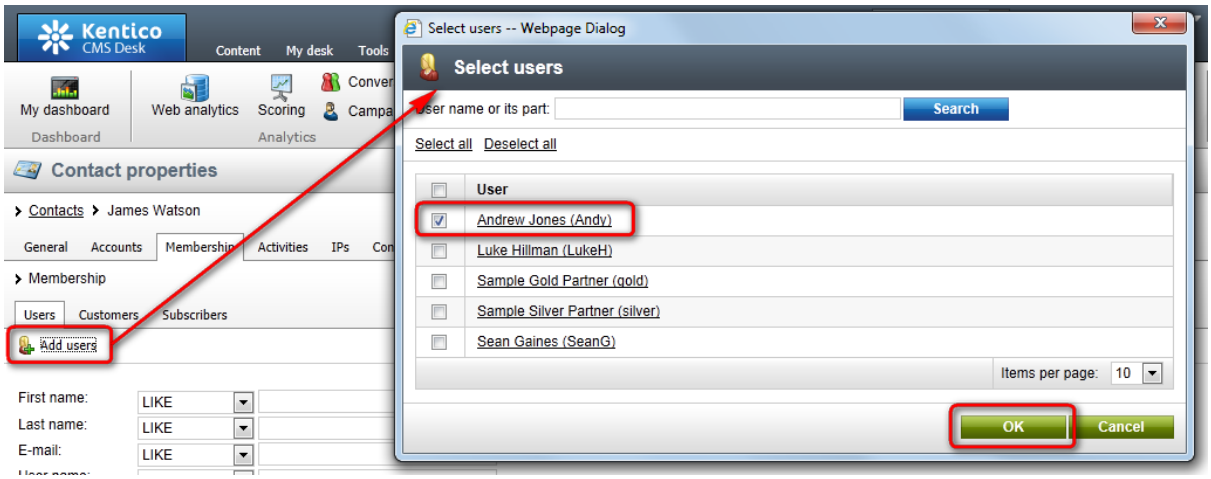


3. Optionally, switch to the **Accounts** tab, click the **Add accounts** link and in the **Select account** dialog select accounts which should be assigned to the contact. Click **OK**. Please note that at least one account must be defined to be able to perform this step. If no accounts were defined yet, please refer here to see how to do it.

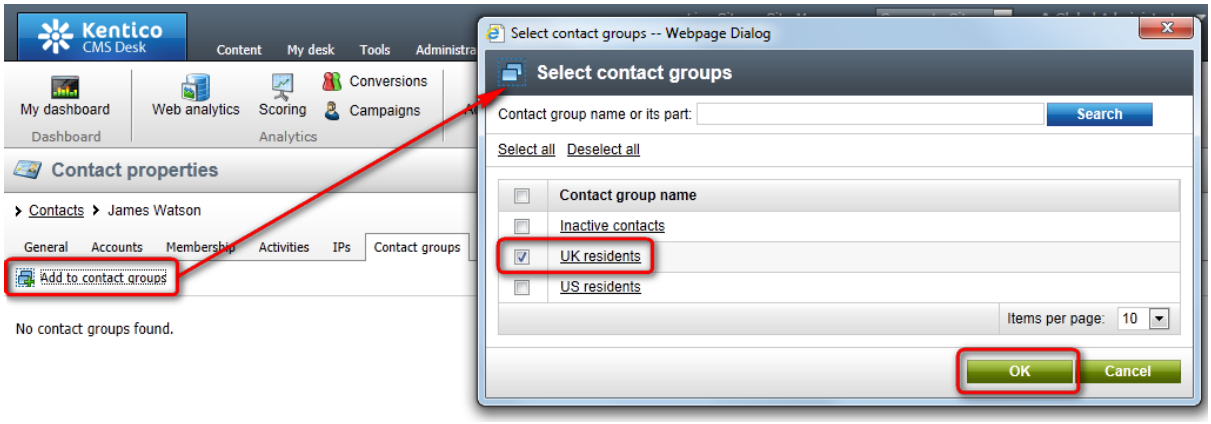


4. Optionally, switch to the **Membership** tab and on the respective tabs add users, customers or subscribers that should be associated with the new contact.

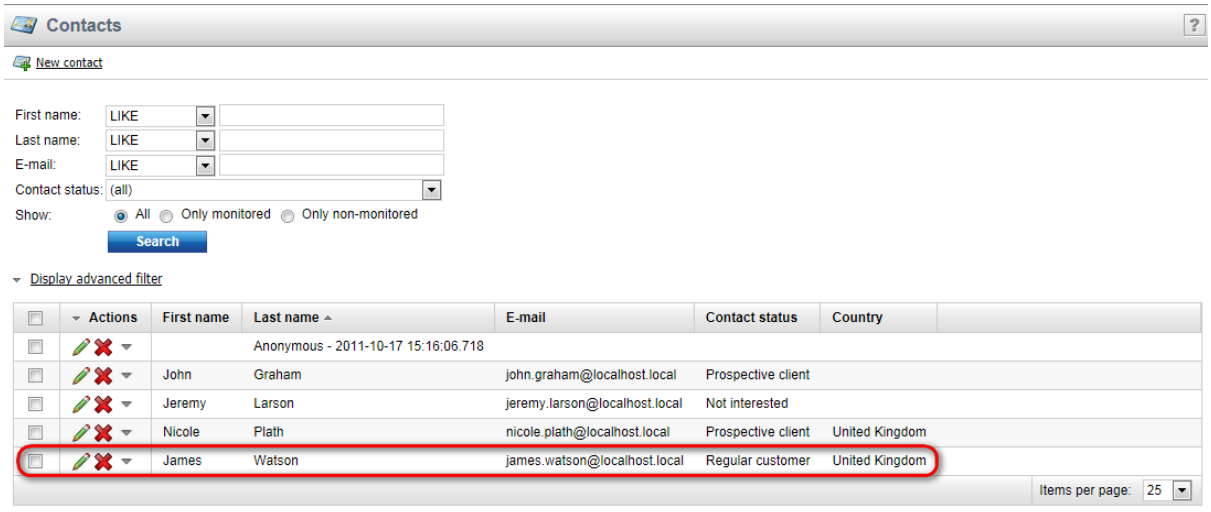
© 2012 Kentico Software



5. Optionally, switch to the **Contact groups** tab, click the **Add to contact groups** link and in the **Select contact groups** dialog select contact groups to which the contact should be added. Click **OK**. Please note that at least one contact group must be defined to be able to perform this step. If no contact groups were defined yet, please refer here to see how to do it.



6. If you now view the list of contacts, you can see that the new contact is listed among other contacts.



© 2012 Kentico Software

6.3 Accounts

6.3.1 Overview

An account in Kentico CMS is an object representing a single organization, i.e. a company or other commercial or non-commercial body. The object can be site-specific or shared across more websites (global account). It contains multiple contacts, can have subsidiaries and can be assigned with an account status. Besides, stored as a system table, an account supports custom fields.

Further in this chapter, you will learn how to manage accounts and you will also see an example of adding a new account to your Contact management.

6.3.2 Managing accounts

In this topic you will learn how to manage accounts. Accounts can be managed in:

- **CMS Desk -> On-line marketing -> Accounts**
- **Site Manager -> Tools -> Contact management -> Accounts**

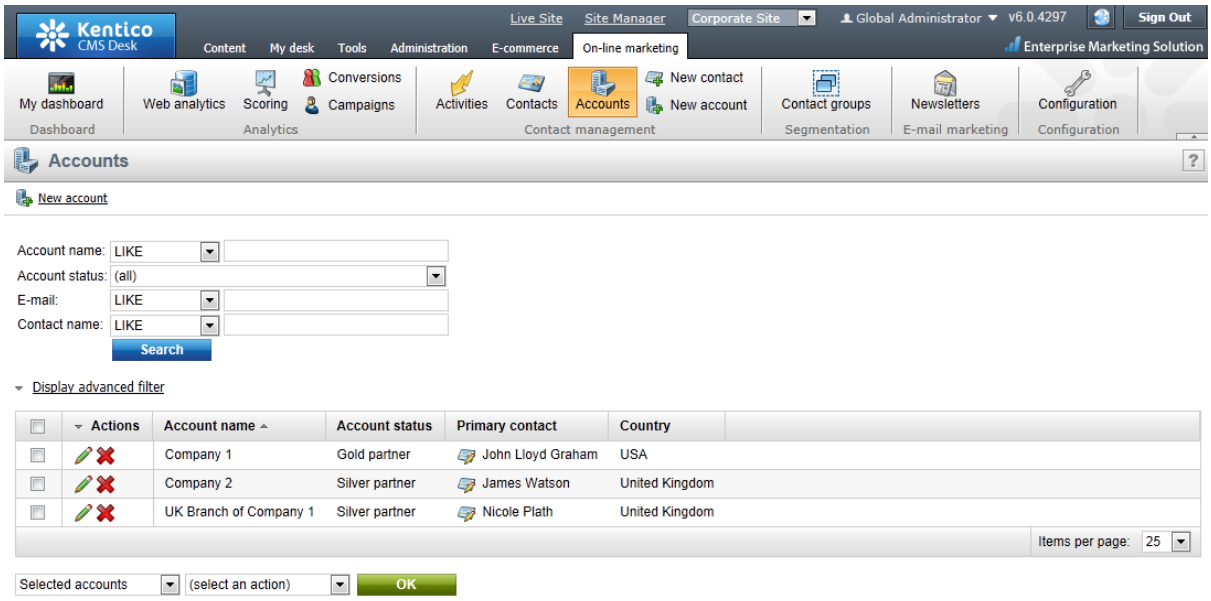
Here you can see a list of accounts available on the current site and you can also create new accounts by clicking the **New account** link. Please note that you can always create site-specific accounts and, if the use of global accounts is allowed, also accounts shared across more websites.

You may need to display only accounts matching certain search criteria (e.g. account name, account status, e-mail etc.). To do so, choose either the simplified or advanced filter, enter the required values and click **Search**.

Individual accounts can be **Edited** ( ) or **Deleted** ( ) and you can also perform **Other actions** such as **Export**, **Backup** or **Restore**. The displayed list can be sorted by account name, account status, primary contact and country.

Using the pair of drop-down lists below the list, you can perform certain contact management tasks with multiple accounts at once, specifically adding accounts to a contact group, deleting and merging accounts or changing the account status. To do this, choose either *Selected contacts* or *All contacts* from the first drop-down list, the required action from the second one and click **OK**.

© 2012 Kentico Software



If editing an account, the following tabs are available:

- General tab
- Custom fields tab
- Contacts tab
- Subsidiaries tab
- Merge tab

General tab

On this tab you can edit properties of a selected account. When you have modified the values, click **Save** to save the account.

General

- **Account name** - the name of the account. Accounts usually represent companies or other commercial or non-commercial bodies.
- **Account status** - allows to select an account status. If defined, the account can be labeled with an account status, e.g. a V.I.P. account.
- **Subsidiary of** - allows to select an account, i.e. company or other commercial or non-commercial body, of which the current account is a subsidiary.
- **Account owner** - allows to define an account owner, i.e. user responsible for management of the current account.

Address

- **Address line 1** - the first line of the account's address.
- **Address line 2** - the second line of the account's address.
- **City** - allows to define the city where the account has its address.
- **Zip code** - allows to define the zip code of the area where the account has its address.
- **Country** - allows to define the country where the account has its address.
- **Phone** - the phone number of the account.
- **Fax** - the fax number of the account.
- **E-mail** - the e-mail address of the account.
- **Website URL** - the website URL of the account.

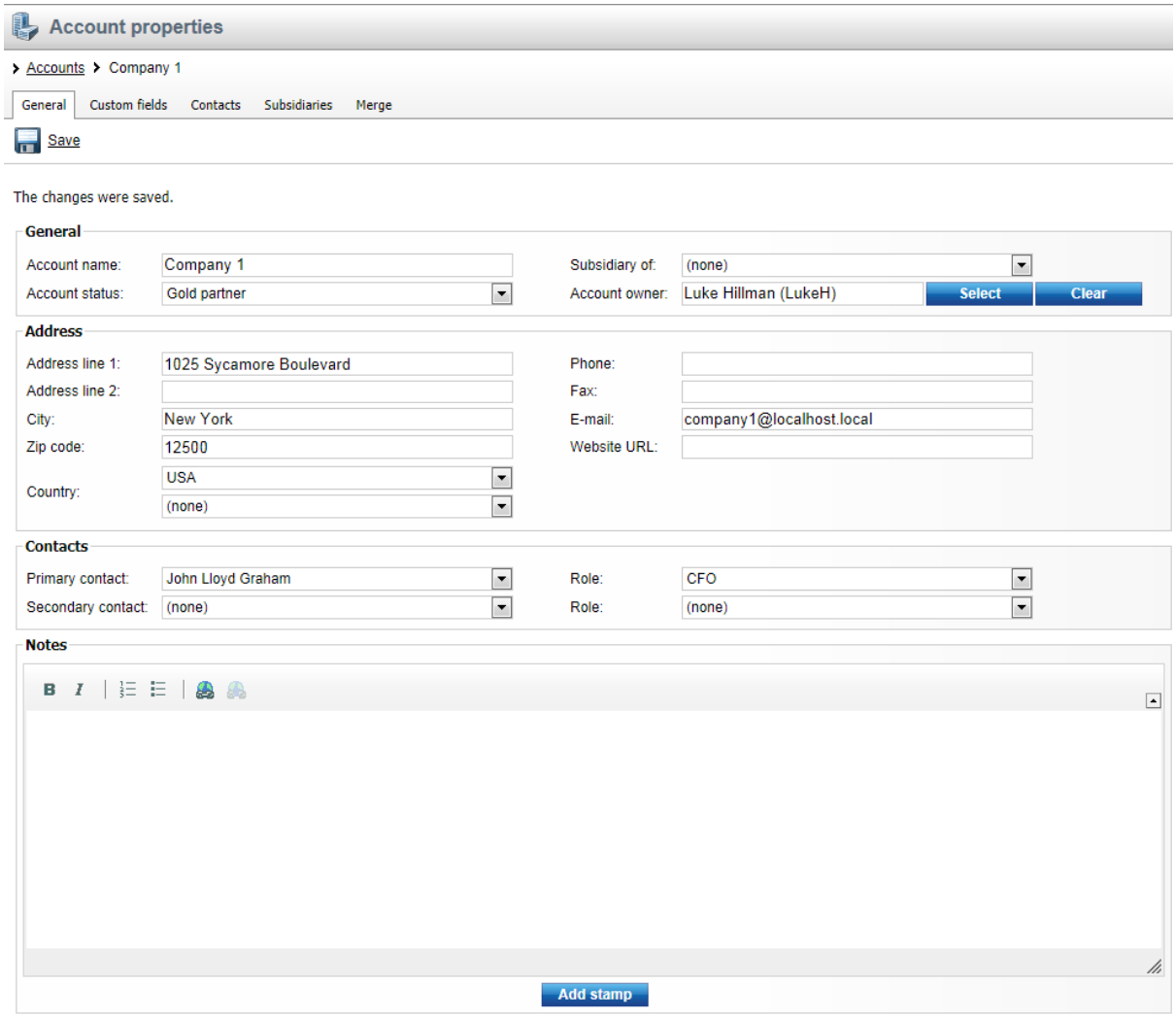
© 2012 Kentico Software

Contacts

- **Primary contact** - the most important contact assigned to the current account; e.g. a company's CEO. Please note that you can select a primary contact only if at least one contact is assigned to the current account.
- **Role** - if defined, allows to assign the primary contact with a contact role, e.g. *CEO*.
- **Secondary contact** - the second most important contact assigned to the current account; e.g. a company's CFO. Please note that you can select a secondary contact only if at least one contact is assigned to the current account.
- **Role** - if defined, allows to assign the secondary contact with a contact role, e.g. *CFO*.

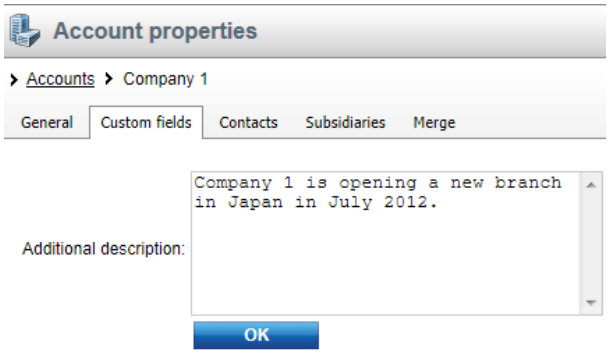
Notes - you can leave account notes either as plain text or as text with basic formatting, and you can also add your stamp by clicking the **Add stamp** button.

Please note that if you are viewing properties of a merged account, the **Split from parent** link is available on the page, enabling you to split the current account from the parent one.



Custom fields tab

On this tab you can enter custom field values of the current account, as defined in **Site manager -> Development -> System tables -> Edit (**) ***Contact management - Account*** on the **Fields** tab. When you have entered the values, click **OK** to save the changes.

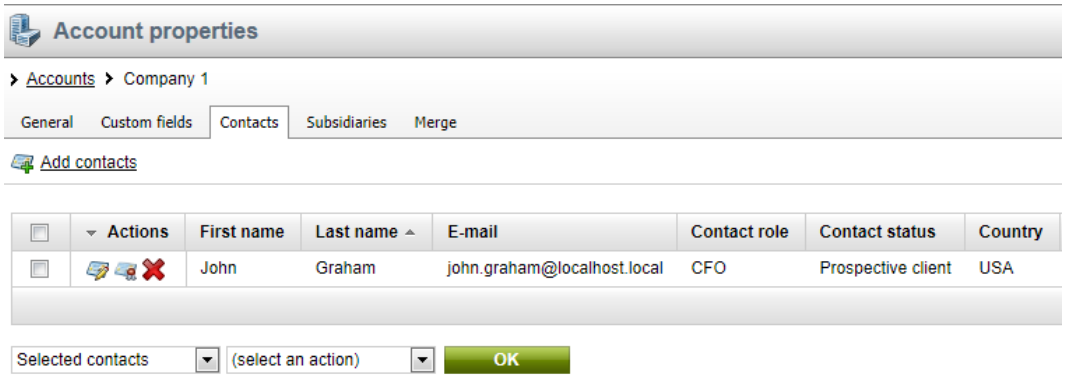


Contacts tab

On this tab you can see a list of contacts assigned to the current account and you can also add contacts by clicking the **Add contacts** link. If you decide to do so, the **Select contact** dialog opens, enabling you to assign selected contacts to the current account; optionally also with a selected role (if defined). Please note that if you edit a global account, only global contacts are offered. Similarly, if you edit a site account, only current site contacts are offered.

You can **View contact details** () of individual contacts and you can also **Select contact role** () or **Remove** () a contact. The displayed list can be sorted by contact first name, last name, e-mail, contact role, contact status and country.

Using the pair of drop-down lists below the list, you can perform certain management tasks with multiple contacts at once, specifically *Selecting contact role* or *Removing* contacts. To do this, choose either *Selected contacts* or *All contacts* from the first drop-down list, the required action from the second one and click **OK**.



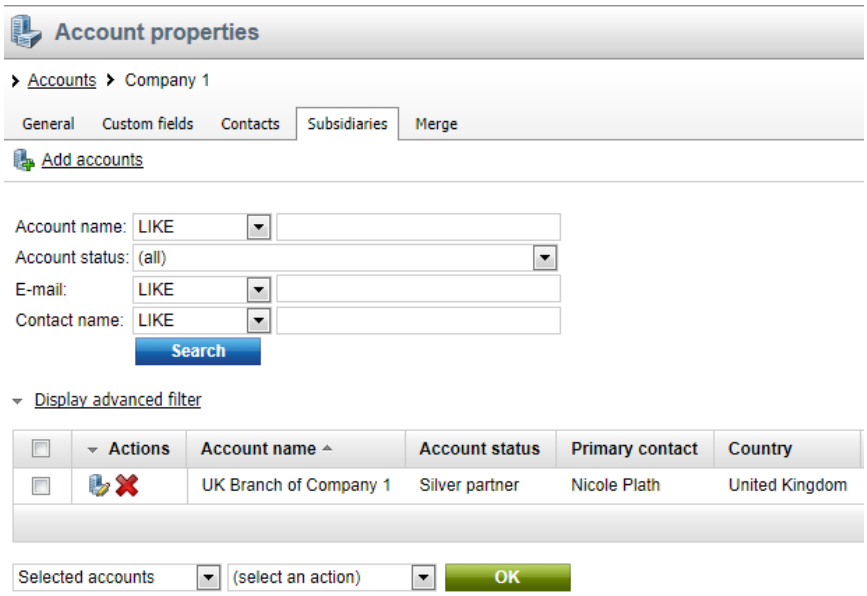
Subsidiaries tab

On this tab you can see a list of accounts which are subsidiaries of the current account. You can also add accounts to be recognized as subsidiaries of the current account by clicking the **Add accounts** link. If you decide to do so, the **Select account** dialog opens, enabling you to assign these accounts. Please note that if you edit a global account, only global accounts are offered; similarly, if you edit a site account, only current site accounts are offered.

© 2012 Kentico Software

You can **View details** () of individual accounts or **Remove** () them. The displayed list can be sorted by account name, account status, primary contact and country.

Using the pair of drop-down lists below the list, you can perform the *Remove* action for multiple accounts at once. To do this, choose either *Selected accounts* or *All accounts* from the first drop-down list, the action from the second one and click **OK**.



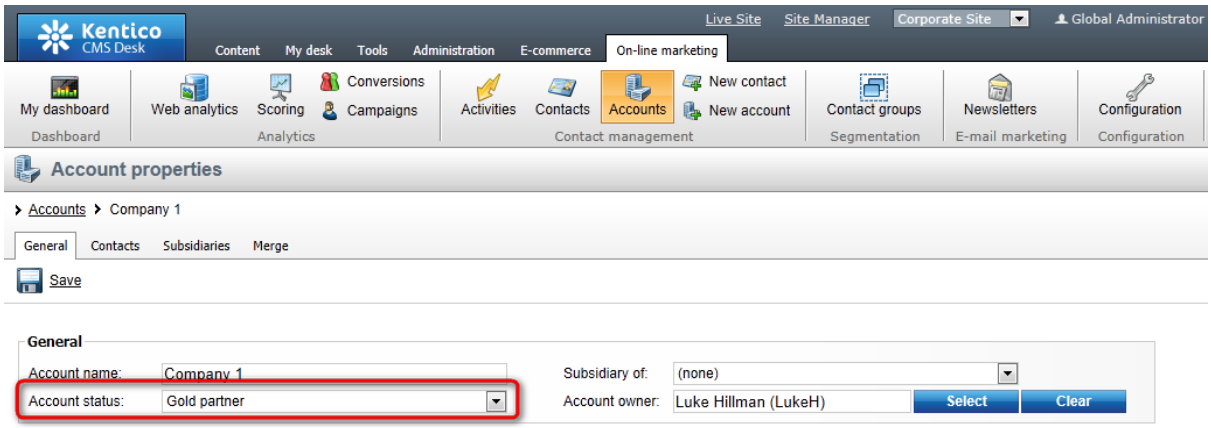
Merge tab

On this tab you can merge other accounts with the currently edited account so that only the currently edited account remains. This is useful in cases when you come to the conclusion that multiple accounts actually represent a single real-world organization. On the tab, you can also view a list of accounts that have been merged with it and split them back into separate accounts if needed. Detailed information on merging in Kentico CMS can be found in the Merging contacts and accounts chapter.

6.3.3 Account statuses

Accounts can be labeled with account statuses in order to reflect their relationship to your organization or to indicate how the account is perceived from the marketing point of view. Statuses can be assigned to accounts in the **Account status** field on the General tab of each account's editing interface. One account can be labeled with only one status at a time.

© 2012 Kentico Software

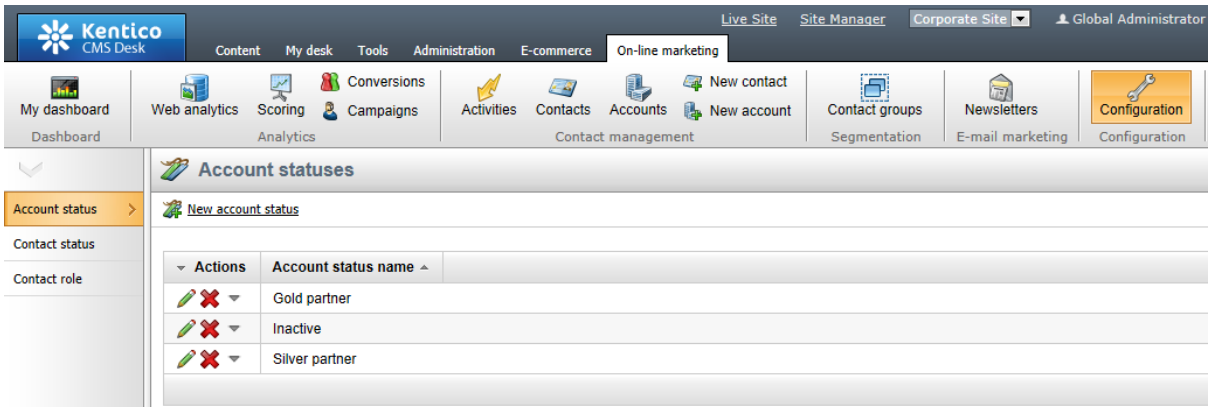


There is a pre-defined set of account statuses for each website. The sets of statuses can be managed in the following sections of the user interface:

- **CMS Desk -> On-line marketing -> Configuration -> Account status**
- **Site Manager -> Tools -> Contact management -> Configuration -> Account status**

The user interface in CMS Desk allows management of account statuses pre-defined for the currently edited website. The one in Site Manager allows management of account statuses for all websites running in the system. If global account statuses are enabled, they can be managed in both sections.

Properties of account statuses listed in the mentioned sections of the user interface can be edited after clicking the **Edit** ( ) icon in a respective account status's row. By clicking the **Delete** ( ) icon, you can delete the account status so that it is no longer present and available in the system. The **Export** ( ) action available in the drop-down menu ( ) in each row enables you to export the respective status into a file and subsequently import it on another Kentico CMS instance.



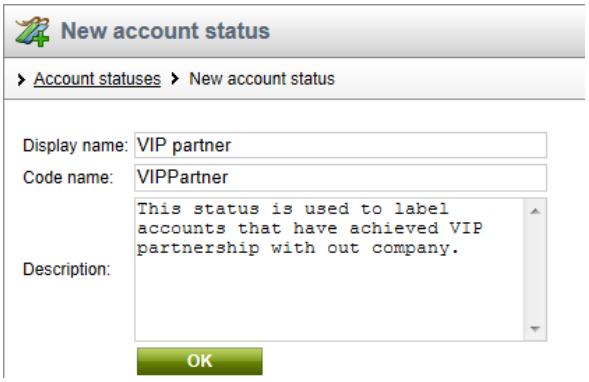
Creating a new account status

If you need to add a new account status to the set of listed statuses, click the **New account status** link above the list. After doing so, you need to specify the following properties in the **New account status** dialog:

- **Display name** - the name of the account status used in Kentico CMS user interface.
- **Code name** - the name of the account status used in the code.
- **Description** - the description of the account status.

© 2012 Kentico Software

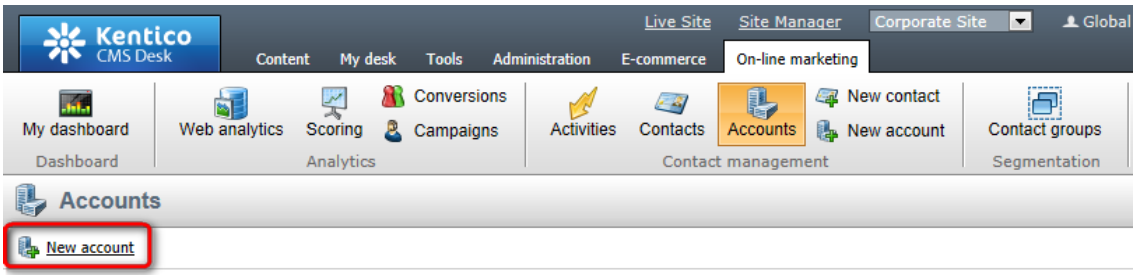
Once you have the properties specified, click **OK** for the new status to be created.



6.3.4 Example: Creating a sample account

Here you will learn how to create a new account.

1. Sign in as an administrator and go to **CMS Desk -> On-line marketing -> Accounts** and click the **New account** link.

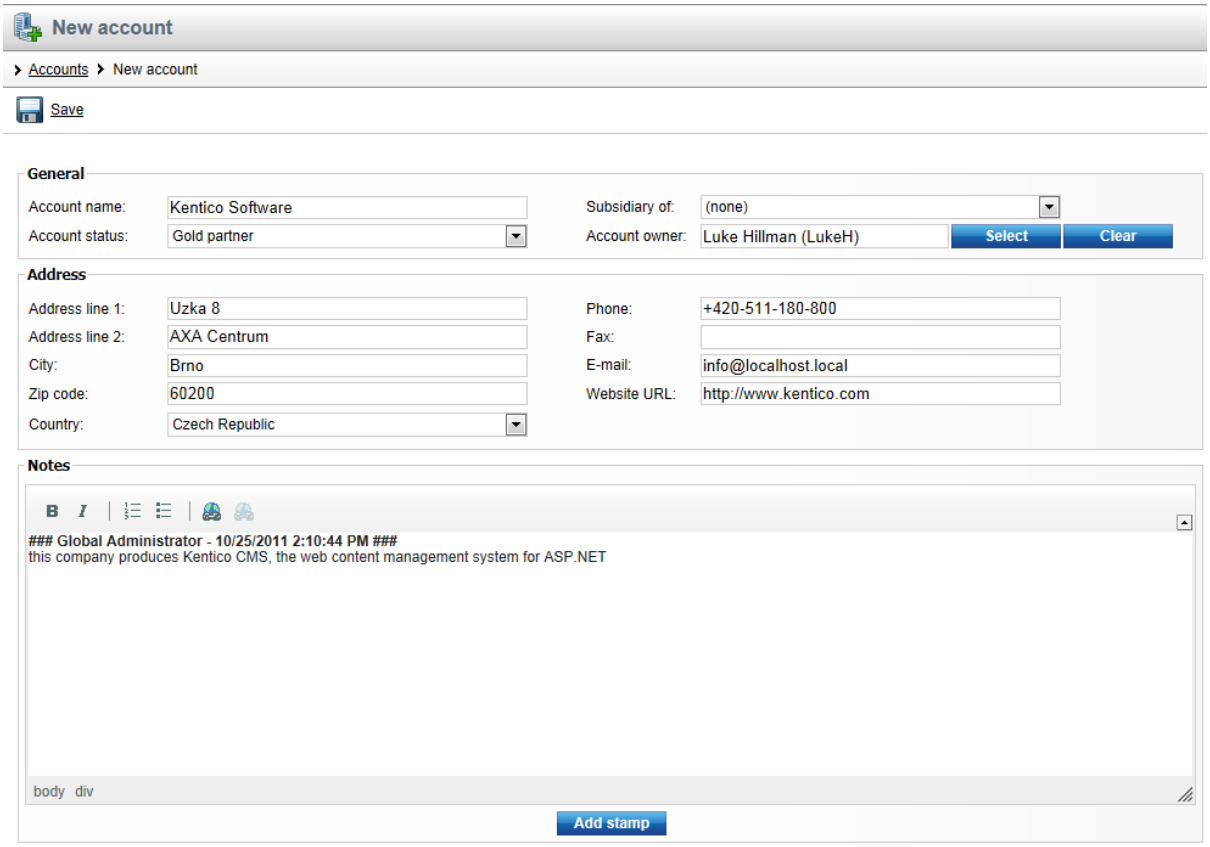


2. In the **New account** dialog, enter for example the following properties:

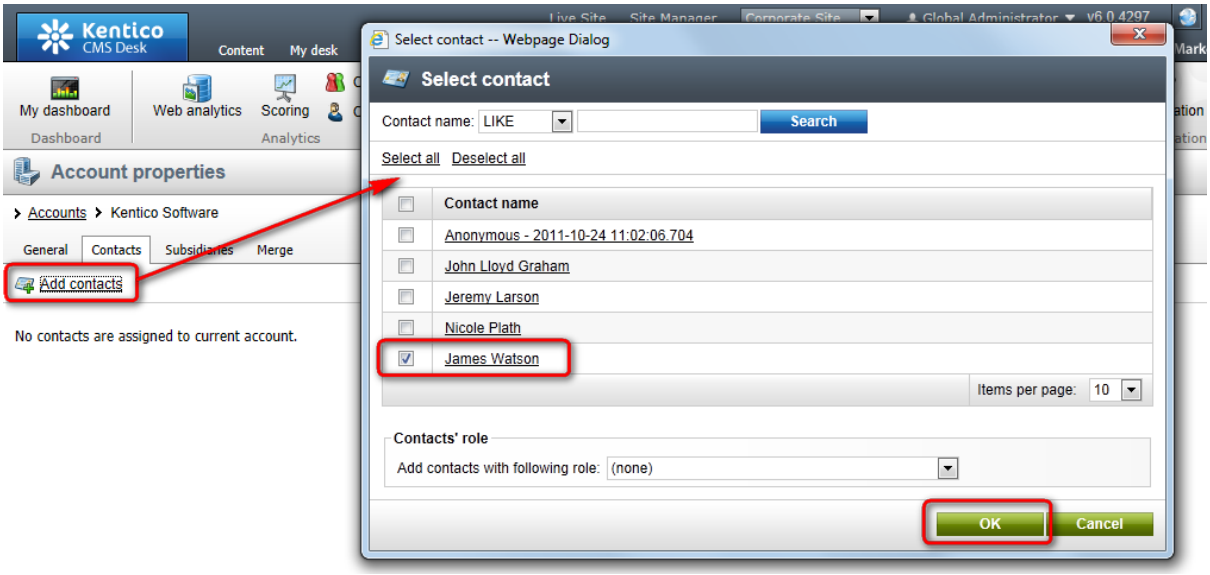
- **Account name:** Kentico Software
- **Account status:** select an account status, if no statuses were defined yet, please refer here to see how to do it
- **Account owner:** Luke Hillman (LukeH)
- **Address line 1:** AXA Centrum
- **City:** Brno
- **Zip code:** 60200
- **Country:** Czech Republic
- **Phone:** +420-511-180-800
- **E-mail:** info@localhost.local

Once entered, click **Save** for the new account to be created.

© 2012 Kentico Software



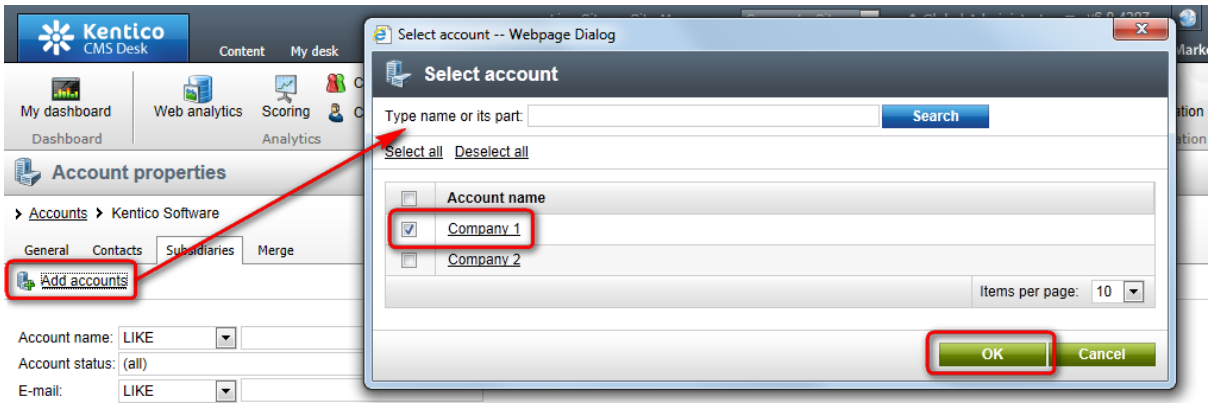
3. The account is now created and you are redirected to the General tab of its editing interface. If you want to add contacts to it, switch to the **Contacts** tab and click the **Add contacts** link. In the **Select contact** dialog which pops up, select contacts who should belong to the account, e.g. *James Watson* defined in Contacts -> Example: Creating a sample contact, and click **OK**.



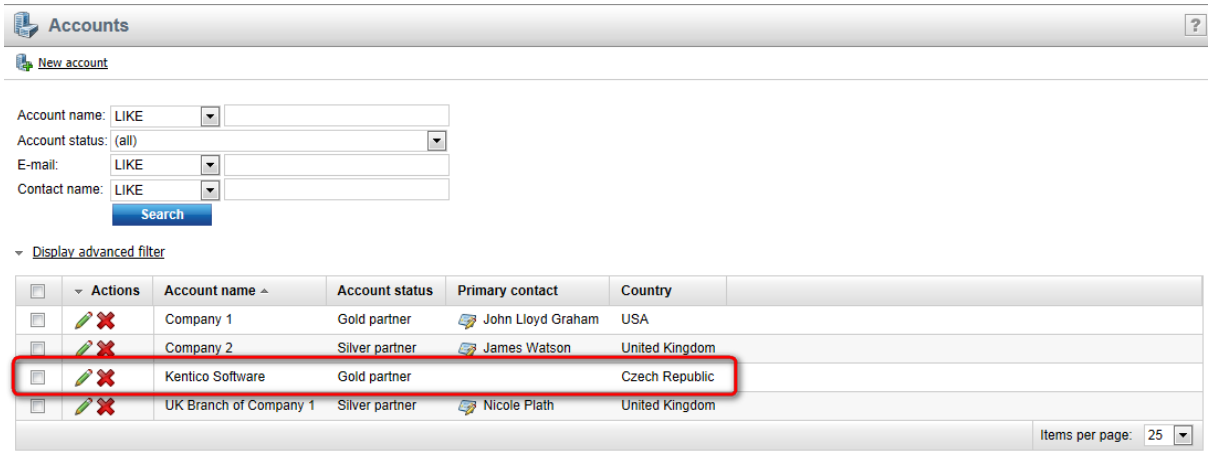
4. Optionally, switch to the **Subsidiaries** tab, click the **Add accounts** link and in the **Select account** dialog select accounts which should be recognized as subsidiaries of the current account.

© 2012 Kentico Software

Click **OK**.



6. If you now view the list of accounts in **CMS Desk -> On-line marketing -> Accounts**, you can see that the new account is listed among other accounts.



6.4 Contact groups

6.4.1 Overview

Contact groups in Kentico CMS are objects enabling you to group contacts according to the required criteria. One contact can be contained in several different contact groups. Assignment to more contact groups at a time applies also to accounts. However, if a particular account is contained in a contact group, all its contacts belong to this group, too. Besides, contact groups can be site-specific or shared across more websites (global contact group). They are thus convenient for various marketing activities, e.g. for e-mail marketing.

Further in this chapter, you will learn how to manage contact groups and you will also see an example of creating a new contact group.

6.4.2 Managing contact groups

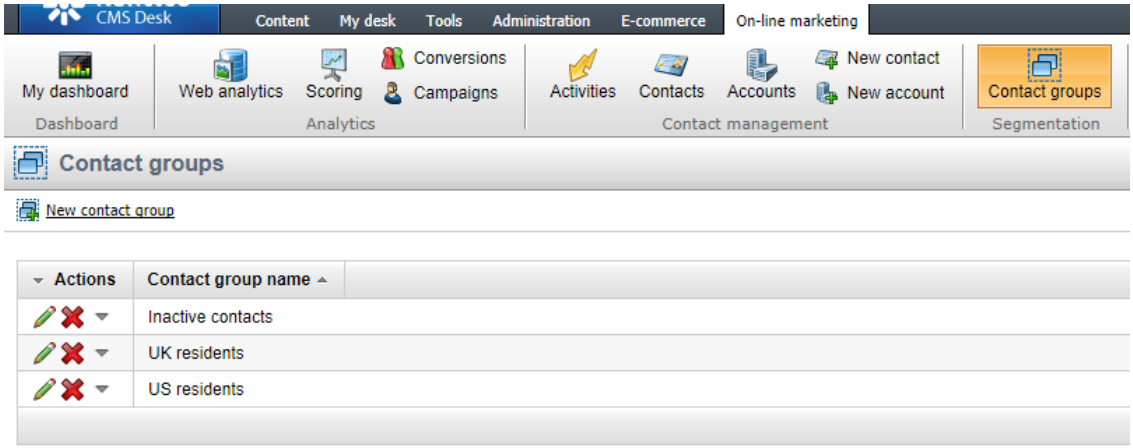
In this topic you will learn how to manage contact groups. Contact groups can be managed in:

© 2012 Kentico Software

- **CMS Desk -> On-line marketing -> Contact groups**
- **Site Manager -> Tools -> Contact management -> Contact groups**

Here you can see a list of contact groups available on the current site and you can also create new contact groups by clicking the **New contact group** link. Please note that you can always create site-specific contact groups and, if the use of global contact groups is allowed, also contact groups shared across more websites.

Individual contact groups can be **Edited** (✎) or **Deleted** (✖) and you can also perform **Other actions** such as **Export**, **Backup** or **Restore**. The displayed list can be sorted by contact group name and, optionally, site.



If editing a contact group, the following tabs are available:

- General tab
- Contacts tab
- Accounts tab

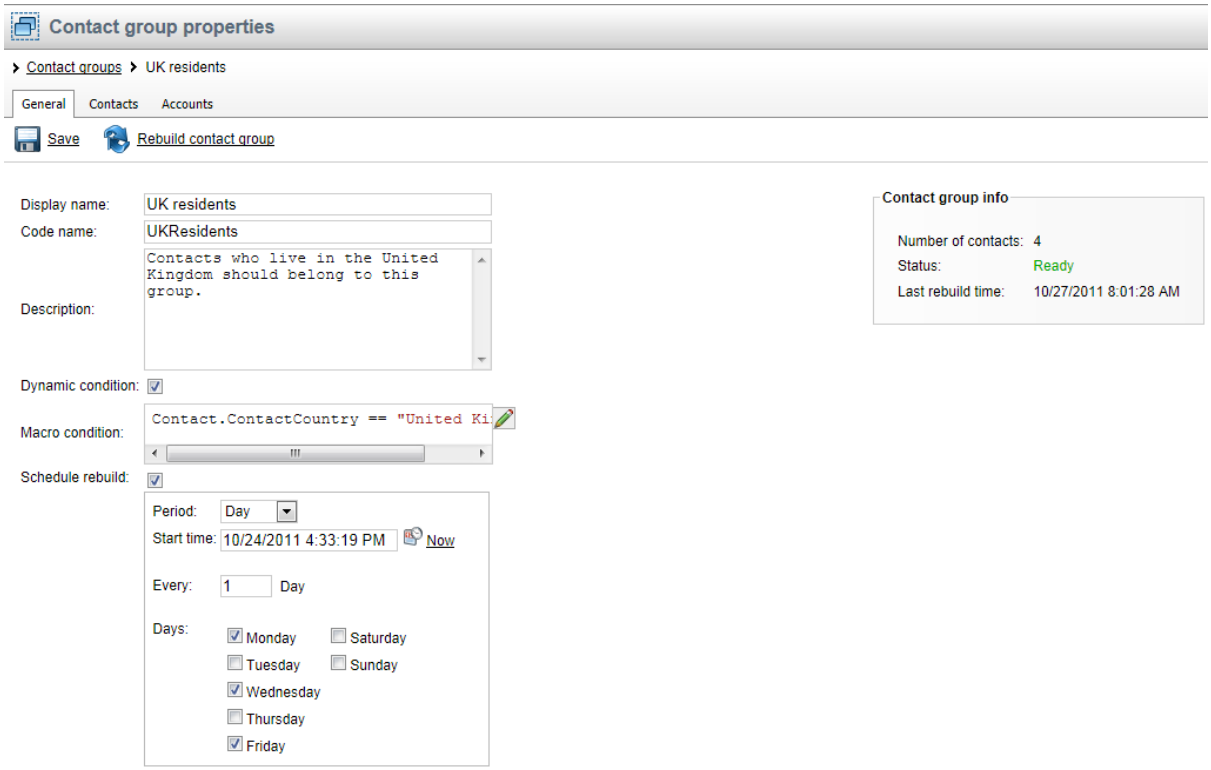
General tab

On this tab you can edit properties of a selected contact group. When you have modified the values, click **Save** to save the contact group.

- **Display name** - the name of the contact group used in Kentico CMS user interface.
- **Code name** - the name of the contact group used in the code.
- **Description** - the description of the contact group.
- **Dynamic condition** - allows to define a macro condition. If defined, a contact which fulfills the given condition is assigned to the current contact group.
- **Macro condition** - use the text area to define a macro condition, e.g. contact's city is *London*. Alternatively, you can click **Edit** (✎) to edit the macro condition in the **Edit macro condition** dialog window. For more details on using macros in Kentico CMS, please refer to the Macro expressions chapter in the Development section of the Developer's Guide.
- **Schedule rebuild** - if enabled, the current contact group is automatically rebuilt in accordance with the defined macro condition.

You can also manually rebuild the contact group according to a macro condition (if defined) by clicking the **Rebuild contact group** link or view **Contact group info** containing information on the number of contacts in the current contact group, its status and last rebuild time.

© 2012 Kentico Software



Contacts tab

On this tab you can see a list of contacts assigned to the current contact group and you can also add contacts to the group by clicking the **Add contacts** link. If you decide to do so, the **Select contact** dialog opens, enabling you to assign selected contacts to the current contact group. Please note that if you edit a global contact group, current site contacts and optionally global contacts are offered; however, if you edit a site contact group, only current site contacts are offered.

You can **View contact details** () of individual contacts and you can **Remove** () contacts. The displayed list can be sorted by contact first name, last name, e-mail, contact status, country etc. Besides, the list provides information on how a particular contact was added to the contact group:

- **Dynamic** - indicates if the contact was added based on a dynamic condition.
- **From account** - indicates if the contact was added together with an account with which it is associated.
- **Manual** - indicates if the contact was added manually, using the **Select contact** dialog window.

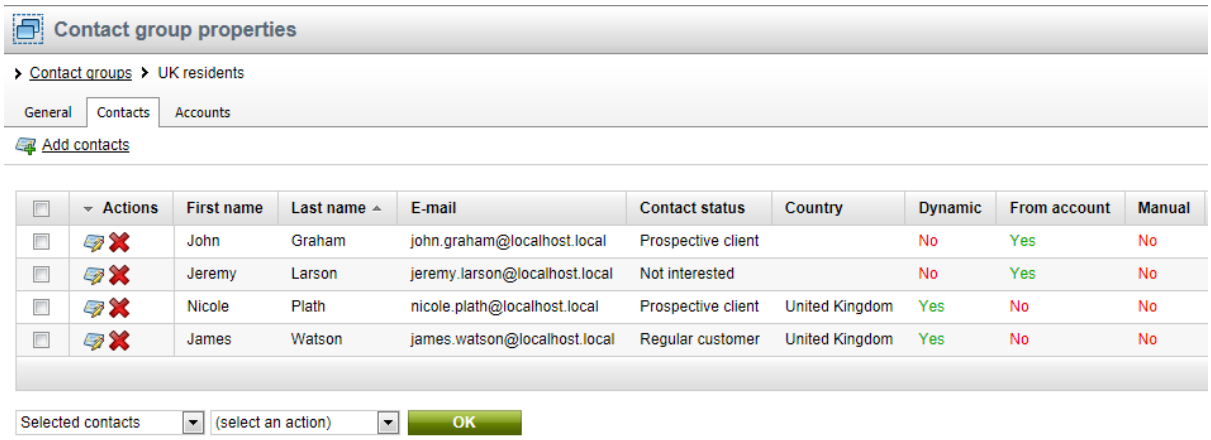
Using the pair of drop-down lists below the list, you can perform the *Remove* action for multiple contacts at once. To do this, choose either *Selected contacts* or *All contacts* from the first drop-down list, the action from the second one and click **OK**.

> **Please note**
>
> Contacts added to the current contact group otherwise than by assigning an associated

© 2012 Kentico Software

account, i.e. either dynamically based on a condition or manually, remain in the contact group after removing the respective account from it.

Similarly, this holds true also to contacts added to the group dynamically providing the respective dynamic condition ceased to apply.

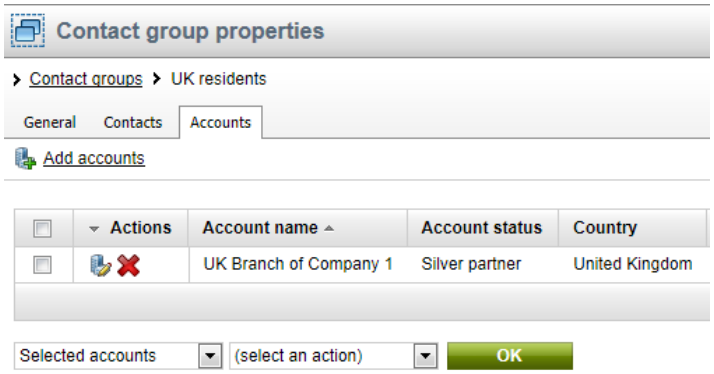


Accounts tab

On this tab you can see a list of accounts assigned to the current contact group and you can also add accounts to the group by clicking the **Add accounts** link. Please note that adding an account to a contact group results in adding all contacts associated with this account to the group. If you decide to add accounts, the **Select account** dialog opens, enabling you to assign selected accounts to the current contact group. Please note that if you edit a global contact group, current site accounts and optionally global accounts are offered; however, if you edit a site contact group, only current site accounts are offered.

You can **View account details** () of individual accounts and you can **Remove** () accounts. The displayed list can be sorted by account name, account status, country etc.

Using the pair of drop-down lists below the list, you can perform the *Remove* action for multiple accounts at once. To do this, choose either *Selected accounts* or *All accounts* from the first drop-down list, the action from the second one and click **OK**.



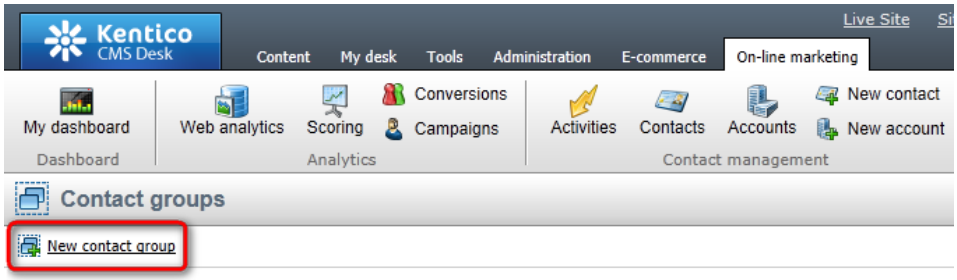
© 2012 Kentico Software

6.4.3 Example: Creating a sample contact group

In Part 1 of this example, you will learn how to create a new contact group with a dynamic condition. In Part 2, you will learn how contacts can be added to the group based on a dynamic condition, as members of an account and manually.

Part 1: Creating the sample contact group

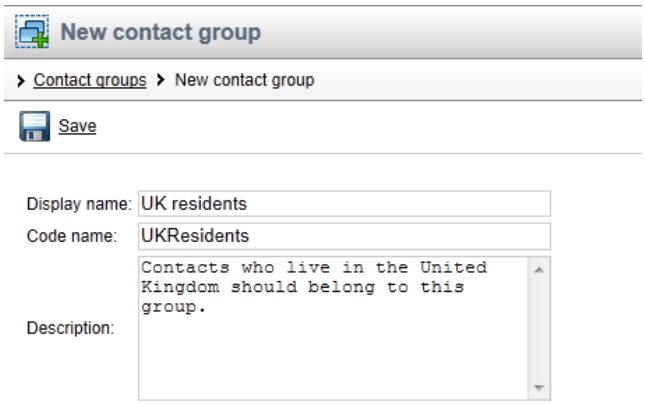
1. Sign in as an administrator and go to **CMS Desk -> On-line marketing -> Contact groups**. Click the **New contact group** link.



2. In the **New contact group** dialog, enter the following properties:

- **Display name:** UK residents
- **Code name:** UKResidents
- **Description**: Contacts who live in the United Kingdom should belong to this group.

Click **Save** once entered.

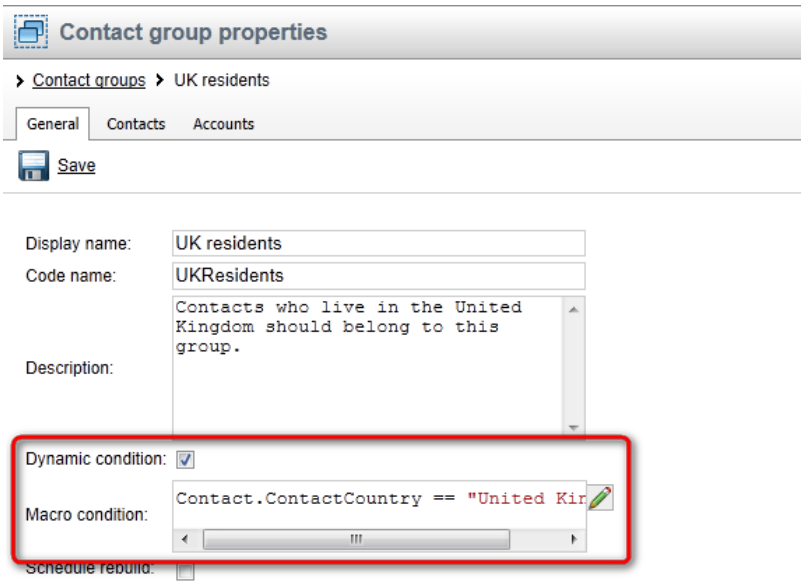


3. You will be redirected to the **General** tab of the newly created contact group's editing interface. Here, specify a dynamic condition which will ensure that all contacts who have *United Kingdom* specified in the **Country** field of their properties will be added to the contact group automatically:

- **Dynamic condition:** enabled
- **Macro condition:** Contact.ContactCountry == "United Kingdom"

Click **Save** to save the condition.

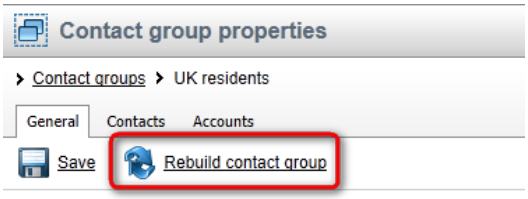
© 2012 Kentico Software



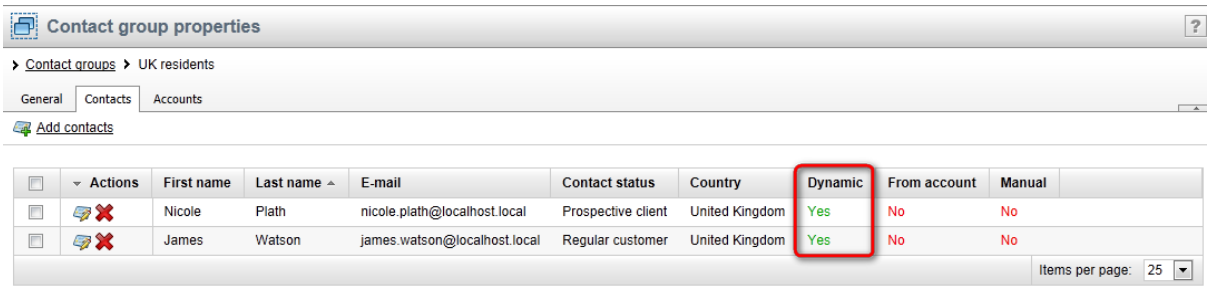
The group is now created. To try out the three different ways how contacts can be added to the group, please proceed to the second part of this example.

Part 2: Adding contacts to the contact group

4. To try out adding of contacts based on the dynamic condition, make sure that you have at least one contact with *United Kingdom* specified in the **Country** field (see Contacts -> Example: Creating a sample contact to learn how to create one). Then click the **Rebuild contact group** link which appeared next to **Save**. This ensures that all contacts that match the condition will be added to the contact group automatically.



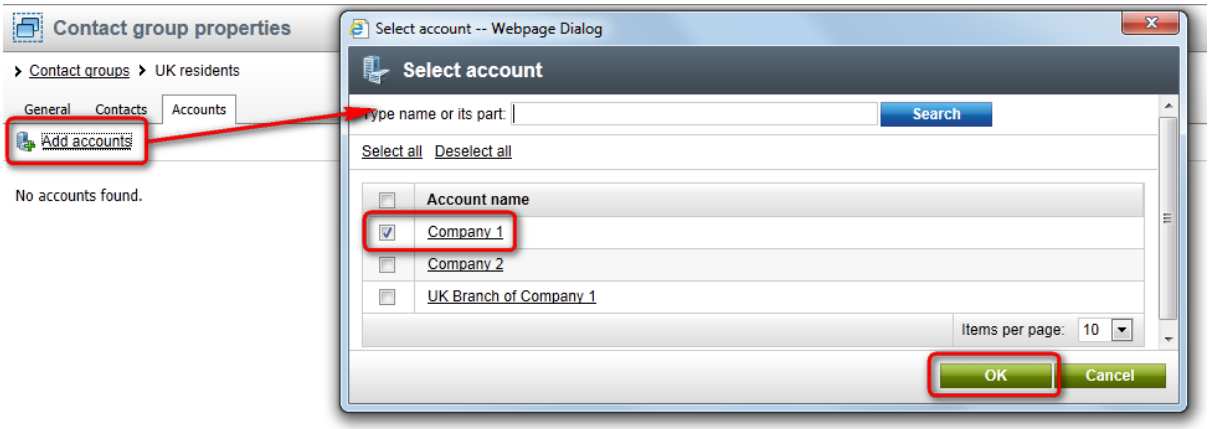
5. Now switch to the **Contacts** tab. You should see that the matching contacts were added to the contact group. The *Yes* value in the **Dynamic** column indicates that they were added to the contact group based on a dynamic condition.



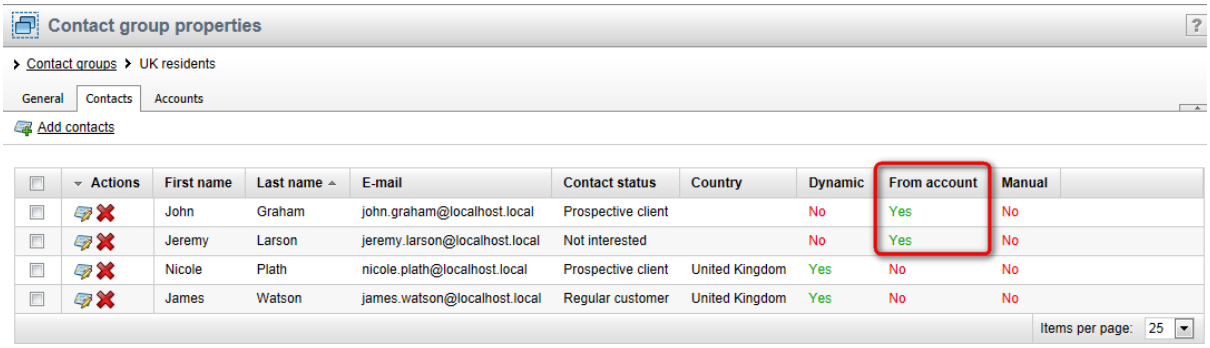
6. Now let's try adding an account to the contact group, which makes all contacts that belong to the

© 2012 Kentico Software

account members of the contact group as well. Before proceeding, please make sure that you have at least two contacts assigned to one account (see Accounts -> Example: Creating a sample account to learn how to do it). Then switch to the **Accounts** tab and click **Add accounts**. In the **Select account** pop-up dialog, select the account and click **OK**.

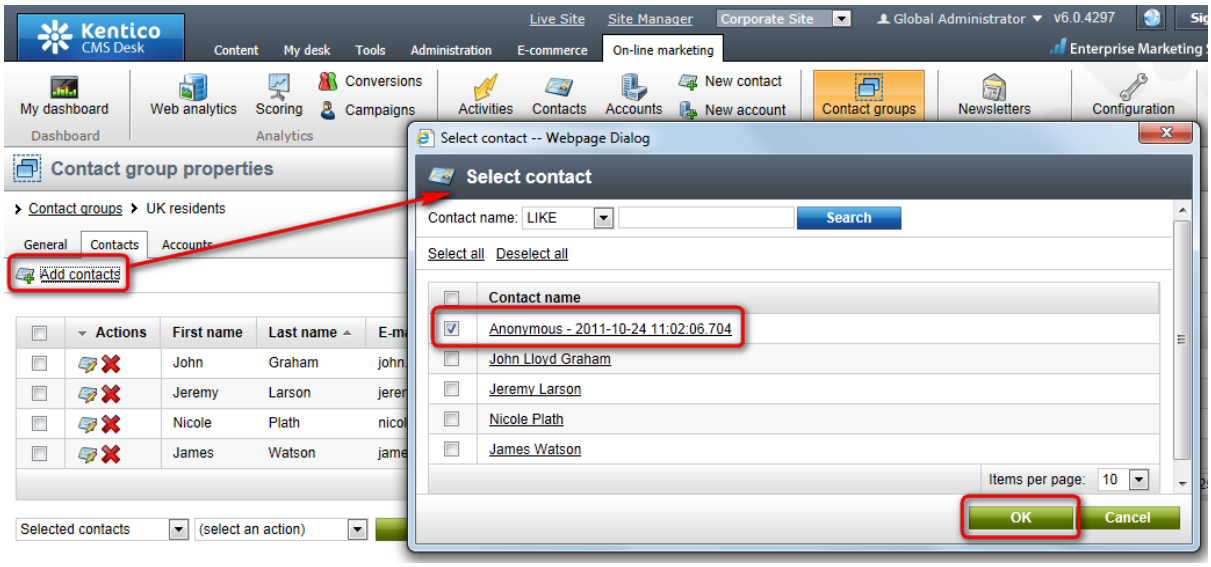


7. If you switch back to the **Contacts** tab, you can see that all contacts associated with the previously added account are listed. The *Yes* value in the **From account** column indicates that the contacts were added automatically because they belong to the added account.

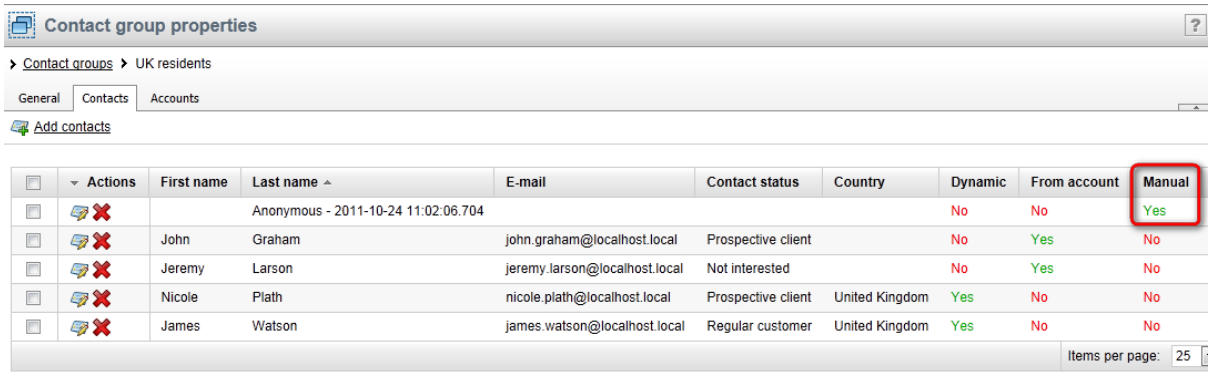


7. The last way how contacts can be added to contact groups is to add them manually. To do this, click the **Add contacts** link above the list of contacts. In the **Select contact** pop-up dialog, choose a random account which has not been added to the contact group yet and click **OK**.

© 2012 Kentico Software



8. Switch back to the **Contacts** tab, you should see the last contact listed with the *Yes* value in the **Manual** column, indicating that it was added to the contact group manually manually.



6.5 Merging contacts and accounts

6.5.1 Overview

It may happen that multiple contacts in the system actually represent the same real-world person, or that you have more than one account in the system that represents a single real-world organization. The merging functionality allows you to get rid of such duplicities by merging multiple contacts or accounts into a single object.

There are two ways how merging can be performed:

- Manual merging - available for both contacts and accounts. It can be performed on the **Merge** tab of individual contacts' and accounts' editing interfaces by selecting contacts or accounts to be merged with the currently edited one. A merge suggestion functionality is available here, offering to merge contacts with identical parameters.
- Automatic merging - available only for contacts. It can be performed automatically when multiple contacts are associated with the same E-commerce customer or newsletter subscriber, depending on settings made in **Site Manager -> Settings -> On-line marketing**.

© 2012 Kentico Software

After merging, only the single object (so-called parent) into which multiple ones have been merged is displayed in the user interface. However, the ones merged with it are still stored in the database. On the **Merge -> Split** tab of each contact's or account's editing interface, you can see a list of contacts or accounts that have been merged with it. It is possible to split these contacts or accounts from the parent back into separate objects. More information on how this can be achieved is available in the Splitting topic.

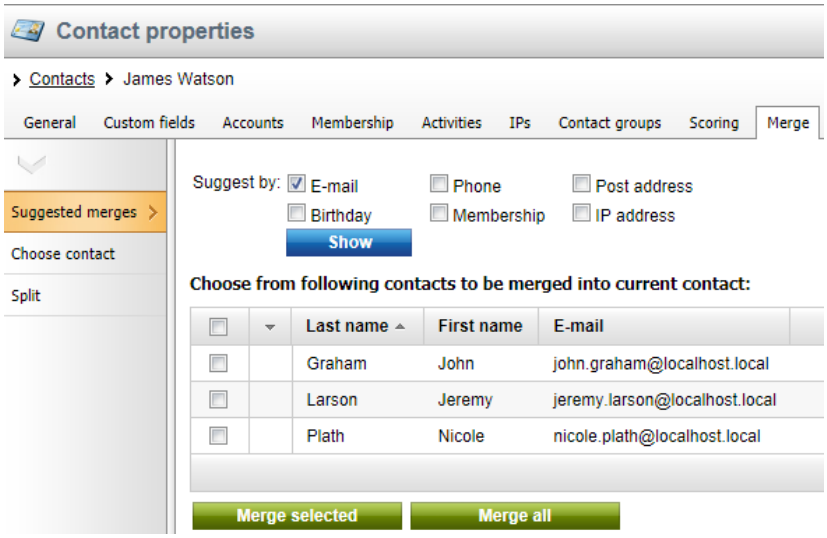
6.5.2 Manual merging

Manual merging of contacts or accounts can be performed on the **Merge** tab of their editing interfaces. Here, you can either let the system suggest you which contacts/accounts appear to be duplicate to the currently edited one, or choose the contacts/accounts to be merged with it manually from a list of all contacts/accounts that are available.

Suggested merges

On the **Suggested merges** sub-tab, you can let the system suggest you which contacts/accounts have identical values of certain properties. To get the suggestions, select the parameters to be compared using the **Suggest by** check-boxes and clicking **Show**. A list of contacts/accounts that have values of the selected properties identical to the currently edited one is displayed below.

To merge all suggested contacts/accounts into the currently edited one, click the **Merge all** button. If you want only some of them to be merged, select them using the check-boxes in their rows and click the **Merge selected** button. In both cases, the Merge collisions dialog window will be opened, enabling you to specify values of individual properties and resolve potential value conflicts.



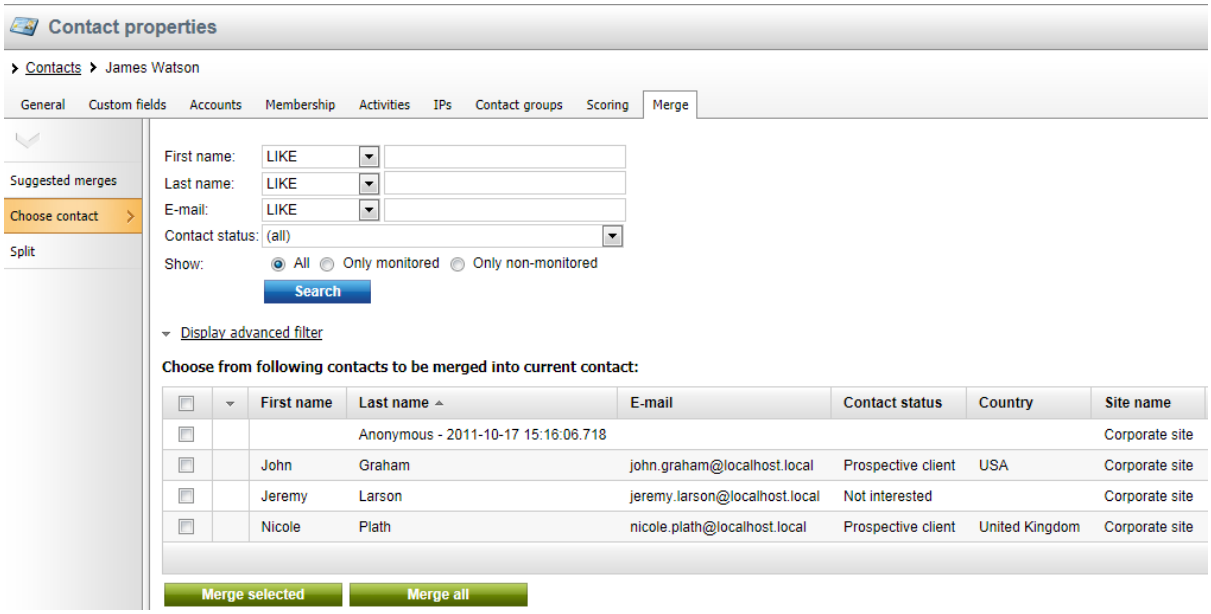
Choose contact/account

On the **Choose contact/account** sub-tab, you can choose contacts/accounts to be merged with the currently edited one manually. By default, a list of all available contacts/accounts is displayed, while you can display only those that match specified criteria using the filter above the list.

To merge all displayed objects into the currently edited one, click the **Merge all** button. If you want only

© 2012 Kentico Software

some of them to be merged, select them using the check-boxes in their rows and click the **Merge selected** button. In both cases, the Merge collisions dialog window will be opened, enabling you to specify values of individual properties and resolve potential value conflicts.



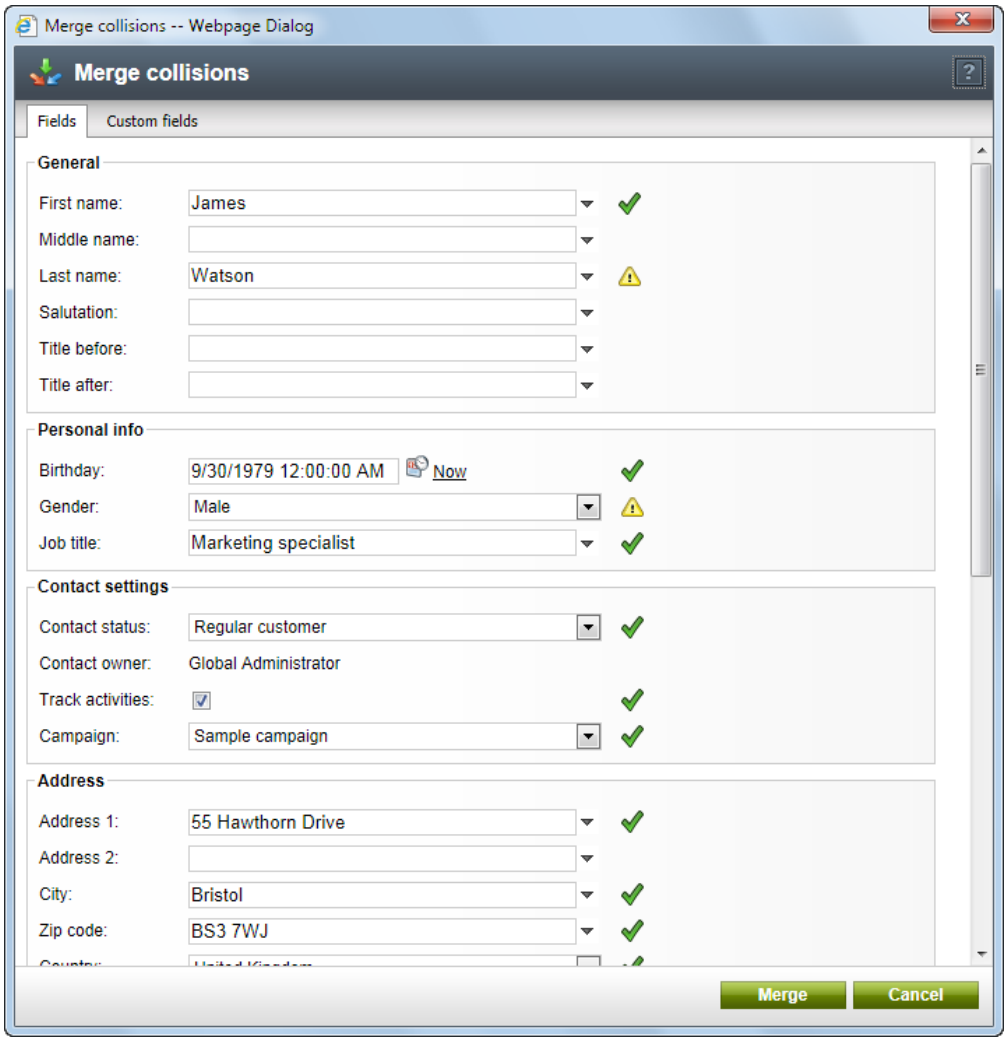
Merge collisions

In the **Merge collisions** dialog window, you can adjust property values that the contact/account will have after merging. Properties whose values are not empty in at least one of the merged contacts/ accounts are pre-filled, while the following icons are displayed next to them:

- ✔ - indicates that the system didn't detect any collision of this field's values.
- ⚠ - indicates a detected collision, while the pre-filled value is is taken from the parent. If collisions are detected only between child contact properties while the parent has the property value empty, the pre-filled value taken from the colliding contact that is retrieved from the database first. By clicking the ▼ icon next the fields, you can choose the colliding value from a different contact.

You can adjust values of all the properties according to your needs. Once finished, click **Merge** to perform the merging.

© 2012 Kentico Software



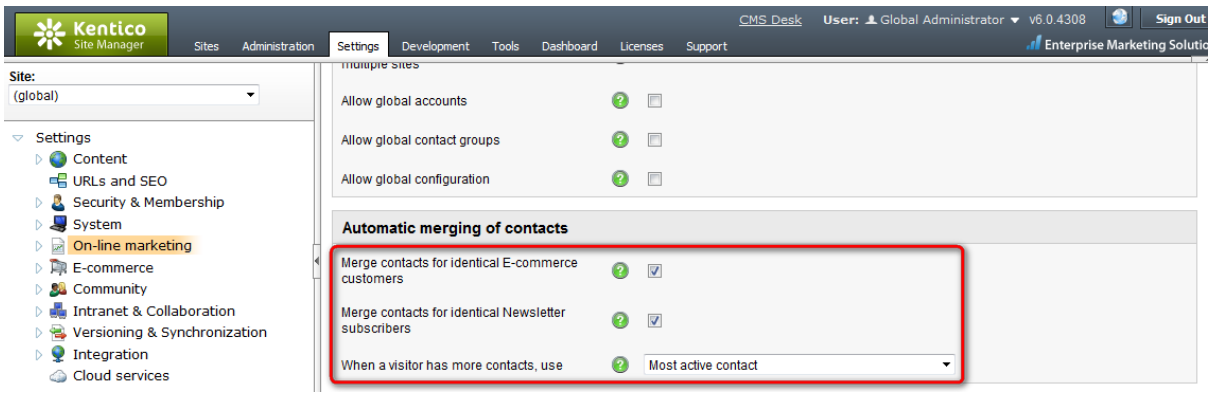
6.5.3 Automatic merging

When multiple contacts are associated with the same registered user, the system merges the two contacts automatically. It is also possible to configure automatic merging when identical E-commerce customer or Newsletter subscriber is associated with multiple contacts. To configure automatic merging, adjust the following settings in **Site Manager -> Settings -> On-line marketing**:

- **Merge contacts for identical E-commerce customers** - if enabled, contacts associated with the same E-commerce customer will be merged automatically.
- **Merge contacts for identical Newsletter subscribers** - if enabled, contacts associated with the same newsletter subscriber will be merged automatically.
- **When a visitor has more contacts, use** - indicates which contact should be used as the parent contact when merging multiple contacts automatically.
  - **Last logged contact** - a contact which has the last logged activity will be selected as parent.
  - **Most active contact** - a contact which has the highest number of logged activities will be selected as parent.
  - **Create a new contact** - a new contact will be created and the contacts will be merged into it.

In cases when collisions are detected, the system uses property values of the parent contact. If

collisions are detected only between child contact properties while the parent has the property value empty, value of the property is taken from the colliding contact that is retrieved from the database first.



6.5.4 Splitting

On the **Merge -> Split** tab of each contact's or account's editing interface, you can see a list of all objects which were merged into the currently edited one. It is possible to split these objects from the parent and make them separate objects again.

To split some of the merged objects back into separate objects, select them using the check-boxes and click the **Split selected** button. Before splitting, you may enable the following options in the **Split settings** section for additional actions to be performed when splitting:

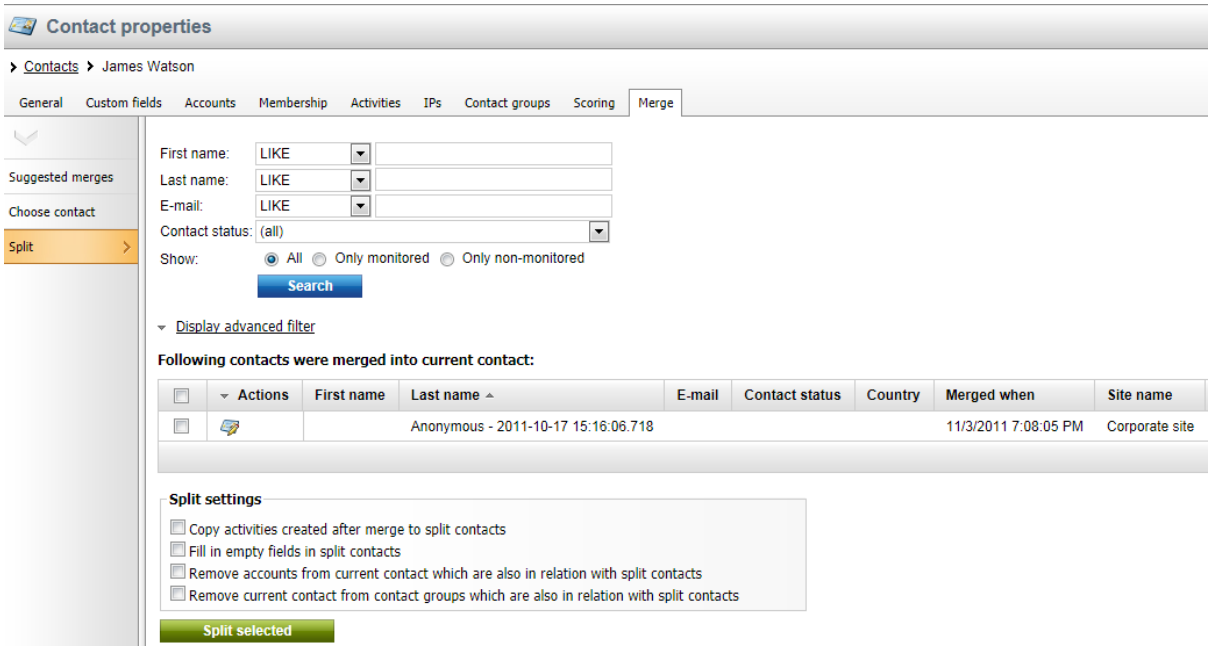
The following options are available when splitting merged contacts:

- **Copy activities created after merge to split contacts** - indicates if activities of the current contact logged after merge should be copied to the split contacts.
- **Fill in empty fields in split contacts** - indicates if originally empty fields of the split contacts should be filled in with values from the current contact.
- **Remove accounts from current contact which are also in relation with split contacts** - indicates if accounts originally associated with the split contacts should be removed from the current contact.
- **Remove current contact from contact groups which are also in relation with split contacts** - indicates if the current contact should be removed from contact groups into which the split contacts belong.

The following options are available when splitting merged accounts:

- **Fill in empty fields in split accounts** - indicates if originally empty fields of the split accounts should be filled in with values from the current contact.
- **Remove contacts from current account which are also in relation with split accounts** - indicates if contacts associated with the split accounts should be removed from the current account.
- **Remove current account from contact groups which are also in relation with split accounts** - indicates if the current account should be removed from contact groups associated with the split accounts.

© 2012 Kentico Software



6.6 Activities

6.6.1 Overview

Kentico CMS allows you to track and log activities (i.e. actions such as visiting a page, making a purchase, subscribing to an event etc.) performed by a contact on the website, and thus gather data needed for evaluating contact's behaviour for various marketing purposes (more details can be found in the Scoring chapter in the same section of this guide).

Further in this chapter, you will learn how to manage activities and activity types and you will also see an example of activity logging.

6.6.2 Managing activities

In this topic you will learn how to manage activities performed by a contact on the website. Activities can be managed in:

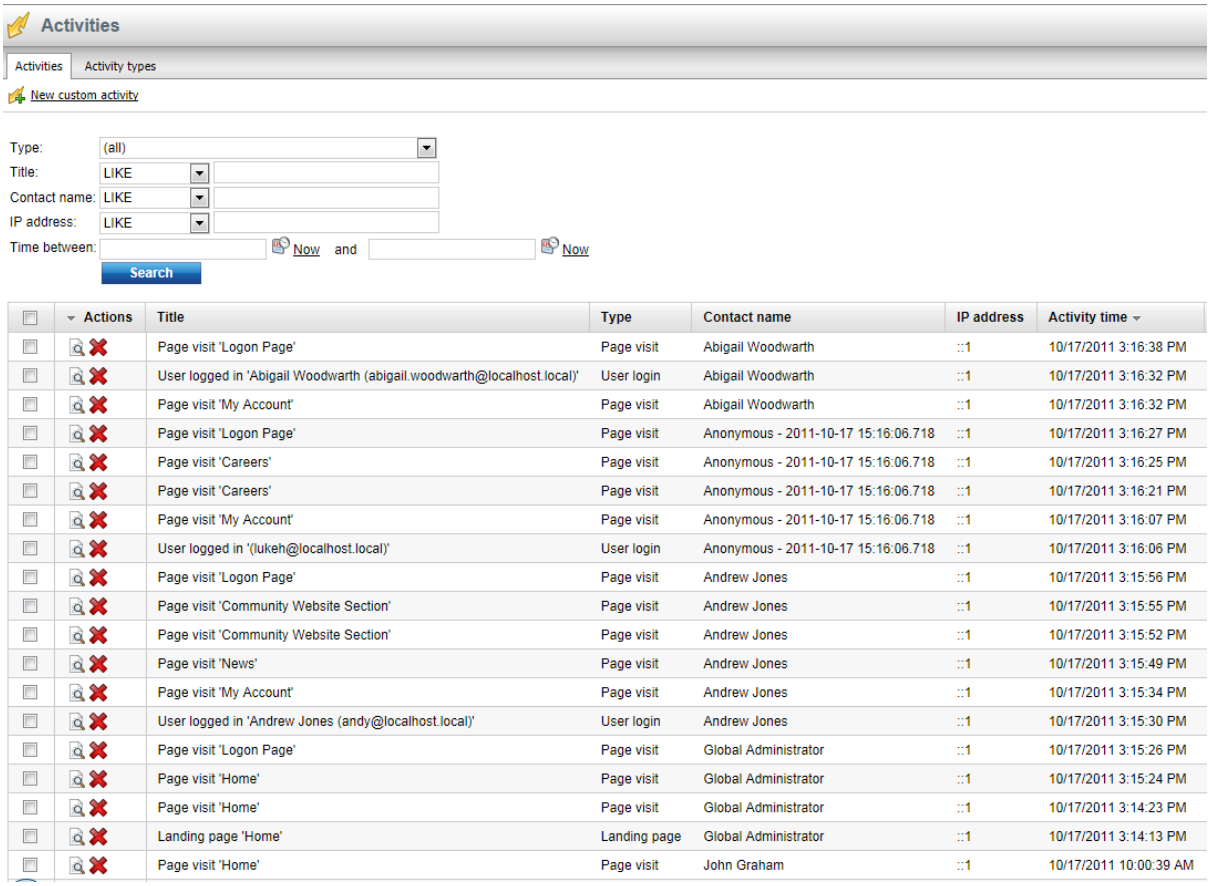
- **Site Manager -> Tools -> Contact management** on the **Activities -> Activities** tab
- **CMS Desk -> On-line marketing -> Activities** on the **Activities** tab

Here you can see a list of activities which the users performed on the website, e.g. user registration, blog post subscription, poll voting etc., and you can also create a new custom activity by clicking the **New custom activity** link. However, activities are logged only if On-line marketing is enabled, same as the **Log activities** setting in **Site Manager -> Settings -> On-line marketing -> Activities**.

Individual activities can be Viewed ( ) in detail or **Deleted** ( ). The displayed list can be sorted by title, type, contact name, IP address and the time of when the activity happened.

You may need to display only activities matching certain search criteria (e.g. activity type, title, contact name etc.). To do so, fill in the fields as required and click **Search**.

© 2012 Kentico Software



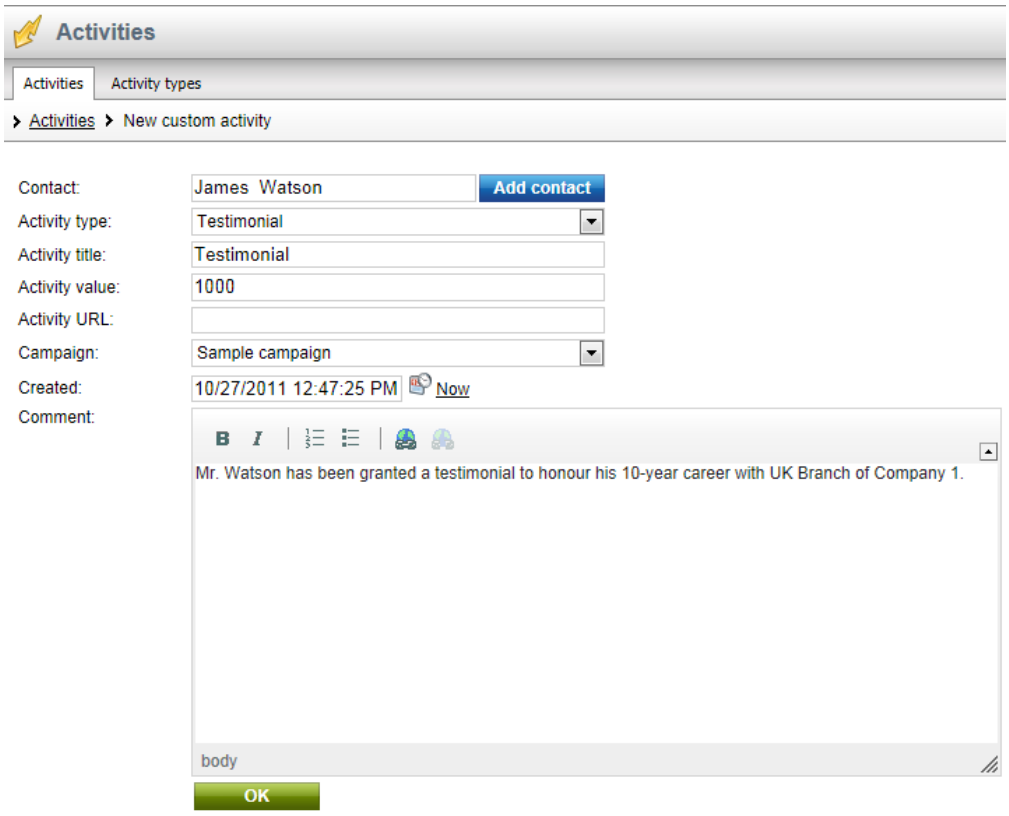
Actions	Title	Type	Contact name	IP address	Activity time
	Page visit 'Logon Page'	Page visit	Abigail Woodwarth	::1	10/17/2011 3:16:38 PM
	User logged in 'Abigail Woodwarth (abigail.woodwarth@localhost.local)'	User login	Abigail Woodwarth	::1	10/17/2011 3:16:32 PM
	Page visit 'My Account'	Page visit	Abigail Woodwarth	::1	10/17/2011 3:16:32 PM
	Page visit 'Logon Page'	Page visit	Anonymous - 2011-10-17 15:16:06.718	::1	10/17/2011 3:16:27 PM
	Page visit 'Careers'	Page visit	Anonymous - 2011-10-17 15:16:06.718	::1	10/17/2011 3:16:25 PM
	Page visit 'Careers'	Page visit	Anonymous - 2011-10-17 15:16:06.718	::1	10/17/2011 3:16:21 PM
	Page visit 'My Account'	Page visit	Anonymous - 2011-10-17 15:16:06.718	::1	10/17/2011 3:16:07 PM
	User logged in '(lukeh@localhost.local)'	User login	Anonymous - 2011-10-17 15:16:06.718	::1	10/17/2011 3:16:06 PM
	Page visit 'Logon Page'	Page visit	Andrew Jones	::1	10/17/2011 3:15:56 PM
	Page visit 'Community Website Section'	Page visit	Andrew Jones	::1	10/17/2011 3:15:55 PM
	Page visit 'Community Website Section'	Page visit	Andrew Jones	::1	10/17/2011 3:15:52 PM
	Page visit 'News'	Page visit	Andrew Jones	::1	10/17/2011 3:15:49 PM
	Page visit 'My Account'	Page visit	Andrew Jones	::1	10/17/2011 3:15:34 PM
	User logged in 'Andrew Jones (andy@localhost.local)'	User login	Andrew Jones	::1	10/17/2011 3:15:30 PM
	Page visit 'Logon Page'	Page visit	Global Administrator	::1	10/17/2011 3:15:26 PM
	Page visit 'Home'	Page visit	Global Administrator	::1	10/17/2011 3:15:24 PM
	Page visit 'Home'	Page visit	Global Administrator	::1	10/17/2011 3:14:23 PM
	Landing page 'Home'	Landing page	Global Administrator	::1	10/17/2011 3:14:13 PM
	Page visit 'Home'	Page visit	John Graham	::1	10/17/2011 10:00:39 AM

Creating a new custom activity

If you need to create a new custom activity, click the **New custom activity** link, fill in the fields as required and click **OK**.

- **Contact** - a contact related to the activity. Used e.g. to permanently associate a particular contact with the activity. Click **Select** to choose a contact from a contact list.
- **Activity type** - the type of the activity.
- **Activity title** - the title of the activity.
- **Activity value** - the value of the activity. Used e.g. in Content rating, E-commerce etc.
- **Activity URL** - the URL associated with the activity. Used e.g. if you need to permanently relate the activity to a particular URL.
- **Campaign** - a campaign associated with the activity. Used e.g. if you need to monitor the behavior of the visitors of your website.
- **Created** - indicates the time of creating the activity.
- **Comment** - allows to leave an activity comment.

© 2012 Kentico Software



Viewing activity details

If you need to view the details of a particular activity, click the **View** ( ) link beside it. A dialog window pops up, giving you the details of the given activity and allowing you to leave an activity comment. Besides, some activity details can be edited, e.g. the title of the activity etc. The following activity details are available:

General information

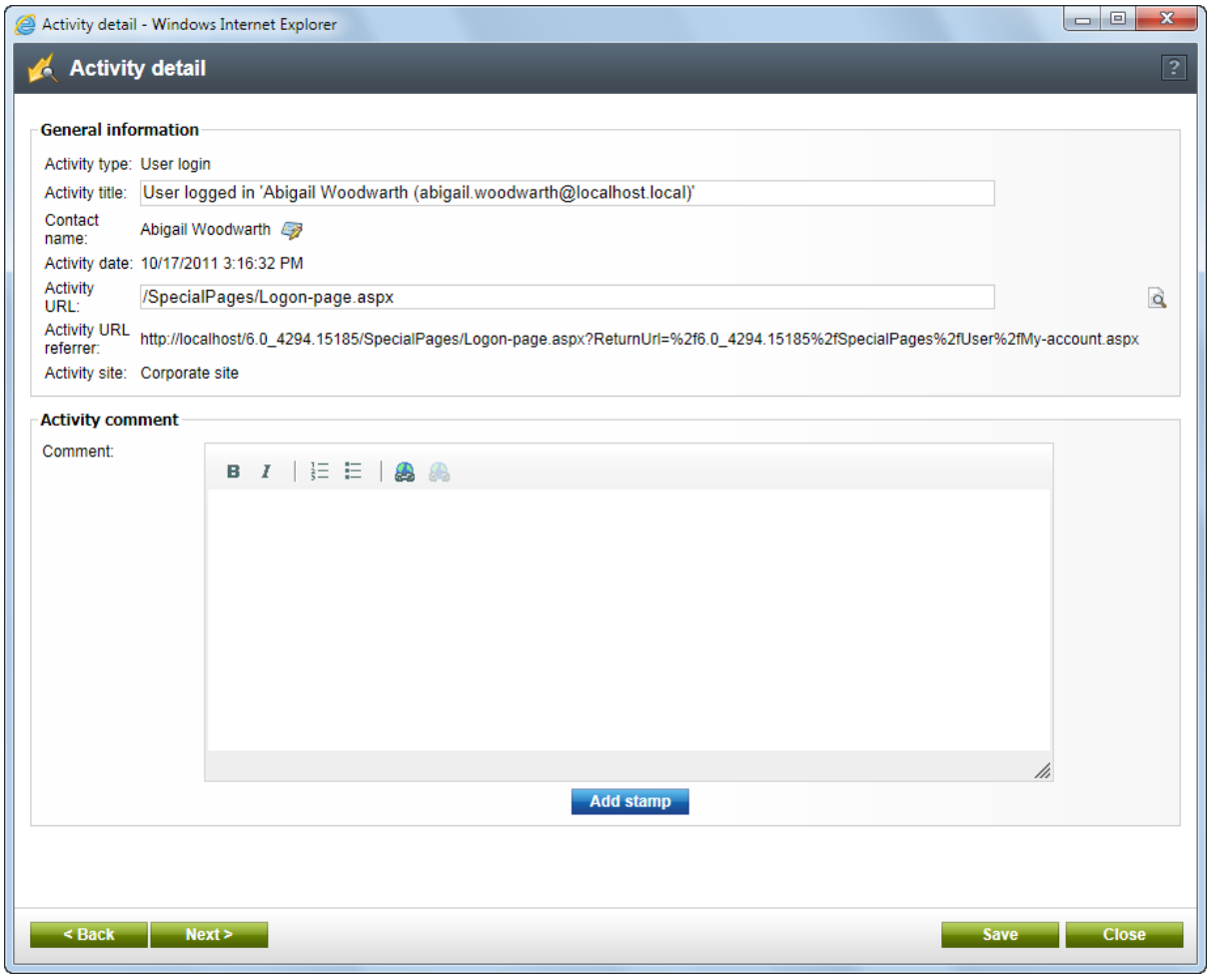
- **Activity type** - the type of the activity.
- **Activity title** - the title of the activity.
- **Contact name** - the name of the contact associated with the activity. Click the icon to view and edit contact details.
- **Activity date** - the date and time of performing the activity.
- **Activity URL** - the URL of the activity. Click the icon to view the web page on the live site.
- **Activity URL referrer** - the URI from which the web page where the activity was performed had been visited.
- **Activity site** - the website where the activity was performed.

Activity comment

- **Comment** - you can leave an activity comment, either as plain text or as text with basic formatting, and you can also add your stamp by clicking the **Add stamp** button. To save the comment, click **Save**.

If you have modified any value, click **Save**. To view the details of another activity in the list, click **Next**. Or click **Back** to view the details of the previous activity.

© 2012 Kentico Software



6.6.3 Managing activity types

In this topic you will learn how to manage activity types on which activities performed by contacts on the website are based. Activity types can be managed in:

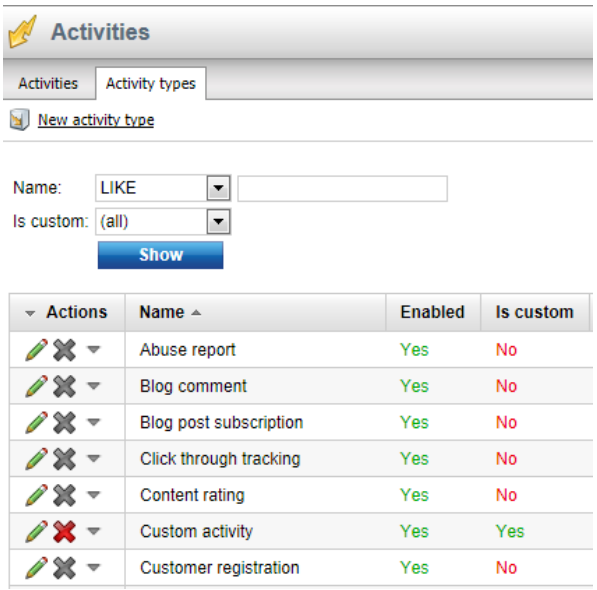
- **Site Manager -> Tools -> Contact management** on the **Activities -> Activity types** tab
- **CMS Desk -> On-line marketing -> Activities** on the **Activities** tab

Here you can see a list of activity types and you can also create new types by clicking the **New activity type** link.

The existing activity types can be **Edited** ( ) or **Exported** (->). Besides, custom activity types can be **Deleted** ( ). The displayed list can be sorted by activity type name, availability (**Enabled**) and status (**Is custom**).

You may need to display only activity types matching certain search criteria (activity type name, activity type status). To do so, fill in the fields as required and click **Show**.

© 2012 Kentico Software



Creating a new activity type

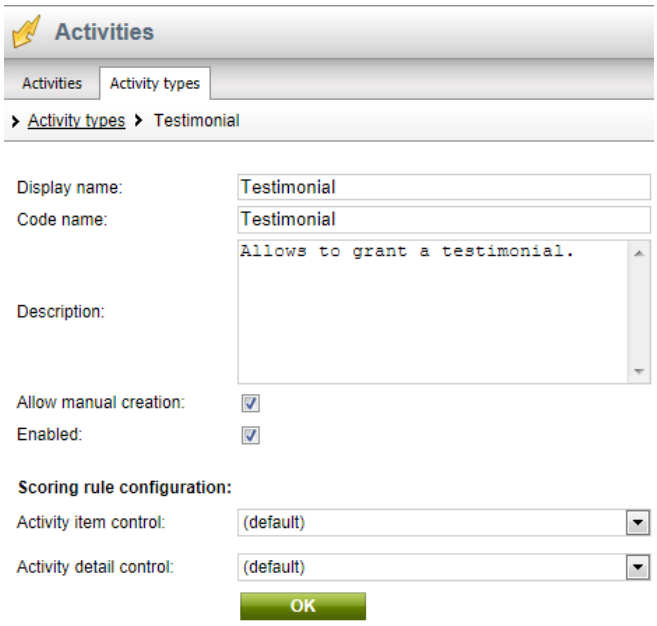
If you need to create a new activity type, click the **New activity type** link, fill in the fields as required and click **OK**.

- **Display name** - the name of the activity type used in Kentico CMS user interface.
- **Code name** - the name of the activity type used in the code.
- **Description** - the description of the activity type.
- **Is custom** - indicates whether the activity type is custom.
- **Allow manual creation** - indicates whether manual creation is allowed.
- **Enabled** - indicates whether the activity type is enabled.

Scoring rule configuration

- **Activity item control** - indicates which **Activity item** control should be used when defining a scoring rule.
- **Activity detail control** - indicates which **Activity detail** control should be used when defining a scoring rule.

© 2012 Kentico Software



Activity types

The following activity types come shipped with Kentico CMS:

- **Abuse report** - the visitor reported an abuse using the Abuse report module (see Modules -> Abuse report in the Developer's Guide).
- **Blog comment** - the visitor commented on a blog post (see Modules -> Blogs in the same guide).
- **Blog post subscription** - the visitor subscribed to blog post comments.
- **Clicked newsletter link** - the subscriber clicked a tracked link in a newsletter (see Newsletters).
- **Content rating** - the visitor rated some content (see Content rating).
- **Customer registration** - the customer registered during the checkout process.
- **Event booking** - the visitor signed up for an event using the Booking system.
- **External search** - the visitor came to the website after searching on a search engine, such as Google.
- **Form submission** - the visitor submitted an on-line form (see Forms).
- **Forum post** - the visitor posted on the forum (see Forum).
- **Forum post subscription** - the visitor subscribed to a forum post.
- **Internal search** - the visitor searched for text using the on-site search.
- **Joining a group** - the visitor joined a community group or a workgroup (see Groups).
- **Landing page** - the visitor came to this page as the first page.
- **Leaving a group** - the visitor left a community group or a workgroup.
- **Message board comment** - the visitor posted a comment on a message board (see Message boards).
- **Message board subscription** - the visitor subscribed to a message board.
- **Newsletter subscription** - the visitor subscribed to a newsletter.
- **Newsletter unsubscription** - the visitor unsubscribed from a newsletter.
- **Opened newsletter e-mail** - the subscriber opened a tracked newsletter.
- **Page visit** - the visitor visited a page.
- **Poll voting** - the visitor voted in a poll (see Polls).
- **Product added to shopping cart** - the visitor added a product to the shopping cart.
- **Product added to wishlist** - the visitor added a product to the wishlist.
- **Product removed from shopping cart** - the visitor removed a product from the shoppingcart.

© 2012 Kentico Software

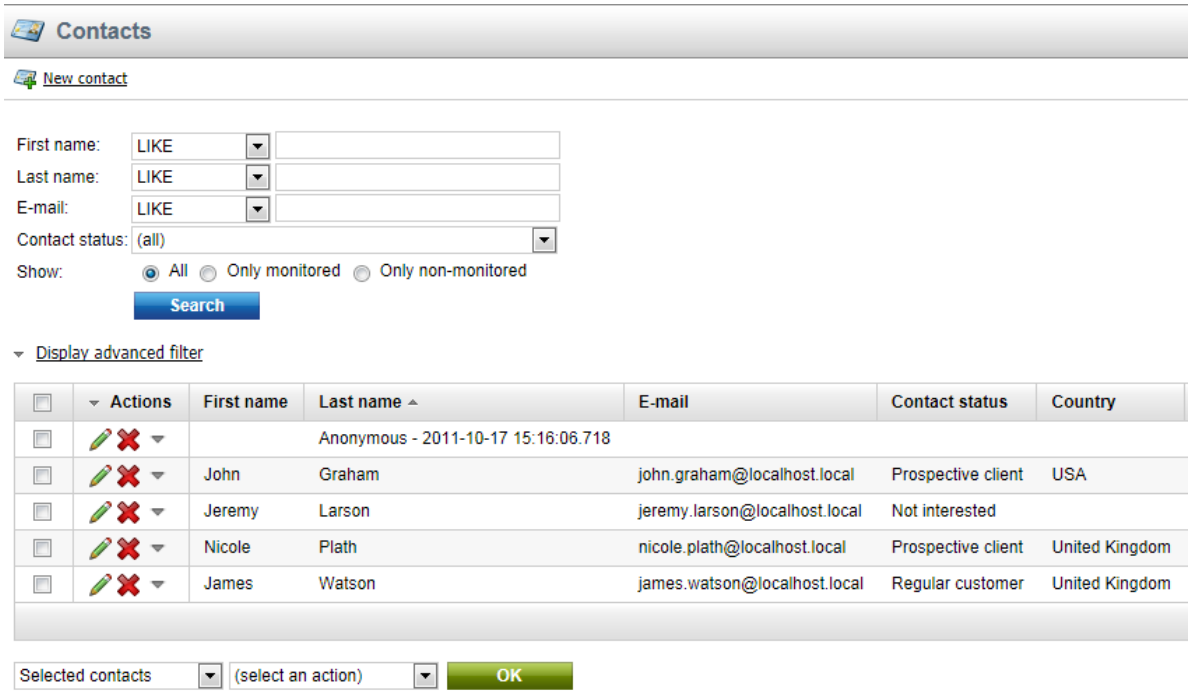
- **Purchase** - the visitor made a purchase.
- **Purchased product** - the visitor bought a product.
- **User contribution - content created** - the visitor created new content using the User contributions module (see User contributions (Wiki)).
- **User contribution - content deleted** - the visitor deleted content using the User contributions module.
- **User contribution - content updated** - the visitor updated content using the User contribution module.
- **User login** - the visitor logged in to a site.
- **User registration** - the visitor registered as a member of the site.

6.6.4 Example

Here you will see how website users' activities are logged. The example is demonstrated both on an anonymous and a registered user.

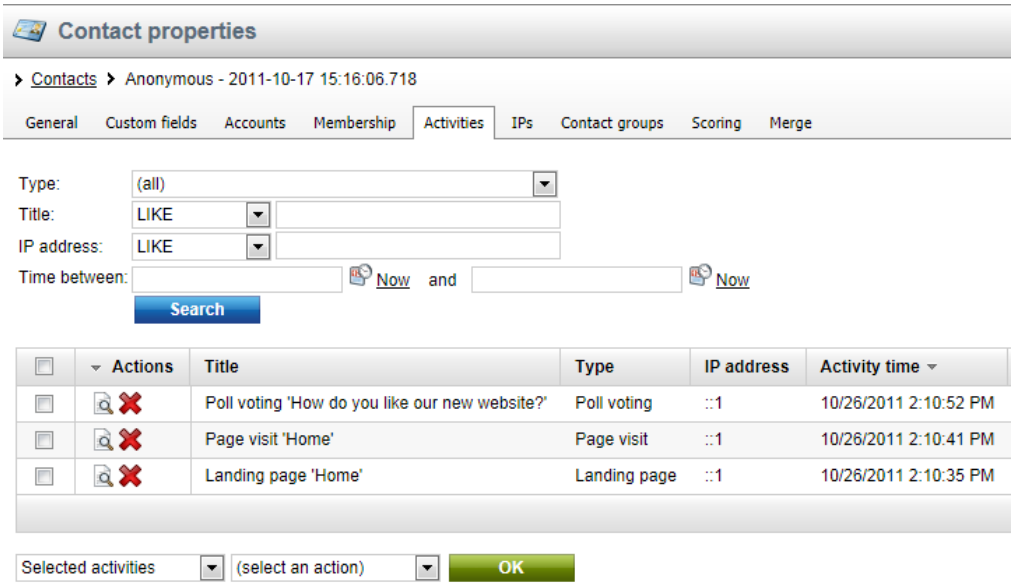
1. Visit the live website as an anonymous visitor and perform some actions, e.g. view the Home page and vote in the poll.

2. Sign in as an administrator and navigate to **CMS Desk -> On-line marketing -> Contacts** (alternatively, you can navigate to the **Contacts** tab in **Site Manager -> Tools -> Contact management**). As you can see, an anonymous contact is listed.



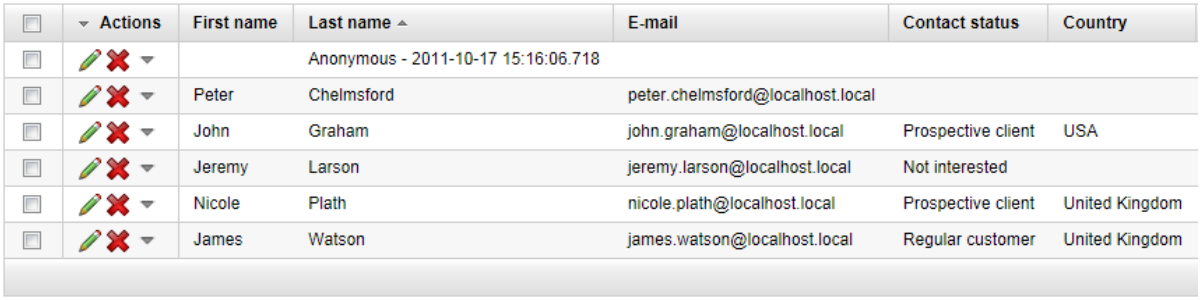
3. If you now **Edit** ( ) this contact and switch to the **Activities** tab, you can see that the poll voting activity was logged, same as the Home page visit.

© 2012 Kentico Software



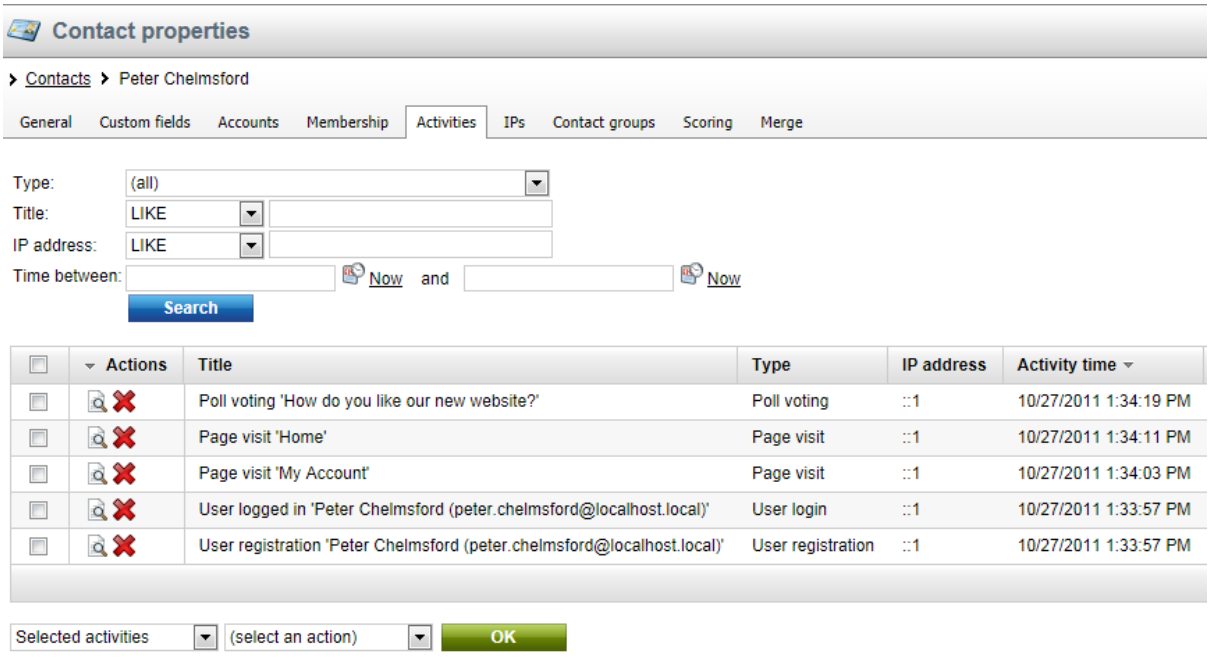
4. Go to the live site again, sign out from the administration account and on the **My account** page register as a new user, e.g. *Peter Chelmsford*. Perform actions like in Step 1., i.e. view the Home page and vote in the poll.

5. If you now view the list of contacts in the administration interface, you can see that a new contact, *Peter Chelmsford*, is listed among other contacts.



6. And if you **Edit** ( ) this contact and switch to its **Activities** tab, you can see that the poll voting activity was logged, same as the Home page visit.

© 2012 Kentico Software



6.7 Settings

6.7.1 Overview

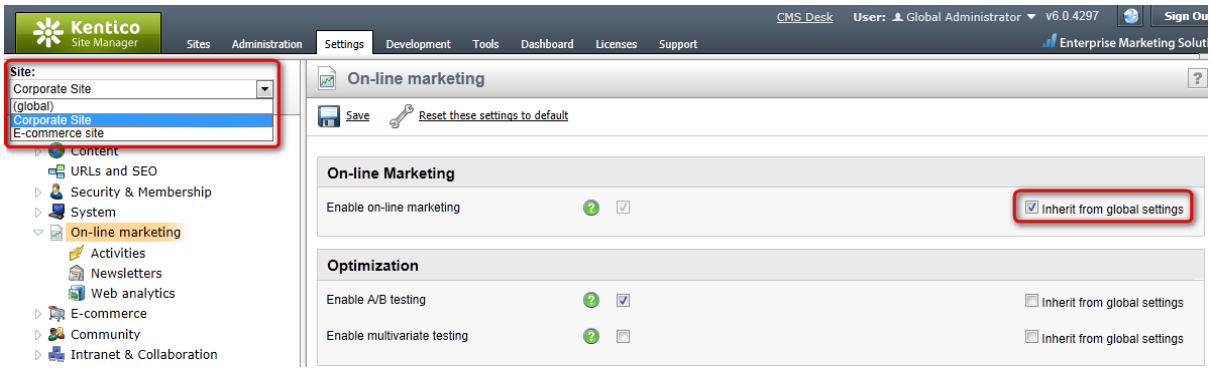
In this sub-chapter, you will learn about settings which influence and modify the behavior of the Contact management module. These settings can be adjusted in the **Site Manager -> Settings** section of the system's user interface. Here, they are located in the **On-line marketing** settings category and its sub-categories.

The following topics in this sub-chapter contain explanations of settings with related functionality:

- General contact management settings - explains general settings related to the Contact management module.
- Enabling tracking of activities - explains which settings need to be adjusted in order for activity tracking to be functional.
- Allowing the use of global objects - explains what global Contact management objects are, how their use can be enabled and what changes to the user interface their enabling brings.
- Automatic deleting of contacts - explains which settings may be used to configure the system to periodically delete unnecessary contacts and their activities.

Depending on your selection in the **Site** drop-down list, you can either adjust the settings for a particular website, or globally if the **(global)** option is selected. Global settings can be inherited by individual sites if the **Inherit from global settings** check-box next to a site-specific setting is enabled.

© 2012 Kentico Software



As you can notice if you browse the settings categories, there is a number of other settings not listed in this sub-chapter. These settings have no direct relation to the Contact management features and are explained in respective chapters of this guide dedicated to the features which they influence.

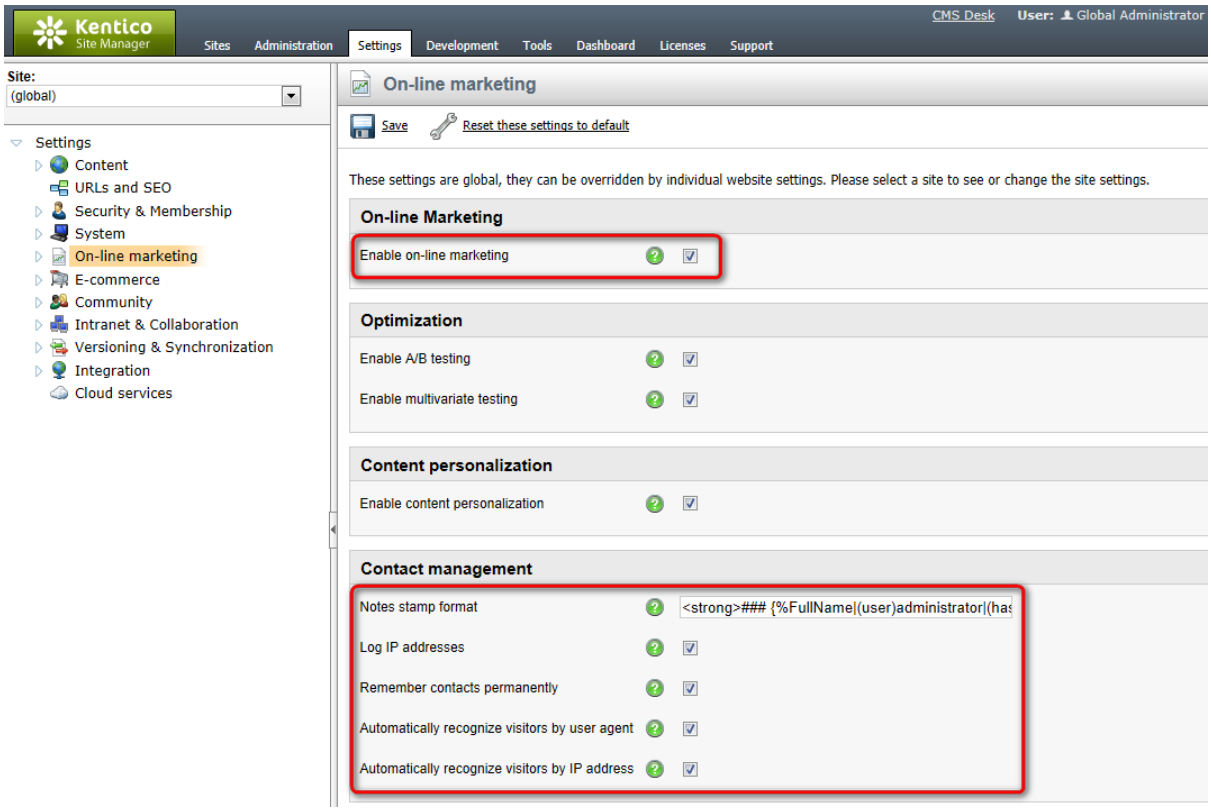
6.7.2 General contact management settings

General settings related to the Contact management module can be adjusted in the **On-line marketing** category in **Site Manager -> Settings**. The following of the settings in the category are related to the Contact management module:

- **Enable on-line marketing** - enables on-line marketing features, among others including tracking of live site users as contacts and logging of activities.

- **Notes stamp format** - format of the stamp added to the **Notes** field after clicking the **Add stamp** button when editing contacts or accounts.
- **Log IP address** - indicates if logging of contacts' IP addresses should be allowed.
- **Remember contacts permanently** - indicates how long contacts should be remembered. If checked, a contact is kept until cookies are deleted or another contact is determined. If unchecked, a contact is kept until the current session expires.
- **Automatically recognize visitors by user agent** - indicates if a visitor's browser user agent information should be used to determine what contact should be assigned to the current anonymous visitor.
- **Automatically recognize visitors by IP address** - indicates if visitor's IP address should be used to determine what contact should be assigned to the current anonymous visitor.

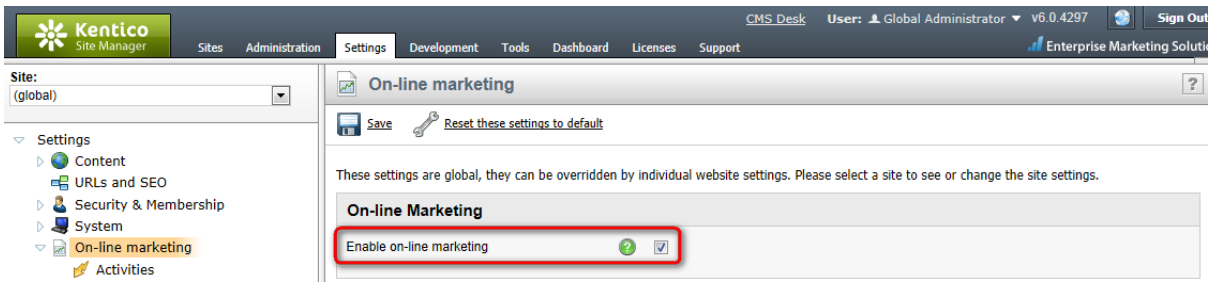
© 2012 Kentico Software



6.7.3 Enabling tracking of activities

For tracking of activities to be functional, you need to:

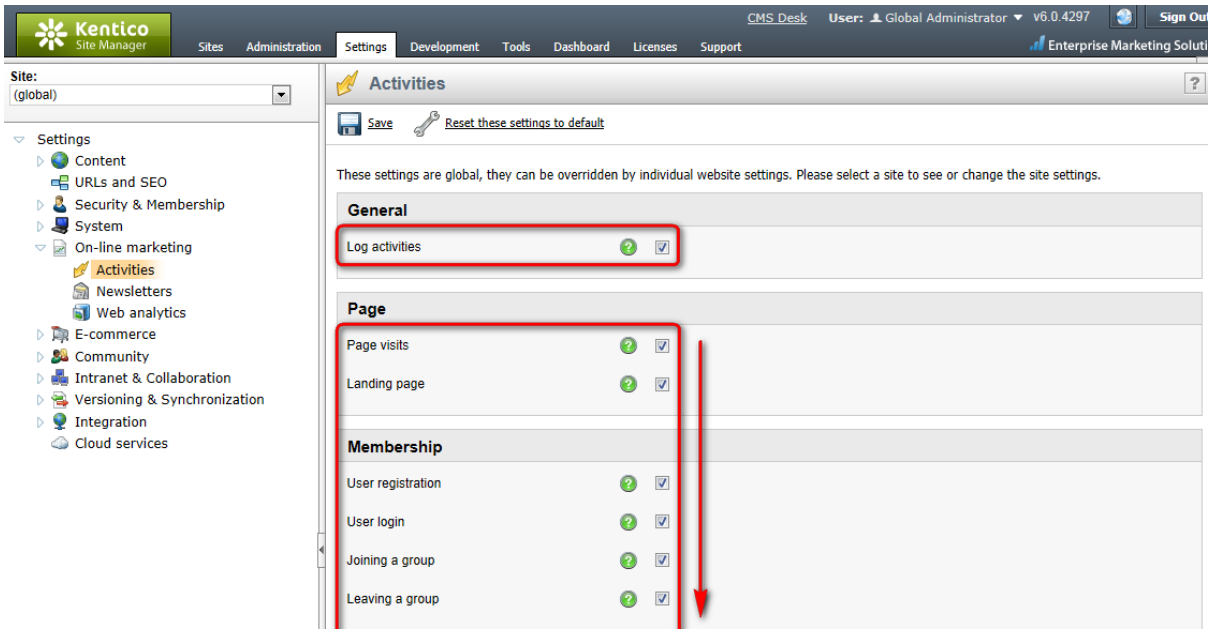
1. Enable the **Enable on-line marketing** option in the **On-line marketing** category in **Site Manager -> Settings**.



2. Enable the **Log activities** option in the **On-line marketing -> Activities** category in **Site Manger -> Settings**.

3. Still in the **On-line marketing -> Activities** category in **Site Manger -> Settings**, enable or disable the rest of the settings below **Log activities**. These settings have self-explanatory names according to the type of activity whose logging they enable.

© 2012 Kentico Software



6.7.4 Allowing the use of global objects

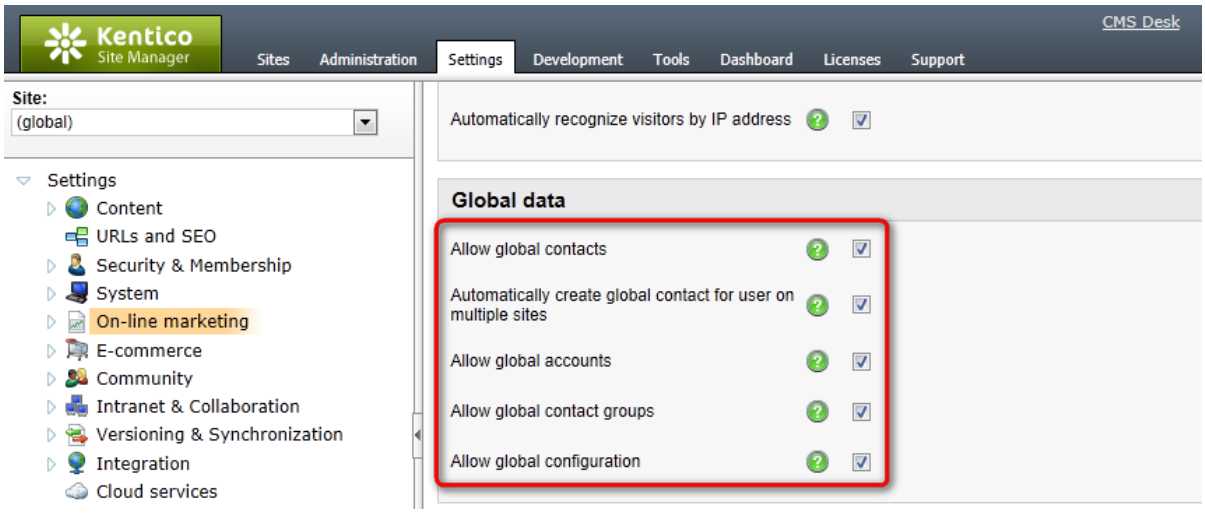
The following objects can either be site-specific, i.e. available only for a single website, or global, which means that they are shared across all websites running in the system:

- Contacts
- Accounts
- Contact groups
- Account statuses
- Contacts statuses
- Contact roles

The use of global objects is disabled by default. To enabled it, go to **Site Manager -> Settings -> On-line marketing** and adjust the following settings in the **Global data** section:

- **Allow global contacts** - enables the use of global contacts.
- **Automatically create global contact for user on multiple sites** - if enabled and the system detects that there are multiple contacts associated with a user registered to multiple websites running in the system, a new global contact is created and the detected ones are merged into it. If one of the detected contacts is already global, the others are merged into it instead of a new one. If more of them are global, no action is performed as it would not be possible to determine which of them should be used as the parent.
- **Allow global accounts** - enables the use of global accounts.
- **Allow global contact groups** - enables the use of global contact groups.
- **Allow global configuration** - enables the use of global contact statuses, account statuses and contact roles.

© 2012 Kentico Software

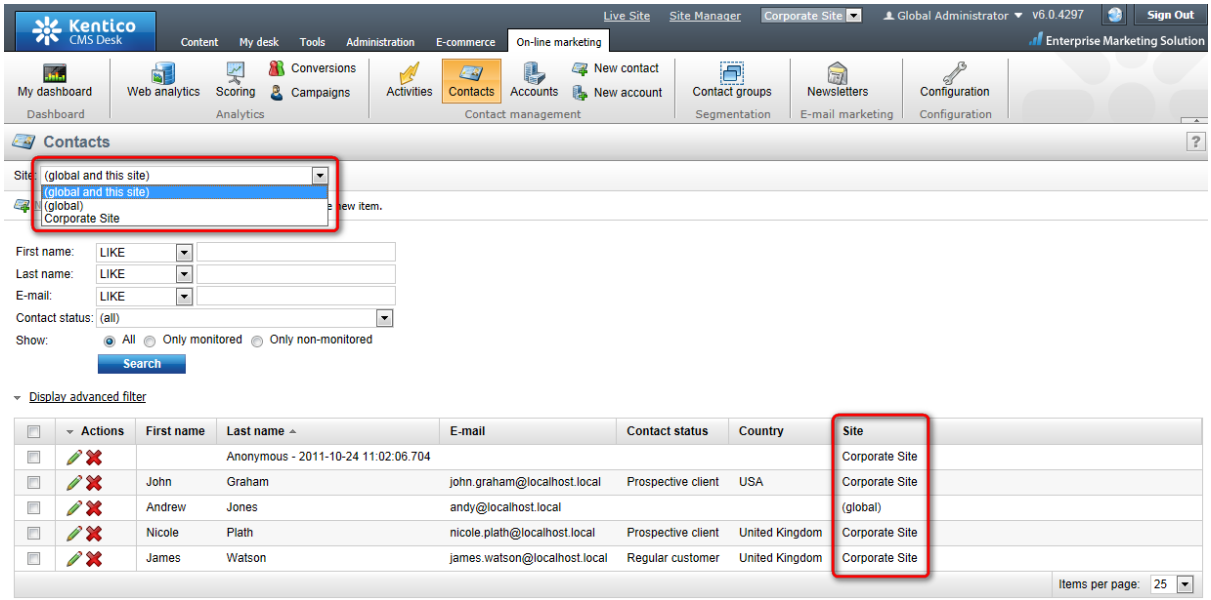


User interface differences when global objects are enabled

If global objects are allowed, the **Site** drop-down list is visible above the list of objects in the respective sections of CMS Desk (e.g. **CMS Desk -> On-line marketing -> Contacts**). The **Site** drop-down list offers you the following options:

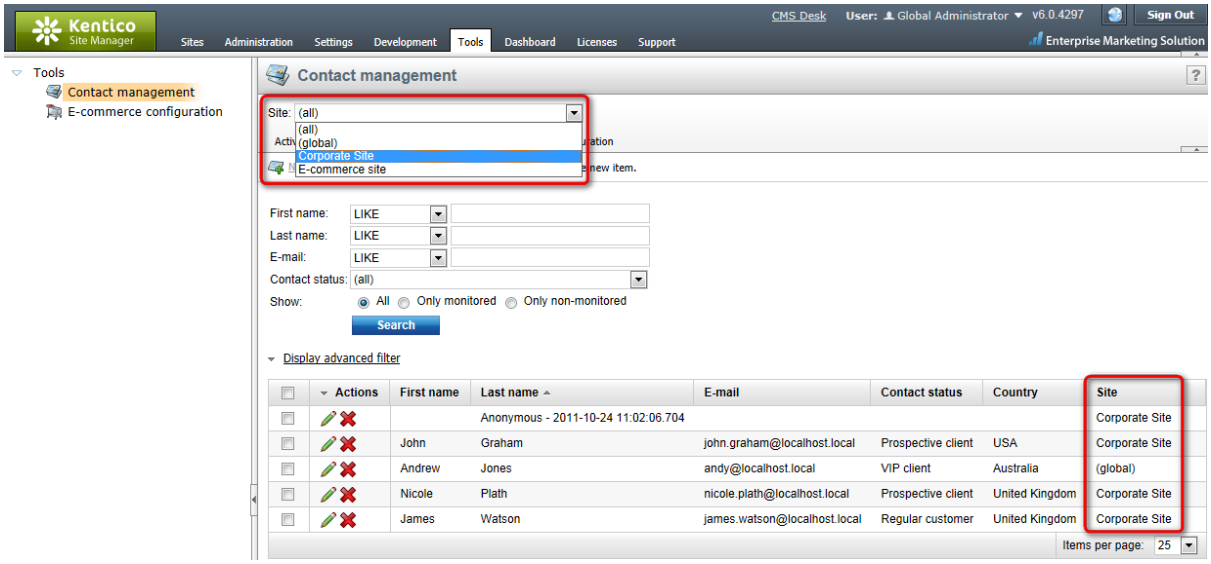
- **(global and this site)** - both global and current site objects are listed.
- **(global)** - only global objects are listed.
- **current site** - only current site objects are listed.

When the **(global and this site)** options is selected, the **Site** column is added to the grid, indicating if the object is site-specific or global. It is also not possible to create new objects in this case since it would not be clear whether the new object should be global or site-specific. To create a new object, you either need to have a particular website selected in the **Site** drop-down list, in which case you create an object specific for the website, or you need to select the **(global)** option, in which case you create a global object.



© 2012 Kentico Software

If you manage contact management objects in **Site Manager -> Tools -> Contact management**, the **Site** drop-down list is always present and allows you to manage both global objects and objects of all websites in the system. The same conditions as described above apply here as well.



6.7.5 Automatic deleting of contacts

Hotfix required

The functionality described in this topic is only available if **hotfix 6.0.7** or newer is applied to your installation of Kentico CMS.

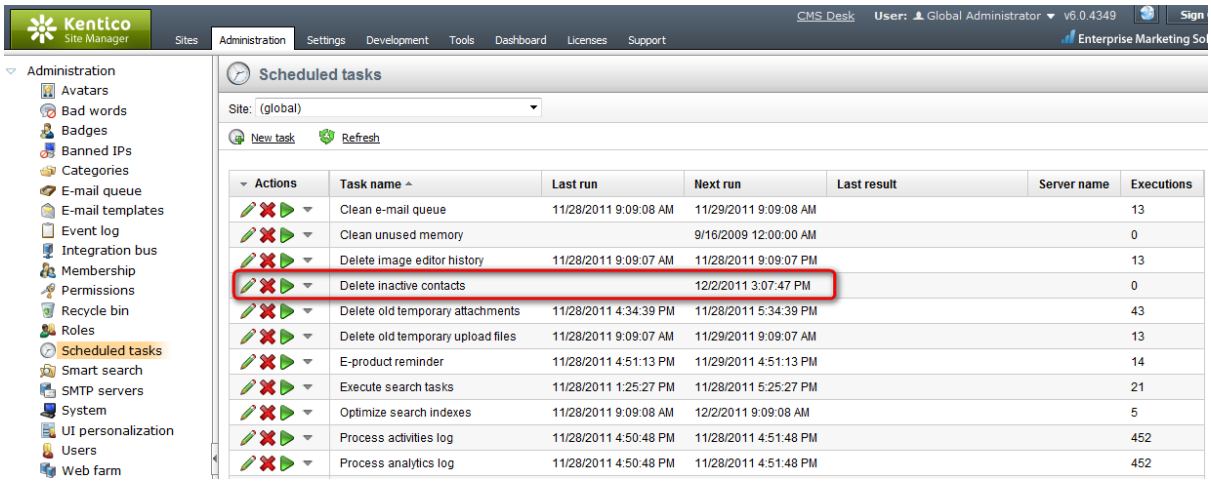
You may download the appropriate hotfix package from http://devnet.kentico.com/Bugtracker/Hotfixes.aspx.

The contact management module generates a very large amount of data, especially in the case of high-traffic websites. Contacts are created and activities logged for every visitor, which may be overwhelming for your marketers. For this reason, the system can be configured to regularly remove contacts that meet certain conditions (and the activities logged by these contacts). This way, you can filter out inactive, outdated or otherwise unnecessary contacts without having to remove them individually.

This functionality is provided by a global Scheduled task named **Delete inactive contacts**, which is executed once per week by default. If you wish, you can change this interval (and other properties) by editing the task in **Site Manager -> Administration -> Scheduled tasks**. It is also possible to run the task manually at any time.

The task runs in a separate thread by default and the deleting itself is done by the database server, so it should not have a negative impact on the performance of your website, even when removing a large number of contacts.

© 2012 Kentico Software



When this task is executed, it starts a deleting process for each site according to the rules defined by the settings in the **Site Manager -> Settings -> On-line marketing** category. Please note that the task does not delete global contacts.

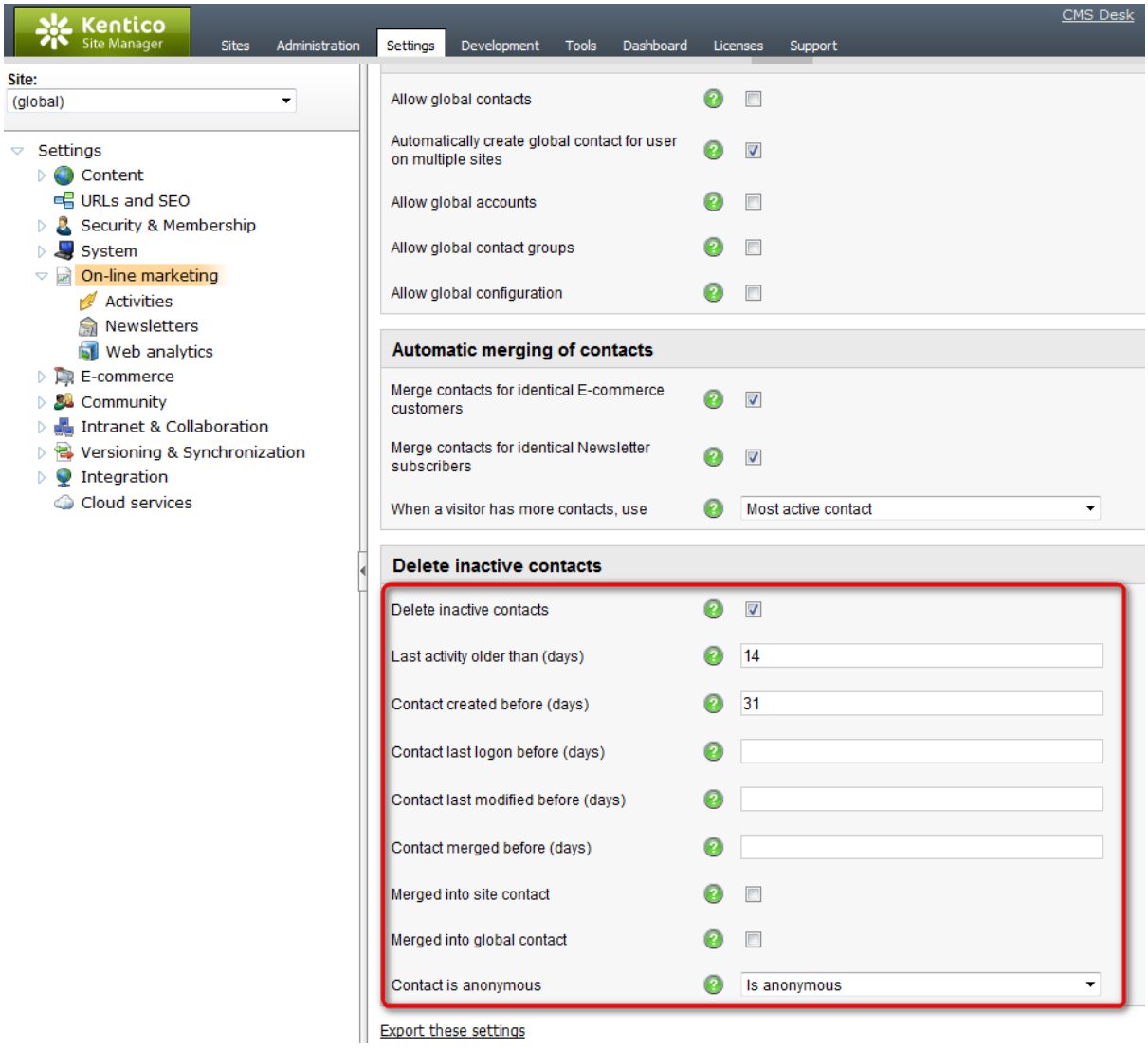
The **Delete inactive contacts** setting determines whether the contacts associated with the given site should be affected by the scheduled task. If disabled, the site's contacts will only be removed if they are deleted manually. Additionally, the **Enable on-line marketing** setting must also be enabled for every site where you wish to use this task.

The remaining settings in the section are used to set the conditions that specify which contacts should be deleted. At least one condition must be entered in order for any contacts to be deleted. If multiple conditions are set, only those contacts that fulfill all of them will be removed. The following are available:

- **Last activity older than (days)** - can be used to delete contacts that do not have any recent activities logged. Contacts whose latest activity is older than the specified number of days will be removed. For example, entering *14* would mean that contacts which do not have any activities logged within the last two weeks would be removed.
- **Contact created before (days)** - can be used to clear out old contacts. All contacts that are older than the specified number of days will be removed. For example, setting the value to *365* would mean that all contacts created more than a year ago would be removed.
- **Contact last logon before (days)** - this condition is only applied to contacts that are not anonymous (i.e. only those that are associated with a specific user account). It can be used to delete contacts who have not logged into the website recently. For example, entering *31* would mean that all contacts who have not logged in within the last month would be removed.
- **Contact last modified before (days)** - can be used to remove contacts that were not edited recently (e.g. had their contact address changed). Contacts whose latest modification is older than the specified number of days will be deleted. For example, entering *31* would mean that all contacts which were not modified within the last month would be removed.
- **Contact merged before (days)** - can be used to delete contacts that were merged into another contact a certain number of days ago. A merged contact is one that was combined into another contact, not the contact which is the actual result of a merge operation. For example, entering *7* would mean that all contacts which were merged more than one week ago would be removed.
- **Merged into site contact** - determines whether the task should delete all contacts that were merged into another contact associated with the given site.
- **Merged into global contact** - determines whether the task should delete all contacts that were merged into a global contact.
- **Contact is anonymous** - can be used to choose whether the task should remove all contacts that

© 2012 Kentico Software

are anonymous, or the opposite (those that are related to a specific user account). Contacts that are only related to a customer or subscriber are still considered as anonymous. The *Doesn't matter* option is the equivalent of an empty value in this condition. (i.e. if selected, the task will not delete any contacts unless at least one other condition is specified).



It is recommended to be very careful when configuring these conditions. Make sure that the system only deletes those contacts that are no longer necessary, otherwise you may lose valuable marketing data.

© 2012 Kentico Software

Part VII

Scoring

7 Scoring

7.1 Overview

Scoring (also referred to as *lead scoring* or *engagement scoring*) is an on-line marketing method based on assigning numeric values to individual contacts based on their properties and activities that they perform on the website. The purpose of this method is to numerically evaluate contacts based on various criteria, deduce conclusions about them from the scores and perform appropriate marketing actions.

You can define multiple *scores*, each with a separate set of *rules* based on which *score points* are assigned to individual contacts within the particular score. If a contact matches a rule, score points can either be added to or subtracted from its total score points within a particular score.

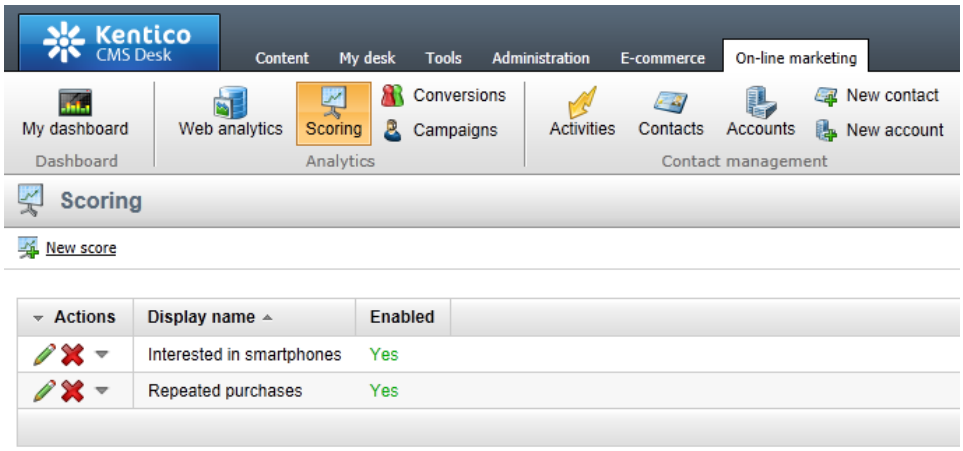
User interface of the Scoring module is located in **CMS Desk -> On-line marketing -> Scoring**. The user interface is generally described in the Managing scores topic. In the Example: Creating a sample score topic, you can see a step-by-step example of how a sample score with several rules can be defined and how score points are added to multiple contacts when they match the defined rules.

7.2 Managing scores

User interface of the Scoring module is located in **CMS Desk -> On-line marketing -> Scoring**. On the initial screen of the interface, you can see a list of defined scores. New scores can be added using the **New score** link. Existing scores have the following actions available in the **Actions** column:

- **Edit** - opens the score's editing interface where properties of the score can be modified, score rules defined and score points that individual contacts received within the score can be viewed.
- **Delete** - deletes the score.

It is also possible to **Export, Backup** and **Restore** listed scores by choosing the respective action from the **Other actions** drop-down menu.



The editing interface of each score, displayed after clicking the **Edit** icon, is split into three tabs — **General**, **Rules** and **Contacts**.

General tab

On the **General** tab, you can edit general properties of the score. The following of them are also available when creating a new score after clicking the **New score** link mentioned above:

- **Display name** - name of the score used in the system's administration interface.
- **Code name** - name of the score used in web project code.
- **Description** - text describing the score.
- **Enabled** - indicates if the score is enabled, i.e. if contacts are evaluated with score points within the score.

Other properties are only available when editing an already existing contact:

E-mail notifications

The two properties listed below enable you to set up e-mail notifications about contacts reaching a certain number of score points:

- **Send notification at score** - number of score points that a contact has to reach in order for the e-mail notification to be sent.
- **Notification e-mail address** - e-mail addresses to which the notification e-mails will be sent. You can enter multiple addresses separated by semicolons (;).

The e-mail notifications are based on the **Scoring - Notification e-mail** e-mail template.

Score recalculation

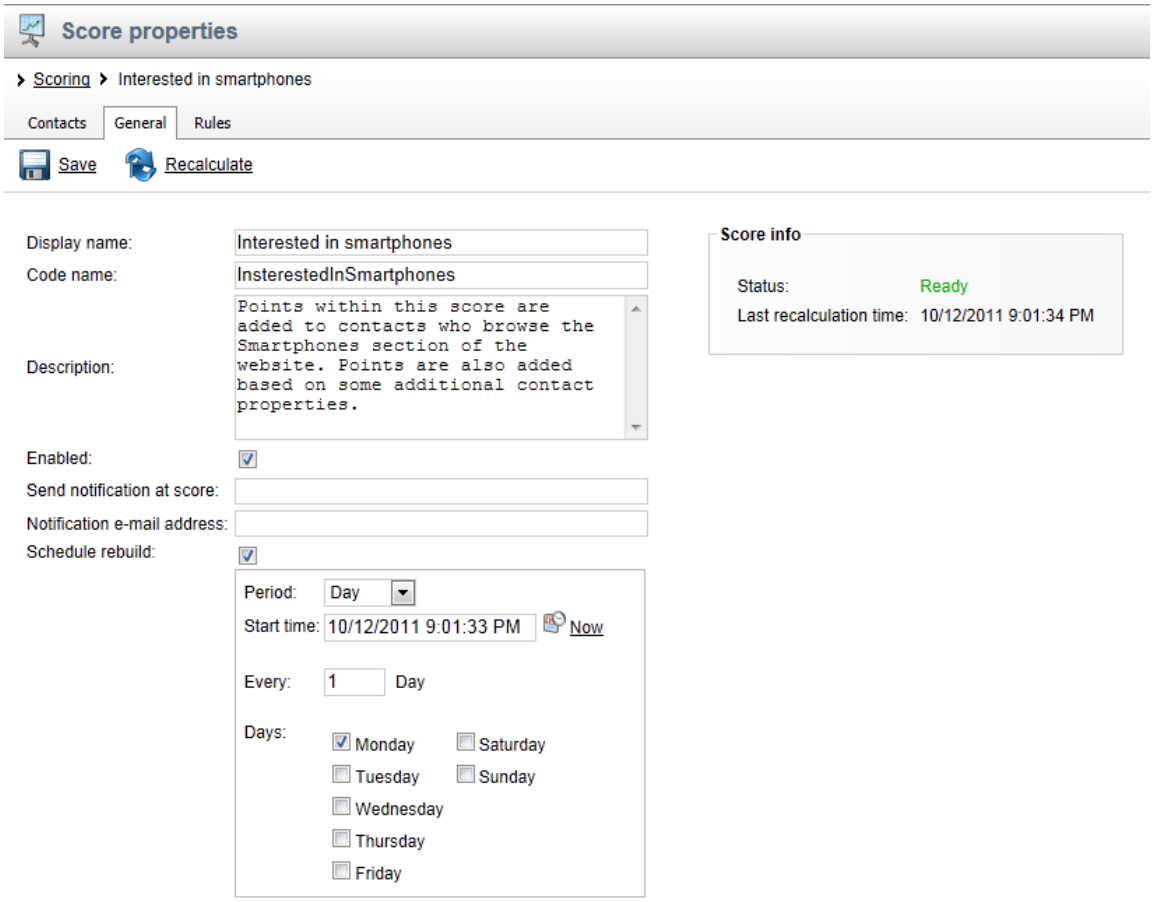
When rules within the score are added or modified, it is necessary to recalculate score points previously reached by individual contacts with regards to the new rules. This can either be done manually by clicking the **Recalculate** link, or automatically by means of a dedicated scheduled task.

A scheduled task named **Score '<score display name>' recalculation** is created automatically in **Site Manager -> Administration -> Scheduled tasks** for every created score. It is disabled by default and can be enabled by the **Schedule rebuild** check-box. After doing so, a set of controls is displayed below the check-box, letting you specify the period after which recalculation will be regularly performed.

In the **Score info** box on the right, two values related to score recalculation are displayed:

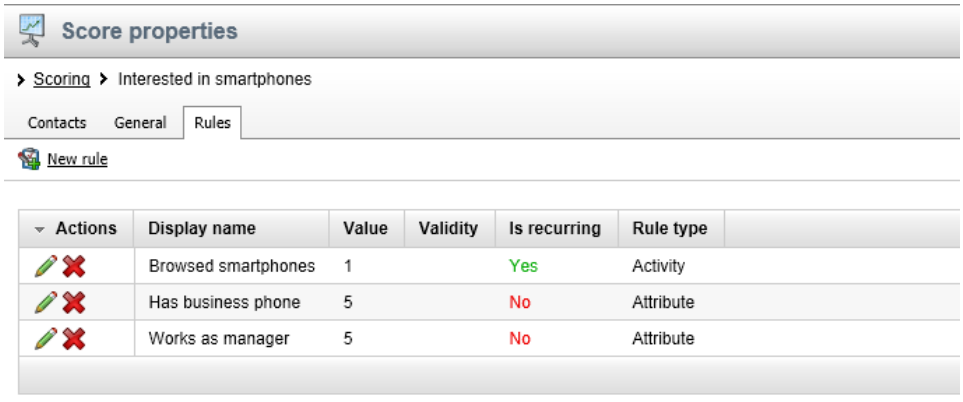
- **Status** - when rules within the score were added or modified, the **Recalculation needed** status is displayed here. When the current score points reflect the currently defined rules, you should see the **Ready** status.
- **Last recalculation time** - date and time of last score points recalculation.

© 2012 Kentico Software



Rules tab

On the **Rules** tab, you can see a list of defined rules based on which score points are added to contacts within the current score. New rules can be defined after clicking the **New rule** link above the list. Listed rules can be **Edited** () or **Deleted** () by clicking the respective icons in the **Actions** column.



When defining a new rule or editing an existing one, the following properties can be specified:

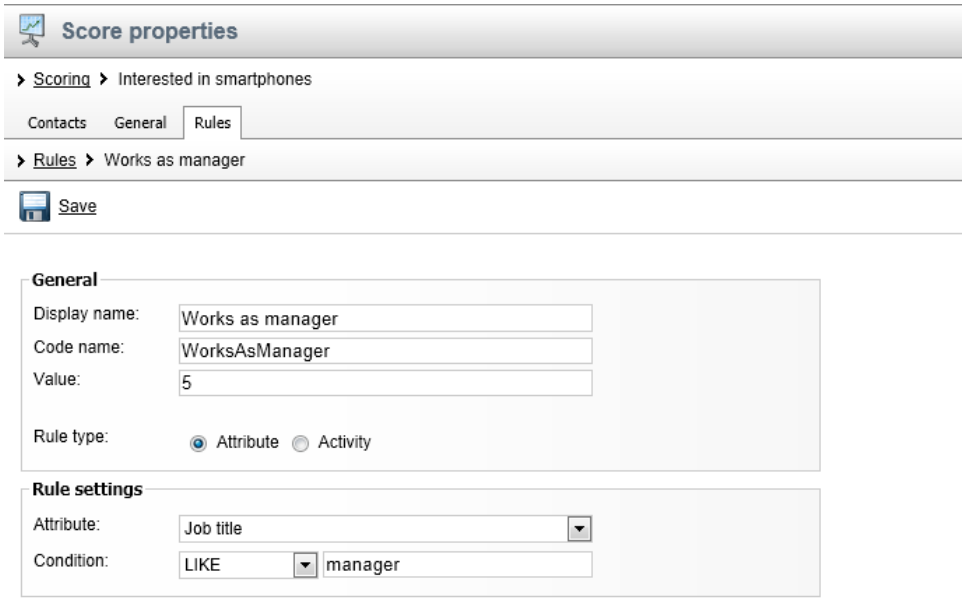
- **Display name** - name of the rule used in the system's administration interface.
- **Code name** - name of the rule used in web project code.

© 2012 Kentico Software

- **Value** - number of score points that will be added to a contact for matching the rule.
- **Rule type** - you can choose from the following types of rules:
  - **Attribute** - score points are added to contacts whose properties match a specified value.
  - **Activity** - score points are added to contacts who perform a specified activity.

If you select the **Attribute** type, the following two fields can to used to define the rule:

- **Attribute** - contact property that has to match the condition specified below in order for contacts to receive the score points.
- **Condition** - condition that the attribute must match in order for contacts to receive the score points.

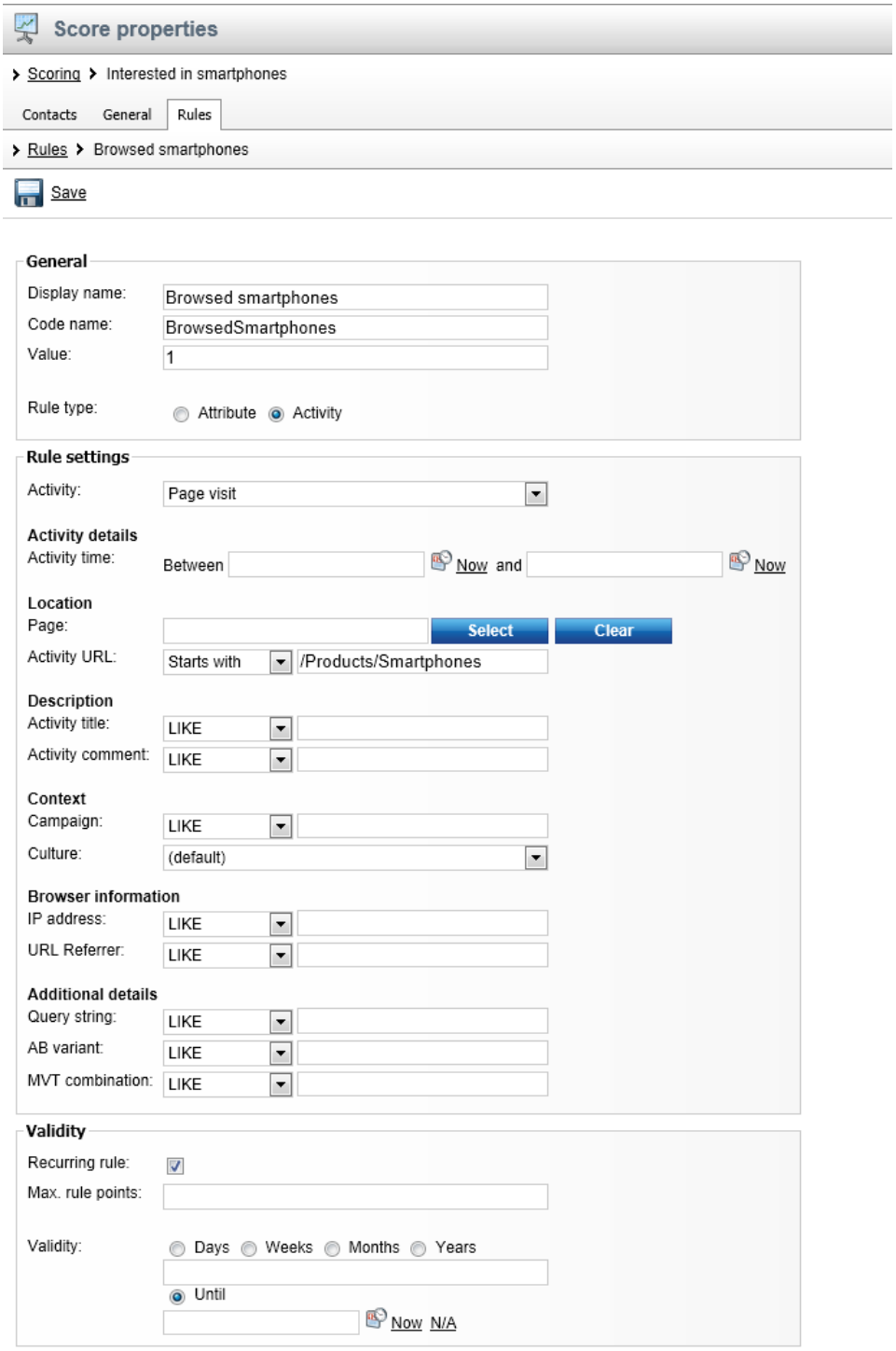


If you select the **Activity** type, the following fields can be used to specify the required activity:

- **Activity** - type of activity that the contact needs to perform in order to receive the score points.
- **Activity time** - time period within which contacts receive score points for performing the activity.
- **Page** - path to a page where the activity needs to be performed.
- **Activity URL** - URL where the activity needs to be performed.
- **Activity title** - title of the activity.
- **Activity comment** - text entered as comment of the activity.
- **Campaign** - web analytics campaign through which the user came to the website.
- **Culture** - cultural version of the website in which the activity needs to be performed.
- **IP address** - IP address from which the activity needs to be performed.
- **URL referrer** - URL from which the user needs to come to the page where they perform the activity.
- **Recurring rule** - indicates if score points can be added to contacts for performing the activity repeatedly. If disabled, score points are added only for the first time it is performed by each contact.
- **Max. rule points** - maximum number of points that can be added to a single contact for performing the activity
- **Validity** - indicates how long the score points will be added to a contact after performing the activity. After the specified time period, the score points will be subtracted from the user's total score points.

Depending on the selected type of activity, other specific properties can be displayed along with the ones listed above.

© 2012 Kentico Software



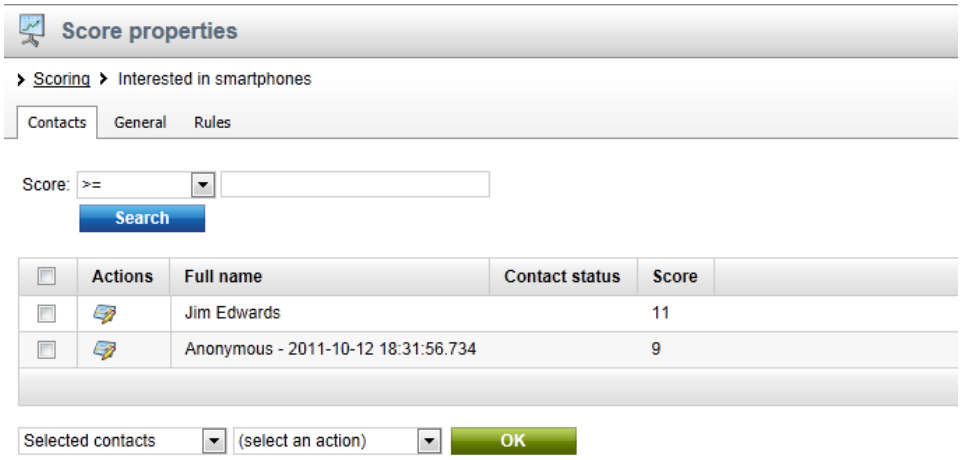
Contacts tab

On the **Contacts** tab, you can see a list of contacts who received points within the current score and the actual numbers of score points that they received (the **Score** column). Please note that points received for matching activity rules are added about one minute after the activity is performed, unless the *CMSLogActivityImmediatelyToDB* key is added to the *appSettings* section of the project's *web.config* file

© 2012 Kentico Software

and set to *true*. In this case, score points for activity rules are added almost immediately.

When large numbers of contacts are displayed, you can filter them by their score points value using the **Score** filter above the list. By clicking the **View contact details** ( ) icon next to a contact, the contact's editing interface identical to the one available in **CMS Desk -> On-line marketing -> Contacts** is displayed in a new pop-up window.

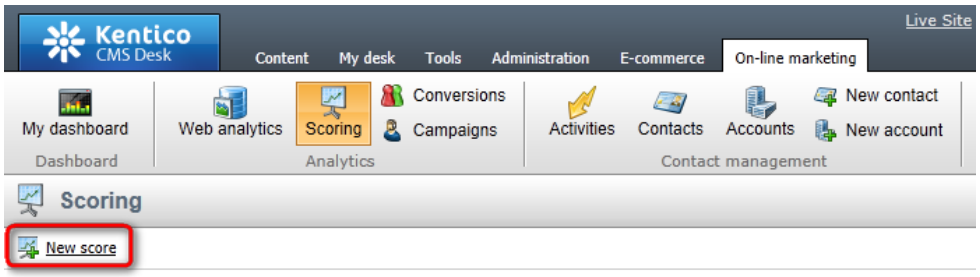


7.3 Example: Creating a sample score

In Part 1 of the following example, we will create a sample score with two attribute rules and one activity rule. In Part 2, we will browse the website as two new contacts and see how score points are assigned to them when they match the defined rules.

Part 1: Creating a sample score

1. Go to **CMS Desk -> On-line marketing -> Scoring** and click the **New score** link.

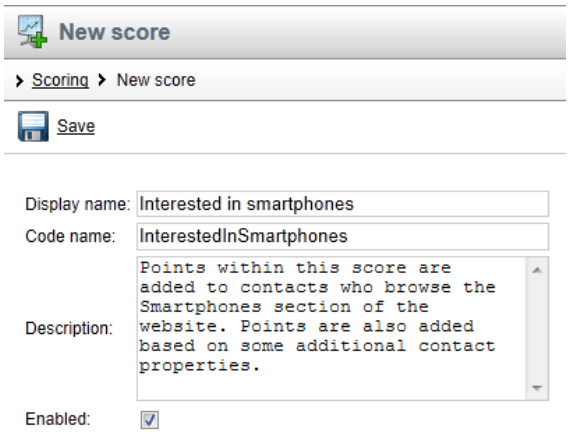


2. In the **New score** dialog, enter the following details:

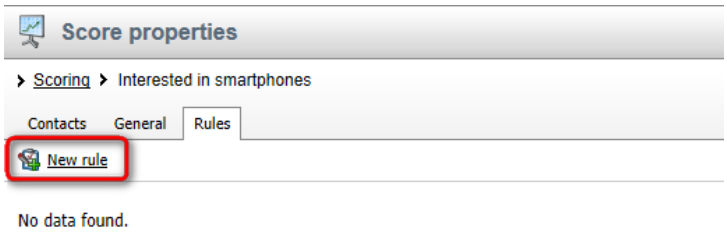
- **Display name**: Interested in smartphones
- **Code name**: InterestedInSmartphones
- **Description**: enter some text describing the score
- **Enabled**: checked

Click **Save** when you have all values entered.

© 2012 Kentico Software



3. The new score is now created and some new fields appear in the form you have just filled in. Let's omit these for now and create some rules based on which score points will be added to contacts within this score. As you may have noticed, three tabs have appeared after clicking **Save**, while you are now on the **General** tab of the score's editing interface. Switch to the **Rules** tab. The tab is empty since no rules are created yet, so let's click the **New rule** link to create our first rule.

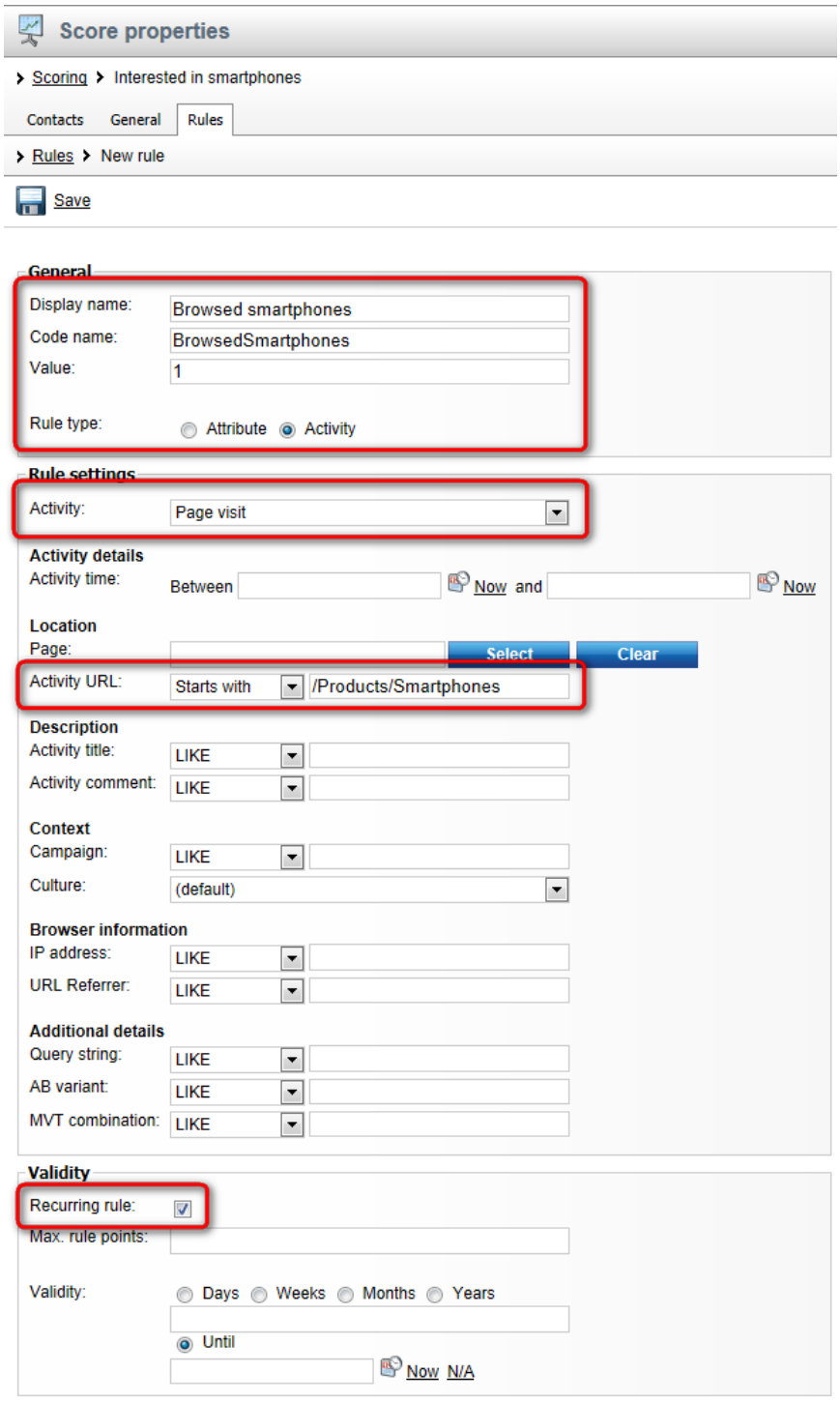


4. The first rule will be based on contact activities. It will add one point when a contact views a page in the */Products/Smartphones* section of the website (i.e. the list of offered smartphones and particular smartphone detail pages). The rule will be recurring, which means that points will be added even for repeated visits of these pages. In the **New rule** dialog, such a rule can be specified by the following configuration:

- **Display name**: Browsed smartphones
- **Code name**: BrowsedSmartphones
- **Value**: 1
- **Rule type**: Activity
- **Activity**: Page visit
- **Activity URL**: Starts with /Products/Smartphones
- **Recurring rule**: enabled

Leave the rest of the properties blank or at default values and click **Save**.

© 2012 Kentico Software

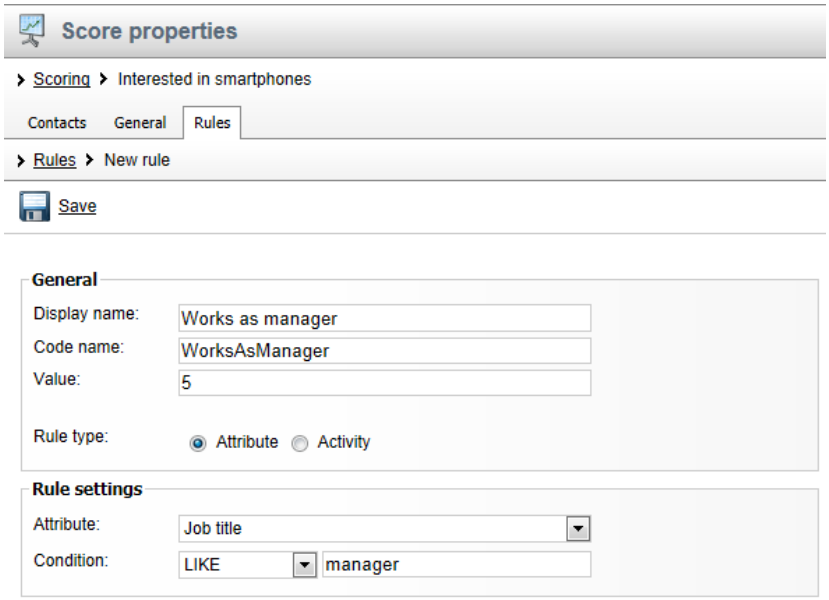


5. Now let's create an attribute rule which will add 5 score points to contacts who have the word *manager* in their job title, as these are likely to need smartphones to do their job. Switch back to the list of rules (click the **Rules** tab header) and click the **New rule** link again. This time, enter the following properties:

- **Display name**: Works as manager
- **Code name**: WorksAsManager

- **Value**: 5
- **Rule type**: Attribute
- **Attribute**: Job title
- **Condition**: LIKE manager

Click **Save** to save the rule.

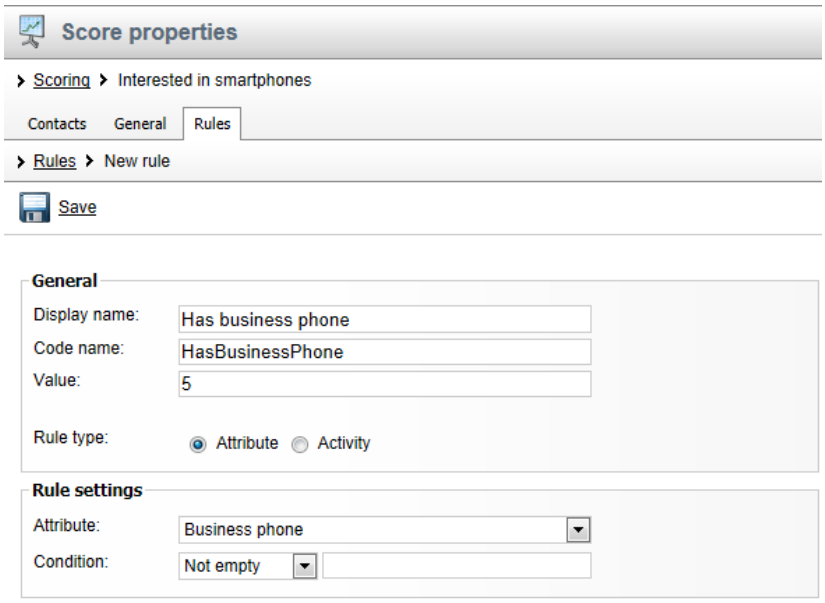


6. Repeat the procedure for the last time to create one more attribute rule, this one adding 5 points to contacts that have a business phone number, as these can also be considered as potential smartphone buyers:

- **Display name**: Has business phone
- **Code name**: HasBusinessPhone
- **Value**: 5
- **Rule type**: Attribute
- **Attribute**: Business phone
- **Condition**: Not empty

Click **Save** to save the rule.

© 2012 Kentico Software



7. If you switch back to the list of rules, you should see the three defined rules listed.

Part 2: Trying out the functionality

With the rules defined, let's try how score points are added to contacts when they match the rules. For the purpose of this example, we will use brand new contacts created by accessing the website as anonymous users from two different browsers. If you already have some contacts created this way (e.g. after going through Example: Creating a sample contact), these contacts will be used instead of the new ones, but the demonstrated functionality will be the same.

Points for activity rules

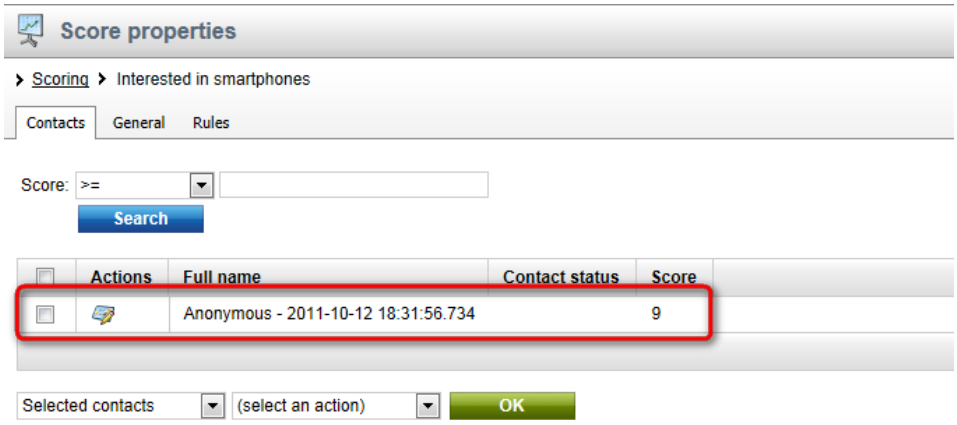
Please note that points received for matching activity rules are added about one minute after the activity is performed, unless the *CMSLogActivityImmediatelyToDB* key is added to the *appSettings* section of the project's *web.config* file and set to *true*. In this case, score points for activity rules are added almost immediately.

© 2012 Kentico Software

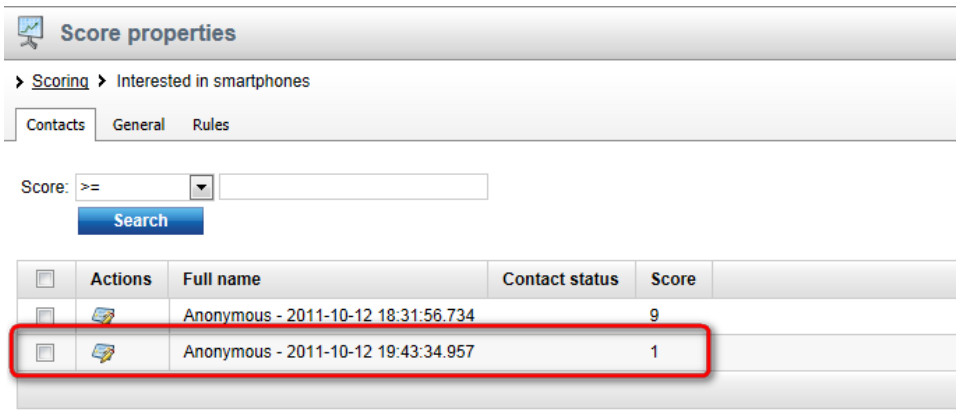
It is therefore recommended to add the key to the *web.config* file in order to see the results in steps 9 and 10 immediately.

8. Sign out of the administration interface, navigate to the **/Products/Smartphones** section of the Corporate Site and view the product detail pages of at least 4 smartphones.

9. Then, log back on to **CMS Desk**, go to **On-line marketing -> Scoring**, edit ( ) the previously created **Interested in smartphones** score and view the **Contacts** tab. You should see that a new contact is listed there. It should have as many score points in the **Score** column as the number of pages in the **/Products/Smartphones** section you have viewed.



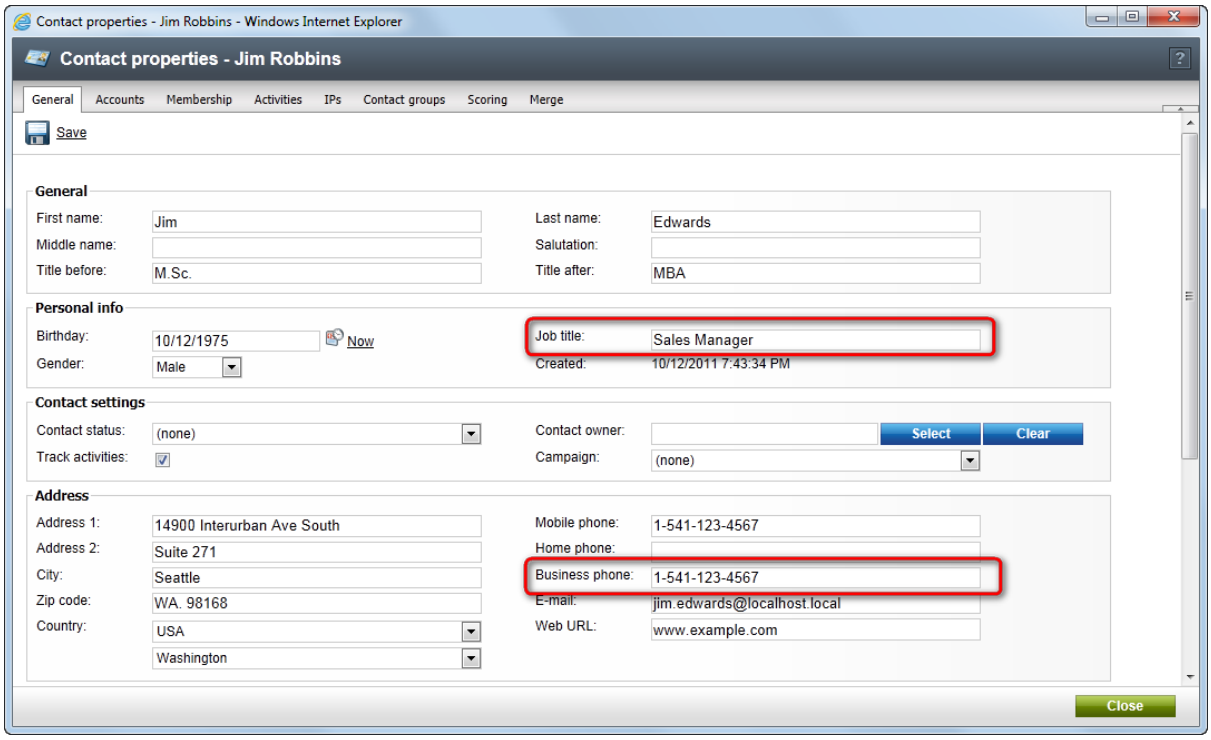
10. Now open a different web browser and access the **/Products/Smartphones** section as an anonymous visitor again. This time, view only the list of smartphones. After doing so, switch to the first browser and view the **Contacts** tab. You should see another contact, but with only one point added for viewing the list of smartphones.



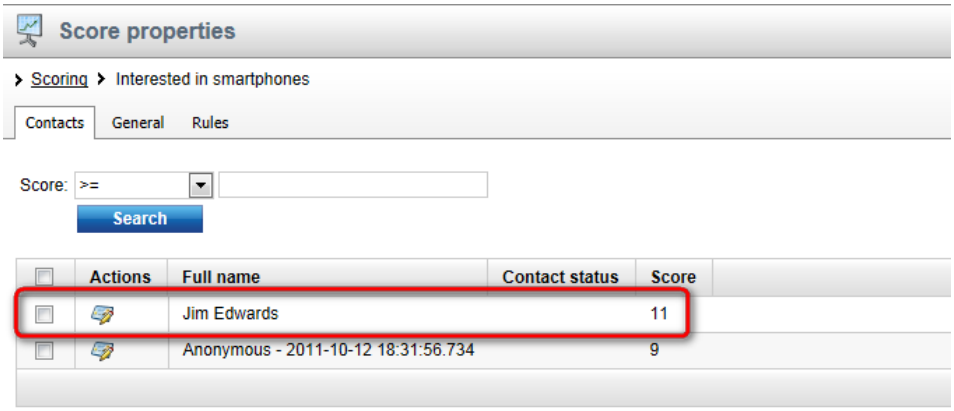
11. Now click the **View contact details** ( ) icon next to the second contact. A new pop-up window where you can edit properties of the contact appears. The user interface provided in the pop-up window is identical to the contact editing interface in **CMS Desk -> On-line marketing -> Contacts** (see Contact management -> Contacts for more details).

On the **General** tab, fill in some sample details including a **Business phone** number and a **Job title** containing the word *manager*. Click **Save** once finished.

© 2012 Kentico Software



12. Close the window. Back on the **Contacts** tab, you should see that the second contact now has 11 points. This results from the fact that 5 were added due to having a business phone and another 5 due to having the word *manager* in their job title, just as defined by the two previously created attribute rules.



© 2012 Kentico Software

Part VIII

Website optimization

8 Website optimization

8.1 Overview

Making improvements on a website can be a difficult process, since it is often not possible to know ahead of time whether a change will have a positive effect, or which modification out of several options will bring the best results. A possible solution for these issues is optimization testing of pages.

Optimization testing allows you to create different versions of a page (or specific parts of a page) and evaluate them according to the behavior of the website's visitors. This way you can confirm which changes are actually beneficial and use the content that works best for the users who visit your website. The entire process is completely transparent for the site's visitors and does not require them to give any feedback manually. Testing is typically done for key sections of the website that receive the most traffic, such as the default home page (landing page).

There are two different techniques that you can use to optimize pages in Kentico CMS:

- A/B testing - divides incoming traffic between two or more different variants of a page. Each variant is defined as a separate document in the content tree. Results are tracked for each page variant as a whole, meaning that the combined effect of all changes made to the given page is measured.
- Multivariate testing (MVT) - allows you to make multiple modifications to the content of a single page and monitor the effect that specific changes have on the behavior of visitors.

Each type of testing has its advantages and disadvantages and is intended for different scenarios. A/B testing is usually more straightforward and easier to set up and use. It is most suitable for situations where you need to test a single variable element or a full redesign that changes the entire appearance of a page. In cases where you need to evaluate multiple variables on a single page or monitor the effect of individual modifications with a greater degree of detail, multivariate testing is the better option. Because MVT usually involves more tested variants, it may require more time (or site traffic) than A/B testing to get meaningful results.

For both types of optimization testing, results are measured by tracking the activity of users after they access the tested page and view one of the different content versions. Actions that are desired from visitors are represented in the system as ***Conversions***. Typical examples of conversions are product orders, registrations, newsletter subscriptions, views of special pages etc. When a user performs the specific action tracked by a conversion, it is referred to as a ***Conversion hit***. To learn more about conversions and how they can be implemented on your website, please read the Conversions chapter.

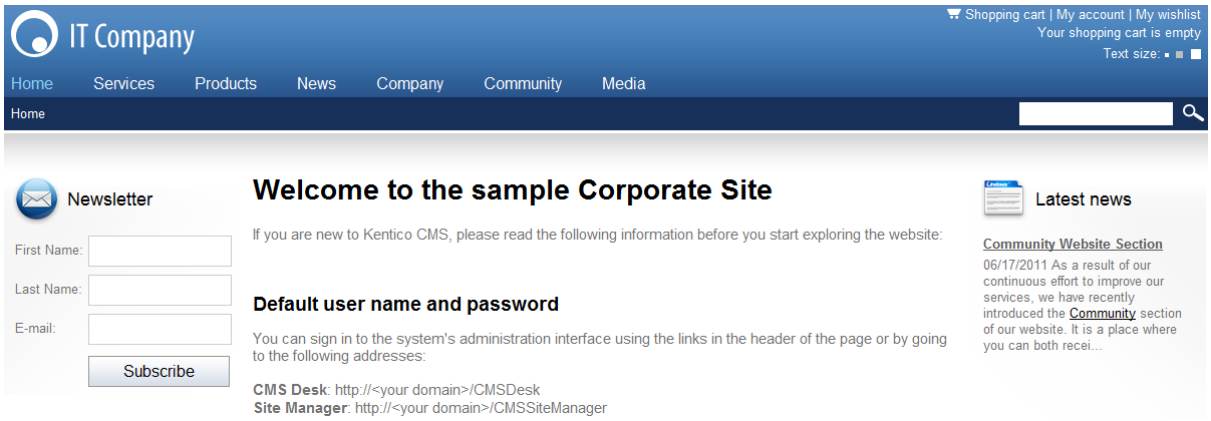
8.2 A/B testing

8.2.1 A/B testing overview

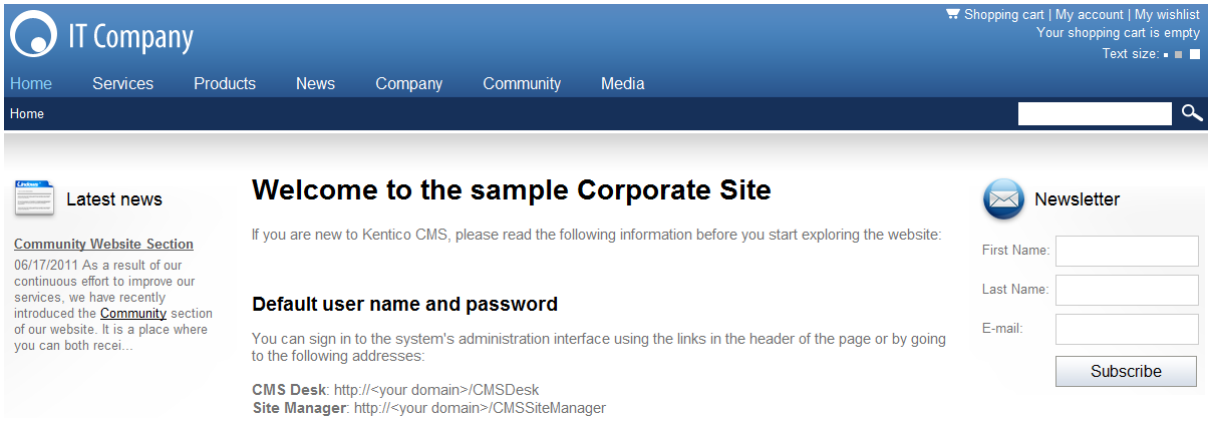
A/B testing is an on-line marketing technique used to optimize the pages of a website according to the reactions of visitors. This is achieved by creating one or more modified versions of a given page and running them all at the same time during a designated testing period. The system then divides traffic between individual page versions and tracks how the changes affect the user experience and activity of visitors.

The following images show two versions of a sample home page — the original and an alternative page with the position of the left and right content columns reversed.

© 2012 Kentico Software



Some visitors will be assigned to the second version and will see the following when they view the home page:



There are no limitations placed on the modifications that can be made to different page options. They may include anything from subtle changes to using a completely different page.

In Kentico CMS, the basic objects that provide this functionality are ***A/B tests***, which can be created for specific website pages. The page options defined for a test are called ***Page variants***. Each variant is linked to a document in the content tree of the website that can be designed and configured using the standard web development process. Usually, the ***Original page*** for which the test was created will be included as one of the variants, so that potential improvements can be compared with the baseline statistics (those of the unmodified page).

For a practical scenario, imagine that you have an e-commerce page on your website where visitors can purchase products and you wish to fine-tune it to be more user friendly in order to increase the amount of sales. By utilizing A/B testing, you can create multiple versions of this page with any type of modifications such as a slightly altered layout, graphical design or text content. These alternative pages will then serve as variants of the A/B test. While the test is running, it will automatically display different page variants to different visitors and keep track of all product purchases as conversions. When the test is completed after a certain amount of time, you can evaluate which page variant encouraged more users to make purchases on the website and set the most successful one as the permanent page.

Please see the Managing A/B tests topic for detailed information about how an A/B test can be defined for a page. If you wish to try out a live A/B testing scenario, you can do so on the sample Corporate Site according to the instructions in the Example: Sample A/B test topic. The data gathered by A/B tests is

© 2012 Kentico Software

displayed using reports that allow you to view and analyze several types of conversion metrics, as described in Analyzing A/B test results.

With A/B testing, results are tracked for entire page variants, which means that the measured statistics reflect the combined effect of all changes made to each variant. If you wish to monitor how individual page modifications affect the behaviour visitors, you may use Multivariate testing, which is another website optimization feature provided by Kentico CMS.

How it works

When a visitor navigates to a page that has a running A/B test defined, one of the page variants configured for the given test will be displayed to them. The variant is chosen randomly for every user. With a large enough visit sample size, each page variant should receive roughly the same amount of traffic during the course of the test.

A persistent cookie is stored in the visitor's browser, used to identify which variant was assigned by the given A/B test. The name of the cookie uses the following format: *CMSAB<A/B test code name>*. It saves the code name of the assigned page variant as its value. This cookie expires either within 30 days after the last visit on the tested page, or on the date when the test is configured to end.

Any conversions performed on the website by users who have passed through an A/B test page will be logged under the assigned page variant, which is taken from the value of the A/B testing cookie. The logging of conversion hits is provided by the Web analytics module. In addition to monitoring conversions, the cookie also ensures that returning visitors are always shown the page variant that was previously assigned to them, which helps avoid confusion by maintaining a consistent appearance of the tested page.

It is possible to run multiple A/B tests concurrently for different pages on the same website. Conversions will be logged for all tests defined for pages visited by a given user, according to the cookies present in the browser.

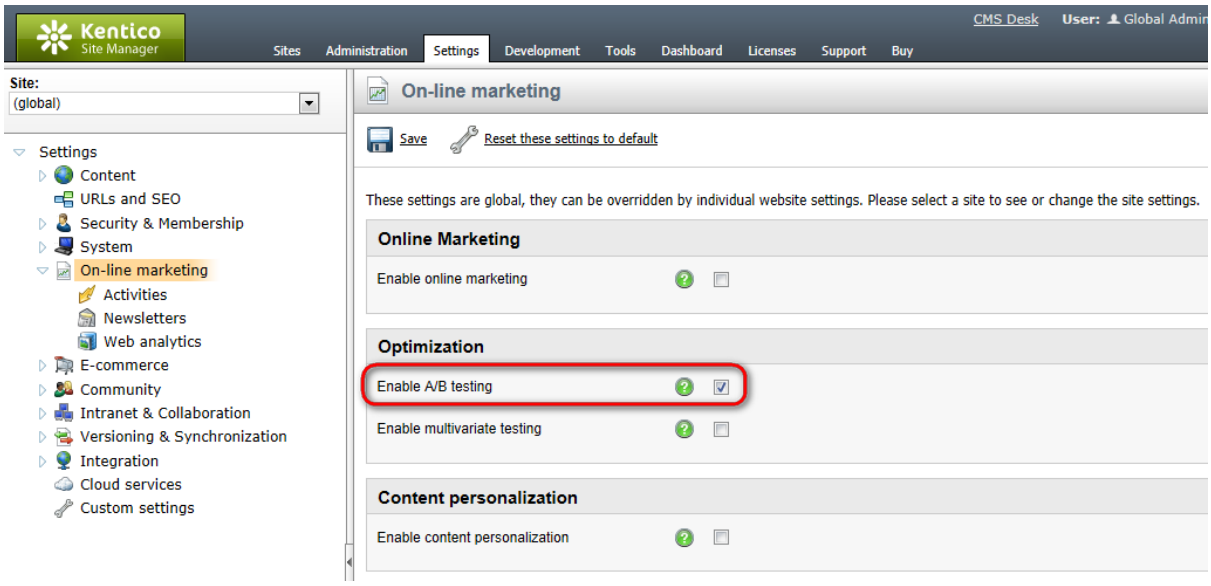
8.2.2 Managing A/B tests

The sections below describe the general steps that need to be taken in order to successfully set up an A/B test on your website.

Enabling A/B testing

Before you can start creating A/B tests for pages, it is first necessary to enable the module by going to **Site Manager -> Settings -> On-line marketing** and checking the **Enable A/B testing** field.

© 2012 Kentico Software



Since web analytics are used to log conversion statistics for individual page variants, the **Enable web analytics** and **Track conversions** fields must additionally be enabled in the **On-line marketing -> Web analytics** sub-category of the settings. All other requirements for the correct functioning of the web analytics module also need to be fulfilled.

Defining an A/B test for a page

To start optimizing a page via A/B testing, create and configure an *A/B test* object for it. This can be done in the **Content -> Edit** mode of **CMS Desk** by selecting the appropriate document from the content tree and switching to its **Analytics -> A/B tests** tab. Here you can find a list of all A/B tests assigned to the current document and manage them as required. The **New test** link may be used to add an A/B test.

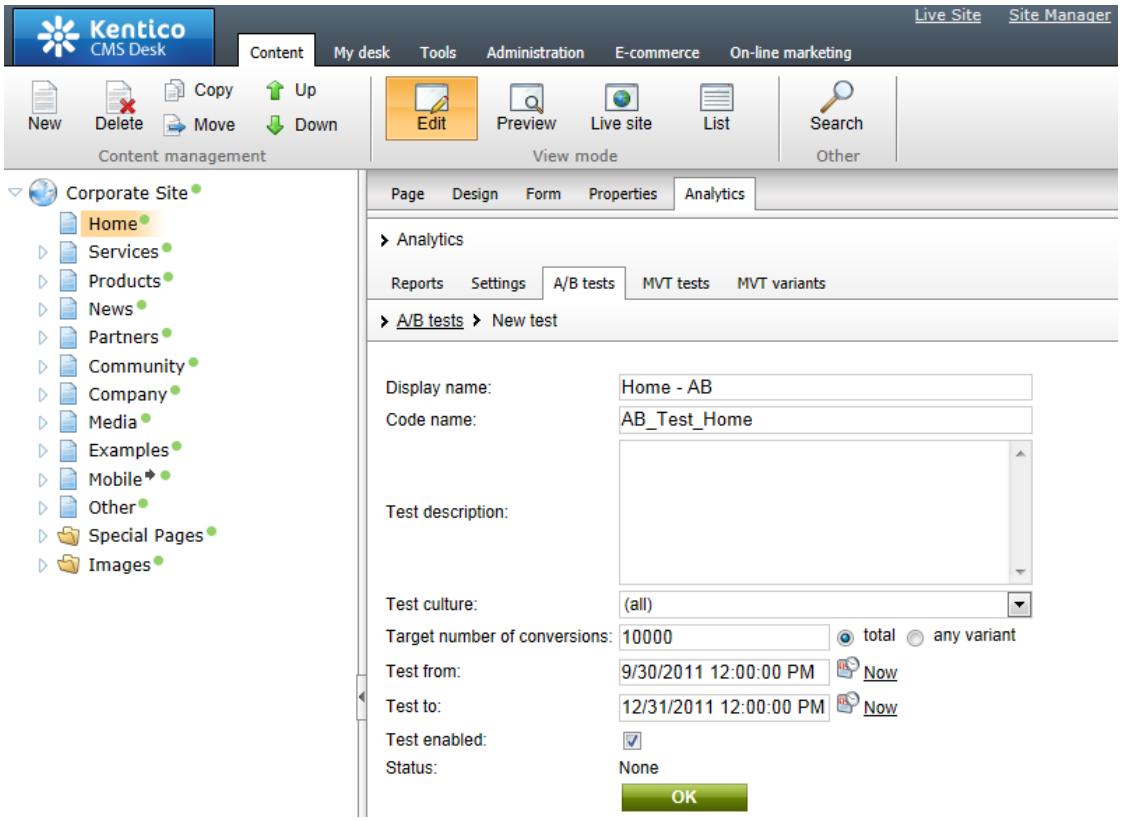
When creating or editing A/B tests, the properties described in the table below are available:

Display name	The name of the A/B test displayed in the administration interface.
Code name	Sets a code name that serves as an identifier for the test. It is also used in the name of the browser cookie used to store which of the test's page variants was assigned to a visitor.
Test description	Can be used to enter a text description for the test in order to give information about its purpose, goals etc.
Test culture	Used to selects which culture version(s) of the document should be included in the test.
Target number of conversions	Sets the number of conversion hits that must be logged to complete the test. Once this number is reached, the A/B test will automatically stop working and switch to the **Finished** status. If the **total** option is selected, then the number will be

© 2012 Kentico Software

	compared with the total sum of the conversion hits logged for all test page variants. If **any variant** is chosen, then the test will be concluded when the specified number is reached by one variant (the one with the most conversion hits). Leaving this property empty or setting it to *0* means that there will be no conversion hit limit for the test.
Test from/to	Sets the time interval during which the test should occur. The **Calendar** button ( ) can be used to select the exact date and time.
Test enabled	This property may be used to manually start or stop the test.
Status	Displays the current status of the A/B test. The following statuses are possible: • **Disabled** - indicates that the test is not active. The original tested page will always be displayed to visitors and conversions will not be logged for the test's variants. • **Not running** - indicates that the test is not active yet. Used when the test is enabled, but the *Test from* date is still in the future. • **Running** - indicates that the test is currently active. • **Finished** - this status is automatically assigned after the *Test to* date passes or when the current number of conversions reaches the *Target number of conversions*. Tests with this status are no longer active. Each page may have only one A/B test running at a given time. It is however possible to have multiple finished or inactive (disabled) tests assigned to a page, which can be used to archive data from previous tests or when preparing future tests. Different culture versions of a page may each have a different test running at the same time.

© 2012 Kentico Software



Managing A/B tests through the Web analytics interface

If you wish to manage all tests assigned to different pages from a single location, go to **CMS Desk -> On-line marketing (or Tools) -> Web analytics**. Then expand the **Optimization -> A/B tests** category, select any of the contained items (reports) and switch to the **A/B tests** tab.

Here, all A/B tests defined on the current website and their page variants may be managed in the same way as described for individual documents. The only difference is that the **Original page** property is additionally available when editing a test, which can be used to assign tests to specific pages.

Adding page variants to an A/B test

Test variants are created the same way as any other pages, since each variant is represented by a separate document in the website's content tree and can be managed in **CMS Desk -> Content**. Because of this, you can utilize all page configuration and design options provided by Kentico CMS. Please refer to the Development -> Web development overview chapter of the Developer's Guide if you require basic information about page development.

Usually, the page variants of an A/B test will all use the same basic concept, but have one key difference that sets them apart from the original page, such as:

- The position of an important page element.

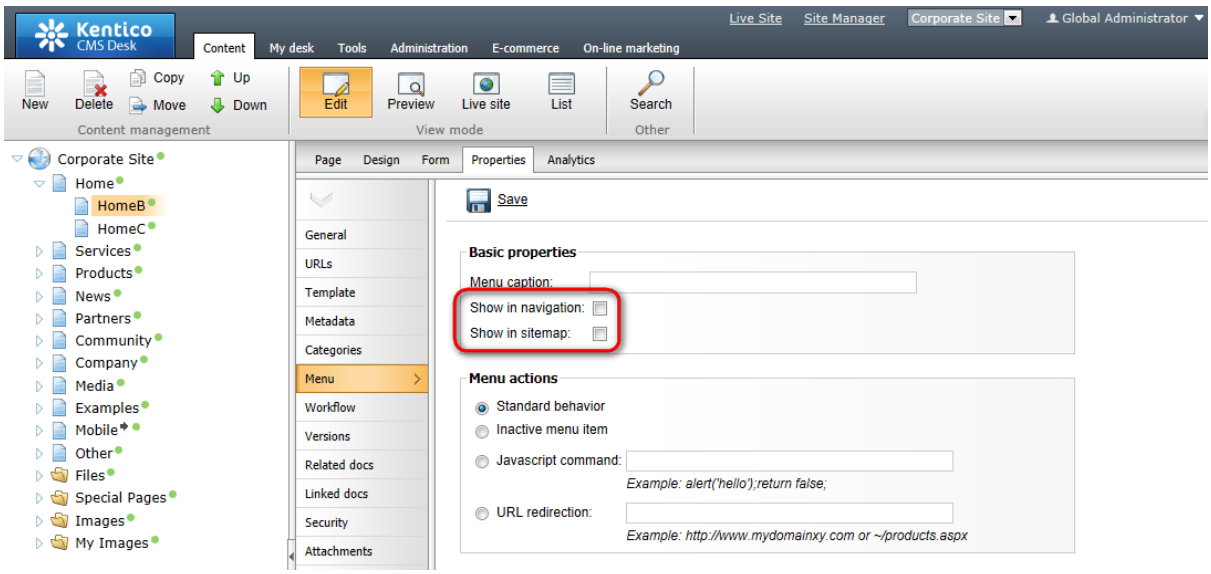
© 2012 Kentico Software

- A different color scheme intended to highlight a part of the page.
- Alternative text content of headings or descriptions that could potentially be more interesting for visitors.

These are only basic examples of ideas that can be tested by individual variants. You can implement any other type of modifications according to your specific requirements.

You may also leverage existing functionality to help present all variants defined for an A/B test as a single page. The following two properties are available on the **Properties -> Menu** tab when editing any document:

- **Show in navigation** - indicates if the page variant should be displayed by navigation controls and web parts (i.e. in the website's menus).
- **Show in site map** - indicates if the page variant should be displayed by the Site map web part and included in the website's Google Sitemap.



In most cases, it is recommended to have these properties disabled for page variants in order to prevent users from encountering multiple pages with nearly identical content. The appropriate variant will automatically be displayed to users when they view the test's original page, so standard navigation is not necessary.

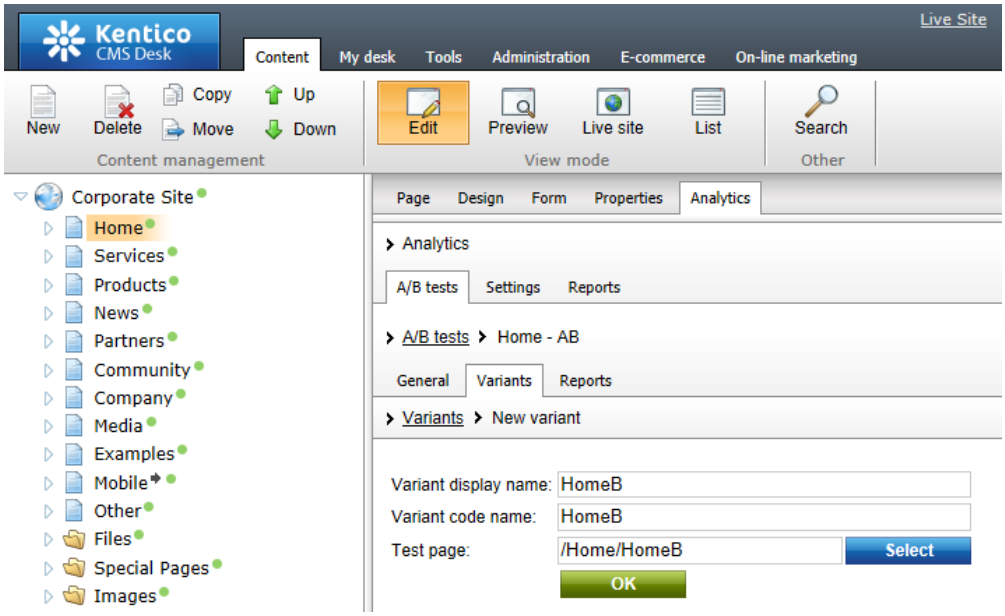
Additionally, the **Exclude from search** flag can be enabled for page variants on the **Properties -> General** tab. This will ensure that the given variant will not be returned in the results of searches performed on the website.

Once the modified versions of the original document are added to the content tree, they must be registered as variants of the given A/B test. To do this, select the original document, go to **Analytics -> A/B tests**, edit ( ) the test and switch to its **Variants** tab. Click the **New variant** link and enter the following properties:

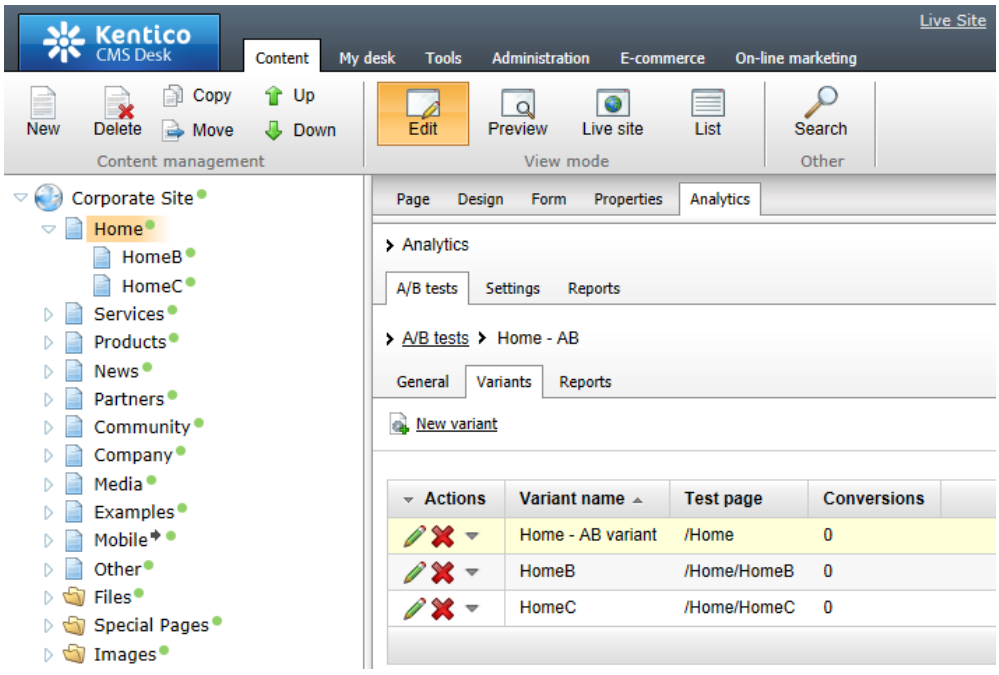
- **Variant display name** - the name of the variant displayed in the administration interface.
- **Variant code name** - sets a code name that serves as an identifier for the page variant. It is also used as the value of the A/B testing cookie stored for visitors assigned to this variant.
- **Test page** - must contain the path of the associated page (document). When users assigned to the

© 2012 Kentico Software

variant access the original page of the given A/B test, they will see the page specified here instead. The *Select* button may be used to choose an existing page from the website's content tree.



Repeat this process for all documents that should be included as possible page options for the A/B test. The original document is automatically added as a variant when the A/B test is created, and highlighted in the list by a yellow background.



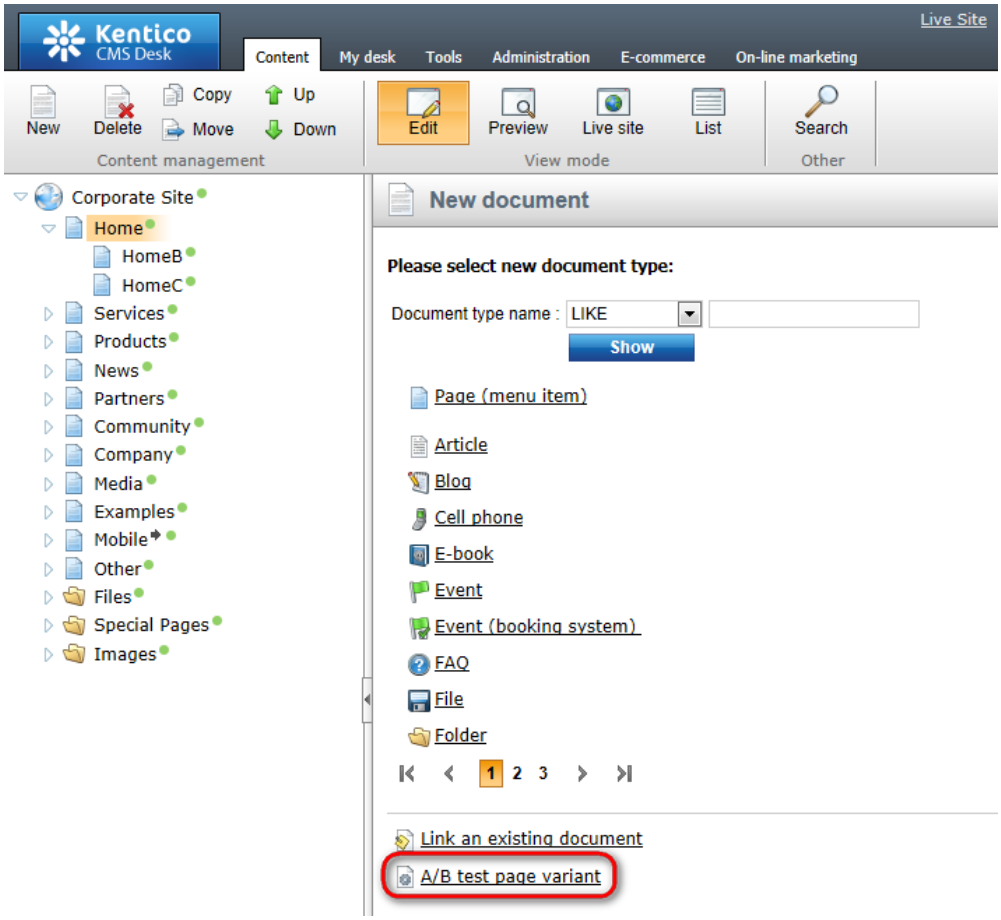
Important!

© 2012 Kentico Software

When editing a running A/B test, it is necessary to always keep the variant **Test page** paths up-to-date and ensure that the target documents actually exist in the content tree. Otherwise visitors may encounter a *Page not found* error if the path of their variant is not valid.

To preserve conversion statistics, variants remain in the system even if their associated document is deleted.

It is possible to save time when defining page variants by using an action that combines the two steps described above. Simply select the A/B test's original page in **CMS Desk -> Content** and click the **New** button in the menu above the content tree. Instead of selecting a document type, choose the **A/B test page variant** option below the list.



This can also be done by right-clicking the document in the content tree and selecting the **New -> A/B test page variant** item from the context menu. A dialog with the following options will be opened:

- **Document name** - sets the name of the new document that will be associated with the page variant.
- **Save under location** - sets the path of the document under which the page variant will be placed. The *Select* button may be used to choose a parent page directly.
- **Assign to A/B test** - selects the A/B test to which the variant will be added.
- **Show in navigation, Show in site map, Exclude from search** - these options may be used to directly set the corresponding properties of the new document. The default values will hide the page

© 2012 Kentico Software

variant from all standard website navigation.

This will create a copy of the selected document and automatically add it as a page variant of the specified A/B test. Now you can implement the required modifications that will distinguish the variant from the original page. Please keep in mind that this copy will use the same page template as the original document, so the template must be *Cloned as ad-hoc* on the document's **Properties -> Template** tab if you wish to make any changes to the design or layout of the page.

Configuring conversions

Conversions allow you to track the behaviour and actions of the website's visitors, so they must be used in order to get A/B testing results. They work on a site-wide level and do not need to be assigned to individual A/B tests in any way. All that needs to be done is define conversion objects and link them with the actions that you wish to log for the test. There are many ways to specify that an action should be logged as a conversion. You can find information about conversion management in the Conversions chapter of this guide.

When an action designated as a conversion is performed anywhere on the website, the system checks if the given user has passed through a page with an A/B test (according to the presence of a cookie). If this is the case, the conversion hit will be logged for the page variant assigned to the user.

Once the A/B test starts running on the live website, you can monitor the conversion statistics for individual page variants using pre-defined reports, as described in the Analyzing A/B test results topic.

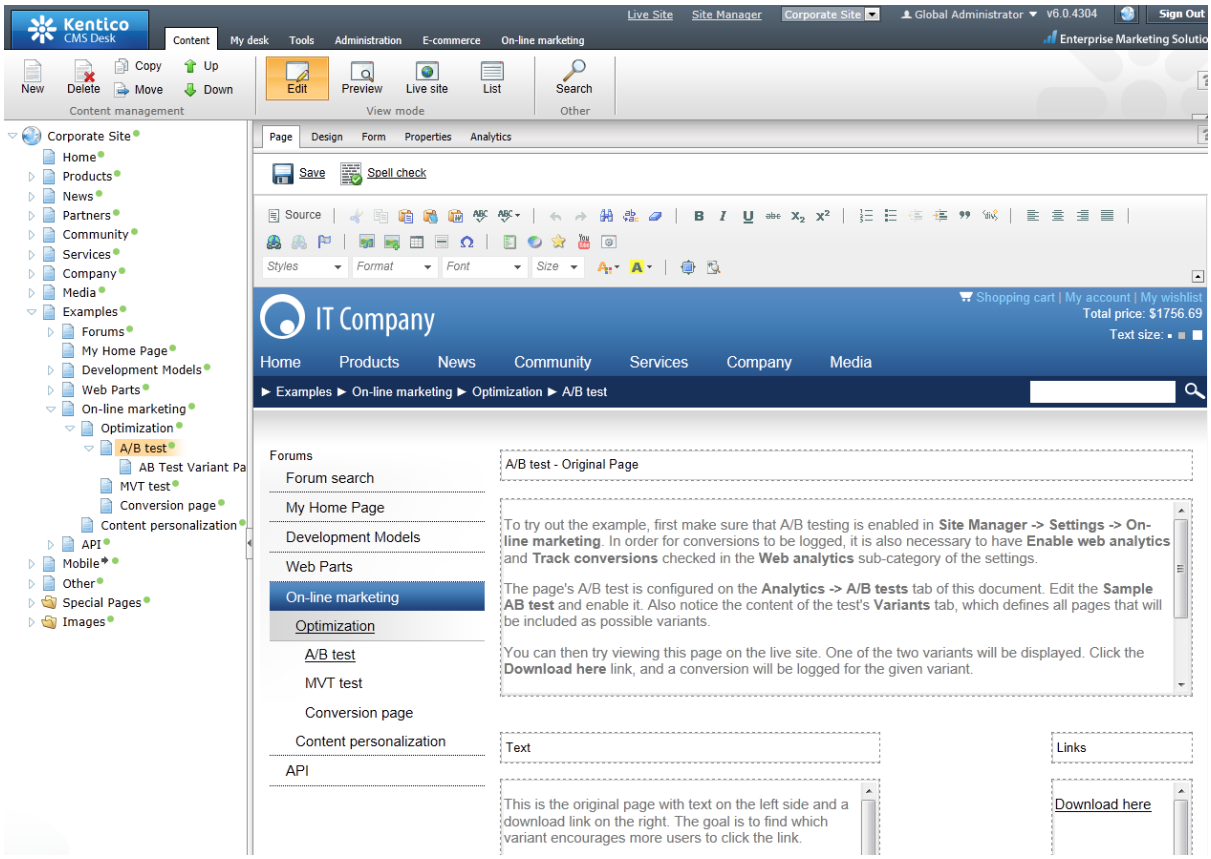
8.2.3 Example: Sample A/B test

The following example demonstrates how the sample A/B test included on the Corporate Site works. The first part shows how the test looks from the live site perspective once it is started. In Part 2, you can learn how to create a new page variant and add it to the test.

Part 1: Live testing example

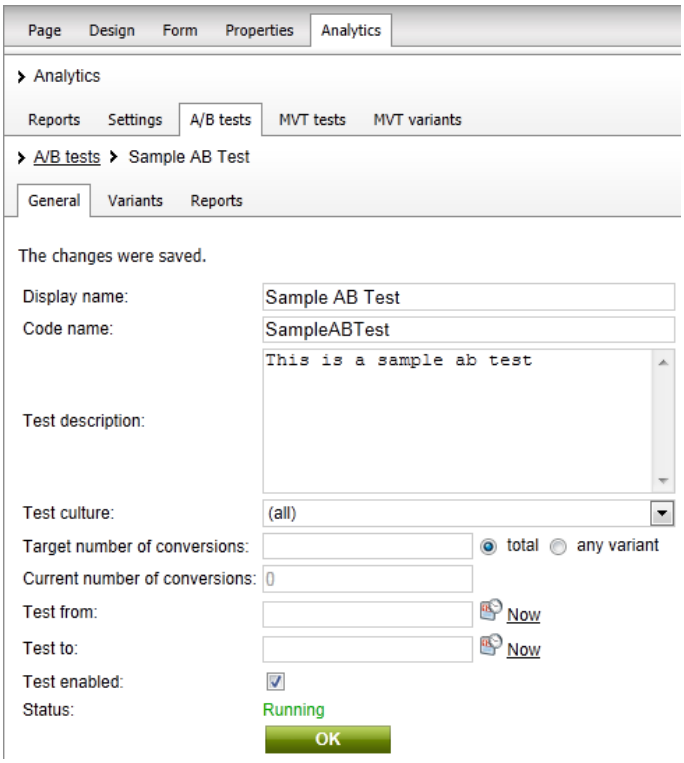
1. Go to **CMS Desk -> Content -> Edit** and select the **A/B test** document, which can be found under **Examples -> On-line marketing -> Optimization**. This document already has an A/B test defined and one page variant added as a child document. The testing scenario is very basic, with the page being composed of a text column on one side and a link on the other. The layout is reversed on the page variant and the goal of the test is to find out which version gets more link clicks from visitors.

© 2012 Kentico Software

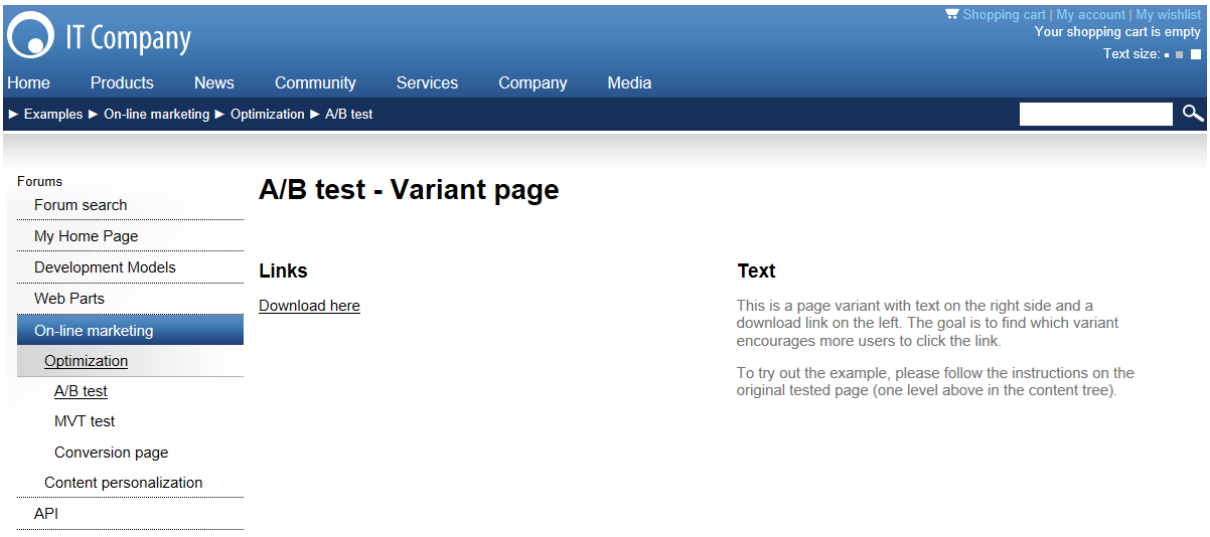


2. To start the test, switch to the **Analytics -> A/B tests** tab of this document, edit (🖉) the **Sample AB Test**, check the **Test enabled** box on the **General** tab and click **OK**.

© 2012 Kentico Software



3. Now try viewing the page on the live site. To access it, sign out of CMS Desk, open the **Home** page of the Corporate Site, scroll down to the bottom and click the **Examples** link under the **Where to learn more?** section. Then, use the menu on the left to navigate to **On-line marketing -> Optimization -> A/B test**. When you view the tested page, one of the two possible variants will be randomly selected and displayed.



4. Click on the **Download here** link, and a conversion will be logged for the given page variant by the sample **Conversion page**. If you return to the A/B test page, the same variant that was assigned during the first visit will always be displayed.

5. Now open the same page using a different browser. Again, one of the page variants will automatically

© 2012 Kentico Software

be chosen and assigned. Please note that it may be the same variant as before, since the selection process is entirely random. You can simulate visits from multiple users by clearing the cookies from your browser between views of the tested page. Try to use this approach to log several conversions for each variant.

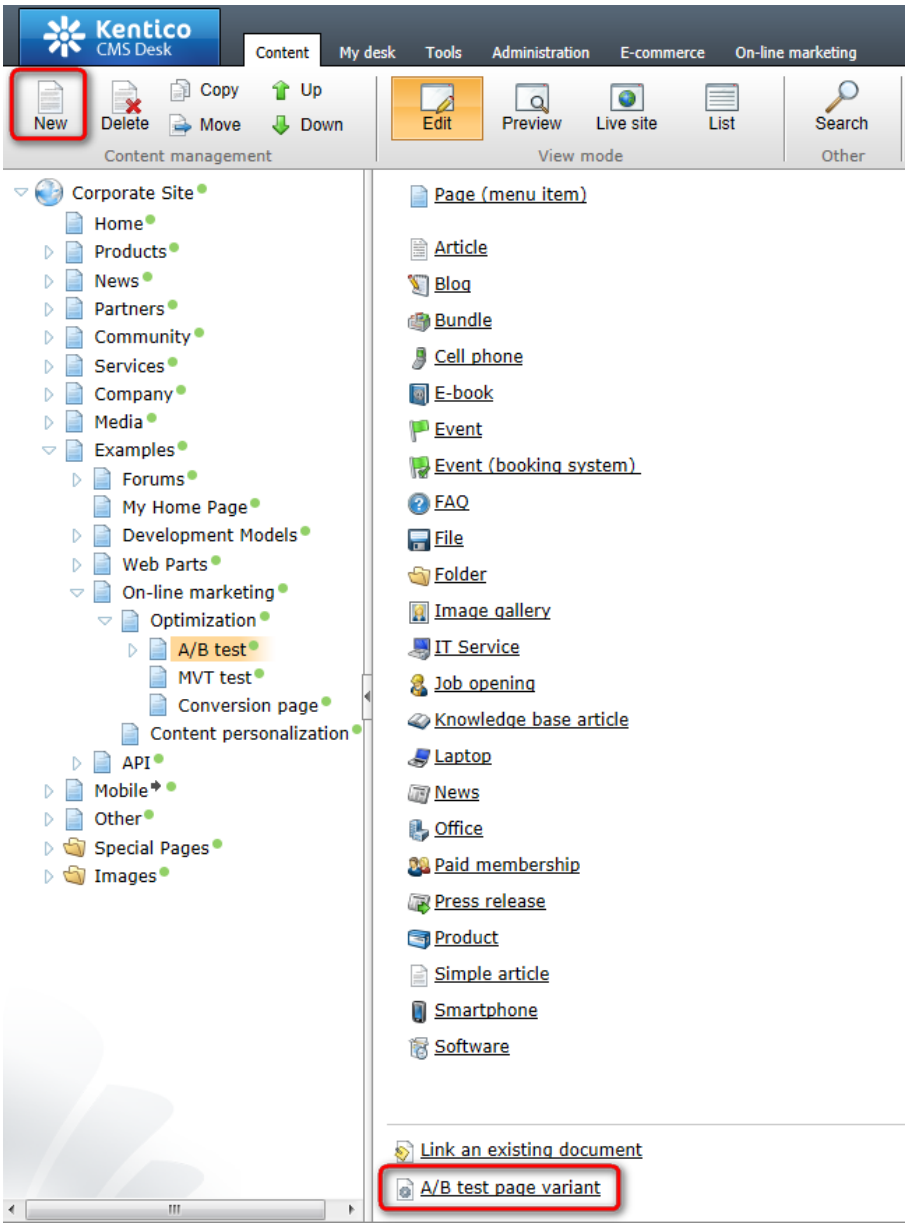
Please continue reading in the Analyzing A/B test results topic to see how you can view the results measured for the sample test performed in the previous steps.

Part 2: Creating an A/B testing page variant

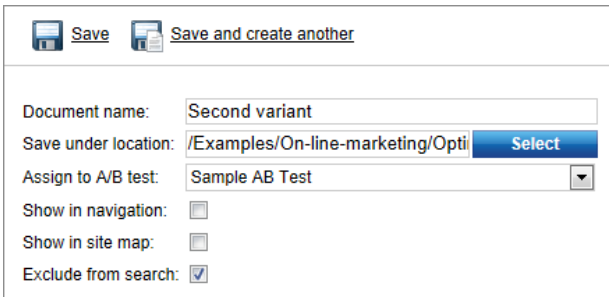
This part of the example demonstrates how you can add another variant to the test used in the section above. Please note that it is generally not recommended to add, remove or otherwise modify the variants of a running test, since this may affect the accuracy of the results (this is not a concern in the case of this example).

6. Log in to **CMS Desk -> Content -> Edit** and select the **A/B test** document again (under **Examples -> On-line marketing -> Optimization**). Then click the **New** action located in the menu above the content tree and choose the **A/B test page variant** option below the list of possible document types.

© 2012 Kentico Software



7. A dialog will appear, where you can specify the settings of the page variant. Enter *Second variant* into the **Document name** field and leave the default values for the remaining properties.

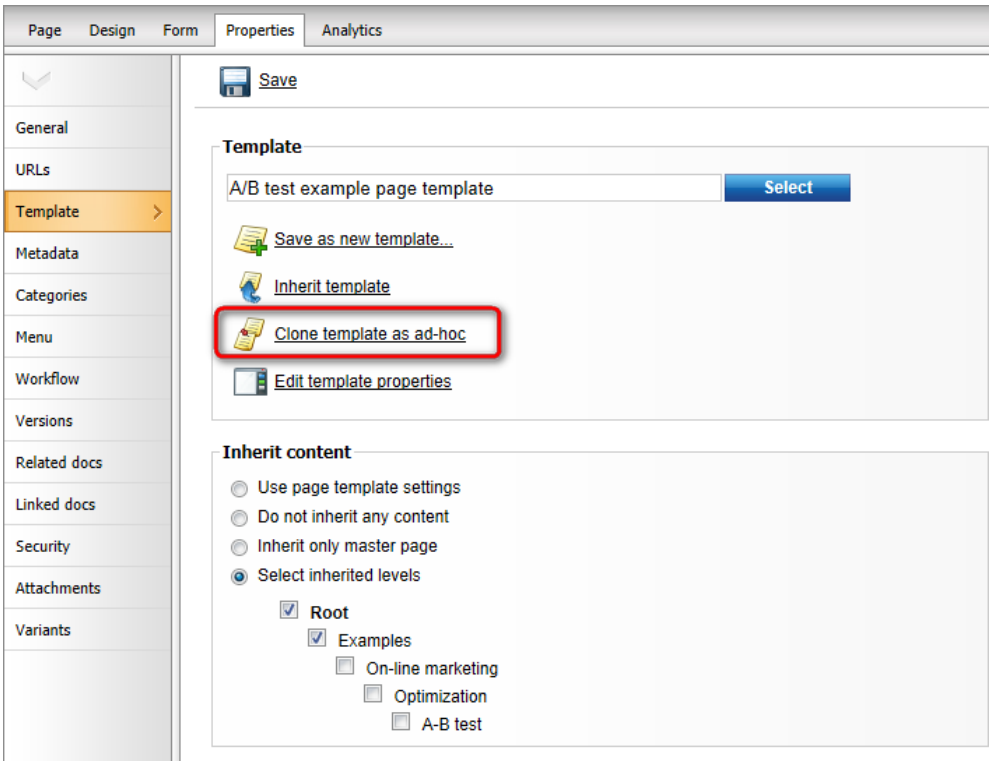


Click the **Save** button and the variant will be created as a child under the currently selected

© 2012 Kentico Software

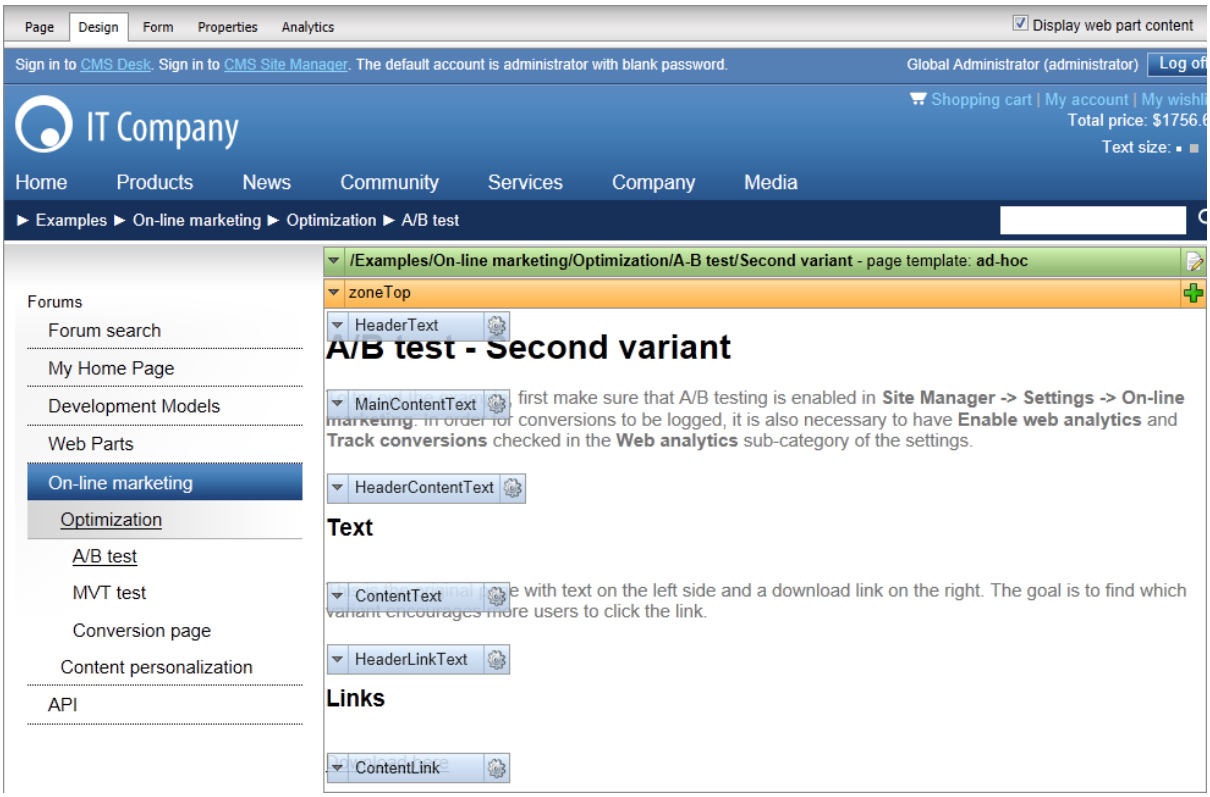
document. Additionally, it will automatically be assigned to the *Sample AB Test*.

8. By default, new variants added this way use the same page template as the parent document, so you need to assign a unique template before you can start modifying the design of the page variant. To do this, select the **Second variant** document, go to the **Properties -> Template** tab and click on the **Clone template as ad-hoc** action.



9. Now that the document no longer shares its template with the original page, switch to the **Design** tab. In this example, the new variant will test a single column layout where the "Download link" is placed directly below the text. To achieve this, simply drag the web parts from the *zoneLeft* and *zoneRight* zones into *zoneTop* as shown below:

© 2012 Kentico Software



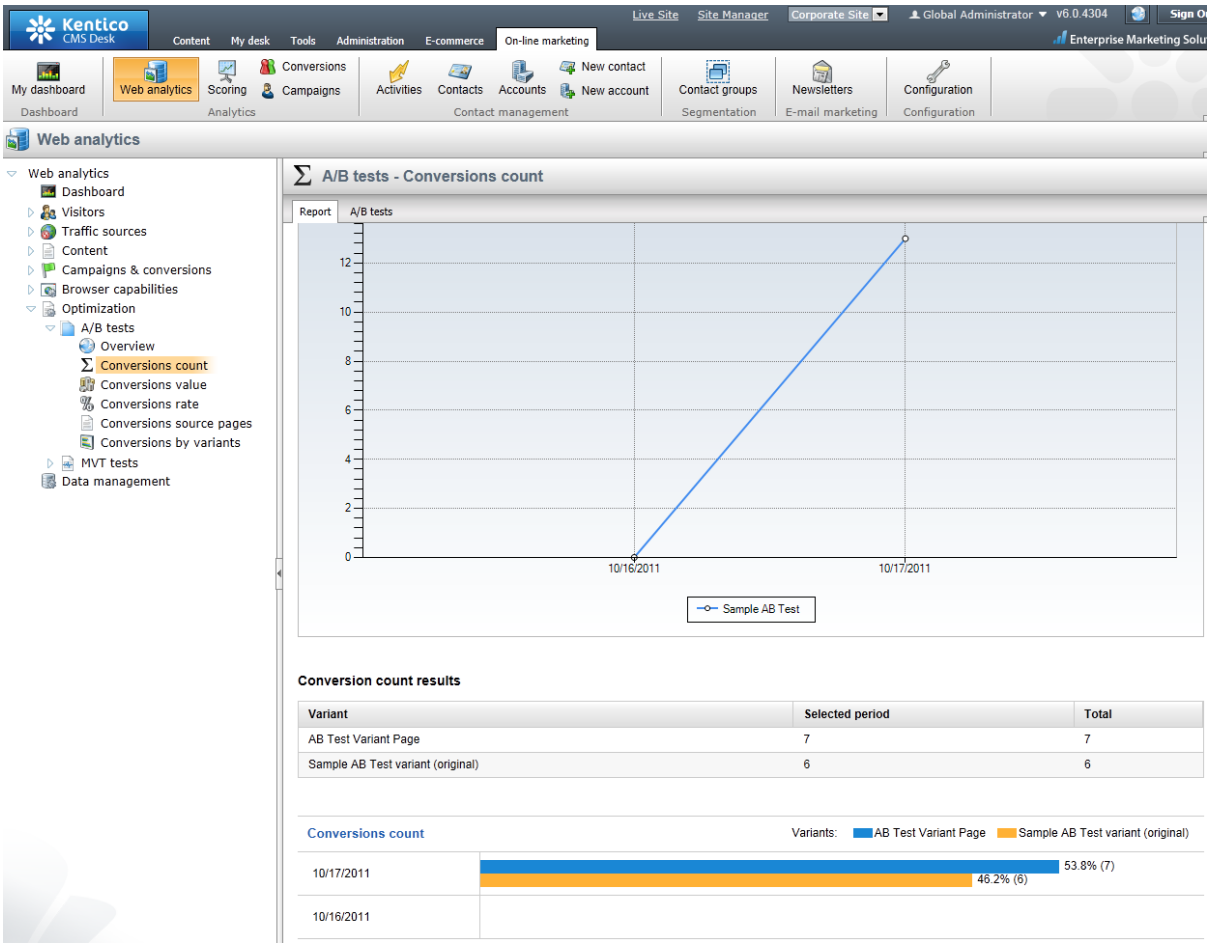
You can also make any necessary changes to the text content on the **Page** tab.

The variant will now serve as a third possible option when the tested page is viewed. If you wish, you can use the approach described in the first part of this example to try out the functionality of the A/B test now that it has an additional page variant.

8.2.4 Analyzing A/B test results

The data gathered during the course of A/B testing may be viewed in reports that display various types of conversion metrics. To access the main interface containing these reports, go to **CMS Desk -> On-line marketing -> Web analytics** and expand the **Optimization -> A/B tests** category.

© 2012 Kentico Software



Here you can check the results of the A/B testing actions performed according to the instructions in the Example: Sample A/B test topic. Because of the way the analytics log is processed, you may have to wait approximately one minute before conversion hits are reflected in the reports.

A/B testing reports use the same basic format as all other web analytics reports, so please refer to Web analytics -> Using web analytics reports for details about the actions that can be used to filter or otherwise manage the displayed data.

The **Conversions** drop-down list may be used to select which conversion's statistics should be displayed. Please note that the system logs *all* conversion hits generated by visitors who have passed through a page where an A/B test is running. If there are many conversions defined on your website, only those that can somehow be affected by the differences in the A/B test's page variants will contain relevant data.

Data in the reports is represented by two possible types of graphs. The line charts show the progress of a certain conversion statistic over time and display combined data for all of the A/B test's variants. The bar graphs contain details for individual units of time according to the selected report type (hours, days, months etc.). You may also view the conversion data in a table located between the graphs. Each row in the table shows the data logged for a specific page variant, both for the time period currently displayed by the report and the entire duration of the test.

The following reports are available for A/B testing:

© 2012 Kentico Software

Overview	This report can be used to view the progress of the primary metrics measured for the site's A/B tests from a single location.
Conversions count	Displays the number of conversion hits logged for the selected A/B test during the specified time interval. In the bar graph, the number of conversion hits is divided into categories that represent individual page variants. This allows you to compare the A/B test's variants and determine which one generated the most conversions (in absolute terms).
Conversions value	Displays the sum of the conversion values logged for the selected A/B test during the specified time interval. In the bar graph, the conversion values are divided into categories that represent individual page variants, which allows you to determine which variant generated the highest total conversion value. This way you can easily evaluate an A/B test's variants when using weighted conversions that have a different level of importance.
Conversions rate	Used to indicate how many visitors who access the tested page perform a conversion. The conversion rate is calculated as the amount of logged conversion hits divided by the total number of visitors on the variants of the tested page. If you select the *(all)* option from the **Conversions** drop-down list, then the rate will be measured for all possible conversions, i.e. as the percentage of visitors who generated at least one conversion hit of any type. The conversion rate in the bar graph is displayed for individual page variants. This allows you to compare the A/B test's variants and determine which one encouraged the highest share of its visitors to perform a conversion.
Conversions source pages	Displays hit statistics for individual conversions that were logged as part of the selected A/B test during the specified time interval. The data logged for the chosen conversion is categorized according to the page variants defined for the given A/B test. This allows you to easily determine which variant generated the most conversion hits of the selected type.
Conversions by variants	Displays details of the number of hits logged for each conversion by individual page variants defined for the selected A/B test. You can select the variant that you wish to evaluate from the **Variants** drop-down list. The hits logged for the chosen variant are divided into categories that match individual conversions. This allows you to easily measure which conversions are performed most commonly by visitors assigned to the selected page variant.

© 2012 Kentico Software

Reports for individual A/B tests

These reports can also be viewed when editing the original page of an A/B test in **CMS Desk -> Content -> Edit -> Analytics -> A/B testing -> Reports**.

The same options are available as described for the web analytics interface, but statistics are only displayed for the currently edited A/B test.

8.3 Multivariate testing

8.3.1 Multivariate testing overview

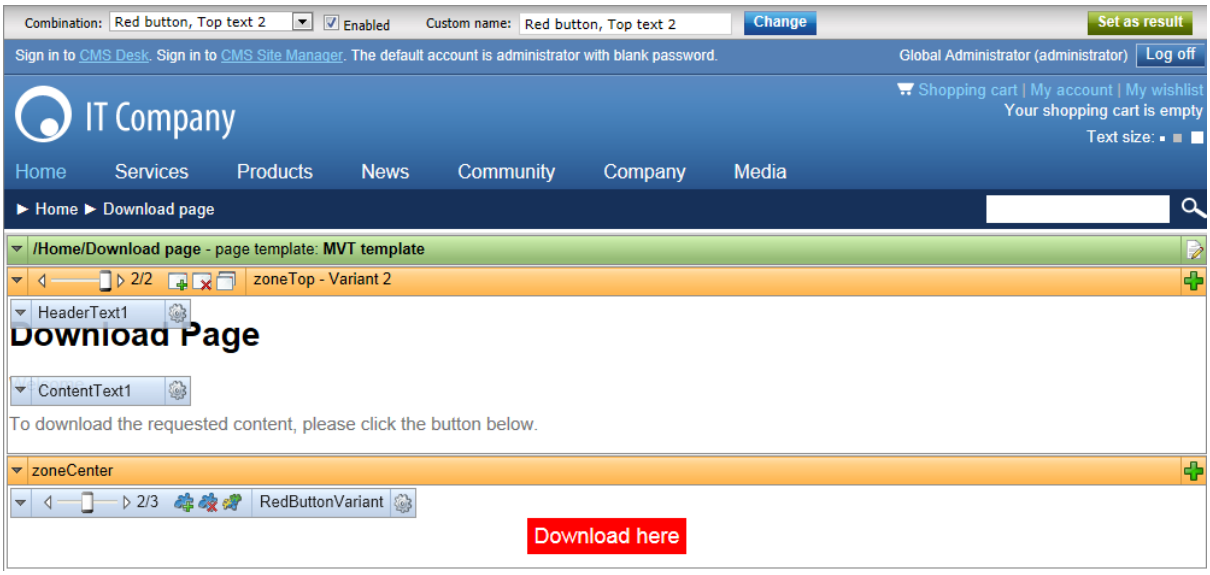
Multivariate testing (MVT) provides a way to optimize a website's pages based on the behaviour of its visitors. It allows you to define any number of elements on a page as variables and create different versions for each one. Once the test is started, users who view the page will see one of the possible versions of its content and their subsequent activity will then be tracked to determine which modifications produce the best results.

The basic objects used to manage this functionality are ***MVT tests***, which can be created for specific documents (pages) on the website. You can implement the changes that you wish to test by creating ***Variants*** of the standard design objects that make up the content of the given page. This includes Web parts, entire web part zones and Widgets in the page's editor zones.

Testing is not done for individual variants, but rather for ***Combinations*** of the variants on the page. Because scenarios with multiple object variables can lead to a very large amount of possible combinations, you can limit the scope of the test by disabling those that you are not considering as options. The default page is also available as a combination, so you can compare potential improvements with the baseline statistics (those of the page with its original, unmodified content).

The image below shows how a page with a defined multivariate test could look in the design interface. There are two different versions of the top zone's content and three possible variants of the web part that displays the download button in the bottom zone. That makes six total combinations of the page's content which can be included in the MVT test.

© 2012 Kentico Software



To learn how you can define an MVT test for a page and create different testing variants of its content, please see the Managing MVT tests topic. If you wish to try out a live multivariate testing scenario, you can do so on the sample Corporate Site according to the instructions in the Example: Sample MVT test topic. The data gathered by MVT tests can be viewed in various reports that allow you to analyze several types of conversion metrics, as described in Analyzing MVT test results.

With multivariate testing, results are tracked for specific combinations of the variants defined on a single page, which represent individual modifications. If you wish to monitor the aggregate effect of all changes made to an entire page as a single variable, you may use A/B testing, which is another optimization feature provided by Kentico CMS.

How it works

When a visitor navigates to a page that has a running MVT test on the live site, one of the enabled content combinations will be displayed. The combination is chosen randomly for every user. With a large enough visit sample size, each active combination should receive roughly the same amount of traffic during the course of the test.

A persistent cookie is stored in the visitor's browser, used to identify which combination was assigned to the user by the given MVT test. The name of the cookie uses the following format: *CMSMVT<MVT test code name>*. It saves the internal code name of the assigned combination as its value. This cookie expires either within 30 days after the last visit on the tested page, or on the date when the test is configured to end.

Any conversions performed on the website by users who have passed through a page where an MVT test is running will be logged for the given test under the assigned combination, which is taken from the value of the MVT testing cookie. The logging of conversion hits is provided by the Web analytics module. In addition to monitoring conversions, the cookie also ensures that returning visitors are always shown the same content combination that was previously assigned to them, which helps avoid confusion by maintaining a consistent appearance of the tested page.

It is possible to run multiple MVT tests concurrently for different pages on the same website. Conversions will be logged for all tests defined on the pages visited by a given user, according to the cookies present in the browser.

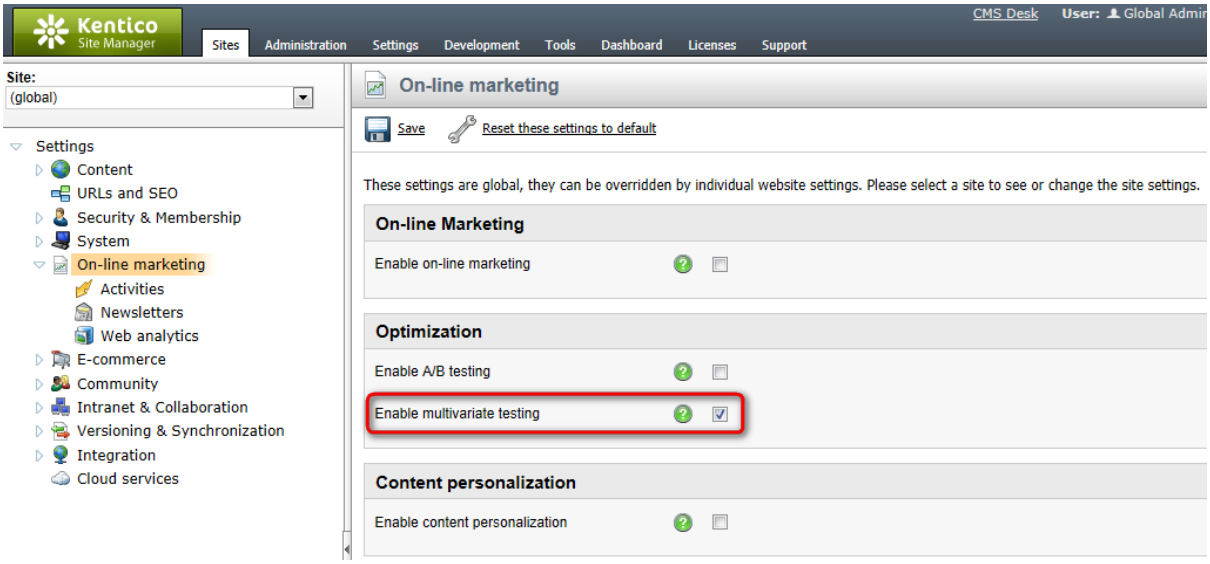
© 2012 Kentico Software

8.3.2 Managing MVT tests

The sections below describe the general steps that need to be taken in order to successfully set up a multivariate test on your website.

Enabling multivariate testing

Before you can start creating MVT tests for pages, it is first necessary to enable the module by going to **Site Manager -> Settings -> On-line marketing** and checking the **Enable multivariate testing** field.



Since web analytics are used to log conversion statistics for individual versions of tested pages, the **Enable web analytics** and **Track conversions** fields must additionally be enabled in the **On-line marketing -> Web analytics** sub-category of the settings. All other requirements for the correct functioning of the web analytics module also need to be fulfilled.

Defining an MVT test

To start optimizing a page on your website via multivariate testing, create and configure an *MVT test* object for it. This can be done in the **Content -> Edit** mode of **CMS Desk** by selecting the appropriate document from the content tree and switching to its **Analytics -> MVT tests** tab. Here you can find a list of all MVT tests assigned to the current document and manage them as required. The **New MVT test** link may be used to add an MVT test.

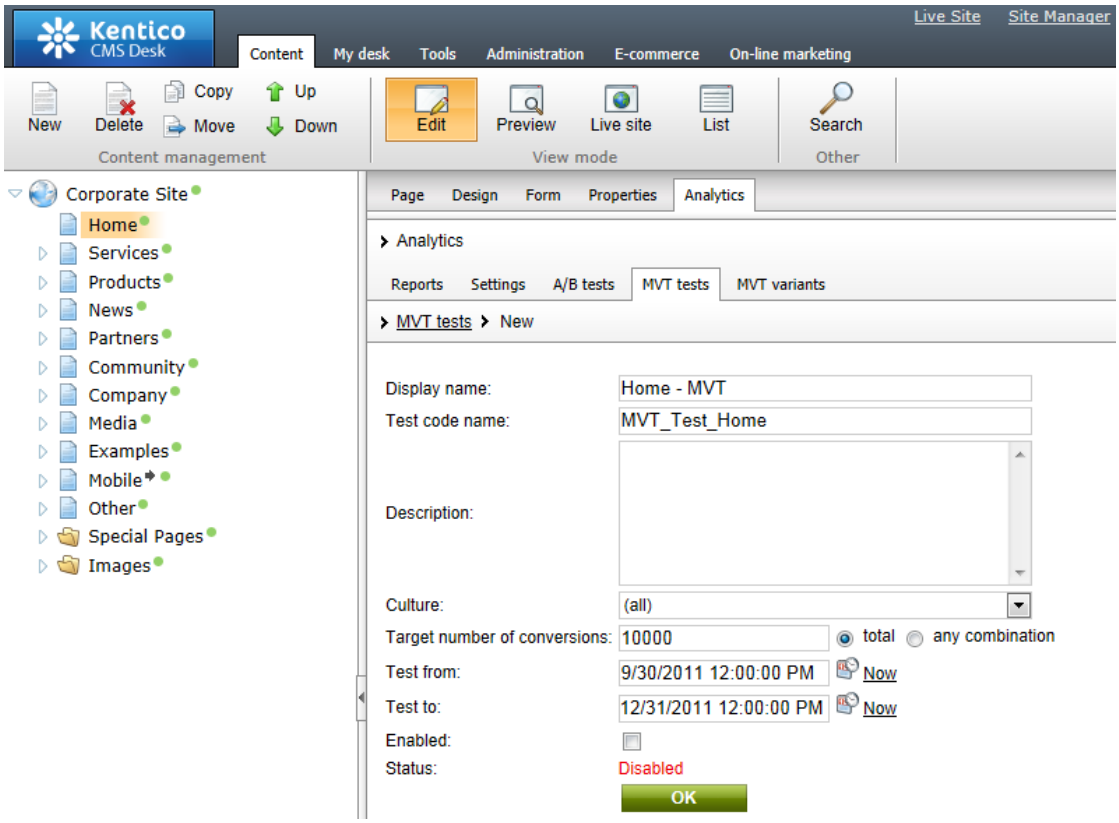
When creating or editing MVT tests, the properties described in the table below are available:

Display name	The name of the MVT test displayed in the administration interface.
Test code name	Sets a code name that serves as an identifier for the test. It is also used in the name of the browser cookie used to store which of the test's variant combinations was assigned to a visitor.

© 2012 Kentico Software

Description	Can be used to enter a text description for the test in order to give information about its purpose, goals etc.
Culture	Used to select which culture version(s) of the document should be included in the test.
Target number of conversions	Sets the number of conversion hits that must be logged to complete the test. Once this number is reached, the MVT test will automatically stop working and switch to the **Finished** status. If the **total** option is selected, then the number will be compared with the total amount of conversion hits logged for all of the test's combinations. If **any combination** is chosen, then the test will be concluded when the specified number is reached by one combination (the one with the most conversion hits). Leaving this property empty or setting it to *0* means that there will be no conversion hit limit for the test.
Test from/to	Sets the time interval during which the test should occur. The **Calendar** button ( ) can be used to select the exact date and time.
Enabled	This property may be used to manually start or stop the test.
Status	Displays the current status of the MVT test. The following statuses are possible: • **Disabled** - indicates that the test is not active. The default content of the tested page will always be displayed to visitors and conversions will not be logged for the test's combinations. • **Not running** - indicates that the test is not active. Used when the test is enabled, but the *Test from* date is still in the future. • **Running** - indicates that the test is currently active. • **Finished** - this status is automatically assigned after the *Test to* date passes or when the *Current number of conversions* reaches the *Target number of conversions*. Tests with this status are no longer active. Each page may have only one MVT test running at a given time. It is however possible to have multiple finished or disabled tests assigned to a page, which can be used to archive data from previous tests or when preparing future tests. Different culture versions of a page may each have a different test running at the same time.

© 2012 Kentico Software



Managing MVT tests through the Web analytics interface

If you wish to manage all tests assigned to different pages from a single location, go to **CMS Desk -> On-line marketing (or Tools) -> Web analytics**. Then expand the **Optimization -> MVT tests** category, select one of the contained items (reports) and switch to the **MVT tests** tab.

Here, all MVT tests defined on the current website may be managed in the same way as described for individual documents. The only difference is that the **Page** property is additionally available when editing a test, which can be used to assign tests to specific pages.

Creating testing variants on the page

Once a page contains an MVT test, you can start creating the content options that you wish to evaluate. This is done by defining variants for the elements that make up the content of the page. It is possible to use the following objects as variables:

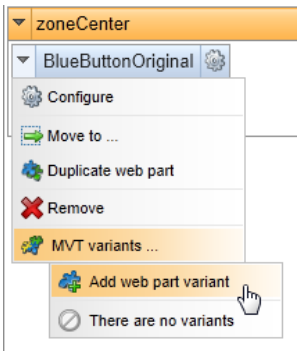
- **Web parts** - these variants are separate instances of the original web part. Each variant's properties may be configured differently and an alternative Web part layout can be specified.
- **Web part zones** - in this case, variants are added as entire web part zones. A zone variant may contain any type or number of child web parts as required. The basic properties of the zone may also be set differently. When a new variant is added to a zone, the content of the original is automatically copied into it, so you do not have to rebuild the zone from scratch if you only need to make small

© 2012 Kentico Software

modifications. Please note that creating variants for individual web parts inside zone variants is not supported.
- **Editor widgets** - like with web parts, each variant is a widget of the same type as the original that provides the option to set different values for its properties.

If you are not familiar with the basics of page development in Kentico CMS, it is recommended to read through the Development -> Web parts and Widgets chapters in the Kentico CMS Developer's Guide before you continue.

To add an MVT variant to a web part or zone, open the page on the **Design** tab, expand the context menu of the given object by right clicking its header (or through the ▼ icon), hover over the **MVT variants** option and select **Add <object type> variant** from the second level of the menu.

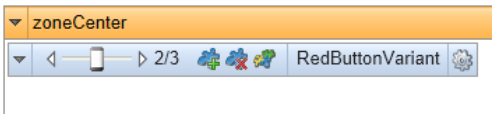


Then, fill in the following properties in the displayed dialog:

- **Display name** - the name used in lists of MVT variants in the administration interface.
- **Code name** - sets a code name that serves as an identifier of the variant.
- **Description** - can be used to enter a text description of the variant.
- **Enabled** - indicates if the variant should be considered as a possible testing option. If you disable an MVT variant, all testing combinations that include this variant will also be disabled.

After you enter and confirm these basic values for the new variant, a configuration dialog will be opened, just like when creating a standard web part or widget. Here, you can set up the available properties (according to the type of the given object) so that the variant generates the content that you wish to test. By default, the values set for the original will be loaded into the properties, so you only have to change the parts of the configuration that are unique for the given variant.

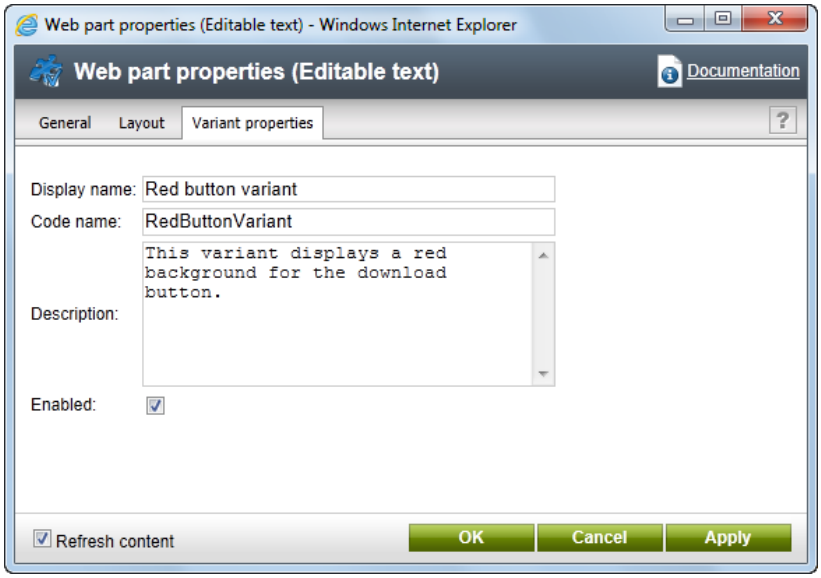
Each object for which testing variants are created will have a slider available in its header as shown below:



This slider can be used to switch between individual variants as needed (including the original). The content specified by the current selection on the page's variant sliders will be displayed in CMS Desk on the **Design** and **Page** tabs, and in **Preview** mode. You can also switch between different versions of the page's content by using the combination panel, which is described below in the next section. If you wish to view the content of variants while cycling through the slider on the **Design** tab, make sure that the **Display web part content** checkbox on the right side of the **Edit** mode header is checked.

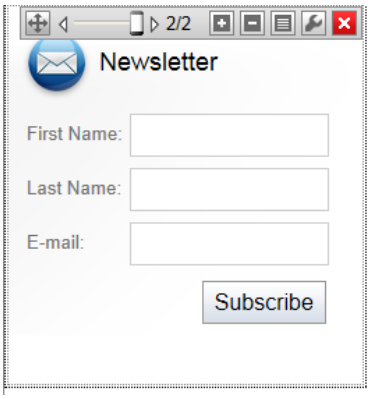
© 2012 Kentico Software

The buttons on the right of the slider allow you to add new variants (), remove the currently selected one () or open a list () of all variants that the given object currently has. At any time, you can **Configure** () the properties of the variant currently chosen on the slider.



When editing a variant like this, you can access the properties that affect the content on the **General** tab. The specific settings related to the MVT testing functionality of the specific variant (the same options that were offered when creating a new variant) can be changed on the additional **Variant properties** tab.

In the case of editor widgets, multivariate testing variants are handled using a very similar approach. The only difference is that editing is done on the **Page** tab of **CMS Desk** and the slider and actions for variant management are located on the pop-up menu of individual widgets.



You can access a list of all multivariate testing variants defined on a given document (page), by selecting it from the content tree in **CMS Desk -> Content -> Edit** and going to **Analytics -> MVT variants**. The variants of all three object types are included here, and they can be removed or edited as necessary.

There are some general rules that apply to all MVT variants:

- If you delete an object from the page, any variants that it might have will be removed along with it.
- Variants are not linked to a specific MVT test. Instead, they are either stored on the page template

© 2012 Kentico Software

used by the given document (in the case of web parts and zones) or bound to the document itself (editor widget variants). This means that existing variants may be used by other MVT tests performed on the given page at another time. Also keep this in mind if you wish to Export a multivariate testing scenario to another website. Variants will be transferred along with documents or page templates, not MVT test objects.

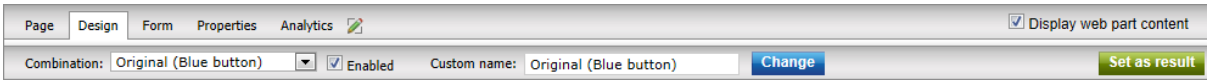
Multivariate testing and Content personalization

Please note that it is not possible to create multivariate testing variants of web parts, zones or widgets that already have variants defined for Content personalization.

Setting up testing combinations

Individual testing scenarios are represented by combinations of the MVT variants created on the page. By default, all possible combinations of the page's content will be included in a multivariate test, but you may perform some additional configuration to fine-tune your test as required.

Combinations can be managed for documents that have an MVT test defined via a panel located at the top of the page editing interface in CMS Desk. This panel is available on both the **Page** and **Design** tabs, and in **Preview** mode.



You can choose any of the available combinations through the **Combination** selector. Doing so will cause the page to display the content defined by the variants that make up the given combination. The selection made through the combination panel is linked with the positions set on the MVT sliders of variable objects on the page. If you switch to a different variant through an object's slider, the current combination will also change accordingly and vice versa.

Pages where there are several variants for multiple objects will have a large amount of possible combinations. For this reason, it is recommended to carefully choose which combinations should be included in the page's MVT test. You can include or exclude a combination by toggling the **Enabled** checkbox located on the panel next to the selector. There is a close relationship between the status of a combination and its variants. If an individual variant is disabled through its properties, all combinations that include it will also be disabled. If a disabled combination is enabled at a later point, all of its variants will be enabled automatically.

A good way to evaluate potential combinations is to check them in the **Preview** mode of CMS Desk, and disable those where the variants clash visually, have conflicting logic or are otherwise incompatible. We recommend leaving the *Default page* combination enabled, so you can compare any improvements with the baseline statistics of the original page.

Another best practice is to set a descriptive custom name for each active combination, so that you can easily differentiate between combinations in the editing interface and identify them in the test's result reports. To do this, simply select a combination through the panel, enter the appropriate text into the **Custom name** field and click the **Change** button. The default names assigned to new combinations are composed of a number indicating their order, followed by a list of the display names of all variants that are included in the given combination.

© 2012 Kentico Software

Once the page's variants and combinations are all configured as needed, you can enable your MVT test on the **Analytics -> MVT tests** tab of the document. Making further modifications on the page while an MVT test is running is not recommended, since this may affect the accuracy and relevance of the measured statistics. A warning will be displayed below the combination panel on pages where a test is running.

The **Set as result** action should only be used after the conclusion of the test, once you have analyzed the logged conversion data and identified the combination that provides the best results. The action allows you to easily set the winning combination as the permanent content of the page. Simply select the given combination via the combination panel, then click the button and confirm the action. This will replace the original web parts, zones and widgets with the variants included in the currently selected combination and remove all other MVT variants from the page.

Configuring conversions

Conversions allow you to track the behaviour and actions of the website's visitors, so they must be used in order to get MVT testing results. They work on a site-wide level and do not need to be assigned to individual MVT tests in any way. All that needs to be done is define conversion objects and link them with the actions that you wish to log for the test. There are many ways to specify that an action should be logged as a conversion. You can find information about conversion management in the Conversions chapter of this guide.

When an action designated as a conversion is performed anywhere on the website, the system checks if the given user has passed through a page with a running MVT test (according to the presence of a cookie). If this is the case, the conversion hit will be logged for the content combination that was assigned to the user.

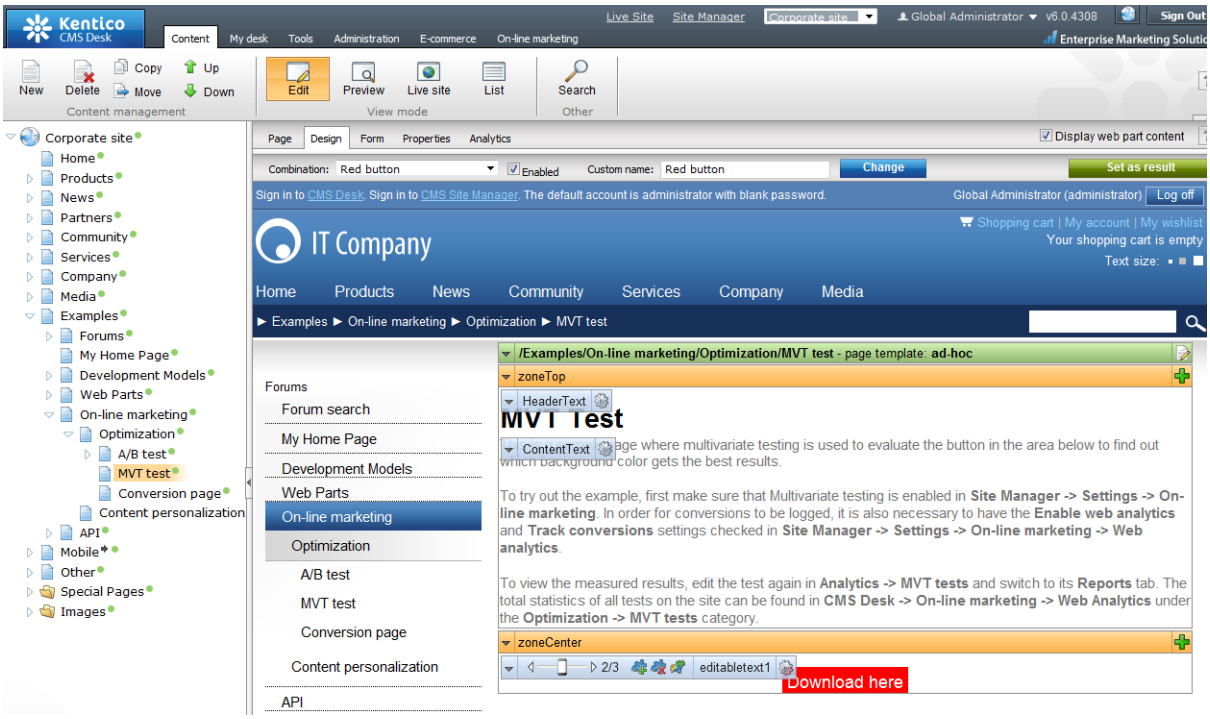
Once you enable the MVT test and it starts running on the live site, the conversion statistics for individual combinations can be monitored using pre-defined reports, as described in the Analyzing MVT test results topic.

8.3.3 Example: Sample MVT test

This example demonstrates the functionality of the sample multivariate test included on the Corporate Site and shows how you can expand it by adding another testing variant.

1. Go to **CMS Desk -> Content -> Edit** and select the **MVT test** document, which can be found under **Examples -> On-line marketing -> Optimization**. This document already has a pre-defined MVT test. The page is composed of a header, content text and a link at the bottom. If you switch to the **Design** tab, you can see that there are three versions of the Editable text web part that displays the link (the original and two MVT variants). Each one uses a different background color. The goal of the test is to find out which variant gets more link clicks from visitors.

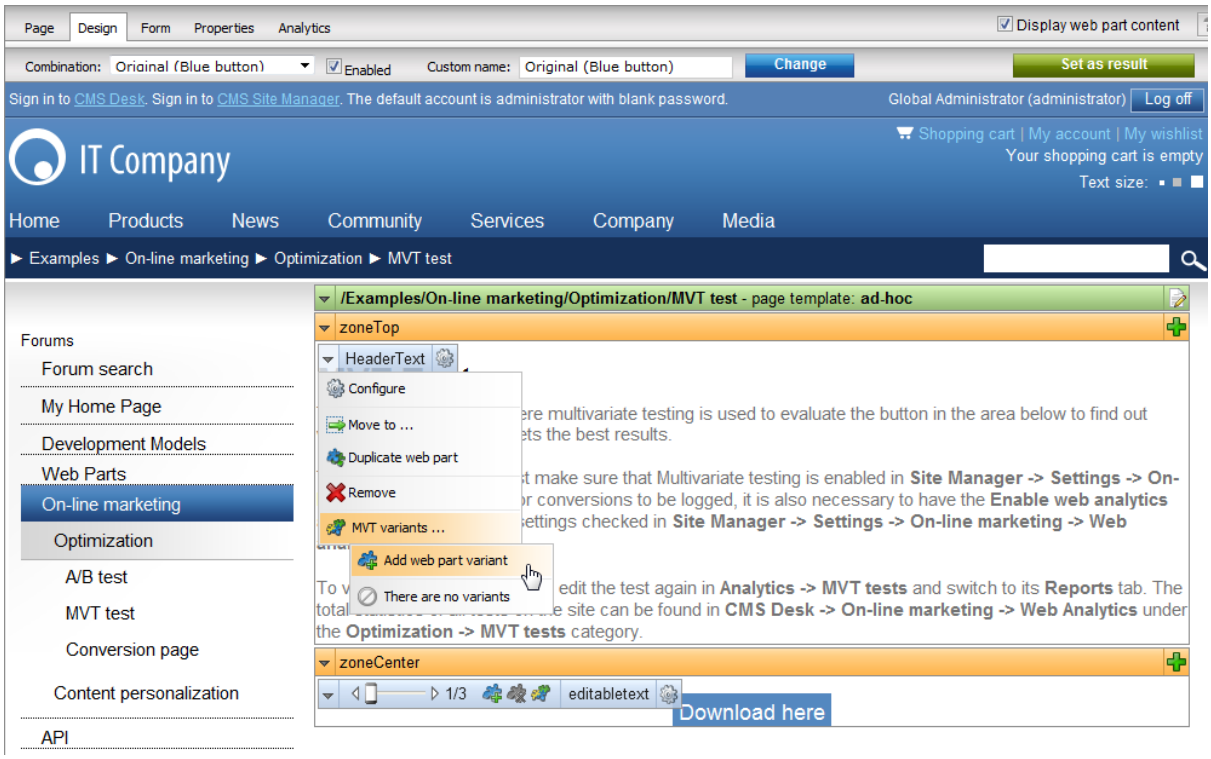
© 2012 Kentico Software



Try switching between the content of individual variants using the slider in the web part's header. Also notice the combination panel at the top of the page. It shows which combination of variants is currently being viewed and may also be used to switch between individual combinations or configure their behavior. Since the default test page only contains variants of a single web part, each "combination" represents the same page with a different link color.

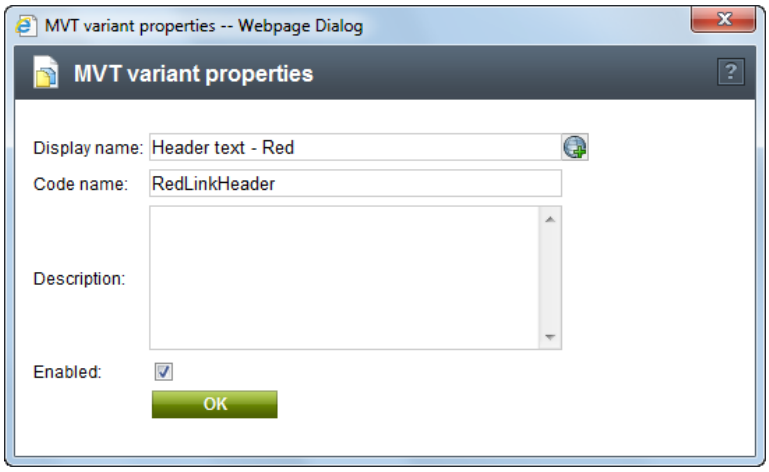
2. To better demonstrate how MVT combinations work, we will need to add a variant to another element on the page. Right click the **HeaderText** web part, hover over the **MVT variants** option in the context menu and select **Add web part variant** from the second level.

© 2012 Kentico Software



3. Enter the following values for the variant's properties in the displayed dialog:

- **Display name**: Header text - Red
- **Code name**: RedLinkHeader
- **Enabled**: Yes (leave it checked)



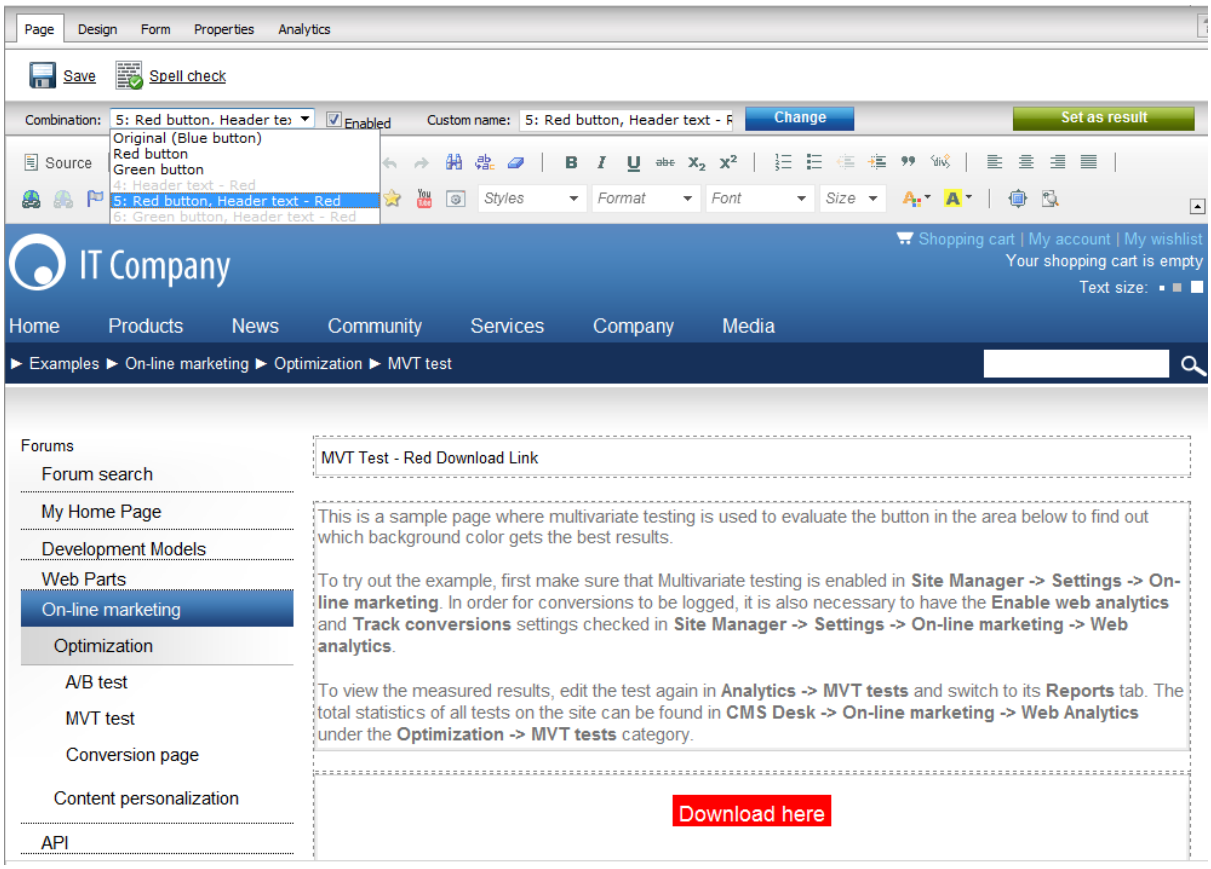
Click **OK**.

4. A configuration dialog will appear for the Editable text web part used to display the page's header. Enter *Red link header variant* into the **Web part title** property. Setting an appropriate title is recommended, since this allows you to identify which variant you are working with on the Design tab straight from the description in the web part header. You can then confirm the dialog by clicking **OK** again and the variant will be added to the page.

© 2012 Kentico Software

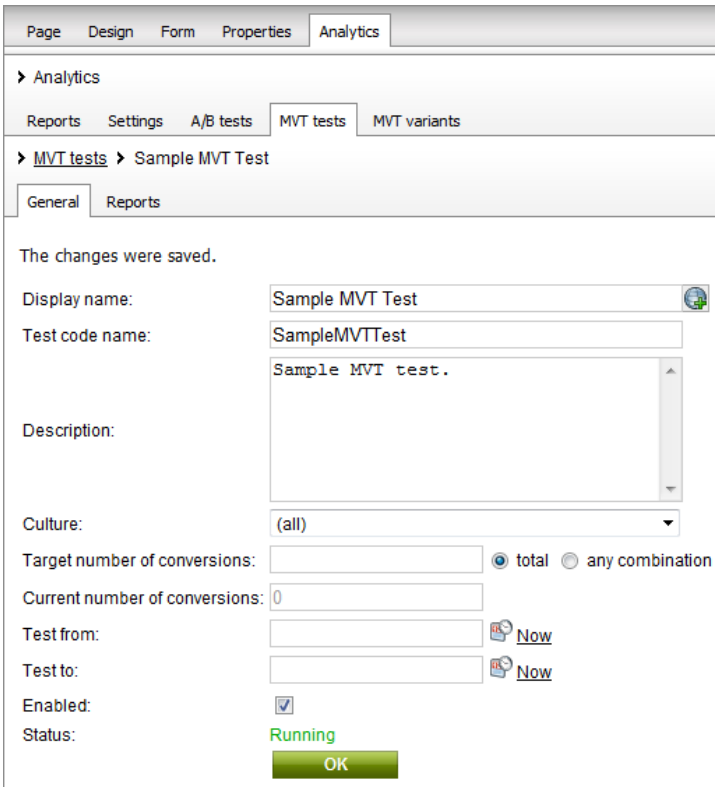
5. Now that there are two different variants of the page's header text, the number of possible combinations will double to a total of six. Switch to the **Page** tab and make sure that one of the new combinations that contains the *Header text - Red* variant is selected. The editable region at the top of the page will be empty, so type in the following text: *MVT Test - Red Download Link*. Click **Save**.

6. In this sample testing scenario, the second variant of the page's header is only intended for the red version of the download link, so we will disable the combinations where the header text does not match the link color. Select the fourth combination using the panel and uncheck the **Enabled** box next to the drop-down list. Repeat this for the sixth combination. This ensures that versions of the page where the new "red" header is combined with a blue or green link will not be included in the MVT test, which leaves only four active combinations: all of the variants with the original header and a new combination that contains the red link together with the second header.



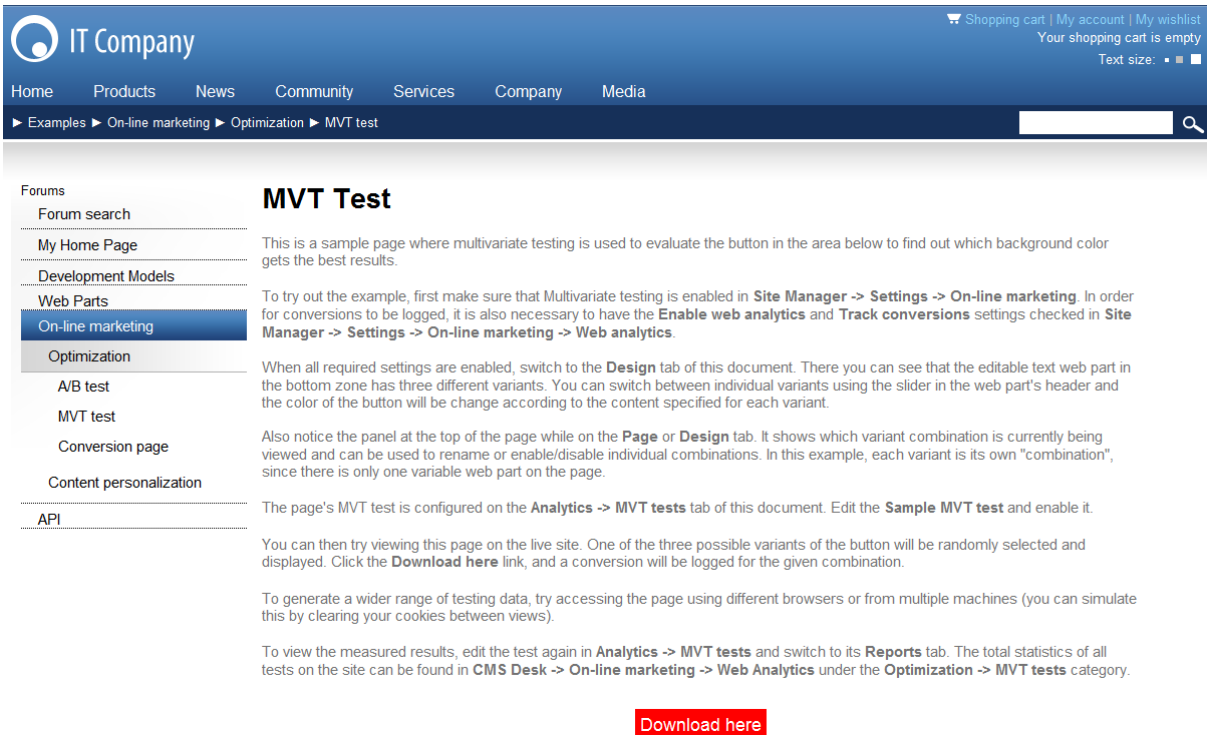
7. The testing combinations are now prepared and you can start the MVT test. Switch to the **Analytics -> MVT tests** tab of the document, edit (✎) the **Sample MVT Test**, check the **Enabled** box on the **General** tab and click **OK**.

© 2012 Kentico Software



8. Now try viewing the page on the live site. To access it, sign out of CMS Desk, open the **Home** page of the Corporate Site, scroll down to the bottom and click the **Examples** link under the **Where to learn more?** section. Then, use the menu on the left to navigate to **On-line marketing -> Optimization -> MVT test**. When you view the tested page, one of the possible combinations will be randomly selected and displayed.

© 2012 Kentico Software



9. Click on the **Download here** link, and a conversion will be logged for the given combination by the sample **Conversion page**. If you return to the MVT test page, the same combination that was assigned during the first visit will always be displayed.

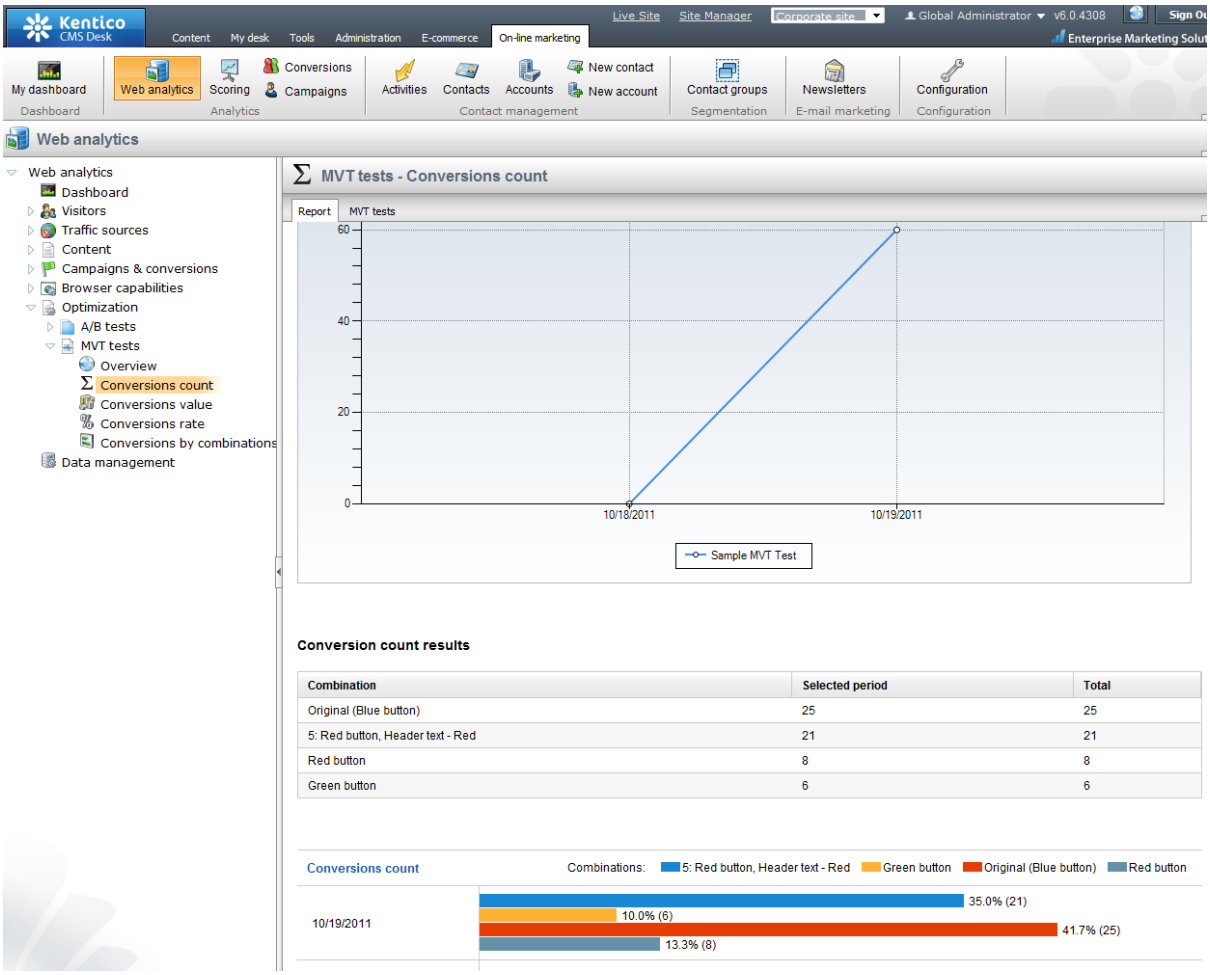
10. Now open the same page in a different browser. Again, one of the combinations will automatically be chosen and assigned. Please note that it may be the same combination as before, since the selection process is entirely random. You can simulate visits from multiple users by clearing the cookies from your browser between views of the tested page. Try to use this approach to log several conversions for each combination.

Please continue reading in the Analyzing MVT test results topic to see how you can view the results measured for the sample test performed in the previous steps.

8.3.4 Analyzing MVT test results

The data gathered during the course of MVT testing may be viewed in reports that display various types of conversion metrics. To access the main interface containing these reports, go to **CMS Desk -> On-line marketing -> Web analytics** and expand the **Optimization -> MVT tests** category.

© 2012 Kentico Software



Here you can check the results of the MVT testing actions performed according to the instructions in the Example: Sample MVT test topic. Because of the way the analytics log is processed, you may have to wait approximately one minute before conversion hits are reflected in the reports.

MVT testing reports use the same basic format as all other web analytics reports, so please refer to Web analytics -> Using web analytics reports for details about the actions that can be used to filter or otherwise manage the displayed data.

The **Conversions** drop-down list may be used to select which conversion's statistics should be displayed. Please note that the system logs *all* conversion hits generated by visitors who have passed through a page where an MVT test is running. If there are many conversions defined on your website, only those that can somehow be affected by the differences between the tested content combinations will have relevant data.

Data in the reports is represented by two possible types of graphs. The line charts show the progress of a certain conversion statistic over time and display combined data for all of the tested combinations. The bar graphs contain details for individual units of time according to the selected report type (hours, days, months etc.). You may also view the conversion data in a table located between the graphs. Each row in the table shows the data logged for a specific combination, both for the time period currently displayed by the report and the entire duration of the test.

The following reports are available for MVT testing:

© 2012 Kentico Software

Overview	This report can be used to view the progress of the primary metrics measured for the site's MVT tests from a single location.
Conversions count	Displays the number of conversion hits logged for the selected MVT test during the specified time interval. In the bar graph, the number of conversion hits is divided into categories that represent individual content combinations. This allows you to compare the tested combinations and determine which one generated the most conversions (in absolute terms).
Conversions value	Displays the sum of the conversion values logged for the selected MVT test during the specified time interval. In the bar graph, the conversion values are divided into categories that represent individual content combinations, which allows you to determine which one generated the highest total conversion value. This way you can easily evaluate the results of the MVT test when using weighted conversions that have a different level of importance.
Conversions rate	Used to indicate how many visitors who access the tested page perform a conversion. The conversion rate is calculated as the amount of logged conversion hits divided by the total number of visitors on the given page. If you select the *(all)* option from the **Conversions** drop-down list, then the rate will be measured for all possible conversions, i.e. as the percentage of visitors who generated at least one conversion hit of any type. The conversion rate in the bar graph is displayed for individual content combinations. This allows you to compare the tested combinations and determine which one encouraged the highest share of its visitors to perform a conversion.
Conversions by combinations	Displays details about the number of conversion hits logged for individual content combinations defined on the page associated with the selected MVT test. You can select the combination that you wish to evaluate from the **Combinations** drop-down list. If the MVT test is used for multiple culture versions of the page, you can also specify the culture. The hits logged for the chosen combination are divided into categories that match individual conversions. This allows you to easily measure which conversions are performed most commonly by visitors assigned to the selected content combination.

Reports for individual MVT tests

These reports can also be viewed when working with the tested page in **CMS Desk ->**

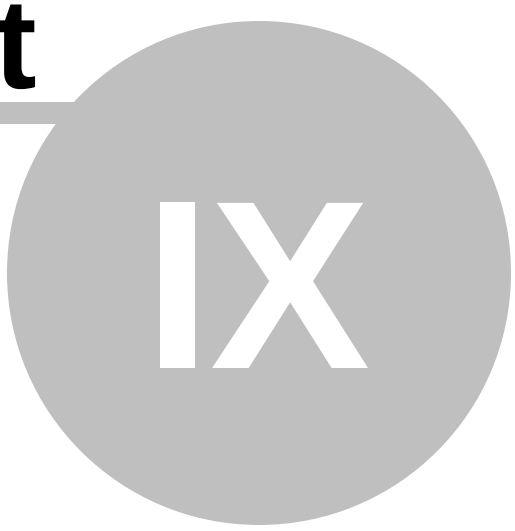
© 2012 Kentico Software

Content -> Edit by editing the given MVT test in **Analytics -> MVT tests** and switching to its **Reports** tab.

The same options are available as described for the web analytics interface, but statistics are only displayed for the currently edited MVT test.

© 2012 Kentico Software

Part



Content personalization

9 Content personalization

9.1 Content personalization overview

Content personalization is an on-line marketing feature that can significantly increase the flexibility of a website. It allows you to create pages that display different content depending on the circumstances in which they are viewed. This way, pages can be custom-built for different types of visitors, dynamically reflect previous actions performed on the website by a given user or have their content determined by any other site variables.

Personalization is applied through the basic components that form the content of pages, which includes Web parts, entire web part zones and Widgets added into page editor zones. The first necessary step is to define different versions of these objects called *variants*. The details of how personalization variants can be created and configured for objects are described in Managing personalization variants.

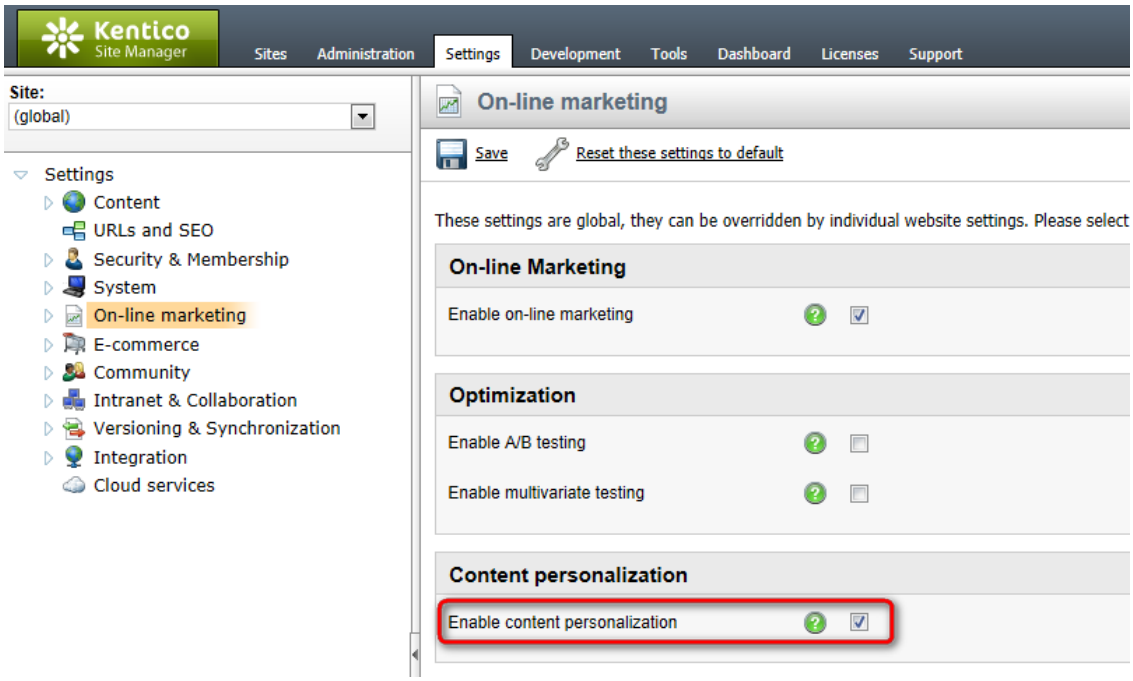
Each variant is dedicated to a particular scenario, which is specified through a macro-based condition. The condition determines in which situations the variant should be displayed. When a visitor selects the page on the live site, the variants of all personalized objects will have their conditions dynamically resolved according to the current context and the appropriate variant will be displayed for each object.

Some of the most effective content personalization can be achieved by using the data provided by other on-line marketing features, such as Contact management, Scoring or Campaigns. An example of this type of scenario can be found in the Example: Creating a personalized page topic, which demonstrates how you can perform the personalization process step-by-step.

9.2 Managing personalization variants

To start using content personalization on a website, go to **Site Manager -> Settings -> On-line marketing** and check **Enable content personalization**. This will allow users with the appropriate permissions to start creating variants of objects, which will then be processed and displayed accordingly on the live site.

© 2012 Kentico Software

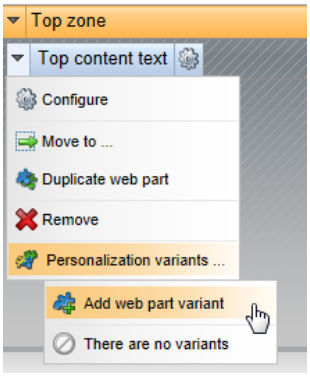


If you disable content personalization at a later time, existing variants on your website will not be deleted, but it will not be possible to manage them or define new ones, and the original objects will always be shown on the live site.

Once content personalization is enabled, variants of objects can be created through the **CMS Desk -> Content -> Edit** interface, which you would normally use to define standard page content. There are three possible types of objects that you can personalize:

Web parts

To add the first content personalization variant to a web part, open its context menu by right clicking its header (or through the ▼ icon), hover over the **Personalization variants** option and then select **Add web part variant** from the second level of the menu.

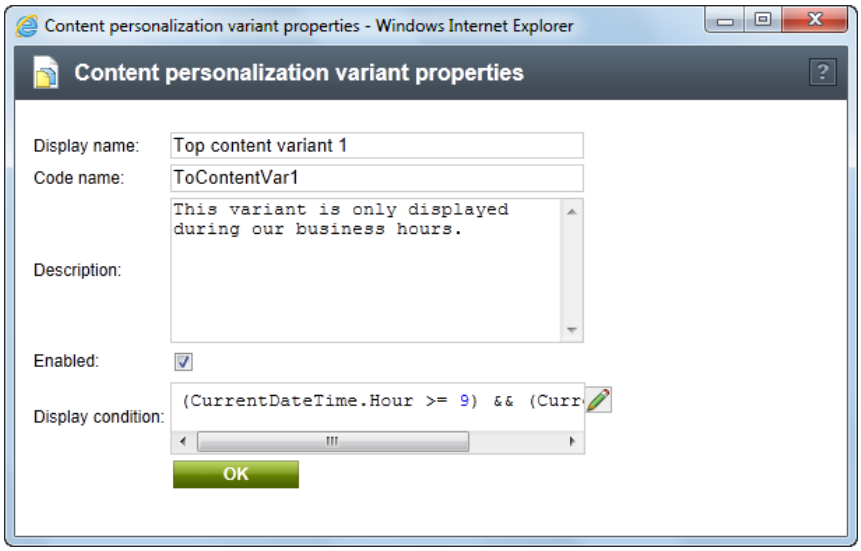


A dialog will be displayed where you can set the properties of the variant:

- **Display name** - this name will be displayed in lists of content personalization variants in the administration interface.

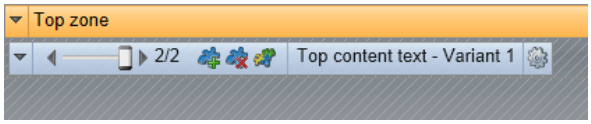
© 2012 Kentico Software

- **Code name** - sets a code name that serves as an identifier of the variant.
- **Description** - can be used to enter a text description for the variant. To make the variant easier to use and maintain, you can add an explanation about the scenario for which the variant is intended, describe the differences from the original object etc.
- **Enabled** - indicates if the variant should be considered as a possible content option. When an object's variants are processed to determine which one should be displayed, disabled variants are skipped (even if the requirements set by their condition are met).
- **Display condition** - enter the condition that must be fulfilled in order for the variant to be displayed.



When the values are confirmed, a standard web part configuration dialog will be displayed. The variant is simply another instance of the original web part. By default, it will have the same values in its properties as are set for the original, but you can change them as required.

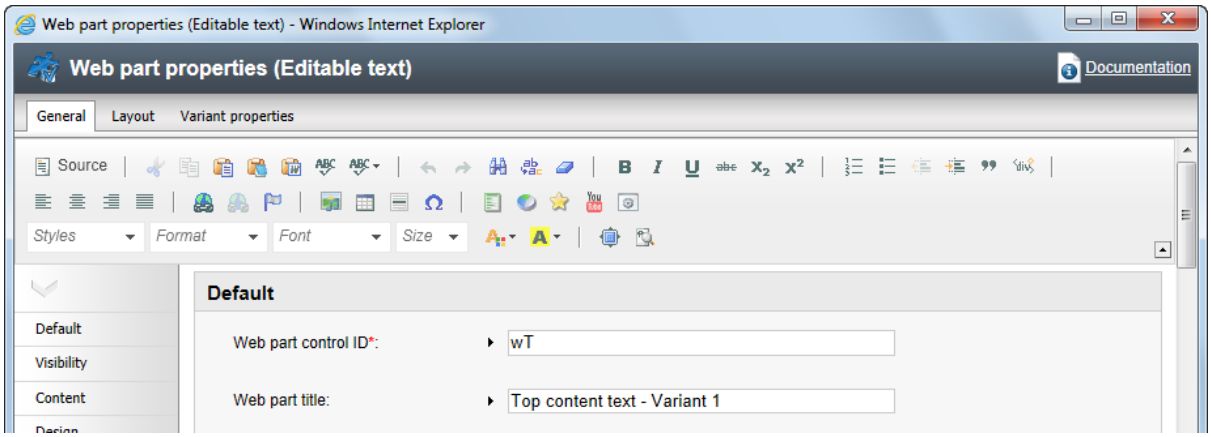
After the first variant is created, a slider will be added to the header of the given web part as shown below:



This slider can be used to switch between individual variants as needed (including the original). The content specified by the currently selected variant will be displayed on the **Design** and **Page** tabs, as well as in **Preview** mode. The conditions are only resolved on the actual live site. This means that you can easily check how the page will look with different active variants without having to fulfill the required conditions. Simply set the slider(s) to the appropriate variants. If you wish to view the content of variants while cycling through the slider on the **Design** tab, make sure that the **Display web part content** checkbox on the **Edit** mode header is checked.

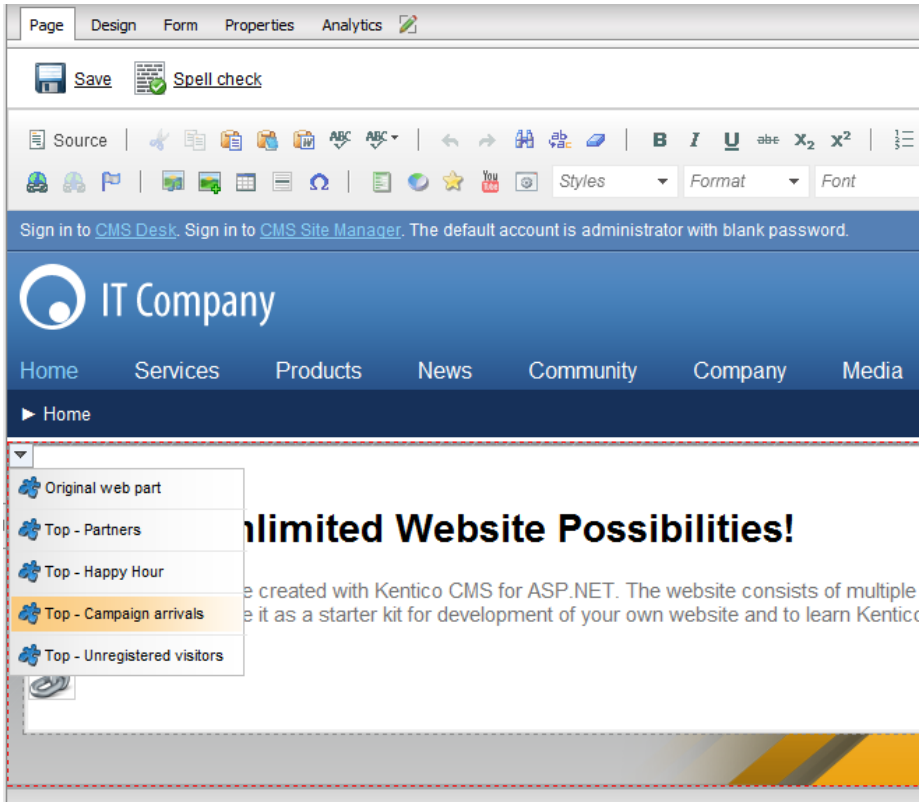
The buttons on the side of the slider allow you to add new variants (), remove the currently selected one () or open a list of all variants defined for the given web part (). At any time, you can **Configure** () the properties of the variant currently chosen on the slider.

© 2012 Kentico Software



A variant may be edited just like any other web part. Notice that there is an additional tab available in the configuration dialog called **Variant properties**, which contains the same options that were offered when creating a new variant (as described above). It is also possible to specify a unique Web part layout for each variant. You only need to switch to the **Layout** tab, select or create the required layout and it will be applied to the currently edited variant.

If you need to enter content into a variant of a web part that provides an editable region (Editable text or Editable image), you can do so on the **Page** tab as usual. To quickly switch between different variants on this tab, hover over the given personalized section of the page and a menu icon (▾) will appear. If you expand the menu, a list of all available variants will be shown and you can select the one that you wish to edit or view.



© 2012 Kentico Software

When one of the menu options is clicked, the page will be reloaded with the content of the chosen variant.

The variants of a personalized web part are stored on the given document's page template, so they will be present on all pages that use the same template. If you delete (✖) a web part, all of its variants will be removed along with it. These same principles also apply to web part zone variants.

Web part zones

If you wish to define personalized content that uses a completely different type of web part or multiple web part instances, you can add variants of an entire web part zone. This allows you to set the properties of the zone in a specific way for each variant, and more importantly add (or remove) any child web parts that you need. Each zone variant may contain any type or amount of web parts, regardless of what is placed inside other variants or the original zone.

Variants of zones can be created and managed on the **Design** tab in the same way as web parts (the buttons on the slider use different icons for zones). The only difference is that you need to work with zone objects rather than specific web parts. When a new zone variant is added, the content of the original is automatically copied into it, so you do not have to rebuild the zone from scratch if you only need to make small modifications.

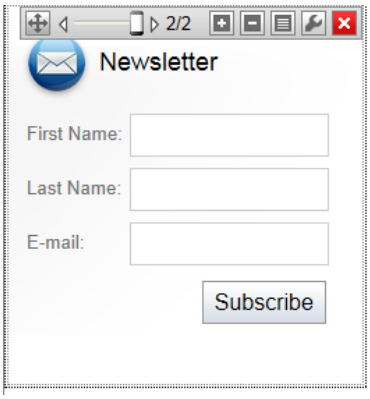
The zone variant currently selected on the slider may be edited by double clicking the header of the zone or through the **Properties** option in the zone's context menu. To add content into a variant, use the **Add web part** (✚) button in the top-right corner of the zone as usual. Most of the functionality described above for web part personalization is also available for zones.

Creating variants for individual web parts inside a personalized zone is not supported. The same also applies in the opposite direction: it is not possible to personalize a zone that already contains personalized web parts. Moreover, personalization is only available for standard web part zones, and cannot be done for widget zones.

Widgets

Content personalization can also be leveraged by editors, who do not have access to the **Design** tab, via widgets. If the feature is enabled, variants can be added and managed through buttons on the pop-up menu of individual widgets on the **Page** tab. When at least one variant is created for a widget, a slider will become available just like for web parts or zones.

© 2012 Kentico Software



The following actions can be used:

- **Add new variant** - creates a new variant for the given widget. When creating the first variant for a widget on a page that also has a multivariate test defined, this action will open a menu where you can choose which type of variant should be created.
- **Remove variant** - removes the variant currently selected on the slider (not available for the original).
- **Variant list** - opens a dialog that contains a list of all variants defined for the widget and allows their management.

Personalization of editor widgets works the same way as for web parts. Each variant is a widget of the same type as the original, but its properties may be configured differently. This functionality is only available for widgets placed into zones set for **Customization by page editors** and cannot be done for *group administrator* or *user* widgets.

Since editor widgets are categorized as page content, their variants are bound to the specific document and are not included on the page template. Like with web parts, removing a widget ( ) also deletes all of its variants. Please note that using the **Reset to default** action provided by a Widget actions web part will also cause all widget variants to be deleted from the page.

Variant overview

You can access a list of all content personalization variants defined on a given document (page), by selecting it from the content tree in **CMS Desk -> Content -> Edit** and going to **Properties -> Variants**. The variants of all three object types are included here.

Multivariate testing and Content personalization

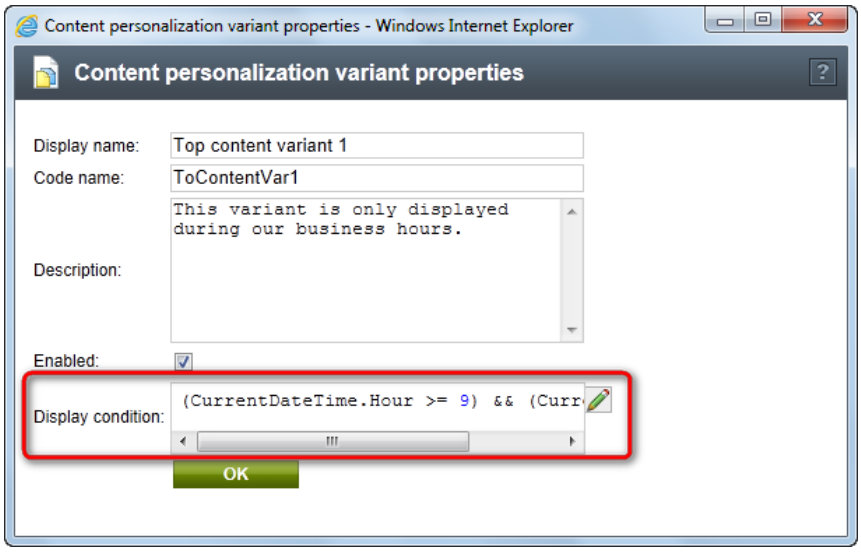
Please note that it is not possible to create personalization variants of web parts, zones or widgets that are already included in a Multivariate test.

© 2012 Kentico Software

Variant display conditions

When setting up a personalized page, the most important part of the process is to properly define the conditions that indicate when individual variants should be displayed. By utilizing macro expressions, you can write conditions for virtually any type of scenario according to your specific requirements. Keep in mind that the final result of a condition's expression must be a logical (boolean) value in order for it to work correctly. For more information about the available macro options, please refer to Internals and API -> On-line marketing macros.

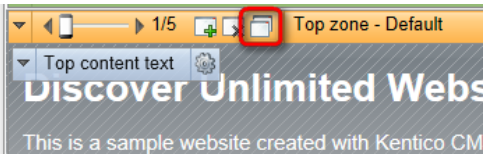
A variant's condition is specified in its **Display condition** property.



Through the edit icon (), you can use the Macro condition editor, which provides a graphical interface that makes it easier to build complex conditions.

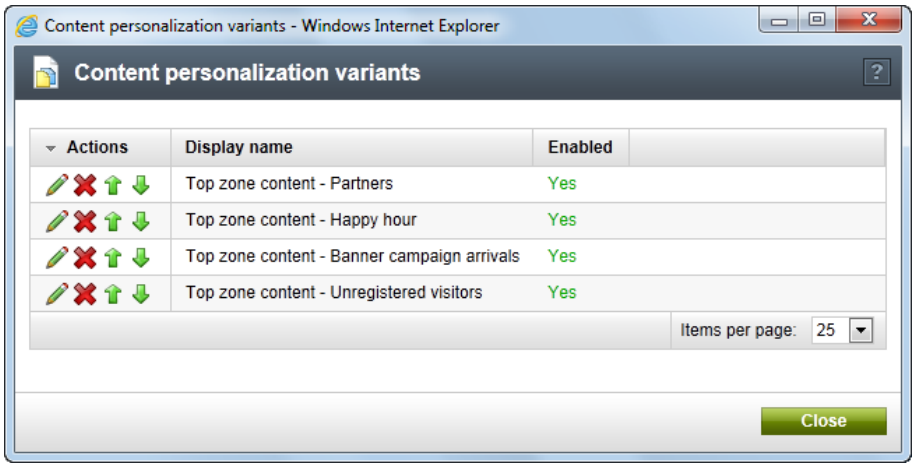
On the live site, each personalized object will only have one of its variants displayed at any given moment. Variants are processed in the order of their priority and the first **enabled** variant whose condition is fulfilled in the current context will be selected. The original object is displayed in cases where the conditions of all variants are resolved as *false*.

By default, the priority of variants depends on the order in which they were created, as can be seen on the personalization slider. Apart from the original object, which is always first, variants with a higher priority can be found further on the left of the slider.



If you wish to change the order in which an object's variants should be processed, click the **Variant list** button among the actions on the slider. A dialog containing a list of the variants will be opened as shown below.

© 2012 Kentico Software



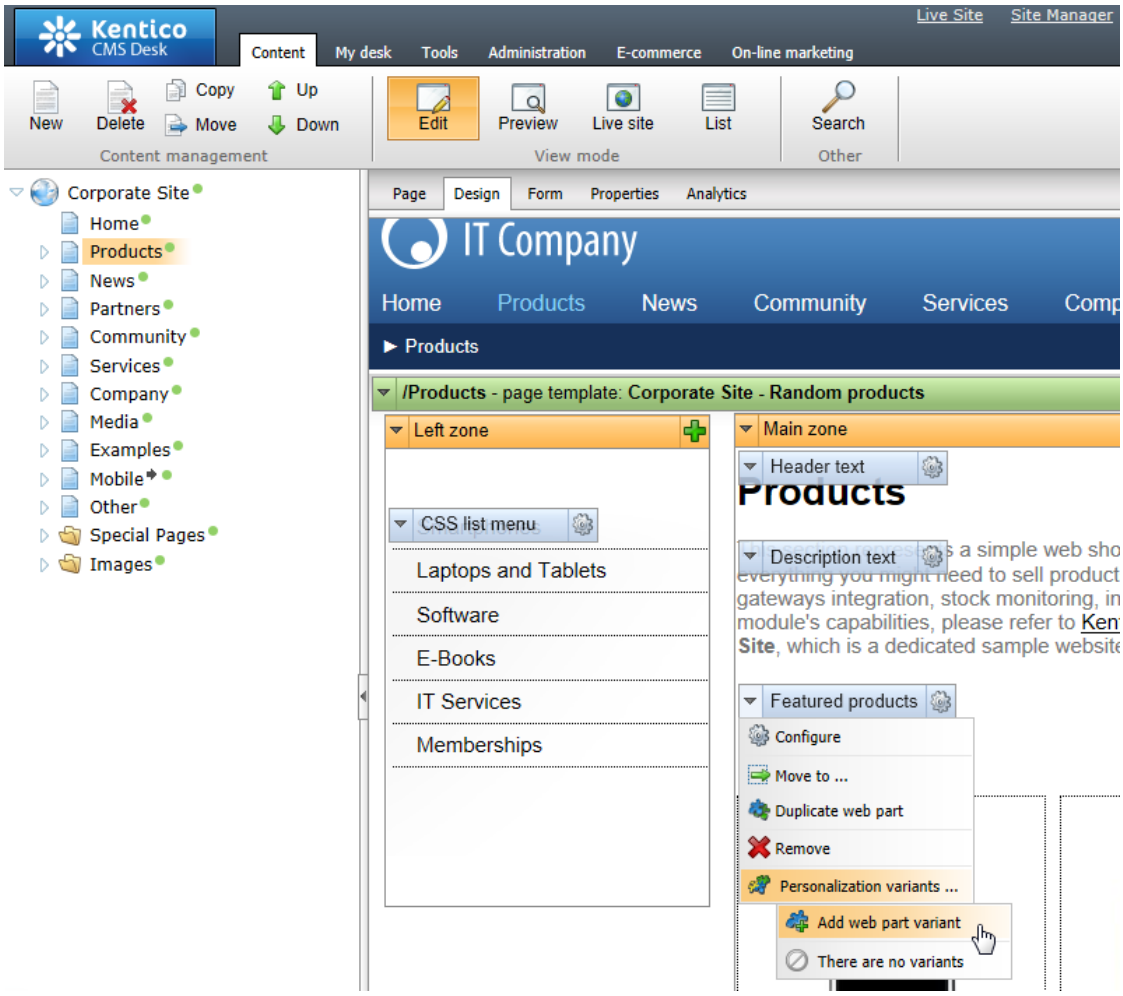
Here, you can reorganize the variants as necessary through the **Up** (⬆) or **Down** (⬇) actions.

9.3 Example: Creating a personalized page

This topic contains a step-by-step tutorial which describes how to create a relatively advanced personalized page that leverages Contact management features in order to display different content to each user according to the actions they previously performed on the website. Specifically, the example demonstrates how you can modify the default *Products* page on the sample Corporate Site to display a list of products based on the keywords that a visitor has entered into the website's search function.

1. Begin by opening the Corporate Site in **CMS Desk** and then select the **Products** document from the content tree. Switch to the **Design** tab in **Edit** mode and you will be able to see the zones and web parts that make up the content of the page. For the purposes of this example, we will create personalization variants for the **Random products** web part located in the **Main zone** (its default title on this page is *Featured products*). To add the first variant, open the context menu of the web part by right clicking its header (or through the ▼ icon), hover over the **Personalization variants** option and then click **Add web part variant** in the second level of the menu.

© 2012 Kentico Software

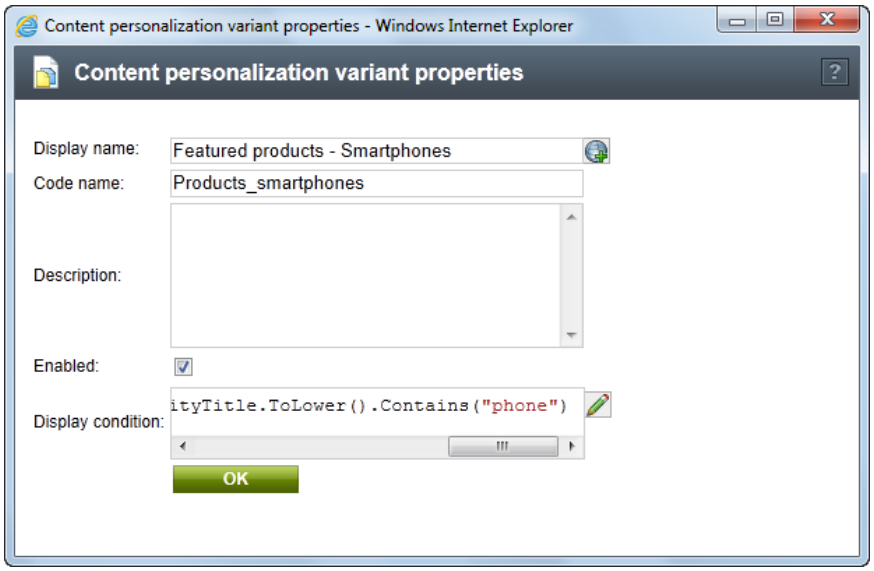


2. Enter the following values for the variant's properties in the displayed dialog:

- **Display name**: Featured products - Smartphones
- **Code name**: Products_smartphones
- **Enabled**: Yes (leave it checked)
- **Display condition**:

```
OnlineMarketingContext.CurrentContact.LastActivityOfType("internalsearch").
ActivityTitle.ToLower().Contains("phone")
```

© 2012 Kentico Software



This condition ensures that the variant will only be displayed if the latest keyword searched by the current user contains the word *phone*, e.g. smartphone, iPhone etc. It is composed of several macro methods and expressions.

The **LastActivityOfType** method is used to retrieve the current contact's most recently logged Activity of the *Internal search* type. The exact text of the search phrase is stored as part of the activity object's *Title*, which is accessed through the corresponding property. Then, the title is converted to lower case to make sure that the condition correctly recognizes search keywords with capital letters. Finally, the **Contains** method simply checks if the second parameter (i.e. the word *phone*) is located somewhere within the text of the first one and returns the result.

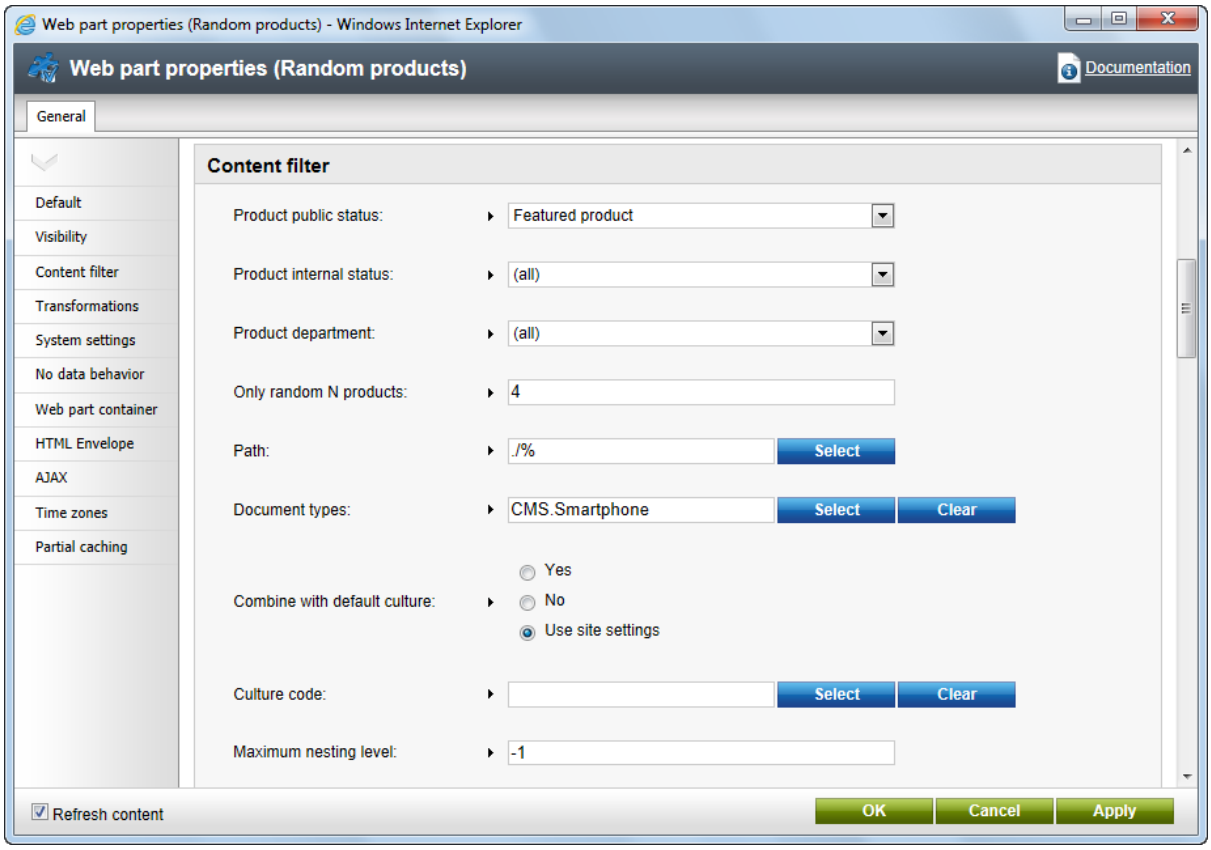
When writing your own conditions, you can refer to the Internals and API -> On-line marketing macros topic for a description of all available macro methods and context values related to on-line marketing features.

Click **OK**.

3. Next, the configuration dialog for the variant's web part properties will appear, where you can define which products should be displayed on the page. The properties will automatically have the same values as are set for the original, so you only need to make the changes listed below:

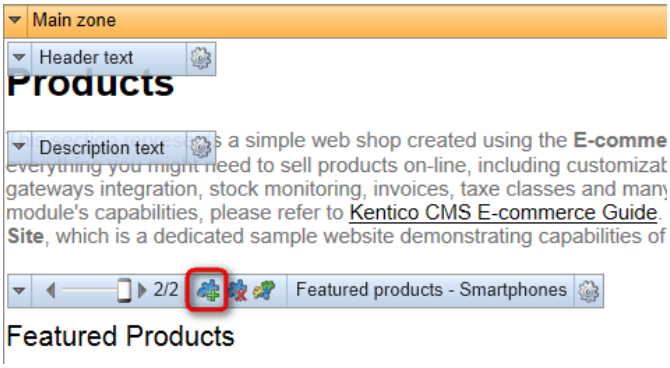
- **Default -> Web part title**: *Featured products - Smartphones*; setting a different title for each variant is recommended, so that you can identify which variant you are working with on the *Design* tab straight from the header text.
- **Content filter -> Product public status**: (all)
- **Content filter -> Document types**: *CMS.Smartphone*; this means that the web part will only load and display documents of the appropriate type (smartphone products in this case).

© 2012 Kentico Software



Once the changes are made, click **OK**.

4. Now add another variant to the same web part by clicking the **Add content personalization variant** button ( ) next to the slider.



Set the following properties for the variant:

- **Display name**: Featured products - MS Windows
- **Code name**: Products_MS
- **Enabled**: Yes (leave it checked)

Then click the edit icon ( ) next to the **Display condition** field to open the macro condition editor. On the **Designer** tab, use the **Add expression** ( ) button to create three expressions and copy the

© 2012 Kentico Software

following macro code into the text areas on the left:

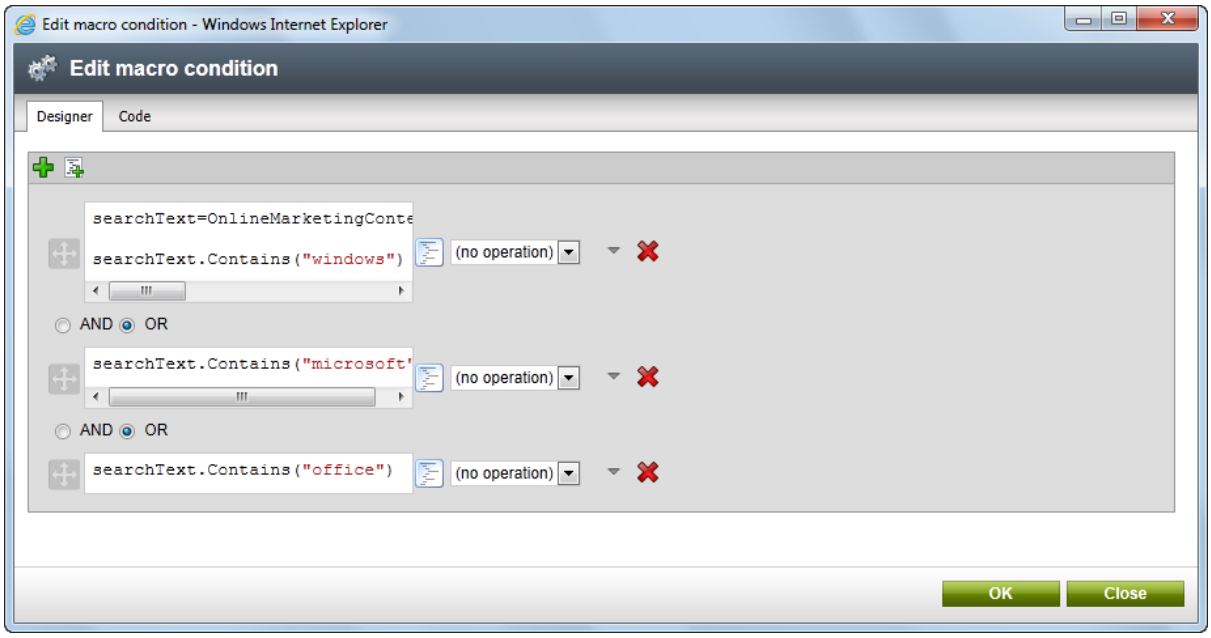
```
searchText=OnlineMarketingContext.CurrentContact.LastActivityOfType(
"internalsearch").ActivityTitle.ToLower();

searchText.Contains("windows")
```

```
searchText.Contains("microsoft")
```

```
searchText.Contains("office")
```

Select the **OR** radio button between the expressions. The **Contains** function already returns a logical value, so choose the *(no operation)* option from the selector for each expression.



Since this condition is composed of multiple parts, it only loads the latest search keyword once (just like the first variant) and stores the value in a variable named **searchText**. This avoids unnecessary repetition and improves performance. The variable is then checked for three different words. Because the *OR* option was selected between individual expressions, the condition will be fulfilled if at least one of the keywords is found in the search text.

Once everything is set up properly, click **OK** to close the dialog and the macro output generated by the condition editor will automatically be placed into the **Display condition** field. You can now confirm the variant's properties.

For this variant, make the following changes to the web part's properties:

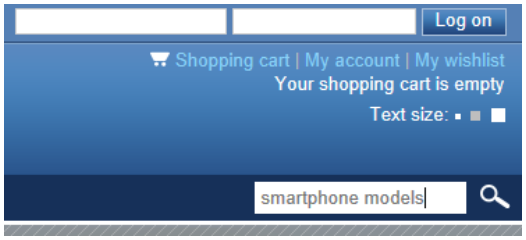
- **Default -> Web part title**: Featured products - MS Windows
- **Content filter -> Product public status**: (all)

© 2012 Kentico Software

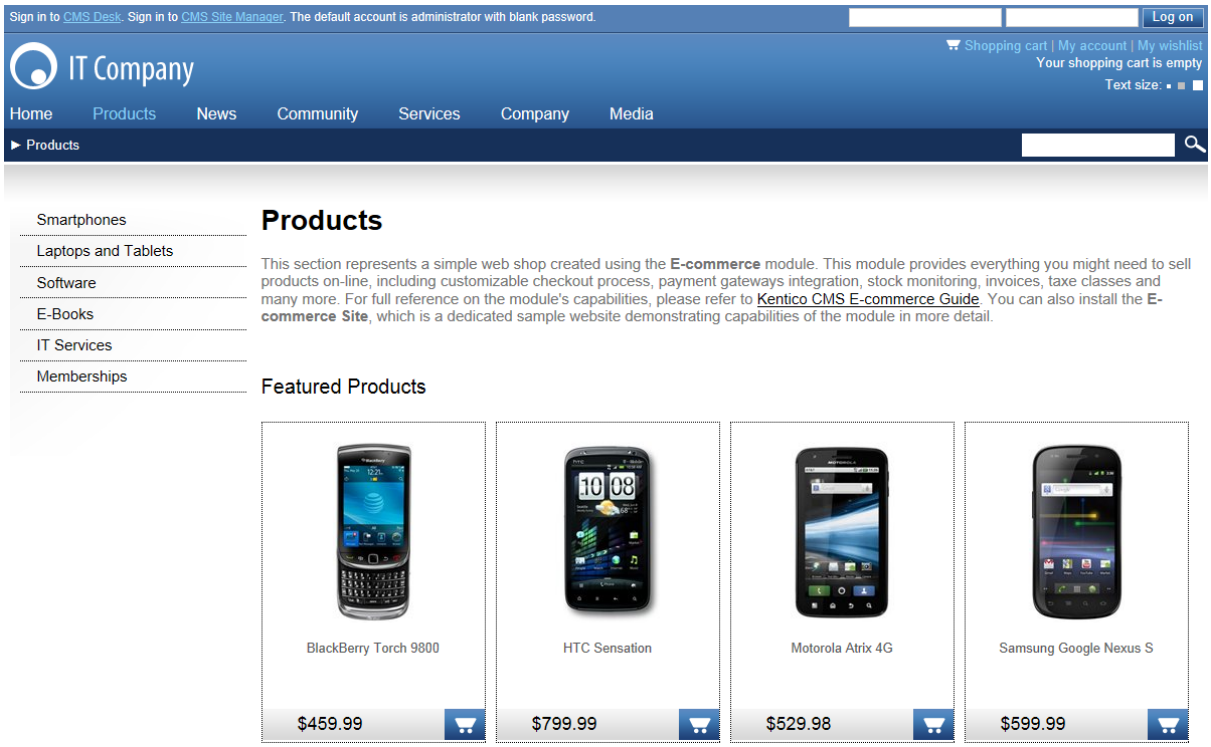
- **Content filter -> WHERE condition**: *SKUManufacturerID = 6*; this causes the web part to load only those products that have *Microsoft Corporation* set as their manufacturer (specified through the manufacturer ID).

Click **OK** again to create the second variant. There are now three different versions of the product list on the page.

5. To try out how the personalization works, sign out of CMS Desk to view the live site. Enter *phone* or some other text containing this word into the search bar on any of the website's pages (it is located in the header under the navigation menu).



Then select the **Products** page from the menu and you will see that only smartphone products are included under the **Featured products** section.



You can test other possible search expressions and check how the content of the page changes. If the searched text does not match the conditions of either one of the created variants, the default list containing a random selection of featured products will be shown. If you log on to the site as a different registered user (e.g. user name *Andy* with a blank password), this will change the current contact and the default version of the page will be displayed until you search for an expression that matches one of the personalization variant conditions.

© 2012 Kentico Software

As you can see, the result of the example is a personalized page that dynamically offers those products that the visitor has shown interest in (by searching for related terms), rather than a random selection of products from the entire catalog. When setting up this type of personalization on your own website, you can create any number of variants with appropriate conditions according to your specific requirements and product catalog.

© 2012 Kentico Software

Part X

E-mail marketing

10 E-mail marketing

10.1 Overview

E-mail marketing can be one of the most effective ways to attract new customers to your website or keep in touch with existing clients. In Kentico CMS, you have the option to prepare and send out mass e-mails via newsletters, which ensure delivery to the addresses of all subscribers. Subscriber management can either be done by importing a mailing list manually or by allowing visitors to opt-in individually. Additionally, you may include any existing users registered on your site, or even subscribe entire Contact groups to a newsletter.

For detailed information about the functionality of the newsletter module and its configuration options, please see the Modules -> Newsletters chapter of the Kentico CMS Developer's Guide.

When using newsletters to carry out an e-mail marketing campaign, it is important to determine its overall effectiveness. This can be achieved by tracking the sent e-mails and monitoring the reactions of recipients. For this purpose, you may utilize several features that provide feedback and statistics about how successful your newsletters are and which actions subscribers take when reading issues, including the following:

- E-mail tracking - measures how many newsletter issues were actually opened by subscribers and the clickthrough rate of any links placed into the content of the e-mails.
- Bounced e-mail monitoring - allows you to identify and block subscribers with invalid e-mail addresses to which newsletter issues cannot be delivered.

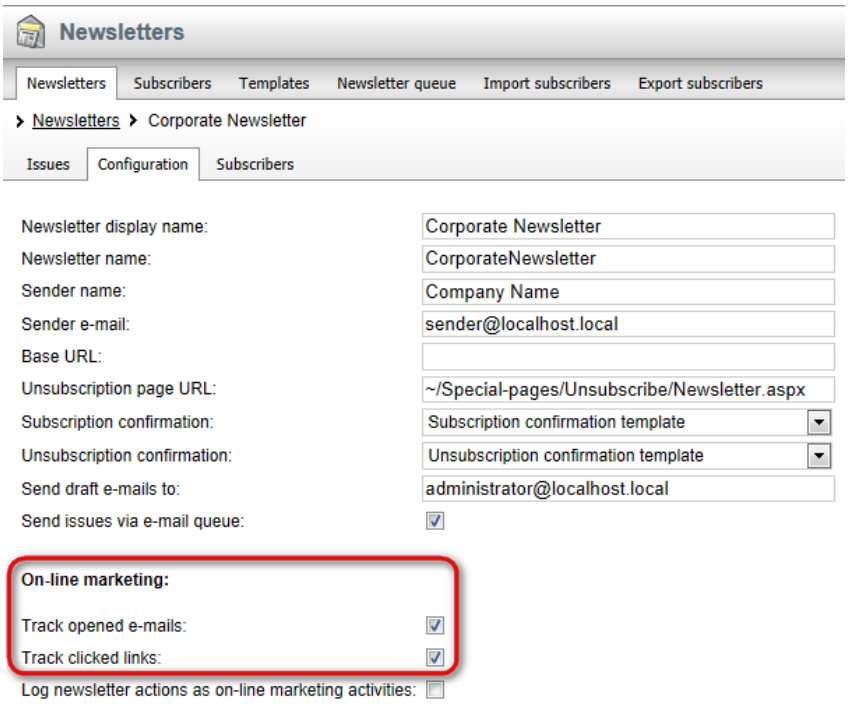
Please note that the on-line marketing features of newsletters are only available if the **Enable on-line marketing** setting is enabled for the given website in **Site Manager -> Settings -> On-line marketing**.

10.2 E-mail tracking

Two types of tracking can be used for the e-mails that deliver newsletter issues to subscribers. This functionality may be enabled for individual newsletters through the **CMS Desk -> On-line marketing -> Newsletters** interface by editing the selected newsletter on the **Configuration** tab:

- **Track opened e-mails** - if enabled, the e-mails used to send out the issues of the newsletter will be tracked and statistics will be kept about the amount of e-mails that are opened by subscribers.
- **Track clicked links** - if enabled, the system will maintain records of how many times subscribers click the hyperlinks placed in the issues of the newsletter.

© 2012 Kentico Software



Please note that tracking cannot be done retroactively for e-mails that have already been sent before the appropriate settings were enabled. Also, since draft e-mails are intended only for testing purposes, they are not included in tracking statistics (only the e-mails sent to actual subscribers are measured).

Logging newsletter actions as activities

You can also decide if you want the actions related to a specific newsletter to be included in the site's on-line marketing Activity statistics.

This is done by setting the **Log newsletter actions as on-line marketing activities** property on the **Configuration** tab.

Newsletter activities include the following types of events:

- Subscription
- Unsubscription
- E-mail opening
- Link clickthrough

Opened e-mails

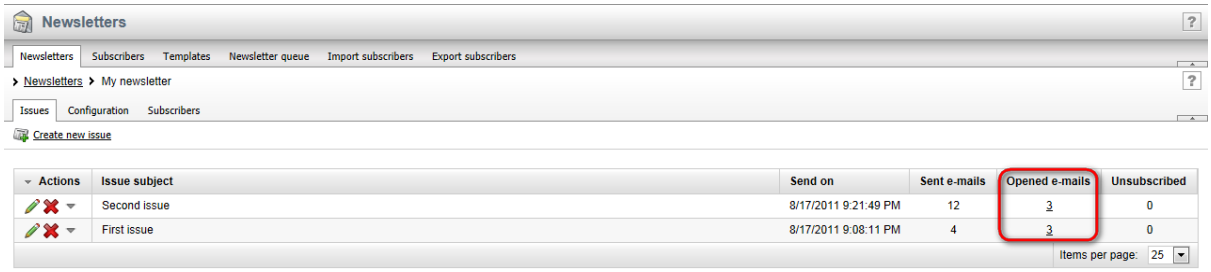
This feature allows you to monitor how many newsletter e-mails are actually opened by subscribers. Open rate is one of the key metrics for judging an e-mail campaign's success.

Tracking of this type is achieved by embedding a small, invisible image into the content of e-mails. When this image is requested from the server for the first time, the system marks the e-mail as received and opened for the given subscriber. As a result, mails will only be counted as opened if the e-mail client

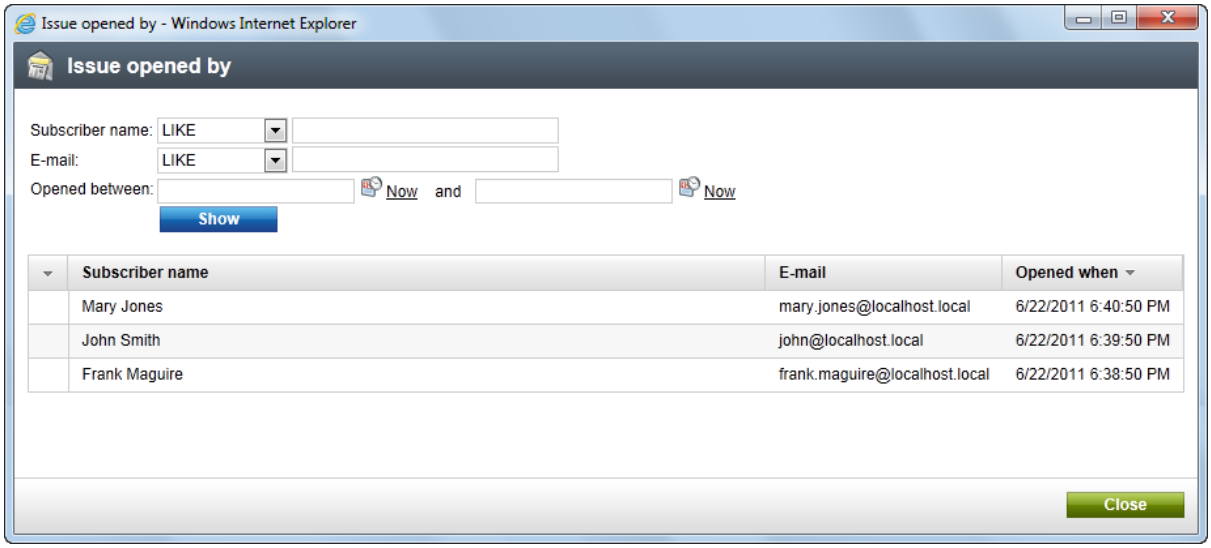
© 2012 Kentico Software

of the subscriber allows the loading of images. Alternatively, if the recipient clicks on a link contained in the e-mail and **Track clicked links** is enabled for the newsletter, the e-mail will be recognized as opened even if images are blocked. Because of these factors, the indicated number of opened e-mails may be slightly lower than the actual amount.

If tracking is enabled, the statistics of newsletter issues can be viewed when editing a specific newsletter on the **Issues** tab. The amount of e-mails that were received and opened by subscribers can be compared side-by-side with the total number of sent e-mails.



If the number is greater than zero, it can be clicked to display a dialog containing a detailed list of all subscribers who opened the e-mail.



The subscribers can be filtered according to their name, e-mail address or the time interval during which they opened the e-mail.

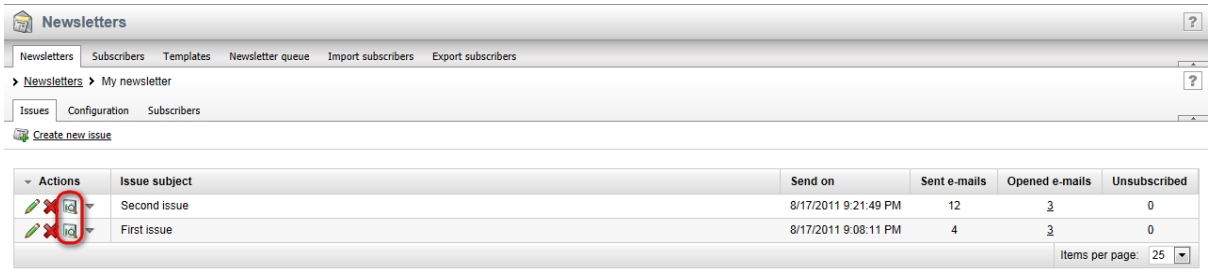
Clicked links

Another way to measure the effectiveness of an e-mail campaign is to track which links are clicked by the recipients and how many times, also known as the *clickthrough rate*. If this type of tracking is enabled, all links in newsletter issues are converted to tracking links when they are sent out. This applies to both template based and dynamic newsletters. When a tracking link is clicked by a subscriber, the system stores a record of the event.

Link statistics of individual newsletter issues can be viewed when editing a specific newsletter on the **Issues** tab. The **View tracking statistics** ( ) action is available for all issues that contain tracked

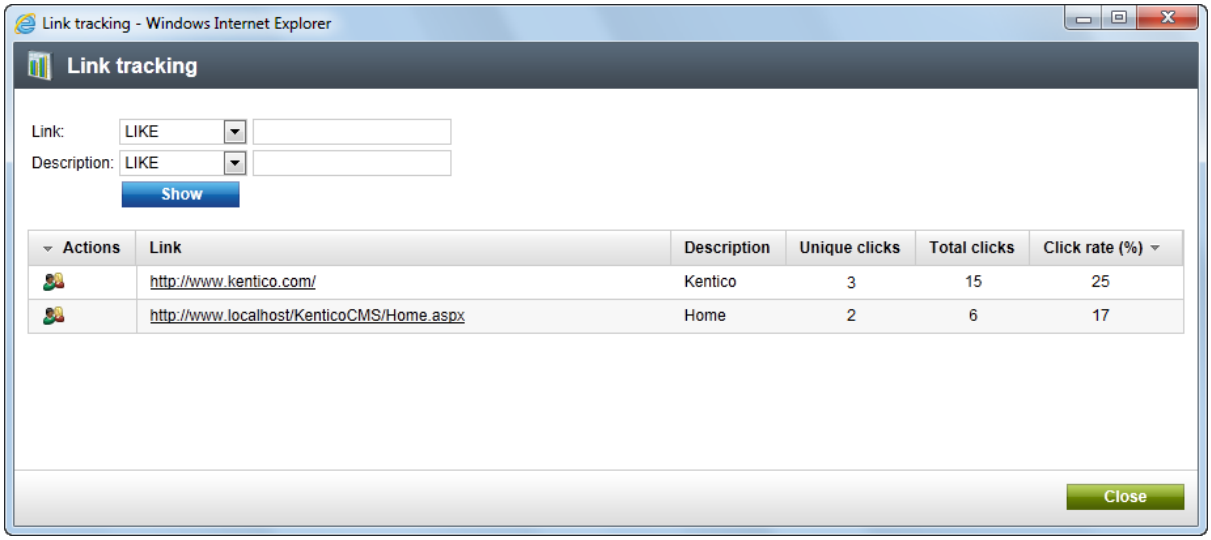
© 2012 Kentico Software

hyperlinks.



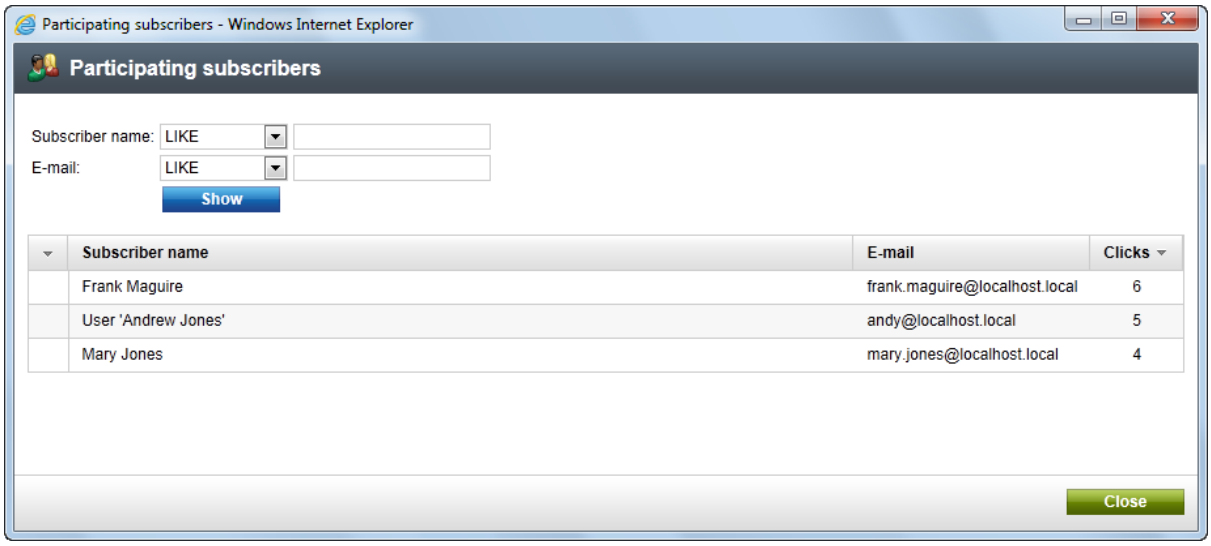
When clicked, this action opens a modal dialog that lists all links in the given issue and displays the following information about them:

- **Unique clicks** - shows how many different subscribers clicked on the link.
- **Total clicks** - indicates how many times the link was clicked, including multiple clicks from the same user.
- **Click rate (%)** - displays the clickthrough rate of the link as a percentage. Calculated as the number of unique clicks divided by the total amount of sent e-mails.



Further details can be displayed for each link by using the **View participating subscribers** ( ) action. The action opens another dialog containing the names and addresses of the subscribers that used the given link and their respective click count.

© 2012 Kentico Software



Excluding links from tracking

Tracking may be manually disabled for any link in a newsletter issue by editing the source and inserting the **tracking="false"** attribute into the **<a>** tag of the given hyperlink, for example:

Kentico CMS

When editing the content of a newsletter issue, you can easily switch to its source using the **Source** button on the toolbar of the WYSIWYG editor.

In addition, please keep in mind that newsletter unsubscription links generated by the *{%UnsubscribeLink%}* expression are not tracked by this feature (unsubscription statistics are kept for each newsletter by default). Links to local anchors within the content of an e-mail are also excluded.

10.3 Monitoring bounced e-mails

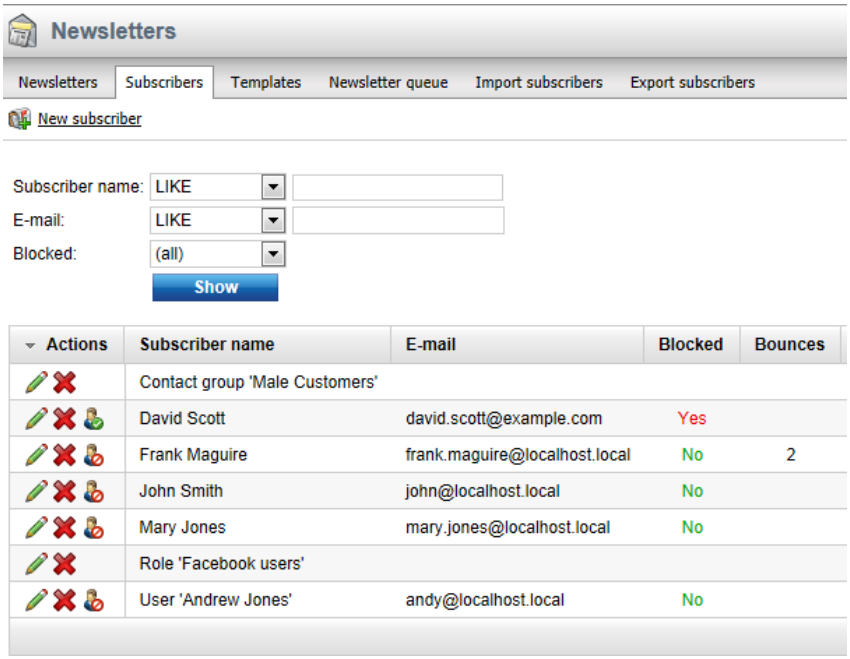
When an e-mail cannot be delivered successfully for some reason, an automatic reply informing about the problem is returned (bounced) back to the sender. Tracking bounced mails allows the system to identify addresses that do not correctly receive newsletter issues. Removing invalid addresses from your mailing lists saves bandwidth and improves the accuracy of your subscription statistics, leading to a better delivery rate.

Once this feature is enabled and properly configured (please see the *Configuration* section below for more information), the mailbox where the bounced e-mails are stored is periodically checked. All contained e-mails are analyzed and the bounce counter of subscribers is increased as necessary. After a bounced e-mail is processed, it is deleted from the mailbox. This functionality is ensured by the **Check bounced e-mails** scheduled task, which is executed once per hour by default.

If the number of bounces received from a subscriber reaches a specified limit, the system will automatically block the corresponding address from receiving any further newsletter issues.

© 2012 Kentico Software

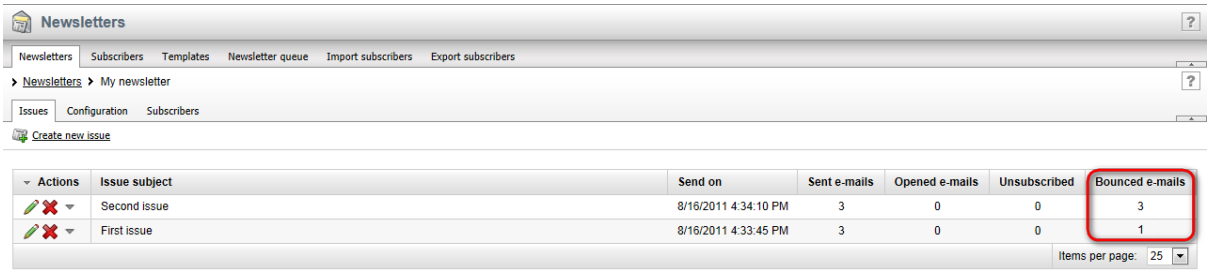
Bounce statistics can be viewed in various parts of the **CMS Desk -> On-line marketing -> Newsletters** interface. On the main **Subscribers** tab, the amount of bounces associated with individual subscribers is displayed.



The **Blocked** field in the filter above the list may be used to display only blocked or active subscribers. The **Block** ( ) or **Unblock** ( ) actions allow you to manually change the status of subscribers. When a subscriber is unblocked, their bounce counter is reset to zero. To perform these actions for individual subscribers assigned through a role or contact group, edit ( ) the given role or contact group subscriber and switch to the **Users** or **Contacts** tab respectively.

The same options are also available when viewing the subscribers of a specific newsletter in **Newsletters -> edit ( ) newsletter -> Subscribers**. The bounce count of a subscriber is shared for all newsletters on the given site.

On the **Issues** tab of a newsletter, the total amount of bounces is shown for each issue. This way, you can view the amount of sent e-mails and compare it with the number of bounces.

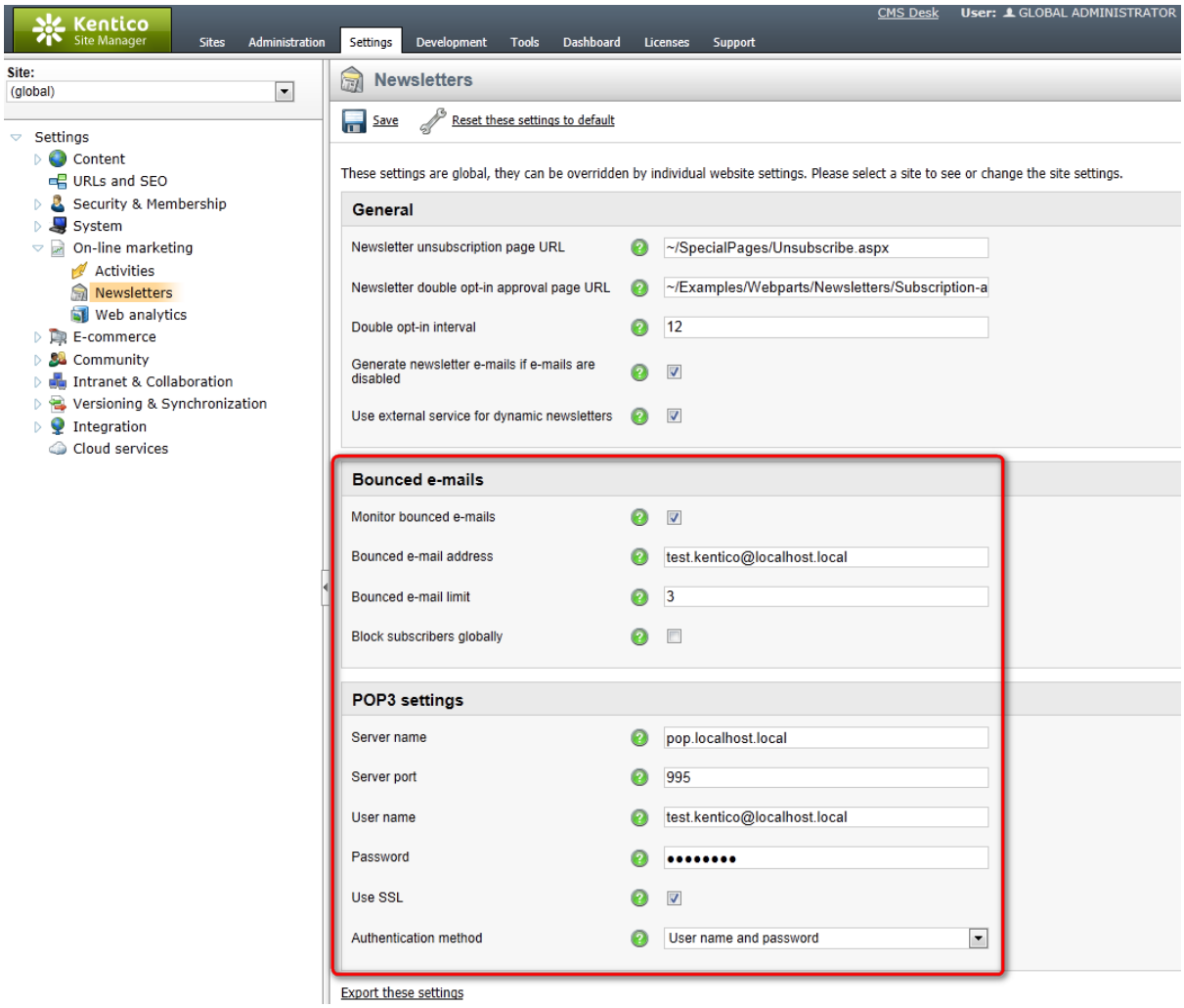


Configuration

To enable this feature, go to **Site Manager -> Settings -> On-line marketing -> Newsletters** and check the **Monitor bounced e-mails** box. It is also necessary to properly fill in the remaining settings

© 2012 Kentico Software

in the **Bounced e-mails** and **POP3 settings** categories.



Keep in mind that it is possible to enter different values for each site to override the global settings (you can use the **Site** selector above the settings tree for this purpose). The following options are available:

Bounced e-mails

- **Monitor bounced e-mails** - indicates if bounced e-mails should be counted for newsletter subscribers.
- **Bounced e-mail address** - sets the e-mail address to which bounced e-mails are sent when the delivery of a newsletter issue to a subscriber fails. If set, this address is used in the *From* field of newsletter issue e-mails.
- **Bounced e-mail limit** - sets the amount of bounced e-mails that can be recorded for a subscriber before the system blocks them from receiving further newsletter issues. This limit is set for all newsletters under the selected site. If *0* is entered, subscribers will never be blocked automatically, but their bounced e-mail count will still be tracked and displayed in the *CMS Desk -> On-line marketing -> Newsletters* interface.
- **Block subscribers globally** - if checked, bounces will be added to all subscribers that have the same e-mail address. This is applied across all sites in the system. Please note that this setting does not ensure consistency between the bounce counts of all subscribers with a shared address,

© 2012 Kentico Software

only that new bounces will be added to all of them.

POP3 settings

- **Server name** - sets the domain name or IP address of the mail server where the bounced e-mails should be stored. The POP3 protocol is used to check the server and monitor bounced e-mails.
- **Server port** - specifies the number of the port used to connect to the mail server.
- **User name** - sets the user name used for authentication against the mail server.
- **Password** - sets the password used for authentication against the mail server.
- **Use SSL** - indicates whether the connection to the mail server should be secured using SSL.
- **Authentication method** - selects the authentication method used for the connection to the mail server. Options include basic user name and password authentication and several challenge-response mechanisms. The *Auto* option uses APOP if the server supports it and plain text user name and password authentication otherwise.

Some mail servers may be configured to store e-mails even after they are downloaded, which causes bounces to be counted multiple times (every time the mailbox is checked), so please adjust the settings of the e-mail server if you experience issues of this type.

Monitoring bounced e-mails under medium trust

If your website is hosted in a medium trust environment, the bounced e-mails feature will not be functional by default.

To be able to check bounced e-mails, the newsletter module makes use of a component that creates outgoing network connections via POP3, a standard e-mail protocol for receiving maildrops from an e-mail server. This component requires the **SocketPermission** for its operation, otherwise it fails when attempting to connect to the server. This permission is denied for applications under medium trust.

If you cannot raise the trust level yourself or create a custom security policy that includes this permission, the only solution is to attempt to convince your hosting administrators to grant the *SocketPermission* to your application. If you are unable to do so, the bounced e-mail monitoring feature will unfortunately not be available.

© 2012 Kentico Software

Part XI

Security

11 Security

11.1 Overview

The security options of the on-line marketing features described in this guide can be configured in the same way as for all Kentico CMS modules. Access to various types of data and the ability to perform specific actions is only allowed for users who belong to roles that have the appropriate Permissions for individual on-line marketing modules.

Additionally, the user interface is composed of separate elements and each user may only view those parts that are included in the UI personalization profile configured for their roles.

Default accounts and roles for on-line marketing

Security restrictions do not apply to users who are designated as global administrators, since such accounts override any permission requirements and automatically have access to all UI elements.

You may also assign users to the **Marketing manager** default role, which is imported along with the sample Corporate Site. By default, this role may perform any on-line marketing actions, since it has all the necessary permissions and UI elements pre-assigned.

11.2 Permissions

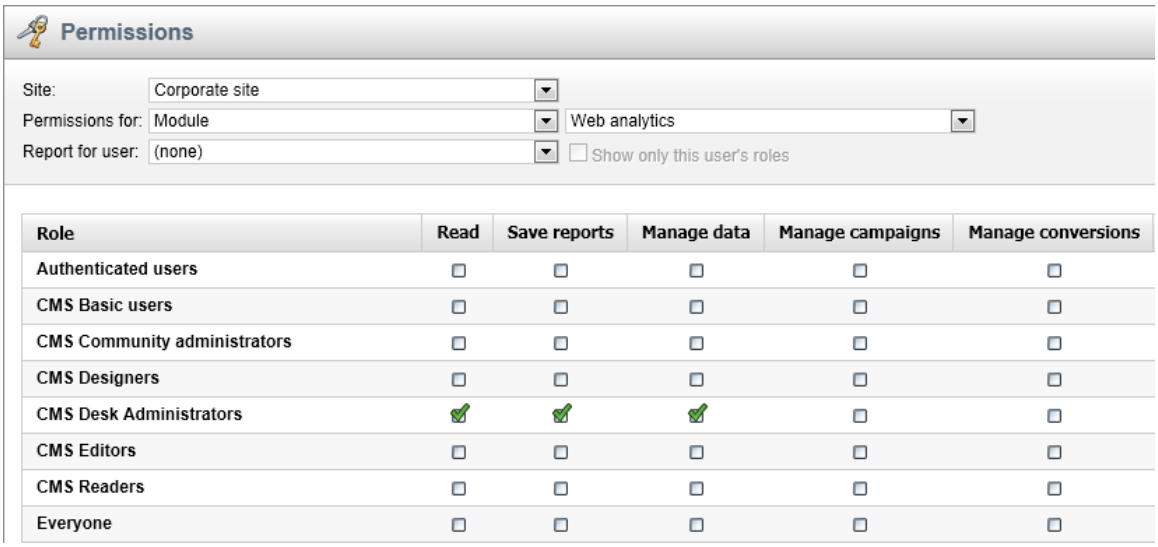
Setting up the authorization options for on-line marketing features can be done by assigning the appropriate permissions to your site's roles. This can be done in the **Site Manager/CMS Desk -> Administration -> Permissions** interface. First, you need to select the appropriate *Module* and then fill in its permission matrix as needed.

Web analytics (including conversions and campaigns)

The following permissions can be given for the *Web analytics* module:

- **Read** - allows members of the specified roles to view web analytics reports and other parts of the *CMS Desk -> Tools -> Web analytics* interface. It is also required to access the analytics reports anywhere else in the UI, e.g. in *CMS Desk -> Content -> Analytics -> Reports*.
- **Save reports** - allows members of the specified roles to save web analytics reports. The saved reports can be viewed in the *CMS Desk -> Tools -> Reporting* interface.
- **Manage data** - allows members of the specified roles to manage the data logged for various statistics (i.e. delete or generate sample data for statistics).
- **Manage campaigns** - allows members of the specified roles to create or delete campaign tracking objects and edit their properties, including goals.
- **Manage conversions** - allows members of the specified roles to create or delete conversions and edit their properties.

© 2012 Kentico Software



Contact management

There are four basic types of permissions for the *Contact management* module:

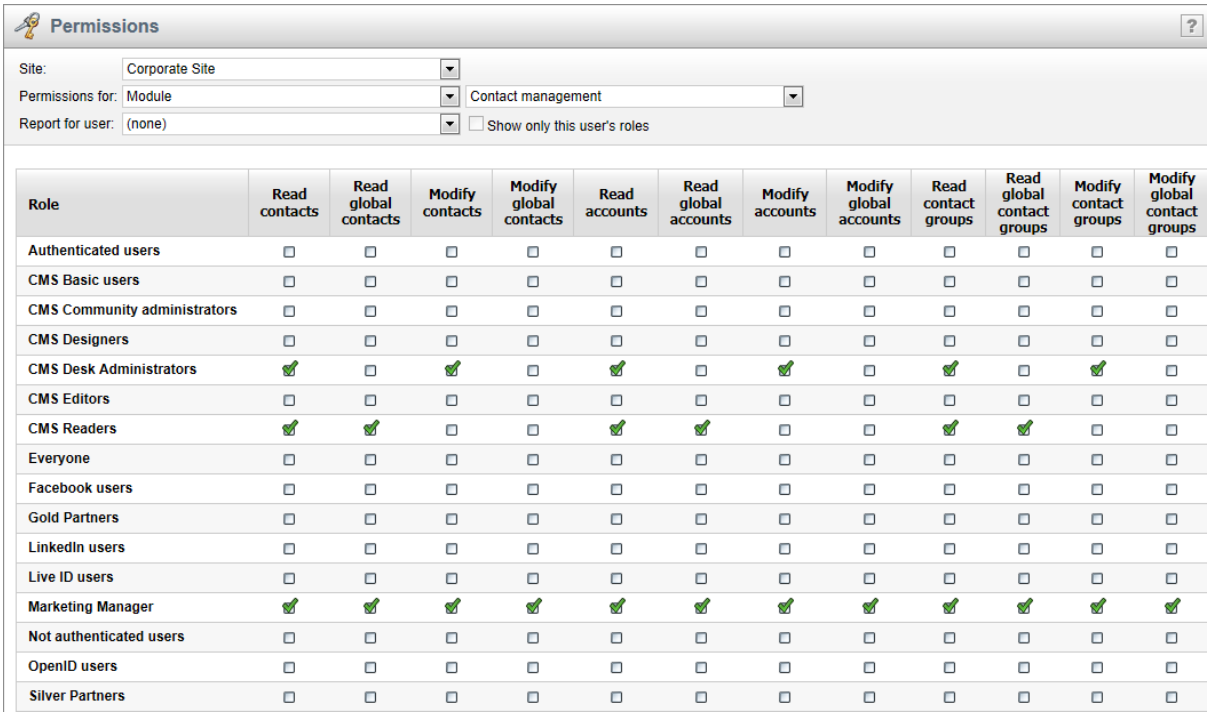
- **Read** - allows members of the specified roles to access the appropriate part of the on-line marketing interface and view any data there.
- **Read global** - allows members of the specified roles to view global objects of the appropriate type. Please note that global data is only available in CMS Desk if this is allowed by the site's settings (*Site Manager -> Settings -> On-line marketing -> Global data*).
- **Modify** - allows members of the specified roles to create, edit or delete objects of the given type.
- **Modify global** - allows members of the specified roles to create, edit or delete global objects of the given type in CMS Desk.

Specific permissions of these types are then available for the following contact management objects:

- **Contacts** - these permissions allow users to view or manage contacts and their settings.
- **Accounts** - affect the viewing or management of accounts.
- **Contact groups** - affect the viewing or management of contact groups.
- **Configuration** - these permissions affect the viewing or management of account statuses, contact statuses and contact roles.
- **Activities** - allow users to view or manage the activity log in CMS Desk. There are no global permissions for activities, since activities are always logged for a specific site.

Please note that the *Read global* and *Modify global* type permissions may only be configured by global administrators.

© 2012 Kentico Software



Permissions

Site: Corporate Site

Permissions for: Module — Contact management

Report for user: (none) — Show only this user's roles

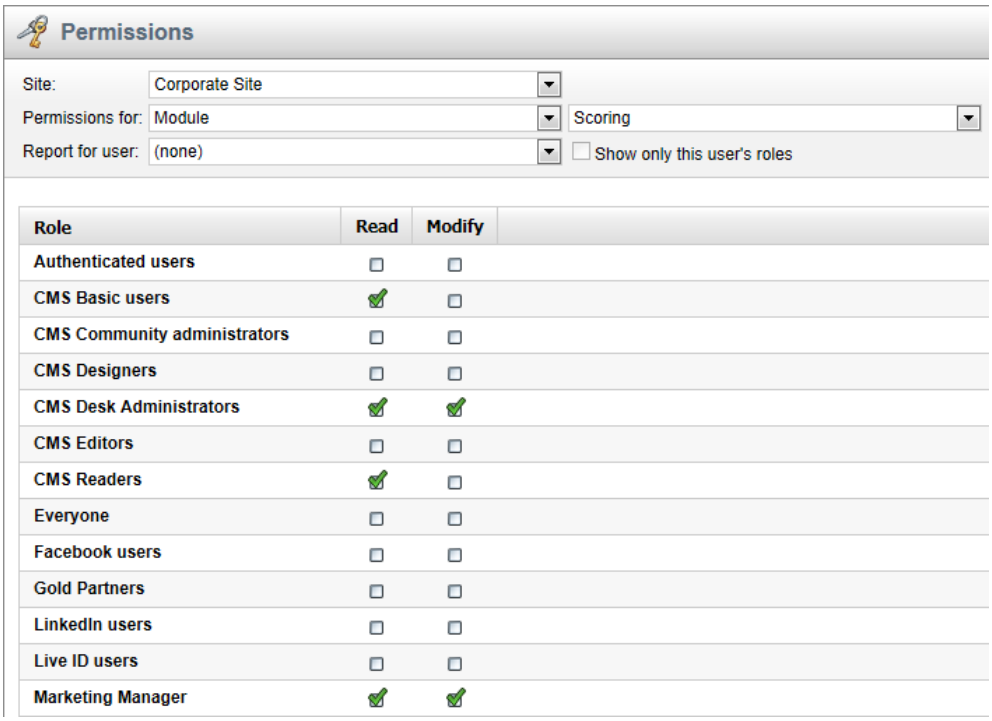
Role	Read contacts	Read global contacts	Modify contacts	Modify global contacts	Read accounts	Read global accounts	Modify accounts	Modify global accounts	Read contact groups	Read global contact groups	Modify contact groups	Modify global contact groups
Authenticated users	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
CMS Basic users	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
CMS Community administrators	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
CMS Designers	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
CMS Desk Administrators	☑	☐	☑	☐	☑	☐	☑	☐	☑	☐	☑	☐
CMS Editors	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
CMS Readers	☑	☑	☐	☐	☑	☑	☐	☐	☑	☑	☐	☐
Everyone	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Facebook users	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Gold Partners	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
LinkedIn users	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Live ID users	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Marketing Manager	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Not authenticated users	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
OpenID users	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Silver Partners	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Scoring

The security options of scoring are determined by the permissions of the *Scoring* module. The following can be assigned:

- **Read** - allows members of the selected roles to view the settings of scores and their rules, as well as the score points of individual contacts. This applies to the *CMS Desk -> On-line marketing -> Scoring* interface.
- **Manage** - allows members of the selected roles to create, edit or delete scores and their rules. This also includes the recalculate action.

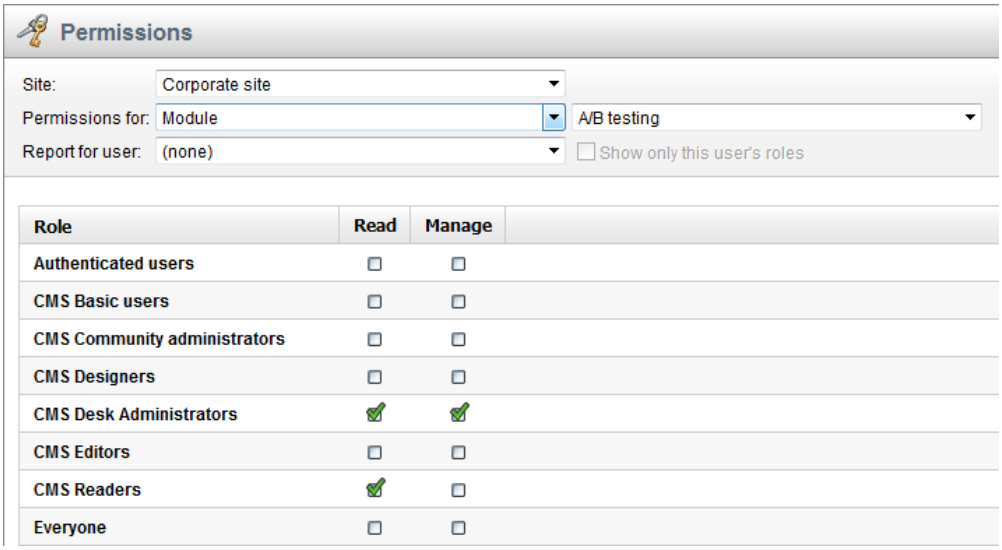
© 2012 Kentico Software



A/B and MVT testing

To configure the permissions for optimization testing, select the *A/B testing* or *MVT testing* module respectively. The following two permissions can be assigned for either one of the modules:

- **Read** - allows members of the selected roles to view all parts of the A/B or MVT testing management interface and the corresponding reports.
- **Manage** - allows members of the selected roles to create, edit and delete tests and manage their variants. In this case of A/B testing, this means page variants. For MVT testing, this affects management of object (web part, zone or widget) variants on pages that have a test defined.



© 2012 Kentico Software

Additionally, permissions for the *Web analytics* module (as described above) are required to access A/B or MVT testing reports in the web analytics interface and in **CMS Desk -> Content -> Analytics -> A/B tests / MVT tests -> Reports**.

Editing A/B testing page variant documents

Because every page variant is represented by a document in the content tree, the standard document permissions apply.

All permissions that can be configured for the *Content* module are checked, such as for creating, modifying or deleting documents. Also, the **Design web site** permission for the *Design* module is needed to edit page variants on the **Design** tab of **CMS Desk.**

Managing MVT object variants

The **Design web site** permission for the *Design* module is also needed for users to be able to manage the variants of web parts and zones on the **Design** tab of **CMS Desk**.

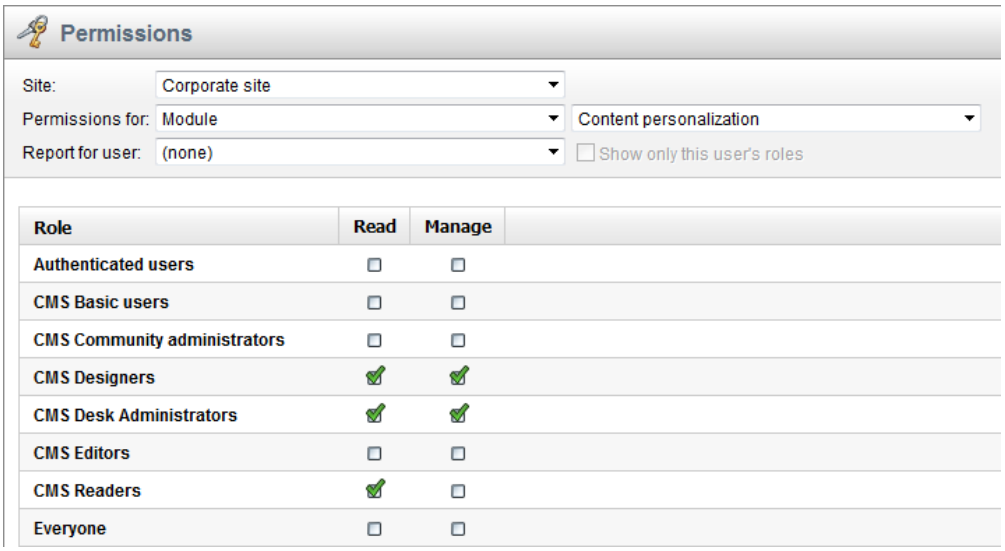
To work with variants of editor widgets on the **Page** tab, the **Modify** permission for the *Content* module is required. Also, the security settings defined for specific widgets are checked, as described in the Development -> Widgets -> Security chapter of the Developer's Guide.

Content personalization

To configure the permissions for content personalization, select the *Content personalization* module. The following can be assigned:

- **Read** - allows members of the selected roles to view the content of personalization variants, their properties and variant lists in the *CMS Desk* administration interface. No special permissions are required to view personalized content on the live site.
- **Manage** - allows members of the selected roles to create, edit and delete personalization variants of objects.

© 2012 Kentico Software



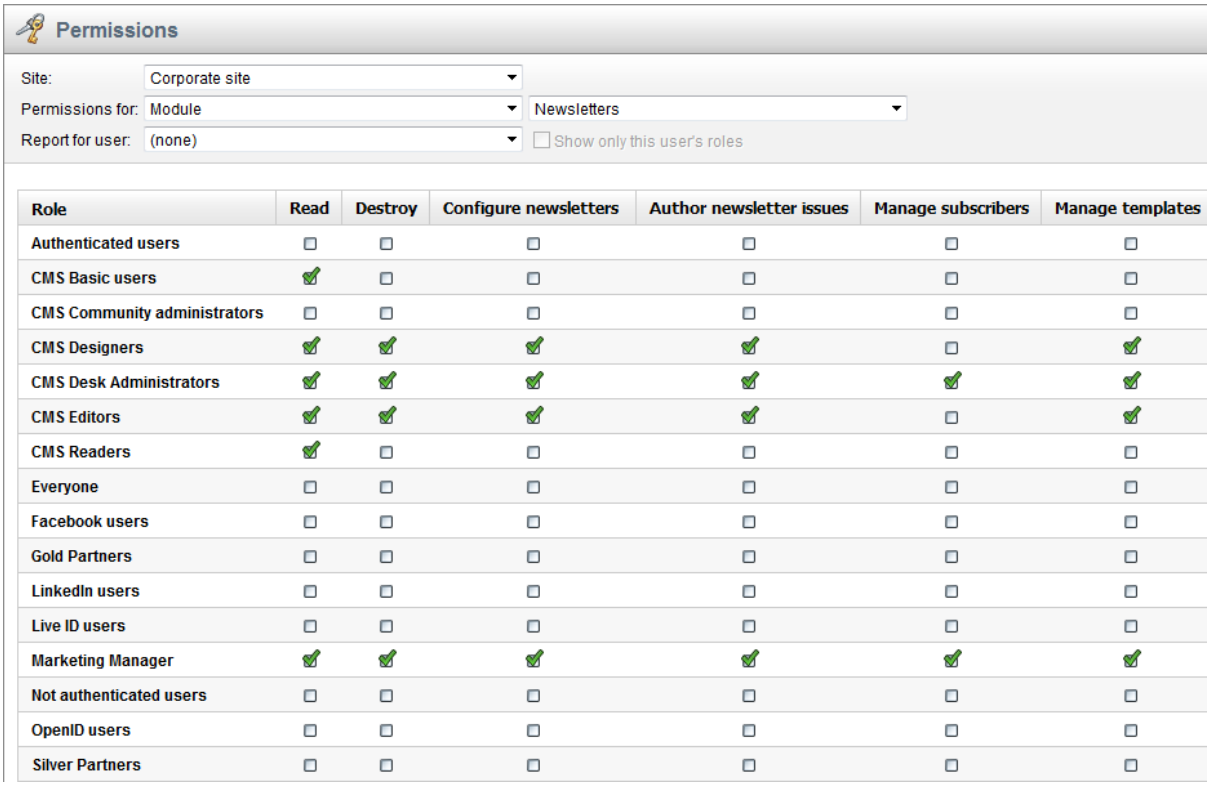
Additionally, the **Design web site** permission for the *Design* module is needed for users to be able to manage the variants of web parts and zones on the **Design** tab of **CMS Desk**. To work with variants of editor widgets on the **Page** tab, the **Modify** permission for the *Content* module is required. Also, the security settings defined for specific widgets are checked.

E-mail marketing

E-mail marketing actions require the appropriate permissions for the *Newsletters* module:

- **Read** - allows members of the selected roles to view all data in the *CMS Desk -> On-line marketing -> Newsletters* interface.
- **Configure newsletters** - allows members of the selected roles to configure the settings of individual newsletter, including on-line marketing tracking.
- **Author newsletter issues** - allows members of the selected roles to create, edit and send out newsletter issues.
- **Manage subscribers** - allows members of the selected roles to add, manage and remove newsletter subscribers. This includes blocking and unblocking subscribers.
- **Manage templates** - allows members of the selected roles to create, edit and delete newsletter templates.

© 2012 Kentico Software



Role	Read	Destroy	Configure newsletters	Author newsletter issues	Manage subscribers	Manage templates
Authenticated users	☐	☐	☐	☐	☐	☐
CMS Basic users	☑	☐	☐	☐	☐	☐
CMS Community administrators	☐	☐	☐	☐	☐	☐
CMS Designers	☑	☑	☑	☑	☐	☑
CMS Desk Administrators	☑	☑	☑	☑	☑	☑
CMS Editors	☑	☑	☑	☑	☐	☑
CMS Readers	☑	☐	☐	☐	☐	☐
Everyone	☐	☐	☐	☐	☐	☐
Facebook users	☐	☐	☐	☐	☐	☐
Gold Partners	☐	☐	☐	☐	☐	☐
LinkedIn users	☐	☐	☐	☐	☐	☐
Live ID users	☐	☐	☐	☐	☐	☐
Marketing Manager	☑	☑	☑	☑	☑	☑
Not authenticated users	☐	☐	☐	☐	☐	☐
OpenID users	☐	☐	☐	☐	☐	☐
Silver Partners	☐	☐	☐	☐	☐	☐

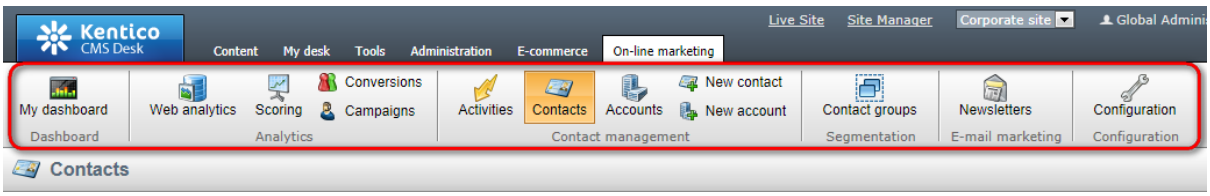
Additionally, the **Read contact groups** permission for the *Contact management* module is required to be able to subscribe contact groups to a newsletter.

11.3 UI personalization

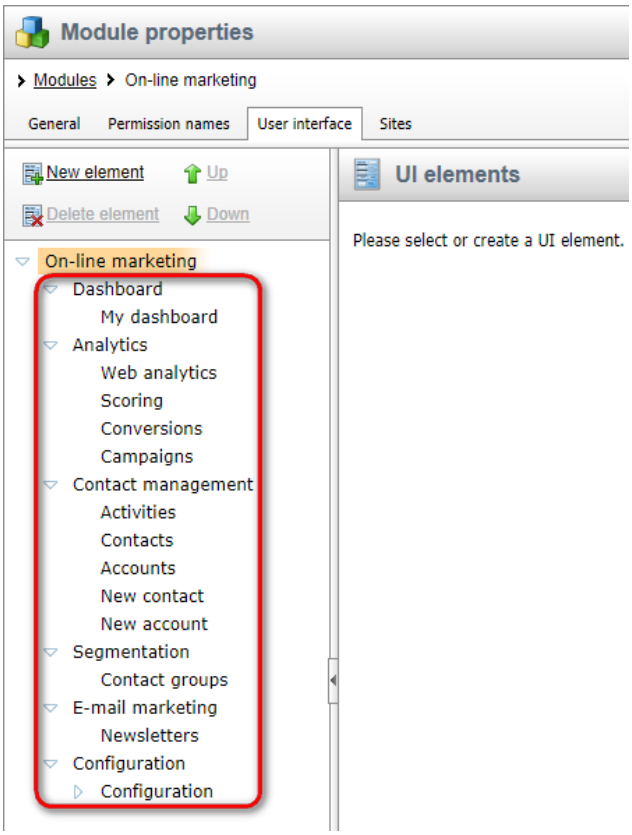
UI personalization can be applied to **CMS Desk only**. Site Manager cannot be personalized as it is typically used by administrators and developers who need the full rather than a simplified UI. Further in the topic you will thus learn how to personalize the UI of On-line marketing, specifically the **Ribbon** and Configuration tab, in CMS Desk.

Ribbon

You can hide individual items or entire item groups in the top ribbon menu of On-line marketing.

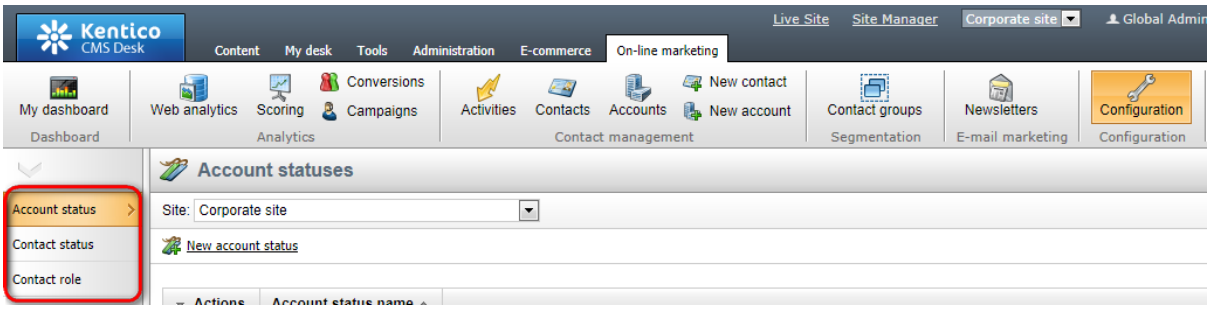


In the screenshot below, you can see the UI elements of the **Online marketing** module. Their names match the names of the ribbon menu items on the screenshot above.



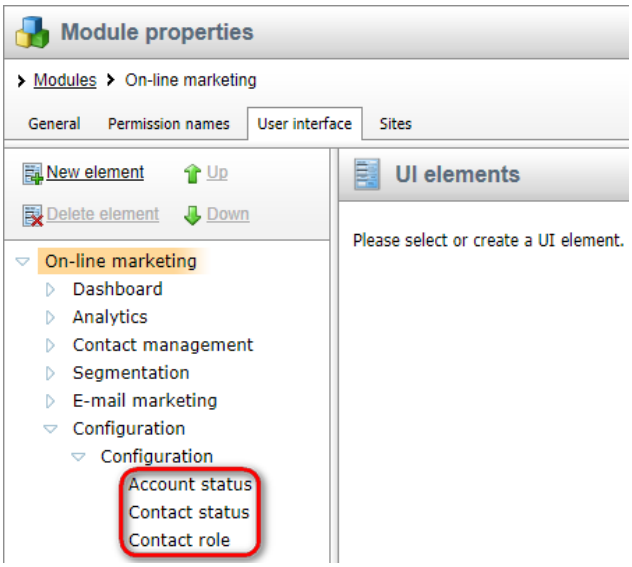
Configuration tab

You can also hide the tabs of the **Configuration** section of On-line marketing.



In the screenshot below, you can see the UI elements of the respective section. Their names match the names of the tabs on the screenshot above.

© 2012 Kentico Software



Detailed information on UI personalization in Kentico CMS can be found in the Membership, permissions and security -> UI personalization chapter in the Development section of the Developer's Guide.

© 2012 Kentico Software

Part XII

Internals and API

12 Internals and API

12.1 Overview

The content of this chapter is mainly intended for developers who wish to customize the behaviour of the on-line marketing features, or for those interested in the internal workings. The information is divided into the following sub-chapters, which are dedicated to the corresponding modules:

- Web analytics (including campaigns and conversions)
- Contact management
- A/B testing
- MVT testing
- Content personalization
- Newsletters (E-mail marketing)

Each section contains an overview of the database structure for the given module and a list of classes that you can use when working with the API. If you are not familiar with database table data management through *Info* and *Provider* classes, we strongly recommend that you read the Database table API topic in the Kentico CMS Developer's Guide before you continue. For detailed API documentation, such as a list of all methods from the module classes, please refer to Kentico CMS API Reference.

The on-line marketing features are also supported by the macro engine, which can be extremely useful when creating dynamic website content. You can learn more in the On-line marketing macros topic.

12.2 Web analytics

12.2.1 Database tables

There are six important database tables used by the web analytics module to keep track of statistics and their values. The **Analytics_Statistics** table stores records that represent the statistics of a tracked event within a certain context, i.e. related to a specific object, site and culture.

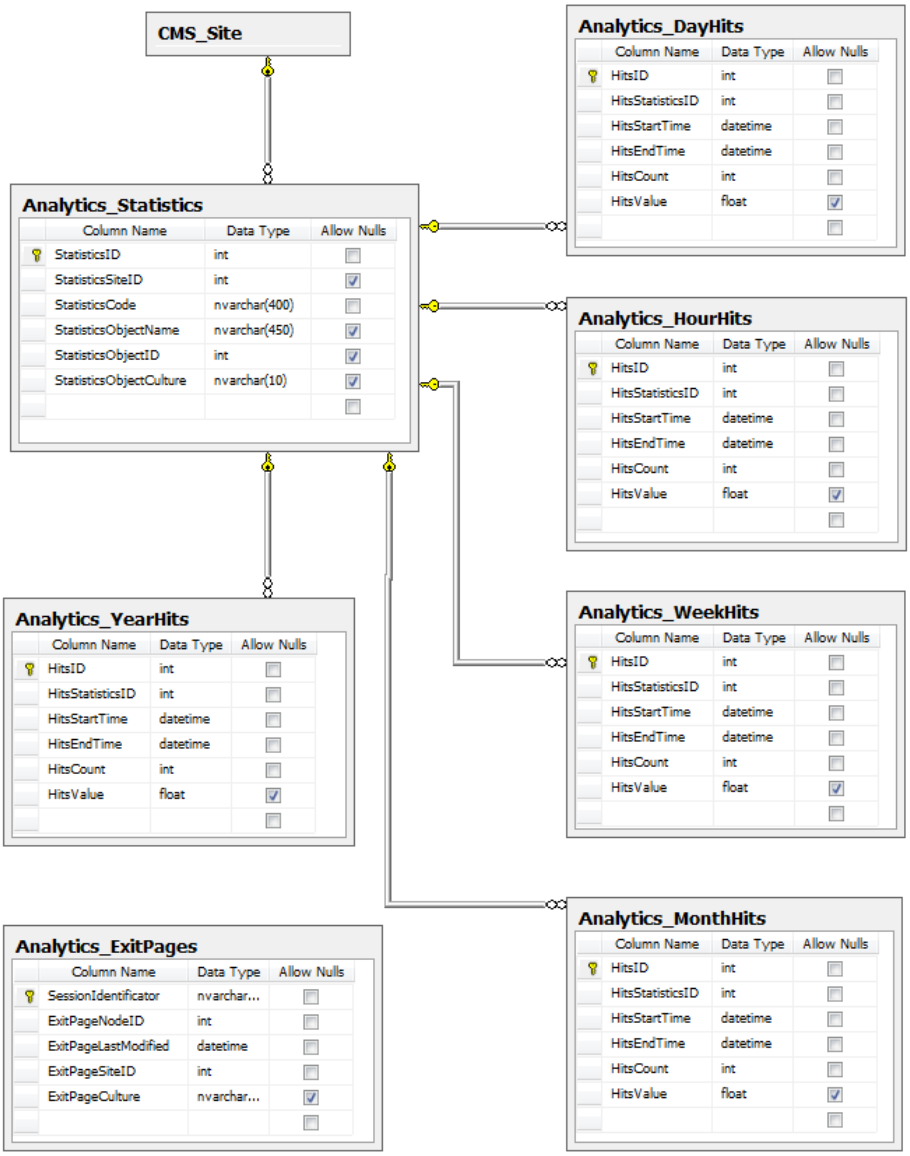
Five other tables are used to store the exact number of hits for the statistics in the Analytics_Statistics table:

- **Analytics_HourHits**
- **Analytics_DayHits**
- **Analytics_WeekHits**
- **Analytics_MonthHits**
- **Analytics_YearHits**

When a hit for a tracked statistic occurs, it is logged into all of these tables. The difference between them is in the unit of time used to separate hits into individual records. For example, a record in the **Analytics_HoursHits** table would contain the number of hits that were logged for a given statistic during one hour, while a single record in **Analytics_MonthHits** would count all hits that occurred over an entire month.

The **Analytics_ExitPages** table is used to temporarily store exit page candidates for the *Top exit pages* statistic. The latest candidate recorded for a visitor when their session expires is then stored as the final exit page.

© 2012 Kentico Software



Additionally, the tables listed below are used to store campaign and conversion tracking objects:

- **Analytics_Campaign** - contains records representing campaigns and their settings.
- **Analytics_Conversion** - contains records representing conversions.
- **Analytics_ConversionCampaign** - stores relationships between campaigns and conversions. Each entry in this table indicates that a conversion should be included in the statistics of a certain campaign. Only campaigns that are restricted to a limited set of conversions have these relationships.

Campaign and conversion statistic storage

The data logged for campaigns and conversions is stored like all other web analytics

© 2012 Kentico Software

statistics. The main records are kept in the **Analytics_Statistics** table and the corresponding amount of hits for individual units of time are saved in the appropriate **Hits** table.

Page view statistics for campaigns always use the *campaign* **StatisticsCode** with the name of the given campaign stored in the **StatisticsObjectName** column.

The following code names are used for conversion statistics:

- **conversion** - general statistic used to store the overall conversion records. This statistic is always logged when a conversion is performed on the website.
- **campconversion;<campaign name>** - logged when a conversion is performed by a user associated with the particular campaign.
- **abconversion;<A/B test code name>;<Variant code name>** - logged when a conversion is performed by a user who viewed the given page variant of an A/B test.
- **mvtconversion;<MVT test code name>;<Combination name>** - logged when a conversion is performed by a user who viewed the given content combination on a page with a defined multivariate test.

All types of conversions use the **StatisticsObjectName** column to store the code name of the logged conversion.

12.2.2 API classes

The following classes are used to manage the web analytics module. They can be found in the **CMS.WebAnalytics** namespace.

Analytics_Statistics table API:

- **StatisticsInfo** - represents the statistics of a certain event within a specific context.
- **StatisticsInfoProvider** - provides management functionality for statistic records.

Analytics_<time interval>Hits table API:

- **HitsInfo** - represents the hits of a statistic during a specific time interval.
- **HitsInfoProvider** - provides management functionality for statistic hits.

Analytics_Campaign table API:

- **CampaignInfo** - represents one campaign tracking object.
- **CampaignInfoProvider** - provides management functionality for campaigns.

Analytics_Conversion table API:

- **ConversionInfo** - represents one conversion tracking object.
- **ConversionInfoProvider** - provides management functionality for conversions.

Analytics_ConversionCampaign table API:

- **ConversionCampaignInfo** - represents a relationship between a campaign and a conversion.

© 2012 Kentico Software

- **ConversionCampaignInfoProvider** - provides management functionality for campaign-conversion relationships.

Other classes:

- **AnalyticsHelper** - provides general web analytics functionality and data.
- **HitLogProvider** - contains methods used to create the analytics log files for statistics.
- **HitLogProcessor** - this class implements the scheduled task used to periodically process the analytics log, which transfers the information to the database.

12.2.3 Logging conversions using the API

If you need to track a type of action that is not supported by default (as described in Logging actions as conversions), you can write your own custom code and use the API to log conversions. This allows you to monitor any type of activity performed by users on your website and view the results using the various conversion reports available in the web analytics interface.

To log a conversion via the API, you can use code similar to the following:

[C#]

```
using CMS.WebAnalytics;
using CMS.CMSHelper;

...

string siteName = CMSContext.CurrentSiteName;
string aliasPath = CMSContext.CurrentAliasPath;

// Checks that web analytics and conversion tracking are enabled in the site's
settings.
// Also confirms that the current IP address, alias path and URL extension are not
excluded from web analytics tracking.
if (AnalyticsHelper.IsLoggingEnabled(siteName, aliasPath)
    && AnalyticsHelper.TrackConversionsEnabled(siteName))
{
    // Logs the conversion according to the specified parameters.
    HitLogProvider.LogConversions(siteName, CMSContext.PreferredCultureCode,
ConversionName, 0, 1, ConversionValue);
}
```

There are several possible ways to include this type of code in your website's functionality. When tracking activity on a specific page, you may use a custom user control or web part to ensure that the code is executed as required. If you wish to log actions that may occur anywhere on the website, you may utilize global event handlers.

As shown above, conversions can be logged using the **HitLogProvider** class from the **CMS.WebAnalytics** namespace, specifically the following method:

LogConversions(string siteName, string culture, string objectName, int objectId, int count, double value)

© 2012 Kentico Software

- **siteName** - sets the code name of the site for which the conversion should be logged.
- **culture** - sets the culture code under which the conversion should be logged.
- **objectName -** used to specify the code name of the conversion that should be logged.
- **objectId** - used to specify the ID of the conversion. This parameter may be set to *0* if a valid code name is passed via the *objectName*.
- **count** - sets the amount of conversion hits that should logged. This parameter is optional and the default value (*1*) is used if it is not specified.
- **value** - specifies the value that will be logged for the conversion.

In addition to logging a general conversion, this method checks if the current user has passed through a page with a running A/B or Multivariate test, or has arrived on the website through a Campaign. If this is the case, then the conversion is also automatically logged within the appropriate context and included in the statistics of the given test or campaign.

12.3 Contact management

12.3.1 Database tables

The following database tables are used to store contact management and scoring data:

- **OM_Contact** - contains records representing contacts and their settings.
- **OM_ContactStatus** - contains records representing possible contact statuses.
- **OM_ContactRole** - stores the possible roles that contacts can have within accounts.
- **OM_Membership** - this table is used to bind users, subscribers and customers to contacts. Each entry has a member type, which determines whether the related object is a user, subscriber or customer. The given object is then connected through its ID (*RelatedID*). Please note that the relationships with the *CMS_User*, *Newsletter_Subscriber* and *COM_Customer* tables are not indicated in the diagram below.
- **OM_IP** - used to store the IP addresses associated with contacts.
- **OM_UserAgent** - stores the browser user agents of contacts.

- **OM_Account** - contains records representing accounts and their settings.
- **OM_AccountContact** - stores relationships between contacts and accounts. Each record indicates that a contact belongs to a specific account. If the contact has a certain role within the account, the information is also stored in this relationship.
- **OM_AccountStatus** - contains records representing possible account statuses.

- **OM_ContactGroup** - contains records representing contact groups.
- **OM_ContactGroupMember** - this table is used to bind contacts and accounts to contact groups. Each entry has a *member type*, which determines whether the related object is a contact or account. The given object is then connected through its ID (*ContactGroupMemberRelatedID*). Please note that the relationships with the *OM_Contact* and *OM_Account* tables are not indicated in the diagram below.

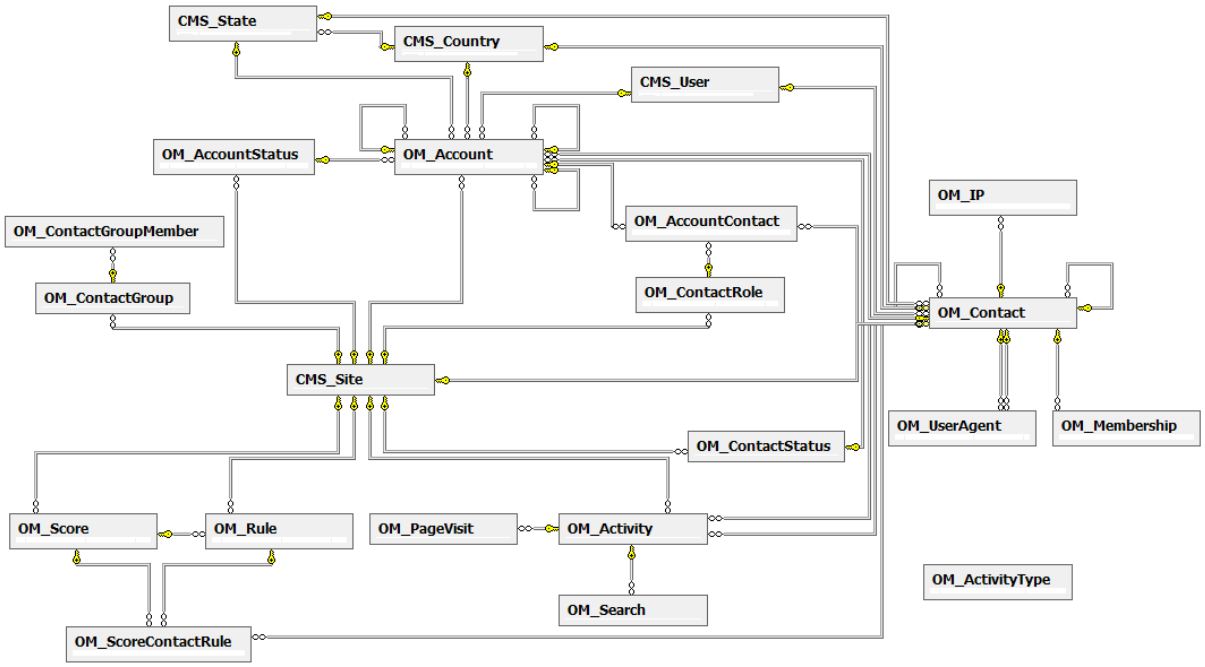
- **OM_Activity** - contains records representing the logged activities.
- **OM_ActivityType** - contains records of all possible activity types.
- **OM_PageVisit** - used to store the additional details, which are logged along with *Page visit* activities.
- **OM_Search** - used to store additional details for *Search* activities.

- **OM_Score** - contains records representing and their configuration.
- **OM_Rule** - contains records representing scoring rules.

© 2012 Kentico Software

- **OM_ScoreContactRule** - contains relationships between contacts, scores and rules. Each record stores the value that a specific contact has according to a certain scoring rule. The total score points of a contact are calculated as the sum of all values for the rules that belong to the given score.

The diagram below shows the relationships between these tables. For a full-size diagram including table columns, please click here.



12.3.2 API classes

The following contact management classes can be used in the API. Unless specified otherwise, they may be found in the **CMS.OnlineMarketing** namespace.

OM_Contact table:

- **ContactInfo** - represents one contact object.
- **ContactInfoProvider** - provides management functionality for contacts.

OM_ContactStatus table:

- **ContactStatusInfo** - represents one contact status.
- **ContactStatusInfoProvider** - provides management functionality for contact statuses.

OM_ContactRole table:

- **ContactRoleInfo** - represents one contact role.
- **ContactRoleInfoProvider** - provides management functionality for contact roles.

OM_Membership table:

© 2012 Kentico Software

- **MembershipInfo** - represents a binding object between a contact and a user, subscriber or customer.
- **MembershipInfoProvider** - provides management functionality for contact binding objects.

OM_IP table:

- **IPInfo** - represents one IP address associated with a contact.
- **IPInfoProvider** - provides management functionality for contact IP addresses.

OM_UserAgent table:

- **UserAgentInfo** - represents one browser user agent object associated with a contact.
- **UserAgentInfoProvider** - provides management functionality for contact user agents.

OM_Account table:

- **AccountInfo** - represents one account object.
- **AccountInfoProvider** - provides management functionality for accounts.

OM_AccountContact table:

- **AccountContactInfo** - represents a relationship between a contact and an account.
- **AccountContactInfoProvider** - provides management functionality for account-contact relationships.

OM_AccountStatus table:

- **AccountStatusInfo** - represents one account status.
- **AccountStatusInfoProvider** - provides management functionality for account statuses.

OM_ContactGroup table:

- **ContactGroupInfo** - represents one contact group object.
- **ContactGroupInfoProvider** - provides management functionality for contact groups.

OM_ContactGroupMember table:

- **ContactGroupMemberInfo** - represents a binding object between a contact group and contact or account.
- **ContactGroupMemberInfoProvider** - provides management functionality for contact group binding objects.

OM_Activity table:

- **ActivityInfo** - represents one activity object.
- **ActivityInfoProvider** - provides management functionality for activities.

OM_ActivityType table:

- **CMS.WebAnalytics.ActivityTypeInfo** - represents an activity type object.

© 2012 Kentico Software

- **CMS.WebAnalytics.ActivityTypeInfoProvider** - provides management functionality for activity types.

OM_PageVisit table:

- **PageVisitInfo** - represents an object used to store additional data for *Page visit* activities.
- **PageVisitInfoProvider** - provides management functionality for *PageVisitInfo* objects.

OM_Search table:

- **SearchInfo** - represents an object used to store additional data for *Search* activities.
- **SearchInfoProvider** - provides management functionality for *SearchInfo* objects.

OM_Score table:

- **ScoreInfo** - represents one score object.
- **ScoreInfoProvider** - provides management functionality for scores.

OM_Rule table:

- **RuleInfo** - represents one scoring rule.
- **RuleInfoProvider** - provides management functionality for scoring rules.

OM_ScoreContactRule table:

- **ContactScoreListInfo** - represents a binding object between a contact, score and specific scoring rule.

Other classes:

- **CMS.WebAnalytics.ActivityLogProvider** - contains methods used to create activity log files.
- **CMS.WebAnalytics.ActivityLogProcessor** - this class implements the scheduled task used to periodically process the activities log, which transfers the information to the database.

12.3.3 API examples

12.3.3.1 Overview

The topics listed below contain examples that demonstrate how the contact management API can be used:

- Managing contacts
- Managing contact groups
- Managing contact roles
- Managing contact statuses
- Managing accounts
- Managing account statuses
- Managing activities

© 2012 Kentico Software

Please note

All of the API examples can be simulated in the API examples user interface. Please refer to the API examples chapter in the Developer's Guide for more details.

If you would like to check the code of the examples, please refer to ***<web project folder>\CMSAPIExamples\Code\OnlineMarketing\ContactManagement\Default.aspx.cs***.

The contact management API examples use the following namespaces:

```
using System;
using System.Data;

using CMS.GlobalHelper;
using CMS.CMSHelper;
using CMS.SiteProvider;
using CMS.DataEngine;
using CMS.OnlineMarketing;
using CMS.SettingsProvider;
```

12.3.3.2 Managing contacts

The following example creates a new contact.

```
private bool CreateContact()
{
    // Create new contact object
    ContactInfo newContact = new ContactInfo()
        {
            ContactLastName = "My New Contact",
            ContactFirstName = "My New Firstname",
            ContactSiteID = CMSContext.CurrentSiteID,
            ContactIsAnonymous = true
        };

    // Save the contact
    ContactInfoProvider.SetContactInfo(newContact);

    return true;
}
```

The following example gets and updates the contact created by the example above.

```
private bool GetAndUpdateContact()
{
    // Get dataset of contacts
```

© 2012 Kentico Software

```
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Update a property
        contact.ContactLastName = contact.ContactLastName.ToLower();

        // Save the changes
        ContactInfoProvider.SetContactInfo(contact);

        return true;
    }

    return false;
}
```

The following example gets and bulk updates multiple contacts specified by a WHERE condition.

```
private bool GetAndBulkUpdateContacts()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        foreach (ContactInfo contact in contacts)
        {
            // Update a property of each contact
            contact.ContactLastName = contact.ContactLastName.ToUpper();

            // And save them
            ContactInfoProvider.SetContactInfo(contact);
        }

        return true;
    }

    return false;
}
```

The following example adds a contact status to the contact created by the first example in this topic.

```
private bool AddContactStatusToContact()
```

© 2012 Kentico Software

```
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    // Get the contact status
    ContactStatusInfo contactStatus = ContactStatusInfoProvider.
GetContactStatusInfo("MyNewStatus", CMSContext.CurrentSiteName);

    if (!DataHelper.DataSourceIsEmpty(contacts) && (contactStatus != null))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // If relationship doesn't already exist
        if (contact.ContactStatusID != contactStatus.ContactStatusID)
        {
            // Add contact status to contact
            contact.ContactStatusID = contactStatus.ContactStatusID;

            // Save the changes
            ContactInfoProvider.SetContactInfo(contact);

            return true;
        }
    }

    return false;
}
```

The following example removes the contact status added by the example above from the contact.

```
private bool RemoveContactStatusFromContact()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    // Get the contact status
    ContactStatusInfo contactStatus = ContactStatusInfoProvider.
GetContactStatusInfo("MyNewStatus", CMSContext.CurrentSiteName);

    if (!DataHelper.DataSourceIsEmpty(contacts) && (contactStatus != null))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // If relationship exists
        if (contact.ContactStatusID == contactStatus.ContactStatusID)
        {
```

© 2012 Kentico Software

```
            // Remove the status
            contact.ContactStatusID = 0;

            // Save the changes
            ContactInfoProvider.SetContactInfo(contact);

            return true;
        }
    }

    return false;
}
```

The following example adds a membership (user) to the contact created by the first example in this topic.

```
private bool AddMembership()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Set relationship to user
        CMS.OnlineMarketing.MembershipInfoProvider.SetRelationship(
            CMSContext.CurrentUser.UserID,
            MemberTypeEnum.CmsUser,
            contact.ContactID,
            contact.ContactID,
            false);

        return true;
    }

    return false;
}
```

The following example removes the membership (user) added by the previous example from the contact.

```
private bool RemoveMembership()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);
```

© 2012 Kentico Software

```
    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Get the membership
        CMS.OnlineMarketing.MembershipInfo membership = CMS.OnlineMarketing.
MembershipInfoProvider.GetMembershipInfo(contact.ContactID, contact.ContactID,
CMSContext.CurrentUser.UserID, MemberTypeEnum.CmsUser);

        // Delete the membership
        CMS.OnlineMarketing.MembershipInfoProvider.DeleteRelationship(membership.
MembershipID);

        return (membership != null);
    }

    return false;
}
```

The following example adds an IP address to the contact created by the first example in this topic.

```
private bool AddIPAddress()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Create new IP address
        IPInfo newIP = new IPInfo()
            {
                IPAddress = "127.0.0.1",
                IPOriginalContactID = contact.ContactID,
                IPActiveContactID = contact.ContactID
            };

        // Save the IP info
        IPInfoProvider.SetIPInfo(newIP);

        return true;
    }

    return false;
}
```

The following example removes the IP address added by the previous example from the contact.

```
private bool RemoveIPAddress()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Get contact's IP
        where = String.Format("IPOriginalContactID = '{0}' AND IPAddress = '{1}'",
contact.ContactID, "127.0.0.1");
        InfoDataSet<IPInfo> deleteIPs = IPInfoProvider.GetIps(where, null, 1,
"IPID");

        if (!DataHelper.DataSourceIsEmpty(deleteIPs))
        {
            // Delete IP
            IPInfoProvider.DeleteIPInfo(deleteIPs.First<IPInfo>());

            return true;
        }
    }

    return false;
}
```

The following example adds user agent information to the contact created by the first example in this topic.

```
private bool AddUserAgent()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Create new agent info
        UserAgentInfo agentInfo = new UserAgentInfo()
            {
                UserAgentActiveContactID = contact.ContactID,
                UserAgentOriginalContactID = contact.ContactID,
```

© 2012 Kentico Software

```
                UserAgentString = "My User Agent"
            };

        // Save the agent info
        UserAgentInfoProvider.SetUserAgentInfo(agentInfo);

        return true;
    }

    return false;
}
```

The following example removes the user agent information added by the previous example from the contact.

```
private bool RemoveUserAgent()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Get the user agent info
        where = String.Format("UserAgentOriginalContactID = '{0}' AND
UserAgentString = '{1}'", contact.ContactID, "My User Agent");
        InfoDataSet<UserAgentInfo> deleteAgents = UserAgentInfoProvider.
GetUserAgents(where, null, 1, null);

        if (!DataHelper.DataSourceIsEmpty(deleteAgents))
        {
            // Delete the user agent info
            UserAgentInfoProvider.DeleteUserAgentInfo(deleteAgents.First<
UserAgentInfo>());

            return true;
        }
    }

    return false;
}
```

The following example deletes the contact created by the first example in this topic.

```
private bool DeleteContact()
{
```

© 2012 Kentico Software

```
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Delete the contact
        ContactInfoProvider.DeleteContactInfo(contact);

        return true;
    }

    return false;
}
```

12.3.3.3 Managing contact groups

The following example creates a new contact group.

```
private bool CreateContactGroup()
{
    // Create new contact group object
    ContactGroupInfo newGroup = new ContactGroupInfo()
        {
            ContactGroupDisplayName = "My new group",
            ContactGroupName = "MyNewGroup",
            ContactGroupSiteID = CMSContext.CurrentSiteID,
            ContactGroupDynamicCondition = "{%Contact.ContactLastName.Contains
(\"My new\")%}"
        };

    // Save the contact group to database
    ContactGroupInfoProvider.SetContactGroupInfo(newGroup);

    return true;
}
```

The following example gets and updates the contact group created by the example above.

```
private bool GetAndUpdateContactGroup()
{
    // Get the contact group
    ContactGroupInfo updateGroup = ContactGroupInfoProvider.GetContactGroupInfo(
"MyNewGroup", CMSContext.CurrentSiteName);
    if (updateGroup != null)
    {
```

© 2012 Kentico Software

```
        // Update contact group's properties
        updateGroup.ContactGroupDisplayName = updateGroup.ContactGroupDisplayName.
ToLower();

        // Save the contact group
        ContactGroupInfoProvider.SetContactGroupInfo(updateGroup);

        return true;
    }

    return false;
}
```

The following example gets and bulk updates multiple contact groups specified by a WHERE condition.

```
private bool GetAndBulkUpdateContactGroups()
{
    // Get the contact groups
    string where = "ContactGroupName LIKE N'MyNewGroup%'";
    InfoDataSet<ContactGroupInfo> groups = ContactGroupInfoProvider.
GetContactGroups(where, null);

    if (!DataHelper.DataSourceIsEmpty(groups))
    {
        foreach (ContactGroupInfo group in groups)
        {
            // Update a property
            group.ContactGroupDisplayName = group.ContactGroupDisplayName.ToUpper
();

            // Save the contact group
            ContactGroupInfoProvider.SetContactGroupInfo(group);
        }

        return true;
    }

    return false;
}
```

The following example adds a contact to the contact group created by the first example in this topic.

```
private bool AddContactToGroup()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    // Get the contact group
```

© 2012 Kentico Software

```
    ContactGroupInfo group = ContactGroupInfoProvider.GetContactGroupInfo(
"MyNewGroup", CMSContext.CurrentSiteName);

    if (!DataHelper.DataSourceIsEmpty(contacts) && (group != null))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Create the contact - contactgroup relationship
        ContactGroupMemberInfo newContactGroupMember = new ContactGroupMemberInfo
()
            {
                ContactGroupMemberContactGroupID = group.ContactGroupID,
                ContactGroupMemberType = ContactGroupMemberTypeEnum.Contact,
                ContactGroupMemberRelatedID = contact.ContactID,
                ContactGroupMemberFromManual = true
            };

        // Save the contact group
        ContactGroupMemberInfoProvider.SetContactGroupMemberInfo
(newContactGroupMember);

        return true;
    }

    return false;
}
```

The following example removes the contact added by the the previous example from the group.

```
private bool RemoveContactFromGroup()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    // Get the contact group
    ContactGroupInfo group = ContactGroupInfoProvider.GetContactGroupInfo(
"MyNewGroup", CMSContext.CurrentSiteName);

    if (!DataHelper.DataSourceIsEmpty(contacts) && (group != null))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Get the contact - contactgroup relationship
        ContactGroupMemberInfo deleteContactGroupMember =
ContactGroupMemberInfoProvider.GetContactGroupMemberInfoByData(group.
ContactGroupID, contact.ContactID, ContactGroupMemberTypeEnum.Contact);

        if (deleteContactGroupMember != null)
```

© 2012 Kentico Software

```
        {
            // Delete the info
            ContactGroupMemberInfoProvider.DeleteContactGroupMemberInfo
(deleteContactGroupMember);

            return true;
        }
    }

    return false;
}
```

The following example adds an account to the contact group created by the first example in this topic.

```
private bool AddAccountToGroup()
{
    // Get the account
    AccountInfo account = AccountInfoProvider.GetAccountInfo("My New Account",
CMSContext.CurrentSiteName);

    // Get the contact group
    ContactGroupInfo group = ContactGroupInfoProvider.GetContactGroupInfo(
"MyNewGroup", CMSContext.CurrentSiteName);

    if ((account != null) && (group != null))
    {
        // Create new account - contact group relationship
        ContactGroupMemberInfo newContactGroupMember = new ContactGroupMemberInfo
()
            {
                ContactGroupMemberContactGroupID = group.ContactGroupID,
                ContactGroupMemberType = ContactGroupMemberTypeEnum.Account,
                ContactGroupMemberRelatedID = account.AccountID
            };

        // Save the object
        ContactGroupMemberInfoProvider.SetContactGroupMemberInfo
(newContactGroupMember);

        return true;
    }

    return false;
}
```

The following example removes the account added by the the previous example from the group.

```
private bool RemoveAccountFromGroup()
{
    // Get the account
```

© 2012 Kentico Software

```
    AccountInfo account = AccountInfoProvider.GetAccountInfo("My New Account",
CMSContext.CurrentSiteName);

    // Get the contact group
    ContactGroupInfo group = ContactGroupInfoProvider.GetContactGroupInfo(
"MyNewGroup", CMSContext.CurrentSiteName);

    if ((account != null) && (group != null))
    {
        // Get the account - contactgroup relationship
        ContactGroupMemberInfo deleteContactGroupMember =
ContactGroupMemberInfoProvider.GetContactGroupMemberInfoByData(group.
ContactGroupID, account.AccountID, ContactGroupMemberTypeEnum.Account);

        if (deleteContactGroupMember != null)
        {
            // Delete the info
            ContactGroupMemberInfoProvider.DeleteContactGroupMemberInfo
(deleteContactGroupMember);

            return true;
        }
    }

    return false;
}
```

The following example deletes the contact group created by the first example in this topic.

```
private bool DeleteContactGroup()
{
    // Get the contact group
    ContactGroupInfo deleteGroup = ContactGroupInfoProvider.GetContactGroupInfo(
"MyNewGroup", CMSContext.CurrentSiteName);

    if (deleteGroup != null)
    {
        // Delete the contact group
        ContactGroupInfoProvider.DeleteContactGroupInfo(deleteGroup);

        return true;
    }

    return false;
}
```

12.3.3.4 Managing contact roles

The following example creates a contact role.

© 2012 Kentico Software

```
private bool CreateContactRole()
{
    // Create new contact role object
    ContactRoleInfo newRole = new ContactRoleInfo()
        {
            ContactRoleDisplayName = "My new role",
            ContactRoleName = "MyNewRole",
            ContactRoleSiteID = CMSContext.CurrentSiteID
        };

    // Save the contact role
    ContactRoleInfoProvider.SetContactRoleInfo(newRole);

    return true;
}
```

The following example gets and updates the contact role created by the example above.

```
private bool GetAndUpdateContactRole()
{
    // Get the contact role
    ContactRoleInfo updateRole = ContactRoleInfoProvider.GetContactRoleInfo(
"MyNewRole", CMSContext.CurrentSiteName);
    if (updateRole != null)
    {
        // Update a property
        updateRole.ContactRoleDisplayName = updateRole.ContactRoleDisplayName.
ToLower();

        // Save the changes
        ContactRoleInfoProvider.SetContactRoleInfo(updateRole);

        return true;
    }

    return false;
}
```

The following example gets and bulk updates multiple contact roles specified by a WHERE condition.

```
private bool GetAndBulkUpdateContactRoles()
{
    // Get the contact roles dataset
    string where = "ContactRoleName LIKE N'MyNewRole%'";
    InfoDataSet<ContactRoleInfo> roles = ContactRoleInfoProvider.GetContactRoles
(where, null);

    if (!DataHelper.DataSourceIsEmpty(roles))
    {
        foreach (ContactRoleInfo role in roles)
        {
```

© 2012 Kentico Software

```
            // Update the properties
            role.ContactRoleDisplayName = role.ContactRoleDisplayName.ToUpper();

            // Save the changes
            ContactRoleInfoProvider.SetContactRoleInfo(role);
        }

        return true;
    }

    return false;
}
```

The following example deletes the contact role created by the first example in this topic.

```
private bool DeleteContactRole()
{
    // Get the contact role
    ContactRoleInfo deleteRole = ContactRoleInfoProvider.GetContactRoleInfo(
"MyNewRole", CMSContext.CurrentSiteName);

    if (deleteRole != null)
    {
        // Delete the contact role
        ContactRoleInfoProvider.DeleteContactRoleInfo(deleteRole);

        return true;
    }

    return false;
}
```

12.3.3.5 Managing contact statuses

The following example creates a contact status.

```
private bool CreateContactStatus()
{
    // Create new contact status object
    ContactStatusInfo newStatus = new ContactStatusInfo()
        {
            ContactStatusDisplayName = "My new status",
            ContactStatusName = "MyNewStatus",
            ContactStatusSiteID = CMSContext.CurrentSiteID
        };

    // Save the contact status
    ContactStatusInfoProvider.SetContactStatusInfo(newStatus);

    return true;
```

© 2012 Kentico Software

```
}
```

The following example gets and updates the contact status created by the example above.

```
private bool GetAndUpdateContactStatus()
{
    // Get the contact status
    ContactStatusInfo updateStatus = ContactStatusInfoProvider.
GetContactStatusInfo("MyNewStatus", CMSContext.CurrentSiteName);
    if (updateStatus != null)
    {
        // Update a property
        updateStatus.ContactStatusDisplayName = updateStatus.
ContactStatusDisplayName.ToLower();

        // Save the changes
        ContactStatusInfoProvider.SetContactStatusInfo(updateStatus);

        return true;
    }

    return false;
}
```

The following example gets and bulk updates multiple contact statuses specified by a WHERE condition.

```
private bool GetAndBulkUpdateContactStatuses()
{
    // Get the contact statuses dataset
    string where = "ContactStatusName LIKE N'MyNewStatus%'";
    InfoDataSet<ContactStatusInfo> statuses = ContactStatusInfoProvider.
GetContactStatuses(where, null);

    if (!DataHelper.DataSourceIsEmpty(statuses))
    {
        foreach (ContactStatusInfo contactStatus in statuses)
        {
            // Update a property
            contactStatus.ContactStatusDisplayName = contactStatus.
ContactStatusDisplayName.ToUpper();

            // Save the changes
            ContactStatusInfoProvider.SetContactStatusInfo(contactStatus);
        }

        return true;
    }

    return false;
```

© 2012 Kentico Software

```
}
```

The following example deletes the contact status created by the first example in this topic.

```
private bool DeleteContactStatus()
{
    // Get the contact status
    ContactStatusInfo deleteStatus = ContactStatusInfoProvider.
GetContactStatusInfo("MyNewStatus", CMSContext.CurrentSiteName);

    if (deleteStatus != null)
    {
        // Delete the contact status
        ContactStatusInfoProvider.DeleteContactStatusInfo(deleteStatus);

        return true;
    }

    return false;
}
```

12.3.3.6 Managing accounts

The following example creates a new account.

```
private bool CreateAccount()
{
    // Create new account object
    AccountInfo newAccount = new AccountInfo()
        {
            AccountName = "My New Account",
            AccountSiteID = CMSContext.CurrentSiteID
        };

    // Save the account
    AccountInfoProvider.SetAccountInfo(newAccount);

    return true;
}
```

The following example gets and updates the account created by the example above.

```
private bool GetAndUpdateAccount()
{
    // Get the account
    AccountInfo updateAccount = AccountInfoProvider.GetAccountInfo("My New
Account", CMSContext.CurrentSiteName);
```

© 2012 Kentico Software

```
    if (updateAccount != null)
    {
        // Update a property
        updateAccount.AccountName = updateAccount.AccountName.ToLower();

        // And save it
        AccountInfoProvider.SetAccountInfo(updateAccount);

        return true;
    }

    return false;
}
```

The following example gets and bulk updates multiple accounts specified by a WHERE condition.

```
private bool GetAndBulkUpdateAccounts()
{
    // Get dataset of accounts
    string where = "AccountName LIKE N'My New Account%'";
    InfoDataSet<AccountInfo> accounts = AccountInfoProvider.GetAccounts(where,
null);

    if (!DataHelper.DataSourceIsEmpty(accounts))
    {
        foreach (AccountInfo account in accounts)
        {
            // Update each one's property
            account.AccountName = account.AccountName.ToUpper();

            // And save it
            AccountInfoProvider.SetAccountInfo(account);
        }

        return true;
    }

    return false;
}
```

The following example adds an account status to the account created by the first example in this topic.

```
private bool AddAccountStatusToAccount()
{
    // Get the account
    AccountInfo account = AccountInfoProvider.GetAccountInfo("My New Account",
CMSContext.CurrentSiteName);

    // Get the account status
    AccountStatusInfo accountStatus = AccountStatusInfoProvider.
```

© 2012 Kentico Software

```
GetAccountStatusInfo("MyNewStatus", CMSContext.CurrentSiteName);

    if ((account != null) && (accountStatus != null))
    {
        // Check that account doesn't have this status
        if (account.AccountStatusID != accountStatus.AccountStatusID)
        {
            // Set new status
            account.AccountStatusID = accountStatus.AccountStatusID;

            // Save changes to the object
            AccountInfoProvider.SetAccountInfo(account);

            return true;
        }
    }

    return false;
}
```

The following example removes the account status added by the previous example from the account.

```
private bool RemoveAccountStatusFromAccount()
{
    // Get the account
    AccountInfo account = AccountInfoProvider.GetAccountInfo("My New Account",
CMSContext.CurrentSiteName);

    // Get the account status
    AccountStatusInfo accountStatus = AccountStatusInfoProvider.
GetAccountStatusInfo("MyNewStatus", CMSContext.CurrentSiteName);

    if ((account != null) && (accountStatus != null))
    {
        // Check if account has this status set
        if (account.AccountStatusID == accountStatus.AccountStatusID)
        {
            // Remove the status from account
            account.AccountStatusID = 0;

            // Save the object
            AccountInfoProvider.SetAccountInfo(account);

            return true;
        }
    }

    return false;
}
```

The following example adds a contact to the account created by the first example in this topic.

© 2012 Kentico Software

```
private bool AddContactToAccount()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    // Get the account
    AccountInfo account = AccountInfoProvider.GetAccountInfo("My New Account",
CMSContext.CurrentSiteName);

    // Get the role
    ContactRoleInfo role = ContactRoleInfoProvider.GetContactRoleInfo("MyNewRole",
CMSContext.CurrentSiteName);

    if (!DataHelper.DataSourceIsEmpty(contacts) && (account != null) && (role !=
null))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Create new account - contact relationship
        AccountContactInfo accountContact = new AccountContactInfo()
            {
                AccountID = account.AccountID,
                ContactID = contact.ContactID,
                ContactRoleID = role.ContactRoleID
            };

        // And save it
        AccountContactInfoProvider.SetAccountContactInfo(accountContact);

        return true;
    }

    return false;
}
```

The following example removes the contact added by the previous example from the account.

```
private bool RemoveContactFromAccount()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    // Get the account
    AccountInfo account = AccountInfoProvider.GetAccountInfo("My New Account",
CMSContext.CurrentSiteName);

    if (!DataHelper.DataSourceIsEmpty(contacts) && (account != null))
```

© 2012 Kentico Software

```
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Find account - contact relationship
        AccountContactInfo accountContact = AccountContactInfoProvider.
GetAccountContactInfo(account.AccountID, contact.ContactID);

        if (accountContact != null)
        {
            // Delete the object
            AccountContactInfoProvider.DeleteAccountContactInfo(accountContact);

            return true;
        }
    }

    return false;
}
```

The following example deletes the account created by the first example in this topic.

```
private bool DeleteAccount()
{
    // Get the account
    AccountInfo deleteAccount = AccountInfoProvider.GetAccountInfo("My New
Account", CMSContext.CurrentSiteName);

    if (deleteAccount != null)
    {
        // Delete the account
        AccountInfoProvider.DeleteAccountInfo(deleteAccount);

        return true;
    }

    return false;
}
```

12.3.3.7 Managing account statuses

The following example creates an account status.

```
private bool CreateAccountStatus()
{
    // Create new account status object
    AccountStatusInfo newStatus = new AccountStatusInfo()
        {
            AccountStatusDisplayName = "My new status",
            AccountStatusName = "MyNewStatus",
```

© 2012 Kentico Software

```
            AccountStatusSiteID = CMSContext.CurrentSiteID
        };

    // Save the account status
    AccountStatusInfoProvider.SetAccountStatusInfo(newStatus);

    return true;
}
```

The following example gets and updates the account status created by the example above.

```
private bool GetAndUpdateAccountStatus()
{
    // Get the account status
    AccountStatusInfo updateStatus = AccountStatusInfoProvider.
GetAccountStatusInfo("MyNewStatus", CMSContext.CurrentSiteName);
    if (updateStatus != null)
    {
        // Update a property
        updateStatus.AccountStatusDisplayName = updateStatus.
AccountStatusDisplayName.ToLower();

        // Save the changes
        AccountStatusInfoProvider.SetAccountStatusInfo(updateStatus);

        return true;
    }

    return false;
}
```

The following example gets and bulk updates multiple account statuses specified by a WHERE condition.

```
private bool GetAndBulkUpdateAccountStatuses()
{
    // Get the account status dataset
    string where = "AccountStatusName LIKE N'MyNewStatus%'";
    InfoDataSet<AccountStatusInfo> statuses = AccountStatusInfoProvider.
GetAccountStatuses(where, null);

    if (!DataHelper.DataSourceIsEmpty(statuses))
    {
        foreach (AccountStatusInfo accountStatus in statuses)
        {
            // Update a property
            accountStatus.AccountStatusDisplayName = accountStatus.
AccountStatusDisplayName.ToUpper();

            // Save the changes
```

© 2012 Kentico Software

```
            AccountStatusInfoProvider.SetAccountStatusInfo(accountStatus);
        }

        return true;
    }

    return false;
}
```

The following example deletes the account status created by the first example in this topic.

```
private bool DeleteAccountStatus()
{
    // Get the account status
    AccountStatusInfo deleteStatus = AccountStatusInfoProvider.
GetAccountStatusInfo("MyNewStatus", CMSContext.CurrentSiteName);

    if (deleteStatus != null)
    {
        // Delete the account status
        AccountStatusInfoProvider.DeleteAccountStatusInfo(deleteStatus);

        return true;
    }

    return false;
}
```

12.3.3.8 Managing activities

The following example logs an activity.

```
private bool CreateActivity()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Get an activity type
        ActivityTypeInfo activityType = ActivityTypeInfoProvider.GetActivityTypes(
null, null, 1, null).First<ActivityTypeInfo>();

        // Create new activity object
        ActivityInfo newActivity = new ActivityInfo()
```

© 2012 Kentico Software

```
            {
                ActivityType = activityType.ActivityTypeName,
                ActivityTitle = "My new activity",
                ActivitySiteID = CMSContext.CurrentSiteID,
                ActivityOriginalContactID = contact.ContactID,
                ActivityActiveContactID = contact.ContactID
            };

        // Save the activity
        ActivityInfoProvider.SetActivityInfo(newActivity);

        return true;
    }

    return false;
}
```

The following example gets and updates a the activity logged by the example above.

```
private bool GetAndUpdateActivity()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Get all activities associated with user
        where = String.Format("ActivityActiveContactID = '{0}'", contact.
ContactID);
        InfoDataSet<ActivityInfo> updateActivities = ActivityInfoProvider.
GetActivities(where, null);

        if (!DataHelper.DataSourceIsEmpty(updateActivities))
        {
            // Get just the first activity
            ActivityInfo activity = updateActivities.First<ActivityInfo>();

            // Update the activity
            activity.ActivityTitle = activity.ActivityTitle.ToLower();

            // Save the activity
            ActivityInfoProvider.SetActivityInfo(activity);

            return true;
        }
    }
```

© 2012 Kentico Software

```
    return false;
}
```

The following example gets and bulk updates multiple activities specified by a WHERE condition.

```
private bool GetAndBulkUpdateActivities()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);

    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Get all activities associated with contact
        where = String.Format("ActivityActiveContactID = '{0}'", contact.
ContactID);
        InfoDataSet<ActivityInfo> updateActivities = ActivityInfoProvider.
GetActivities(where, null);

        if (!DataHelper.DataSourceIsEmpty(updateActivities))
        {

            foreach (ActivityInfo activity in updateActivities)
            {
                // Update activity content
                activity.ActivityTitle = activity.ActivityTitle.ToLower();

                // Save the activity
                ActivityInfoProvider.SetActivityInfo(activity);
            }

            return true;
        }
    }

    return false;
}
```

The following example deletes the activity logged by the first example in this topic.

```
private bool DeleteActivity()
{
    // Get dataset of contacts
    string where = "ContactLastName LIKE N'My New Contact%'";
    InfoDataSet<ContactInfo> contacts = ContactInfoProvider.GetContacts(where,
null, 1, null);
```

© 2012 Kentico Software

```
    if (!DataHelper.DataSourceIsEmpty(contacts))
    {
        // Get the contact from dataset
        ContactInfo contact = contacts.First<ContactInfo>();

        // Get all activities associated with contact
        where = String.Format("ActivityOriginalContactID = '{0}'", contact.
ContactID);
        InfoDataSet<ActivityInfo> activities = ActivityInfoProvider.GetActivities
(where, null);

        if (!DataHelper.DataSourceIsEmpty(activities))
        {
            foreach (ActivityInfo activity in activities)
            {
                // Delete the object
                ActivityInfoProvider.DeleteActivityInfo(activity);
            }

            return true;
        }
    }

    return false;
}
```

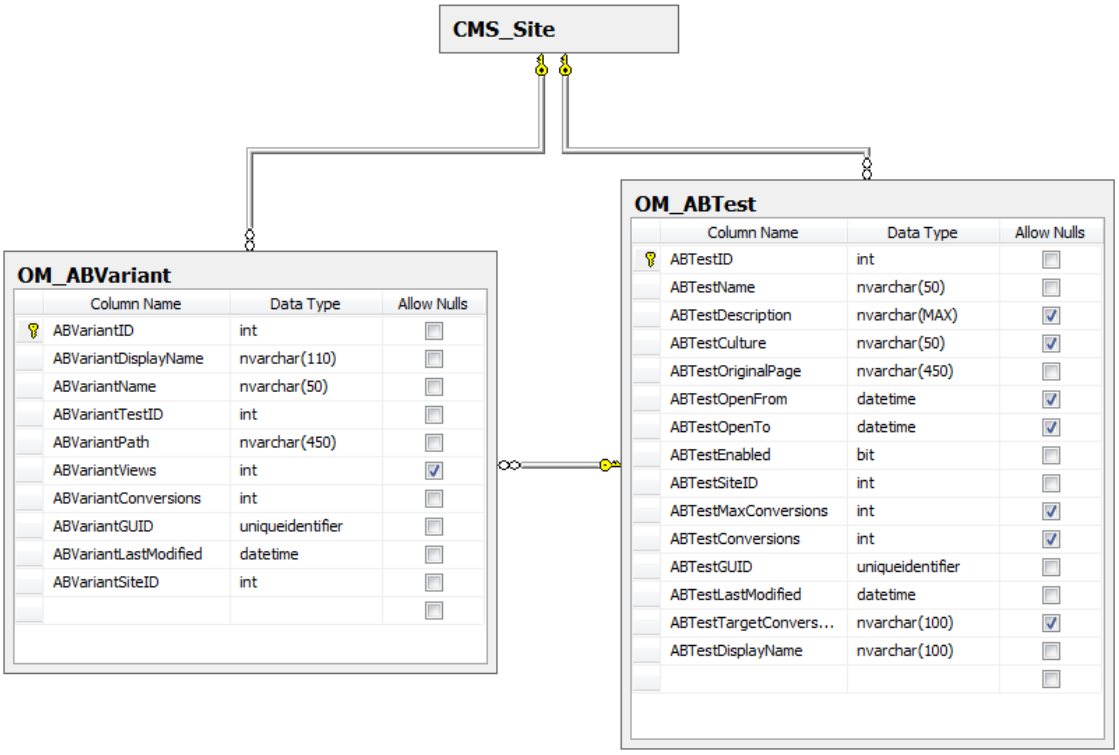
12.4 A/B testing

12.4.1 Database tables

The following database tables are used to store A/B testing data:

- **OM_ABTest** - contains records representing A/B tests and their settings.
- **OM_ABVariant** - contains records representing individual A/B testing page variants. Each variant record contains the path to the corresponding document in the content tree, which will be displayed when the given variant is selected during the test.

© 2012 Kentico Software



The results of A/B tests (i.e. conversion statistics) are stored among the data of the web analytics module. Please see Web analytics -> Database tables to learn more.

12.4.2 API classes

The following classes are used to manage the A/B testing module. They may be found in the **CMS.OnlineMarketing** namespace.

OM_ABTest table API:

- **ABTestInfo** - represents one A/B test object.
- **ABTestInfoProvider** - provides management functionality for A/B tests.

OM_ABVariant table API:

- **ABVariantInfo** - represents one A/B testing page variant.
- **ABVariantInfoProvider** - provides management functionality for page variants.

12.5 MVT testing

12.5.1 Database tables

The following database tables are used to store multivariate testing data:

- **OM_MVTest** - contains records representing MVT tests and their settings. Each test record contains the path to the corresponding document in the content tree. When the test is running, possible MVT

© 2012 Kentico Software

combinations will be loaded through their connection to the given document's page template or content.

- **OM_MVTVariant** - contains records representing MVT testing variants. As you can see, variants are not linked to specific MVT tests. Instead, they are either stored on the page template used by the given document (in the case of web parts and zones) or as part of the document's content (editor widget variants).
- **OM_MVTCombination** - this table is used to store MVT combinations and their configuration.
- **OM_MVTCombinationVariation** - stores relationships between MVT variants and combinations. Each entry in this table indicates that a variant is included in a specific combination.

The results of MVT tests (i.e. conversion statistics) are stored among the data of the web analytics module. Please see Web analytics -> Database tables to learn more.

12.5.2 API classes

The following classes are used to manage the MVT testing module. They may be found in the **CMS.OnlineMarketing** namespace.

© 2012 Kentico Software

OM_MVTest table API:

- **MVTestInfo** - represents one MVT test object.
- **MVTestInfoProvider** - provides management functionality for MVT tests.

OM_MVTVariant table API:

- **MVTVariantInfo** - represents one MVT variant.
- **MVTVariantInfoProvider** - provides management functionality for MVT variants.

OM_MVTCombination table API:

- **MVTCombinationInfo** - represents one MVT combination.
- **MVTCombinationInfoProvider** - provides management functionality for combinations.

OM_MVTCombinationVariation table API:

- **MVTCombinationVariationInfo** - represents a relationship between an MVT variant and a combination.
- **MVTCombinationVariationInfoProvider** - provides management functionality for variant-combination relationships.

12.6 Content personalization

12.6.1 Database tables

Content personalization data is stored in a single database table:

- **OM_PersonalizationVariant** - contains records representing personalization variants of web parts, zones and widgets. Web part and zone variants are bound to a specific page template. Widget variants are additionally connected to individual documents.

OM_PersonalizationVariant

Column Name	Data Type	Allow Nulls
VariantID	int	☐
VariantEnabled	bit	☐
VariantName	nvarchar(200)	☐
VariantDisplayName	nvarchar(200)	☐
VariantInstanceGUID	uniqueidentifier	☑
VariantZoneID	nvarchar(200)	☑
VariantPageTemplateID	int	☐
VariantWebParts	nvarchar(MAX)	☐
VariantPosition	int	☑
VariantGUID	uniqueidentifier	☐
VariantLastModified	datetime	☐
VariantDescription	nvarchar(MAX)	☑
VariantDocumentID	int	☑
VariantDisplayCondition	nvarchar(MAX)	☐
		☐

All variant records contain the ID of the zone where they are located. Web part and widget variants additionally have bindings to the specific web part/widget instance for which they are defined.

© 2012 Kentico Software

12.6.2 API classes

The following classes are used to manage content personalization. They may be found in the **CMS.OnlineMarketing** namespace.

OM_PersonalizationVariant table API:

- **ContentPersonalizationVariantInfo** - represents one personalization variant.
- **ContentPersonalizationVariantInfoProvider** - provides management functionality for content personalization variants.

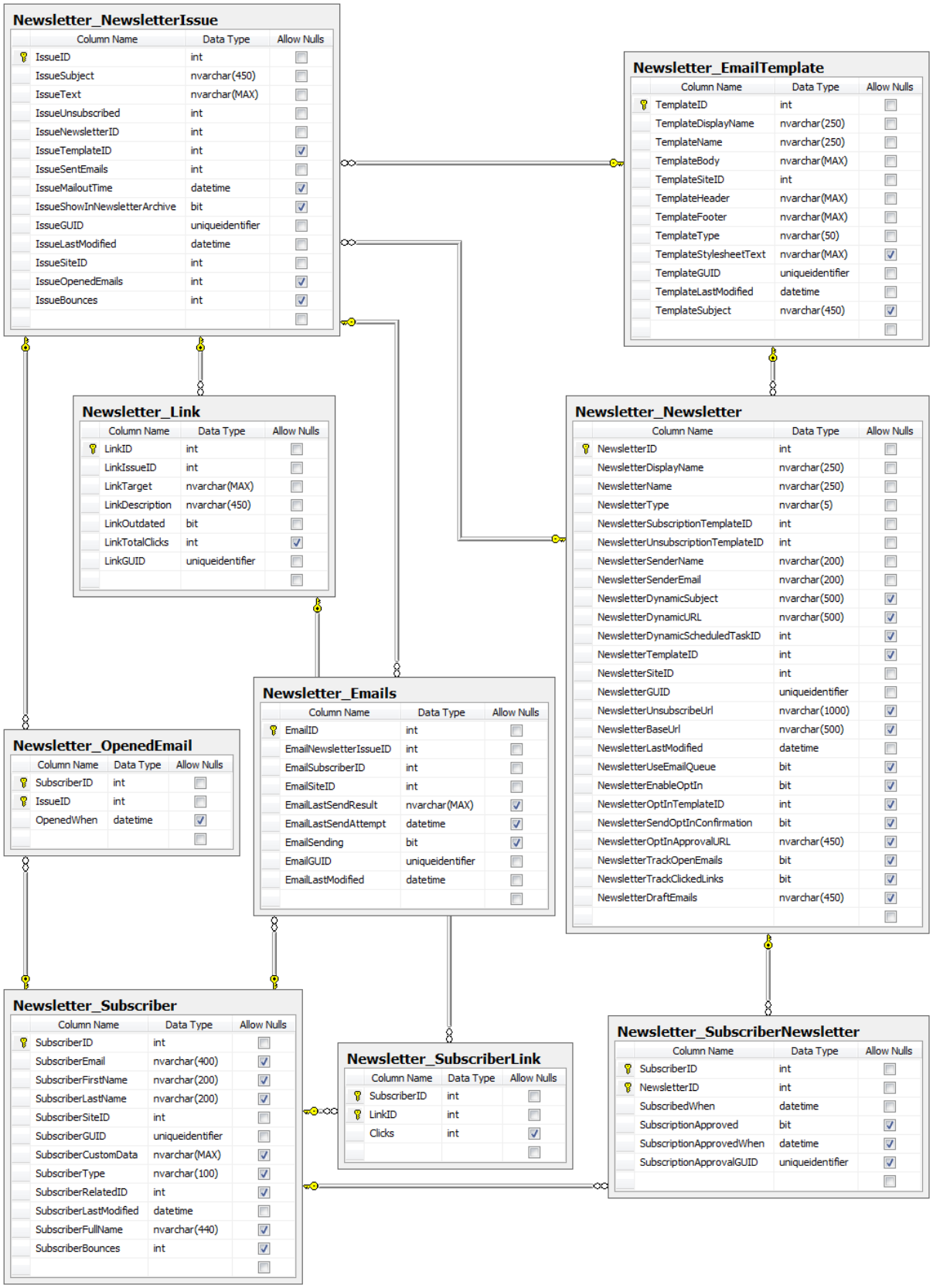
12.7 Newsletters

12.7.1 Database tables

The following database tables are used in the newsletters module:

- **Newsletter_Newsletter** - contains records representing newsletters and their configuration.
- **Newsletter_NewsletterIssue** - used to store individual newsletter issues, including their content.
- **Newsletter_Subscriber** - contains records representing newsletter subscribers.
- **Newsletter_SubscriberNewsletter** - stores relationships between subscribers and newsletters. This table also contains data that determines whether the subscriber is approved for the given newsletter.
- **Newsletter_EmailTemplate** - used to store the templates on which newsletter issues and notification messages are based (all types).
- **Newsletter_Emails** - this table stores newsletter e-mails could not be sent out successfully (i.e. the newsletter queue). This allows them to be resent at a later time.
- **Newsletter_OpenedEmail** - stores relationships between subscribers and newsletter issues. Each record indicates that a subscriber has opened a specific issue.
- **Newsletter_Link** - contains records representing links inside the content of newsletter issues.
- **Newsletter_SubscriberLink** - stores relationships between subscribers and newsletter links. Each record indicates that a subscriber has clicked on a specific link.

© 2012 Kentico Software



© 2012 Kentico Software

12.7.2 API classes

The following classes are used to manage the newsletters module. They may be found in the **CMS.Newsletter** namespace.

Newsletter_Newsletter table API:

- **Newsletter** - represents on newsletter object.
- **NewsletterProvider** - provides management functionality for newsletters.

Newsletter_NewsletterIssue table API:

- **Issue** - represents one newsletter issue.
- **IssueProvider** - provides management functionality for newsletter issues.

Newsletter_Subscriber table API:

- **Subscriber** - represents one newsletter subscriber.
- **SubscriberProvider** - provides management functionality for subscribers.

Newsletter_SubscriberNewsletter table API:

- **SubscriberNewsletterInfo** - represents a relationship between a subscriber and a newsletter.
- **SubscriberNewsletterInfoProvider** - provides management functionality for subscriber-newsletter relationships.

Newsletter_EmailTemplate table API:

- **EmailTemplate** - represents one newsletter e-mail template.
- **EmailTemplateProvider** - provides management functionality for newsletter templates.

Newsletter_Emails table API:

- **EmailQueueItem** - represents an issue e-mail in the newsletter e-mail queue.
- **EmailQueueManager** - provides management functionality for the newsletter queue.

Newsletter_OpenedEmail table API:

- **OpenedEmailInfo** - represents a relationship which indicates that a subscriber has opened a newsletter issue.
- **OpenedEmailInfoProvider** - provides management functionality for subscriber-issue relationships.

Newsletter_Link table API:

- **LinkInfo** - represents a link in a newsletter.
- **LinkInfoProvider** - provides management functionality for newsletter links.

Newsletter_SubscriberLink table API:

- **SubscriberLinkInfo** - represents a relationship between a subscriber and a newsletter link (i.e. the

© 2012 Kentico Software

amount of clicks that the given subscriber performed, if any).
- **SubscriberLinkInfoProvider** - provides management functionality for subscriber-link relationships.

12.8 On-line marketing macros

There are many available macro expressions and methods that provide a way to dynamically load values related to on-line marketing features. Properly using these expressions allows you to set up flexible content and behaviour for your website.

With on-line marketing, one of the most important places where macros are required is in the conditions that can be specified for Content personalization variants, dynamic Contact groups or Campaigns. They may also be used in all other parts of Kentico CMS where macros are supported.

Please note that all expressions described below are *context macros*, which means they must be enclosed in *{% %}* parentheses when entered into text or other general fields. This is not necessary inside macro-specific fields, such as condition editors, where the system automatically ensures that the content is processed as a macro. For more information about possible macro options and syntax in general, please refer to the Development -> Macro expressions chapter in the Kentico CMS Developer's Guide.

Contact management and Scoring data

The fundamental part of most on-line marketing macros is the loading of a specific contact or its data. You may use the following expressions for this purpose:

- **OnlineMarketingContext.CurrentContact** - returns a *ContactInfo* object representing the current contact, i.e. the visitor who is viewing the website when the macro is resolved.
- **OnlineMarketingContext.CurrentContactID** - returns the ID of the current contact.

- **Contact** - you may use this expression when writing conditions for dynamic contact groups. It allows you to work with a general *ContactInfo* object. When the contact group is rebuilt, all contacts under the corresponding site (or from all sites in the system if the group is global) are processed and checked whether they fulfill the specified condition (e.g. *Contact.ContactGender == 1*).

ContactInfo objects serve as a way to access the values set for the given contact (e.g. *OnlineMarketingContext.CurrentContact.ContactLastName*). In addition to standard contact fields, you can also use the following advanced properties to get data related to the contact:

- **Accounts** - *InfoObjectCollection* containing all accounts (*AccountInfo* objects) to which the given contact is assigned.
- **LastActivity** - *ActivityInfo* object representing the most recently logged activity for the given contact.
- **Orders** - *InfoObjectCollection* containing all e-commerce orders (*OrderInfo* objects) made by the contact on the current site.
- **PurchasedProducts** - *InfoObjectCollection* containing all products (*SKUInfo* objects) purchased by the contact across all sites in the system.
- **Wishlist** - *InfoObjectCollection* containing all products (*SKUInfo* objects) added to the wishlist of the given contact (across all sites in the system).

There are many ways how an *InfoObjectCollection* can be further processed. For example:

```
OnlineMarketingContext.CurrentContact.Accounts.Exists(AccountName == "CompanyAccount")
```
This sample macro checks whether the current contact belongs to an account named *CompanyAccount*

© 2012 Kentico Software

and returns the result as a boolean value.

`OnlineMarketingContext.CurrentContact.Orders.Exists(OrderTotalPrice > 500)`
Checks if the current contact has made an order with a total value greater than 500 of the given currency.

Please see the Available macro methods topic in the Developer's Guide for a comprehensive list of the possible options.

On-line marketing macro methods

You may also call the following methods inside macro expressions, which are specifically designed to help retrieve on-line marketing data:

LastActivityOfType(Object contact, *Object activityType*)
Returns an *ActivityInfo* object representing the activity most recently logged for the specified contact.
- contact - this parameter must contain the appropriate *ContactInfo* object of the contact whose activity should be loaded.
- *activityType* - optional parameter that may be used to get the last activity of a specific type. The value must be entered as a string matching the code name of the appropriate activity type.

Example:

```
LastActivityOfType(OnlineMarketingContext.CurrentContact, "purchasedproduct")
```

or:

```
OnlineMarketingContext.CurrentContact.LastActivityOfType("purchasedproduct")
```

FirstActivityOfType(Object contact, *Object activityType*)
Returns an *ActivityInfo* object representing the first activity logged for the specified contact.
- contact - this parameter must contain the appropriate *ContactInfo* object of the contact whose activity should be loaded.
- *activityType* - optional parameter that may be used to get the first activity of a specific type. The value must be entered as a string matching the code name of the appropriate activity type.

```
OnlineMarketingContext.CurrentContact.FirstActivityOfType("productaddedtowishlist"
)
```

IsInContactGroup(Object contact, Object contactGroupName)
Checks if a contact belongs to a specific contact group and returns the result as a *boolean* value (true or false).
- contact - this parameter is used to specify the *ContactInfo* object representing the contact that will be checked.
- contactGroupName - must contain the code name of the given contact group. You can enter the value as a string.

© 2012 Kentico Software

```
OnlineMarketingContext.CurrentContact.IsInContactGroup("MaleCustomers")
```

GetScore(Object contact, Object scoreName)
This method returns the total number of score points that a given contact has in a specified score (as an *integer*).

- contact - used to specify the *ContactInfo* object representing the contact whose score points should be loaded.
- scoreName - must contain the code name of the given score. You can enter the value as a string.

```
OnlineMarketingContext.CurrentContact.GetScore("InterestedInSmartphones")
```

GetEmailDomain(Object email)
This method may be used to read an e-mail address and return only its domain part (all characters after the "@" sign).

- email - this parameter is used to specify the e-mail address from which the domain should be taken. You can enter the address as a string.

```
OnlineMarketingContext.CurrentContact.ContactEmail.GetEmailDomain()
```

Scoring - Notification e-mail template macros

It is also possible to place macros into the text of the **Scoring - Notification e-mail** e-mail template, so you can dynamically load the appropriate values. This template is used for the automatic messages that inform administrators or marketers that a contact has reached a certain amount of score points. There are several special macros available for this purpose.

The **{% ScoreValue %}** expression returns the current number of score points for the given contact. Additionally, you can access the following related objects and their properties (e.g. *{% Score. ScoreDisplayName %}* etc.):

- **{% Score %}** - *ScoreInfo* object representing the given score.
- **{% Contact %}** - *ContactInfo* object of the contact that has reached the designated number of score points.

Campaign, A/B testing and multivariate testing context data

If you wish to check whether the current visitor has arrived on the website as a result of a campaign, or passed through a page with an A/B or multivariate test, you can read the information from the appropriate browser cookie. The following macro expressions may be used to get the values of the given cookies:

- **Cookies.Campaign** - returns the name of the campaign assigned to the visitor.
- **Cookies.CMSAB<A/B test code name>** - returns the code name of the page variant assigned to the visitor by the specified A/B test.
- **Cookies.CMSMVT<MVT test code name>** - returns the internal code name of the combination assigned to the visitor by the specified MVT test. Please note that this is not the custom name set for the combination, but an identifier in format *Combination_<order number>*, e.g. *Combination_003*.

© 2012 Kentico Software

© 2012 Kentico Software

Index

- A -

A/B testing 110

- C -

campaigns 31
contact management
  accounts 60
  activities 80
  allowing global objects 91
  automatic deleting of contacts 93
  contact groups 68
  contacts 46
  merging contacts and accounts 75
  overview 45
  segmentation 68
  settings 88
content personalization 146
conversions 23

- E -

e-mail marketing
  bounced e-mail monitoring 165
  clickthrough rate 161
  delivery rate 165
  open rate 161
  overview 161
engagement scoring 97

- L -

lead scoring 97

- M -

macro expressions and methods 219
multivariate testing 128
MVT 128

- N -

newsletters 161

- S -

scoring 97
site statistics 19
split testing 110

- W -

web analytics 19
website optimization
  A/B testing 110
  multivariate testing 128
  overview 110

© 2012 Kentico Software