

White Paper: Email Marketing

Email Marketing with AxCMS.net[®]

Abstract / Summary

AxCMS.net offers everything you need for an email marketing solution:

- Create the newsletter in AxCMS.net using the content editor – like you do for the web pages.
- Attach mail recipients manually with build-in admin interface or let them subscribe to a newsletter using live system.
- Personalize the newsletter using macros / subscriber properties.
- Use the same approval/publishing workflows as for pages.
- Leverage the power of MailCenter for queueing, sending out, tracking, managing bounces.
- Control success of your campaigns using AxCMS.net Business Intelligence.

To support you in building your email marketing solution, Axinom offers:

- Newsletter Template Project – a full featured sample on how to integrate newsletter functionality in your solution and a copy of a MailCenter, which you can host yourself.
- MailCenter Service – a hosted service which you can subscribe to to send out Newsletter out of your applications (applications can be hosted elsewhere).
- Comprehensive developer documentation.

Business Case / Use Case

You want to reach your target audience via email? It can be:

- Direct marketing campaign to find new customers
- Information for existing customer base
- Subscription service
- News from your web site

For all these scenarios you will find support in AxCMS.net.

Concept

For any mass mailing scenario you typically need:

- A text, which you are going to send out. Further in this paper we will refer to it as a **newsletter**, but it can be any message that will be delivered to a lot of recipients.
- Newsletter recipients, which are referred to as **subscribers** or **newsletter subscribers**.
- **Publishing** - initiates the delivery process of the newsletter to its subscribers. Important is to ensure that only authorized persons can publish a certain newsletter. Before the publishing it is essential to **test** a newsletter (how it looks like in a recipient' mailbox) before it reaches thousands of subscribers.
- **Personalization** – this process takes place before the mails are sent out and creates for every subscriber his/her own copy of the newsletter using his/her data (e.g. name, adress, order or subscription details, etc.)

- **Delivery** – physically delivers personalized newsletter to its subscribers via Internet mail protocol. Important here is a robust service capable to handle heavy workload (a single mailing can contain thousands of subscribers) and bounces.
- At the end it is important to **control a success** of your newsletter. Did the subscribers read the newsletter? Did they click the links your provided? If you know this, you can narrow your target group and provide with much more focused information next time.

Let's have a look, how you can build such a scenario with AxCMS.net:

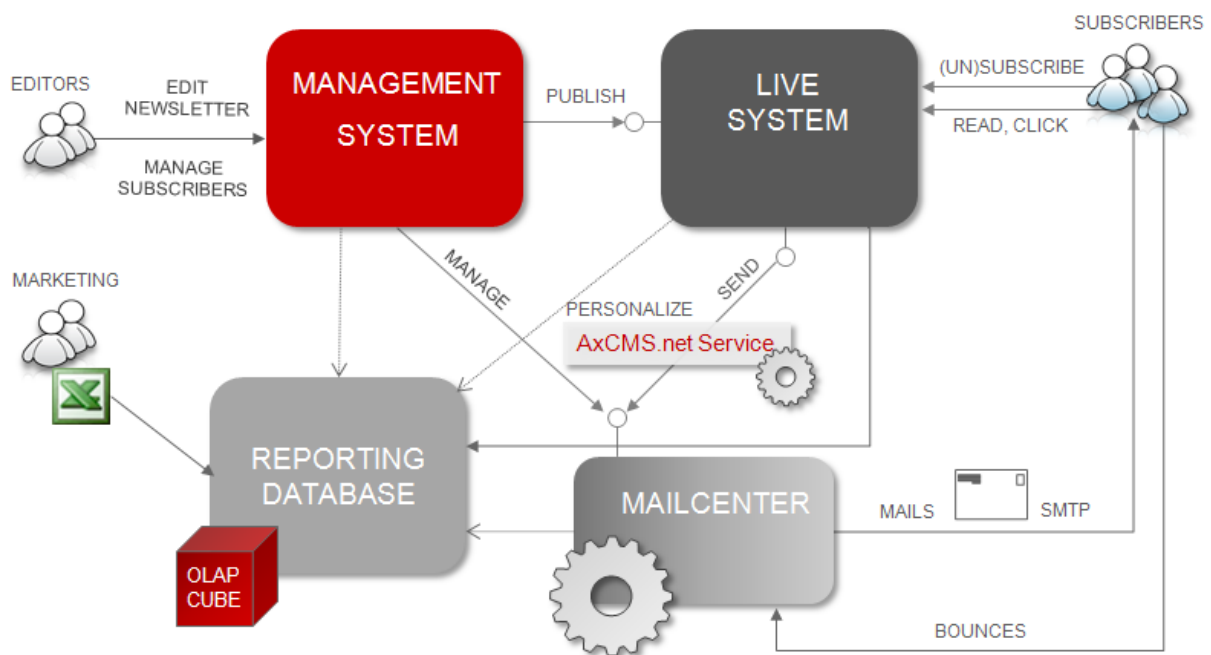



Fig. 1 AxCMS.net email marketing - Architecture


Newsletter


Nowadays a newsletter is usually sent in HTML-Format. So you can consider every newsletter to be a separate web page in AxCMS.net, leveraging the whole power of AxCMS.net for editing content. Virtually everything you can use to create pages you can also use to create newsletters, incl. nicely formatted text, pictures, custom elements, etc. You will need special templates for newsletters – which are very similar to page templates, but usually more simple. It is possible to attach documents to a newsletter – they are sent as attachments.


You will find newsletters in AxCMS.net under “Extras / Newsletter”. Newsletter has a couple of additional properties, like From/Reply To-addresses and Subject for the mails. You can classify your newsletter or attach to navigation nodes to be able to apply the same permissions model you already use for your pages.

You can also provide a plain text version alongside with a HTML-version.

 **AxCMS.net**
ENTERPRISE CONTENT MANAGEMENT

 Steve Ballmer and Damir Tomicic (Axinom Managing Director / Innovator behind AxCMS.net) discuss Microsoft's plans at Microsoft Software Strategy Summit.


Dear `{{FirstName}}` `{{Name}}`,

We are excited to announce the following news:

- Steve Ballmer and Damir Tomicic discuss Microsoft's future strategy.
- AxCMS.net 9 (Silverlight Version) will ship in September.
- New AxCMS.net Consultant Blog: Dan on <http://dan.axcms.net>

Fig. 2 Newsletter in AxCMS.net content editor

Especially interesting are scenarios, which generate the newsletter content during publishing. For example, a dynamic news list can load news (which are stored as pages in AxCMS.net anyway) and render teasers for the news for a newsletter. So you can avoid re-typing the same content for a newsletter.

Subscribers

The most natural AxCMS.net way to represent subscriber is – to use Members (users on the live system). There is a predefined database structure, business logic and administration interface in management system for this. Alternatively a developer can override the default logic and provide subscribers from an external data source.

The minimal requirement on a subscriber is – to possess an email address. In a standard setup many other properties are available (names, addresses, phone numbers, comments, etc.) Additional properties can be added using a supplied API.

There are many ways how subscribers can be added:

- Manually through an administrator using management system interface
- Import subscriber data from Excel/CSV
- Let the users on the live system to subscribe themselves to a newsletter – a simple subscription form should be programmed for this case (you can find a sample of a 2-phase registration in the Newsletter Template Project – see below).
- Automatically from a connected business-application (e.g. CRM) – custom web services can be created using existing API.

MEMBERS

Details

Username:

Password:

Password (Again):

Properties

[Edit categories ...](#)

Categories: Business Development

[Attach to navigation](#)

Navigation : none

Data

Company:

Gender: male female no information

Title:

First name:

Name:

Address 1:

Address 2:

ZIPCODE:

City:

Country:

Telephone:

Fax:

Cell phone:

e-Mail:

Comment:

Fig. 3 Subscriber properties

Test and Publish

Newsletter undergoes the same workflows as the pages do. The roles of an Editor, Controller and Publisher can be separated; even depending on an area (one person may edit the Newsletter A, and not Newsletter B).

Any time as you edit the newsletter, you can have a look on a preview.

Before a newsletter is sent out to its subscribers it can be tested. For testing purpose you can define a set of test-subscribers (which are users in the management system – to be found under Admin/Users). Click on the Test-button initializes the process of sending out the newsletter to the test-subscribers

instead of the real subscribers. You can check the received mails – if you wish with different mail clients – and then start the real transmission.

As you can manage many different newsletters with one system, it is important, how a newsletter finds its subscribers. If you worked at least a little bit with AxCMS.net already, the answer is obvious – using categories!

1. You create a category which represent a newsletter type (e.g. “Product News”).
2. You create a new newsletter instance and assign to this category.
3. You classify the subscribers to the same category (either manually or programmatically).

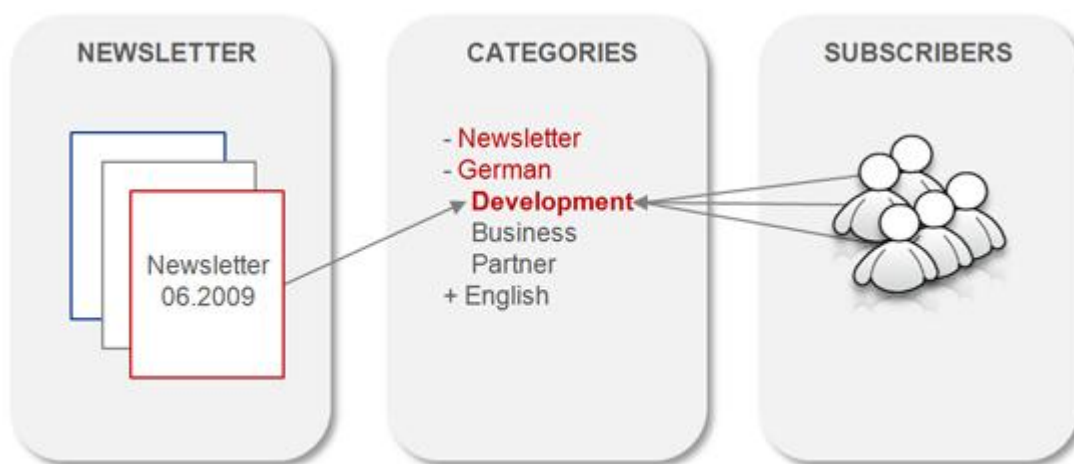


Fig. 4 Matching subscribers to newsletters

When a newsletter is being sent, it looks for all the subscribers from all the categories attached to the newsletter itself.

Black List

Additional step applies a black list, which allows excluding a subscriber from all mailings by assigning it to a category “Black List”.

Personalization

Every subscriber should get his personal email, not just a standard text. This can be achieved with macros. Macros are strings like `{{Lastname}}`, which can be inserted into the newsletter by editors and which are resolved during personalization phase (shortly before delivering the mail to the MailCenter). The macros should match a property or method of a subscriber-object. The binding is dynamic, i.e. if you extend a subscriber with your own properties; they are immediately available for use.

Macro language

Macro syntax is very flexible, allowing you to go far beyond just greeting a subscriber with his name (“macro value container” is a subscriber object you use – either standard `AxUser` or your custom implementation for it):

- `{{Property}}` - replaced with Property value of macro value container
- `{{Object.Property}}` - replaced with Property value of Object property of macro value container
- `{{Func()}}` - replaced with result of `Func()` function call of macro value container

- `{[Func(param)]}` - replaced with result of `Func()` function call with string parameter `param`

For example you can use a text block like this:

```
Dear {[Greeting]},  
....  
Here is an overview about your orders of the last 3 month:  
{[GetOrders(3)]}  
...
```

The function `GetOrders()` is called before sending out the newsletter and you can program it to lookup the database and fetch the last orders of this particular subscriber and render them for the newsletter.

In a multilanguage scenario the personalization service can translate the results of the macros before inserting them into a mail message (it can be setup for every macro separately) – e.g. if there should be “Sehr geehrter Herr XYZ” or “Dear Mr. XYZ”.

The macros can be also used in the email subject.

Delivery & MailCenter

After a newsletter is published, it is picked up by a periodical task in `AxCMS.Service`. The first thing it does is personalization (see above). Then individual mail messages are generated and passed through to the Axinom MailCenter which actually performs the delivery.

MailCenter is Axinom product, which complements `AxCMS.net`. It accepts mail messages for delivery via Web Service. The messages stored in a queue (in a database) and from there are delivered to the recipients using SMTP. If an SMTP server is not available, sending attempt is repeated up to 5 times. After they are sent out (or it is impossible to send them out) messages are moved to an archive where they are available for future reference.

MailCenter can also be configured to receive the bounces and match them to the original mails. Based on the reason for rejection there are hard bounces (e.g. “user not known”) or soft bounces (“mailbox full”). MailCenter provides a Web Service to manage the queue and the archive, et al. to get statistics for a particular newsletter – how many messages were delivered and how many – not, and by which reason.

The management system from `AxCMS.net` provides a GUI which talks to the MailCenter Web Service and visualizes the results. An administrator can then choose, for example, to lock all the subscribers with a permanent reason for non-delivery.

You can install MailCenter on the same hardware where your `AxCMS.net` runs or on a separate server. You can serve multiple `AxCMS.net` instances with one MailCenter instance – it supports multiple clients and has built-in administration tool incl. user-management and contingent-management.

MailCenter can be used in more scenarios as only newsletter delivery. You can configure your application to send all mails via MailCenter, not only newsletter. Read more below under “Sending all mails via MailCenter”.

Success Control

Direct marketing does not exist without the control of success of your campaigns. If you send out a mailing you want to know, if it was delivered, if the recipients opened the mail at all and if they clicked the links you provided or performed the actions you wanted. Here `AxCMS.net` supports you again.

With AxCMS.net Business Intelligence you can collect different actions which occur in management system, live system or MailCenter, integrate them in an OLAP cube and analyze with SQL Server Analysis Services. You can use a simple tool like Microsoft Excel to connect to the cube and build various reports and graphs. You can also take the results of this analysis to define new target groups and prepare new mailings/offerings for them.

Read more on it in the article [AxCMS.net Business Intelligence](#).

Here is just a few information about newsletter success control.

With AxCMS.net you can track every link if you mark a checkbox "Track Link" on inserting. If you do, the system adds a link to a special redirect-page in the live system, logs the click and redirect from there to the real target. So you have all the information about clicks in the live system. Similar approach is used for tracking "read newsletter" action. A 1-pixel image is added to the newsletter, which loads from the live system and logs the event.

Second type of actions which are interesting in this case are subscribing/unsubscribing. The logging can be easily added into subscription forms.

Third information source is the MailCenter. Here you have every delivered or undelivered mail to every newsletter. AxCMS.net Business Intelligence can read MailCenter data out of the box.

All the collected actions are aggregated to an OLAP cube and from there nice reports can be created with Excel 2007.

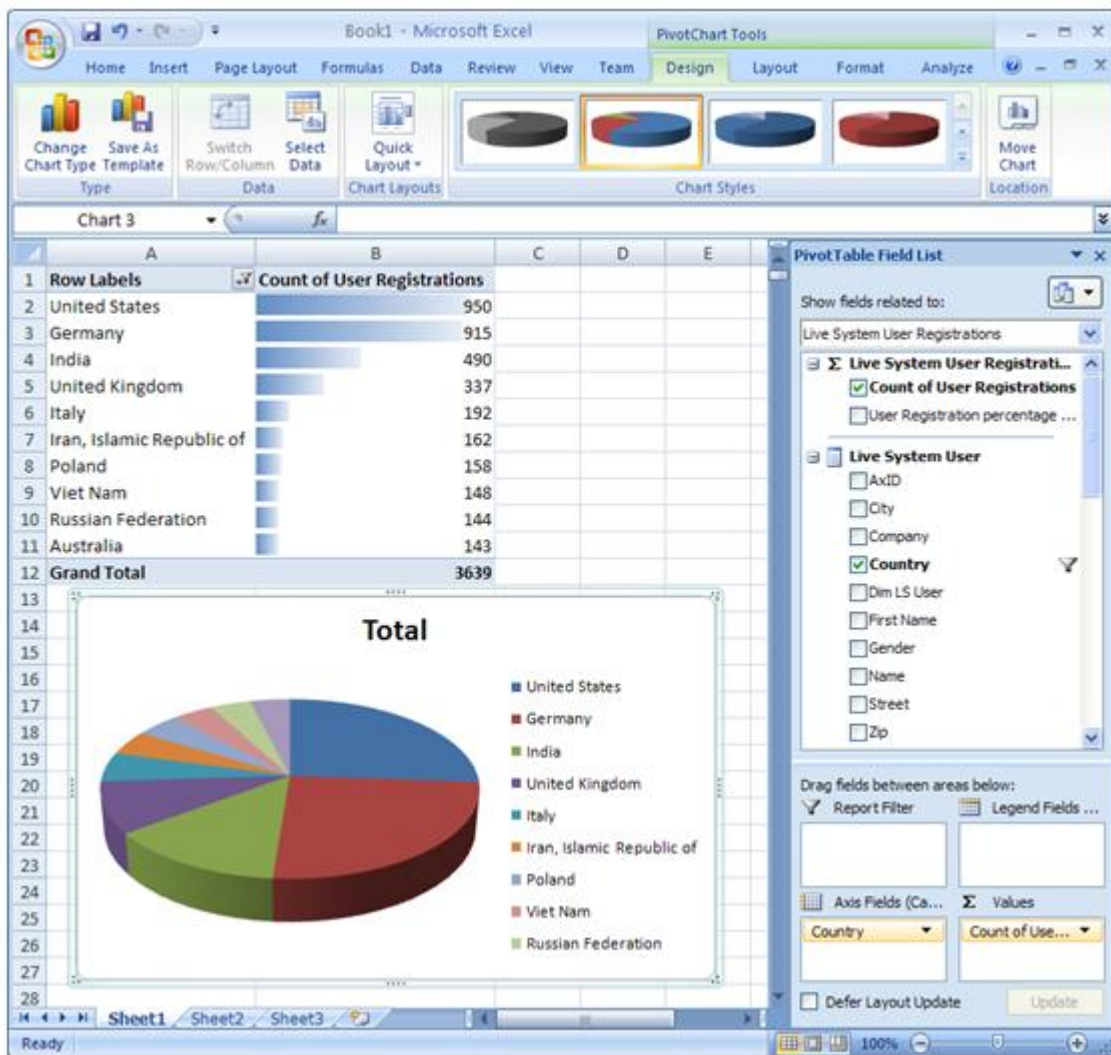


Fig. 5 Sample report in Excel 2007 – in this case newsletter subscribers by countries

How to get started

If you would like to build an AxCMS.net application using newsletter functionality, we recommend you to become AxCMS.net Solution Provider. Exclusively for AxCMS.net Solution Provider we offer a **Newsletter Template Project** – a full featured sample solution including everything you need to build your own newsletter application.

Newsletter Template Project

Newsletter Template Project supplies everything you need to start development:

http://en.axcms.net/en_axcms_template_newsletter.AxCMS

It has a Visual Studio Solution (=source code) which demonstrates how to build all parts of your custom newsletter system around AxCMS.net. It contains:

- Newsletter Template
- Newsletter subscription and unsubscription forms
- Macros
- Custom subscriber properties
- Mail Templates
- Integration with Mail Center
- Tracking links
- and much more

With Newsletter Template Project we also deliver the MailCenter which you can install and operate on your own.

Comprehensive documentation on installation and configuration of the Newsletter Template Project can be found here: http://en.help.axcms.net/en_help_cms_mailCenter_sample.AxCMS.

You can use Newsletter Template Projects in two ways:

- As a sample / tutorial
- As a template for your project

If you have your own already working solution, you might want to extend it with newsletter functionality. In this case you will install Newsletter Template Project alongside with your main solution, look how things work there, reuse some ideas, copy/paste code, and get inspirations.

If you are just starting your project, you can take Newsletter Template Project as a starting point. You install it and developer further until it fits your requirements. What you need to do is typically: layout your newsletter templates, extend subscribers with your custom properties, supply your subscription interface etc.

MailCenter Service

If you do not want to take a burden of hosting MailCenter yourself, you can use Axinom hosted **MailCenter Service**. Buy yearly contingent on mails you are going to send, get login credentials and can immediately connect to the Axinom service. The application itself can be hosted by Axinom or elsewhere. Contact us at info@axinom.com for more details on MailCenter Service Contract.

If you opt for Axinom MailCenter Service, you can go without Newsletter Template Project, just using AxCMS.net comprehensive documentation under <http://en.help.axcms.net> (some deep links see below). We would still recommend buying Newsletter Template Project – the investment is low, and the samples provided are valuable. You can really boost your development.

Reporting Template Project

If you are going to use AxCMS.net Business Intelligence for your newsletter application, we offer **Reporting Template Project**: http://en.axcms.net/en_axcms_template_reporting.AxCMS

It has everything necessary to create your OLAP cube, get the data into it and view your nice reports in Excel 2007.

More to Reporting Template Project you will find in our article AxCMS.net Business Intelligence.

Related topics

Here we cover some additional topics closely related to the topic Newsletter, but a bit aside from the main path.

Newsletter Archive

As you noticed under “Test and Publish”, sending out a newsletter starts with publishing it. It means, every sent newsletter exists in live system just as any other published page and can be viewed with a browser via direct link like <http://mySite.com/myNewsletter.AxCMS>. You can use it in your projects.

First of all you can provide your newsletter subscribers with a direct link to the web to view the newsletter. Web version is not personalized, but it might have some advantages for subscribers having difficulties to see HTML version with their mail client.

Additionally you can implement a newsletter archive in the live system the same way you create a dynamic list. This control would just look for the published newsletters from a certain category and visualize them as list. You can put this archive into a protected area and require a login to access it.

Mail Templates

The technology, originally developed for a mass mailing scenario, can be applied also for individual mails (e.g. automatic mails generated by an application). Using Mail Templates you can give the possibility to edit the mails to an editor and avoid hardcoding mail texts in your application code. Mail Template is something very similar to a Newsletter – it has a template (yes, MailTemplate Template☺), can be edited with AxCMS.net standard tools and may contain macros. The difference is – AxCMS.net will not send such mails on its own – it is done in the application code.

As an application developer you have a solid API which allows you to create mails from Mail Templates, personalize mails filling the macros and send them out either via MailCenter or directly using SMTP. The object you pass to a MailTemplate to expand macros need not to be a Subscriber, but can be any object as long as it provides an email address.

You need some convention between an application developer and an editor on which MailTemplate is used in which use case. Naming convention or classification will both do.

Send mails via MailCenter

If you are already using MailCenter for mass mailings, you can take advantage of its features for all the other mails your application sends as well. Advantages are:

- better traceability of the mails (what was sent when to whom)
- bounce management and
- asynchronous sending

You may decide to use MailCenter for ordinary mails even if you do not employ Newsletter at all.

You can even decide to use MailCenter in a non-AxCMS.net application – MailCenter comes with a well documented WebServices-interface and can be directly used in your .NET-code.

References

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- Extending AxUser (=Subscriber)
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