Appropriate Technologies for the Design of the Portal for Microsoft Dynamics CRM at Initial Conditions

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Abstract: This paper examines selection of the appropriate technologies to design the portal for Microsoft Dynamics CRM at initial conditions. Company needed to display key performance indicators on the portal and selected document management system and thus significantly improves the efficiency of business processes after the deployment of Microsoft Dynamics CRM 2011. The aim of this paper is to choose appropriate technology to create a portal and to design a possible architecture of the solution. There is compared a SharePoint's solution with one of the open source systems and add-ons for CRM. In conclusion, we evaluated considered technologies, prepared more price variations of architecture and gave the results, which are ideal for company's solution.

Key-Words: Microsoft Dynamics CRM, Microsoft SharePoint, DotNetNuke, addons

1 Introduction

Presently, companies want to get an advantage over the competition. They are trying to use modern software to improve and accelerate their processes. Most of them use complex ERP systems or specialized solution such as CRM (customer relationship management), SCM (Supplier Relationship Management) and many more. What is more, company must take into consideration hidden costs, when planning implementation of modern IT system. Hidden costs include analysis and data conversion, integration, system testing and consultation and staff training. Usually companies solve an issue of selecting the right document management system. There are lots of possibilities on the market and finally solution must meet the specific requirements of the company.

2 Initial conditions and possibilities

The furniture's company with seventy shops and around one hundred and eighty end-users uses CRM system which called Microsoft Dynamics CRM 2011.

Microsoft Dynamics CRM (Customer Relationship Management) is a comprehensive tool for managing business processes. What is more,

Microsoft Dynamics CRM 2011 is a solution which uses the latest technology. This solution is open to the development and changes, easily manageable, scalable and flexible. It is given by its practical use of .NET platform. The whole solution is based on Web Services with documents being transferred in XML format. Mobile access, integration into Microsoft Office, reporting and OLAP possibilities of Microsoft SQL database are only illustrative examples of the benefits that the applied .NET platform provides users of Microsoft CRM solution.

Company wants to publish the data to the web and makes them available to the company business partner. The purpose of the portal is provide information on sales objectives and their achievement in the form of Business Intelligence dashboards, to show pending events and product information and also to integrate access to e-learning. Portal also should serves as document storage. Microsoft Dynamics CRM 2011 includes functionality for document storage but it is unsatisfactory, unclear and it have inadequate quality. Thus, we had to suggest other solutions.

2.1 Portal requirements

We choose the main functionalities of portal depend on specific requirements of company. We focused

on functionality that can potentially accelerate and improve company processes.

Portal should have:

- Simple Content Management
- Integrated document management system
- Login History
- Simple Gallery
- Language Support
- Sufficient Documentation
- Registration form for online registration
- Displaying KPIs in a dashboard for CRM
- Displaying report for CRM

2.2 Design of portal

There are many systems for creating portal on the market. Firstly, we analyzed technology for creating dynamic portal. We must choose the most appreciate technologies for our solution. Microsoft solution called SharePoint 2013, which is characterized by good cooperation with Microsoft Dynamics CRM 2011 was our first options for portal. Moreover, Microsoft Dynamics CRM 2011 includes a small amount of add-ons for creating portal. Finally, we also considered with open source systems.

2.2.1 Microsoft SharePoint 2013

SharePoint is a product designed for business cooperation, sharing, managing and controlling business information, documents and processes. A wide range of available functionality enables the deployment of platforms in a variety of industries and scenarios. SharePoint allows for business to build business solutions that provide insights, improve decisions, and increase organizational agility. What is more, SharePoint includes functionality like intranet, content management, document management and many more. There are many apps for SharePoint. Apps are a great way to add more functionality to SharePoint. SharePoint is in three editions: Foundation (F), Standard (S) and Enterprise (E).

Dynamics and SharePoint are optimal Microsoft's solution for improvement sales channel. The strategy of systems supplier includes creating a portal in Microsoft SharePoint Server and its subsequent integration with Microsoft Dynamics CRM 2011.

Table 1: Functions of SharePoint Edition 2010

Functions	F	S	E
Simple content management	Yes	Yes	Yes
Integrated DMS	Yes	Yes	Yes
Login History	Yes	Yes	Yes
Simple Gallery	Yes	Yes	Yes
Sufficient Documentation	Yes	Yes	Yes
Language Support	Yes	Yes	Yes
Registration form for online registration	Yes	Yes	Yes
Displaying KPIs	No	No	Yes
Displaying report	Yes	Yes	Yes

2.2.2 Add-ons for CRM

Microsoft Dynamics CRM 2011 includes add-ons for creating portals, which extends the capabilities of Microsoft Dynamics CRM 2011.

We focused on:

• Customer Portal for Microsoft Dynamics CRM (CPM)

• Partner Relationship Management Portal for Microsoft Dynamics CRM (PRM)

• Adxstudio Portals for Microsoft Dynamics CRM 2011 (AP)

Customer Portal for Microsoft Dynamics CRM (CPM) provides businesses the ability to deliver portal capabilities to their customers while tracking and managing these interactions in Microsoft Dynamics CRM. [1]

Functionality includes content management, service scheduling, case management, event calendar, self-help knowledge base and many more.

The Partner Relationship Management (PRM) Portal allows businesses to use Microsoft Dynamics CRM to distribute sales leads and centrally manage sales opportunities across channel partners. It provides pre-built extensions to the Microsoft Dynamics CRM sales force automation functionality, including new data entities, workflow and reports. [1]

Adxstudio Portals is a Dynamics CRM (AP) Integrated Web Portals witch transform Dynamics CRM into powerful application platform with dozens of apps and starter portals. Adxstudio Portals includes a complete suite of web portal applications that can be easily configured to fit your business requirements, serving as the ideal conduit to captured data stored in your CRM. [1]

Functionality includes content management, search, social tools, user management and many more.

Table 2: Functions of Add-ons

Functions	CPM	PMR	AP
Simple content management	No	No	Yes
Integrated DMS	Yes	Yes	Yes
Login History	No	No	No
Simple Gallery	Yes	Yes	Yes
Sufficient Documentation	No	No	No
Language Support	No	No	No
Registration form for online registration	No	No	No
Displaying KPIs	Yes	Yes	Yes
Displaying report	Yes	Yes	Yes

2.2.3 Open source

There are lots of open source content management systems on the market. We decided to choose the most popular of them, which are characterized with large number of users, several thousand of extensions, quality support and documentation. There are:
• WordPress (WP)
• Joomla (J)
• Drupal (D)
• DotNetNuke (DNN)

All systems are characterized by a large set of features and they have lots of advantages. It is not clear to choose content management system. It is not clear witch system is the best and depends on user's requirements and views. WordPress is the most popular focus on aesthetics, web standards, and usability. Joomla is a community type site while WordPress is a blog. Drupal is more for programmable and offers a sophisticated programming interface for developers and DotNetNuke is a web content management system based on Microsoft .NET.

Table 3: Functions of Open Source

Functions	WP	J	D	DNN
Simple content management	Yes	Yes	Yes	Yes
Integrated DMS	Yes	Yes	Yes	Yes
Login History	Yes	Yes	Yes	Yes
Simple Gallery	Yes	Yes	Yes	Yes

Sufficient Documentation	Yes	Yes	Yes	Yes
Language Support	Yes	Yes	Yes	Yes
Registration form for online registration	Yes	Yes	Yes	Yes
Displaying KPIs	No	No	No	No
Displaying report	Yes	Yes	Yes	Yes

3 Solutions and results

We focused on two main requirements.

3.1 Reports

Microsoft Dynamics CRM includes reports that provide useful business information to users. These reports are based on Microsoft SQL Server Reporting Services.

3.1.1 Reports in Microsoft SharePoint 2010

Reporting Services provides several Web Parts that work with certain versions of the Report Server and their modes. We obtain through SharePoint 2.0 Web Parts which is in native mode access to Report Server that it is part of the Reporting Services. Report Explorer and Report Viewer are SharePoint 2.0 Web Parts that have been established in SQL Server 2000 Reporting Services Service Pack 2 (SP2) and are still available in the current versions. We were able to view reports in SharePoint after installed them. [1]

3.1.2 Reports in DotNetNuke

There are several DotNetNuke modules for viewing the reports. One of them is a DotNetNuke SQL Reporting Services (SSRS), which is characterized by easy maneuverability and relatively good price. This module is the interface between the DotNetNuke portal and Microsoft SQL Server Reporting Services (SSRS) 2005, 2008 or 2008 R2 reporting services. User allows exactly select the message that it displays in the module. SSRS is a professional commercial module. There is a free 30 day trial version on the product page. [1]

3.2 Dashboards

Dashboards is a visual format which incorporating charts, graphs, and lists. Microsoft Dynamics CRM 2011 make a real-time dashboards.

To view a specific dashboard you need to know its URL. In Microsoft Dynamics CRM 2011, the dashboard can be accessed through URL: http://SERVERNAME/ORGANIZATIONNAME/Dashboards/Dashboard.aspx?dashboardid=XXXXXXXXXXXXXXXX, where XXXXXXXXXXXXXXXX is the ID of a specific dashboard.

3.2.1 Dashboards in SharePoint 2010

SharePoint Enterprise edition only includes Business Intelligence Center. Business Intelligence Center includes functionality to obtain the dashboard from Microsoft Dynamics CRM 2011. There is the easiest but the most expensive solution. However, there was a possibility implement web part which solved user-integration between Microsoft Dynamics CRM 2011 and Microsoft SharePoint 2010. Web part is implement in SharePoint and enables user authentication into CRM and then it views dashboard through Iframe.

3.2.2 Dashboards in DotNetNuke

Displaying dashboards in DotNetNuke. There wasn't module with this functionality. We must implement module which solved the integration between Microsoft CRM 2011 and DotNetNuke 6.1.The module allows users authentication CRM and then it views dashboard through Iframe.

3.3 Price calculations

We considered with three different alternatives on the preliminary price calculations. Two of them are based on Microsoft SharePoint 2010, specifically SharePoint Enterprise editions 2010 and SharePoint Foundation 2010. Third alternative is based on an open source CMS system called DotNetNuke Community Edition 6.1. You can see the prices of individual parts of every price calculations in Figure 1. Every price calculation includes User CAL licenses. It is a license that allows one user to access the server from any number of devices (PC, laptop, PDA or other). There is a database Microsoft SQL Server 2008 R2 in all price calculations which it is locates on a separate server. We did not calculate hardware costs in these calculations. Prices are in EUR. [1]

As we can see, there is extreme difference in SharePoint's price calculations which is between license User CAL type Standard and type Enterprise. First price calculation is the most expensive because it includes 180 User CAL Enterprise licenses. There is a different situation for DotNetNuke's calculations. DotNetNuke is open source, thus there is no problem with licenses. Secondly, we don't need buy 180 licenses of Windows Server 2008 R2 therefore this solution is the cheapest.

4 Conclusion

The aim of this article was to evaluated considered technologies for creating portal in order to improve processes in company. Company has CRM system which called Microsoft Dynamics CRM 2011. We decided to use other technology for document management system although CRM includes functionality for document storage.

Firstly, we defined a requirement for portal and we analyzed appropriate technologies to design of portal. We analyzed SharePoint solution, open source solution and add-ons. Secondly, we SharePoint with DotNetNuke which we choose from open source solutions. Then we wanted to test possibilities of important portal's requirements in our environment. The important portal's requirements were displaying dashboard and reports
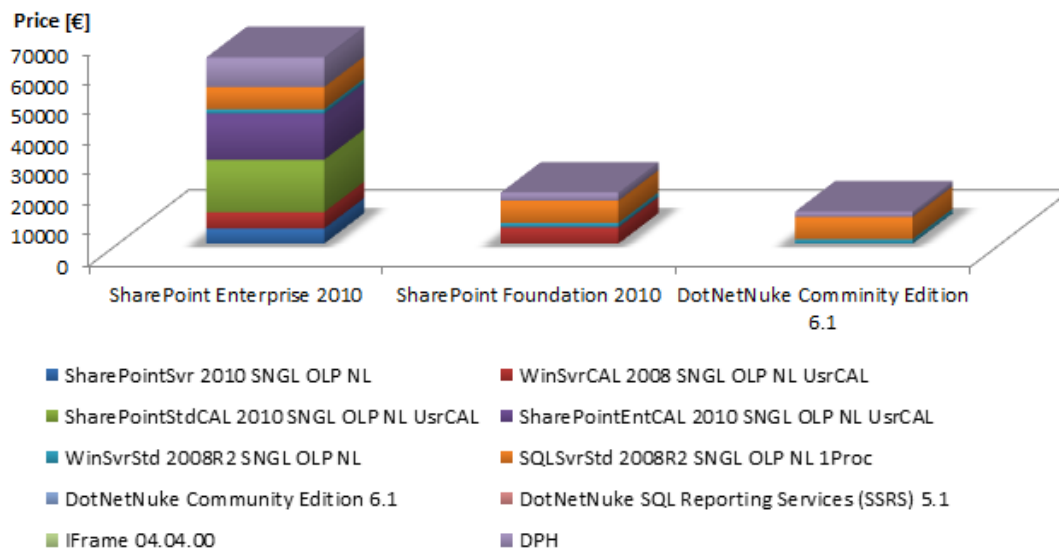

Fig. 1: Price calculations focus on Microsoft SharePoint Enterprise 2010, Microsoft SharePoint Foundation 2010 and DotNetNuke Community Edition 6.1

for CRM. Finally we prepared price calculations.

SharePoint's solution is the ideal solution for team collaboration and information sharing. What is more, it also includes a complete set of tools for monitoring and managing server performance. Microsoft SharePoint 2010 Foundation Edition such as all editions of SharePoint provides an extensible platform for developing custom business solutions but it is not primarily focused on creating portal. It is only one of the possible functionalities.

DotNetNuke's solution is characterized by flexibility and expandability. This solution can be configured very flexibly. There is possible use an extension to Professional edition or Enterprise edition. Editions provide a number of functionalities but it is not free.

To sum up, DotNetNuke's solution is the better choice in this cause because it is cheaper and it perfectly meets the requirements for portal. The SharePoint's solution is more expensive with better functionality but its better functionality is not necessary.

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