Microsoft Dynamics CRM Customization Essentials

Use a no-code approach to create powerful business solutions using Dynamics CRM 2015

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In this package, you will find:

- The author biography
- A preview chapter from the book, Chapter 2 “Dynamics CRM Application Structure”
- A synopsis of the book’s content
- More information on Microsoft Dynamics CRM Customization Essentials

About the Author

Nicolae Tarla is a senior consultant who works with Dynamics CRM in a Solution Architecture and Technical Pre-Sales Specialist role. He has worked on various mid-sized to enterprise-level Dynamics CRM and SharePoint solutions for both the private and public sectors. He has been delivering Microsoft Dynamics CRM solutions since Version 3.0 of the product was launched.

Nicolae is the technical reviewer of Microsoft Dynamics CRM 2011: Dashboards Cookbook and the author of Microsoft Dynamics CRM 2011: Scripting Cookbook. He is an active blogger at http://www.thecrmwiz.com. Also, he has presented at various public events, including eXtreme CRM in 2014.

In 2014, Nicolae was awarded with Dynamics CRM MVP.

I would like to thank my wife and daughter for the ongoing support they provided during this project.

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Microsoft Dynamics CRM Customization Essentials

*Microsoft Dynamics CRM Customization Essentials* covers the essential structure and customization options available to a Dynamics CRM power user. The book takes you through the basics of the platform, explains the structure and relationship of various elements, and presents the customization options available on the platform. It also covers the administrative options at a high level.

**What This Book Covers**

Chapter 1, Getting Started, gives you an introduction to Dynamics CRM and guidance on setting up a free 30-day trial of Dynamics CRM Online, in order to be able to follow through the examples in the book. No prior knowledge of Dynamics CRM is assumed. When you complete this chapter, you will be able to replicate all the examples provided in this book in their newly created trial instance of Dynamics CRM.

Chapter 2, Dynamics CRM Application Structure, delves into the Dynamics CRM application structure, describing the standard modules, elements available for customization and their relationship with each module, as well as the available options to extend the platform further. In this chapter, you will understand how to manage the existing application structure, extend and modify the modules, and update the navigation accordingly.

Chapter 3, Customizing Entities, builds on the knowledge gained in the previous chapter, and goes one step further by showing you how to work with entities within the existing modules, customize and extend these entities, and create logical relationships between them. In addition, this chapter will loop back and reference the previous chapter by describing how these new customizations fit within the application modules and can live across various modules.

Chapter 4, Business Processes, takes you into the core of the application, by taking a look at how business affects the behavior of the platform. You will look at how to enforce business rules on the platform and create customizations that will guide and correct the user, thus making sure that the platform works in sync with the user.
Chapter 5, Social Features in Microsoft Dynamics CRM, lets you take a look inside and outside the platform, by first diving into the internal social aspect of the platform and then tapping into external data from the market, as well as at the customers and prospects. You will be introduced to some of the new features that have been introduced in the latest versions of Dynamics CRM as well as the analytics options available with the platform.

Chapter 6, Dynamics CRM Administration, guides you through generic administration options available on the platform. While it is by no means an exhaustive guide to application administration, this chapter aims at giving you enough knowledge on the administrative options to provide a base of knowledge. In addition, references to the Microsoft documentation will point you to the available sources to enhance your knowledge.
Dynamics CRM Application Structure

In the previous chapter, we described how to get a Dynamics CRM Online environment up and running, and how to configure your Outlook to integrate with this environment. With this environment available to us, we can start looking at some of the components of this system. We will be investigating the modules that come as standard parts of Microsoft Dynamics CRM and the features of each of these modules.

This chapter is structured into four main categories. They are as follows:

- The Dynamics CRM modules
- The Dynamics CRM application elements
- The extensibility options
- Application navigation

Microsoft Dynamics CRM is Microsoft’s platform for customer relationship management. This system allows a company to manage interactions with past, current, and future customers. Usually, a CRM system is a part of a bigger picture, involving customer service, customer experience, customer retention, and other aspects. The CRM platform fits in this puzzle as a software platform that provides a company with the tools to perform all of its other tasks.

A solid CRM system in place allows reactive and proactive actions from the various staff members that use it. While most of the service aspects are primarily reactive, through extensive analysis and solid business processes, proactive actions can be taken to increase customer retention, quality of service, and sales, and create more robust marketing campaigns.
A robust CRM system can have a greater impact than a tool per se. This system provides a 360-degree view of a customer, with all historical interactions, purchase history, contact preferences, and survey responses. This data collected by the system can be further analyzed to determine the best strategies to increase customer satisfaction and provide better quality services.

From a proactive point of view, analyzing the aforementioned data about customers allows us to identify new opportunities and prevent potential customer issues.

**Dynamics CRM core elements**

Dynamics CRM is comprised of a few standard elements working together to achieve the system's functionality. These include, but are not limited to, modules and entities.

**Modules**

Modules are a group of functionalities that serve a specific business scope. The standard modules provided by Microsoft include sales, service, and marketing.

The sales module deals with all the functionalities needed to progress a lead to fruition.

The service module focuses on tracking activities related to interactions with existing customers. This module focuses on caring for customers and helps the representatives build a better relationship with existing customers.

The marketing module deals with engaging existing and potential customers by facilitating marketers to plan, execute, and gauge the success of campaigns that engage customers across multiple channels. This module also helps marketers quantify the success of each campaign and the impact of your marketing efforts.

**Entities**

Entities are containers used to model, store, and manage business data. Through the use of entities, the platform allows us to structure data, create relationships, and manage actions.

Each entity is comprised of a varying number of attributes. These attributes are, in fact, data items of a particular type stored in the database. Each one of these attributes can be displayed on an entity form as a field. For example, an account will have a name attribute, possibly an ID attribute, a description attribute, and many others.
From a tabular point of view, we can think of each entity as a table, or an Excel spreadsheet. Each column is an attribute. Each record is a line in this table. Each field is a specific record’s attribute and can be defined as one of the available data types.

Within Dynamics CRM, entities are classified into three major categories. They are system entities, business entities, and custom entities.

Business and custom entities can be configured as customizable or noncustomizable. A customizable entity can be modified by modifying its attributes, renaming it or changing processes associated with it.

**System entities**

System entities are used internally by the framework. They can handle workflows and asynchronous jobs.

[ ] System entities cannot be deleted or customized.

**Business entities**

Business entities are the standard entities provided by the framework as a part of the three available modules. They are present in the default user interface and are available for customization. They cannot be deleted. We will be looking at some of these entities further.

**Custom entities**

Custom entities are the entities that are created as a part of extending the standard framework with new functionality. They can be made visible through the standard user interface, or can be kept hidden and participate in custom processes only.

**The Dynamics CRM modules**

While Microsoft used to market Dynamics CRM as a platform under the *Extended Relationship Management (xRM)* term, and is encouraging partners that extend it to cover various aspects of businesses, the product by default includes three major modules, namely sales, marketing, and service as mentioned before.
At the time of this writing, the platform is of version 2015. It has greatly evolved over the years and is currently one of the top five players in the market. Gartner, one of the top market analysts, places Microsoft Dynamics CRM in the leaders quadrant, with both their online and on-premise offerings in both Sales Force Automation (SFA) and customer engagement center categories.

With this evolution, all the standard modules have been revamped and new functionality has been added. Currently, these modules can function either independently or in conjunction with each other in Dynamics CRM, sharing data and providing full visibility to customers across all modules. During 2014, products have been released that work with the Dynamics CRM platform, including Unified Service Desk (USD), Microsoft Dynamics Marketing (MDM), Microsoft Social Listening (MSL), and Parature for portals as well as Office 365 with Power BI. This is on top of already integrated solutions such as Yammer, SharePoint, Lync, and Skype.

Shared entities
Shared entities are entities that are used across multiple modules. While they are not specific to a certain module, they tend to be tightly integrated with the functionality of each module where they are present. Some of the most obvious ones include account and contact entities, which span across the whole platform and tightly integrate with all modules.

Account
An account is an entity representing an existing customer or organization that we do business with. It is usually a qualified organization. It can be created as a result of processing leads or entered directly into the system when we start doing business with a new organization.

The account is one of the most used entities in Dynamics CRM, as it is the entity to which most other entities are attached. An account can be a parent of almost any other entity, including another account. Using this relationship, we can create complex structures that represent organizations functioning under various names, locations, or any other type of relationship. For large global organizations, this relationship is essential, as we can easily represent the parent organization and each geographical coverage area as a child account. In most cases, these child accounts would run their business by following different rules dictated by geopolitical factors. Each child account would have a different set of properties, but would roll up under the parent account in the end.
The following screenshot shows the Account geographical factor:

A typical account form in Dynamics CRM looks like the following screenshot:

Here, we can see that we are capturing the essential account details and related information from the system in the **Account Information** section. We see all interactions we had with this account in the central area of the form, details about the Primary Contact as well as other contacts, related Cases, Opportunities, and so on. Scrolling down the form, we see additional information about Entitlements, Billing, Shipping and Marketing preferences, additional company profile details, and a listing of all related child accounts.
Starting from an account record, we can easily navigate to most of the records related to this account, thus having access to details about all the relationships we've ever had with this account.

**Contact**

Just as important as the account, the contact entity represents a specific person we are doing business with. Contact can also be created as a part of the process to qualify a lead, or can be directly created in the system. They can also be captured from a web form, an event registration, or a variety of other sources.

The contact can be in most cases related to a specific account, but can live independently too.

Just as we relate an account to various other records in our system, we do the same with a contact. The contact can be a parent of any other entity except account and contact.

On the Contact form, we can see the relationships we define with a Parent Account, Cases, Opportunities, and Entitlements.

In addition, we collect contact information including name, title, phone numbers, addresses, specific personal details, billing, shipping, marketing, contact preferences, and notes about the specific contact.

Through the use of connection roles, we can create another layer of relationships, thus associating contacts with multiple accounts or other entities. We will be looking at connection roles later.
Activity

Through activities, we track all the actions and interactions we have with the system and both the accounts and the contacts of our customers. There are five types of interactions customized out of the box with Dynamics CRM. They are appointment, e-mail, fax, letter, and phone call. Each interaction has its specific properties based on the type of action or interaction.

Activities can be created for your own actions or can be assigned to other users or teams.

Activities are defined by a time dimension, thus helping to determine when a specific action occurred or will occur in a process.

From the point of view of working with activities, we can create, modify, cancel, or complete activities. Each of these statuses is tracked and we can easily report on them.

Activities usually involve one or more participants. The participants can be contacts, users, or custom entities that define things such as room, equipment, and so on.

Appointment

An appointment is a scheduling activity that enables us to track service activities and resources. In Dynamics CRM, we can define regular appointments or recurring appointments. When you integrate your CRM environment with Microsoft Outlook, these appointments will be synchronized with your Outlook calendar.

The following screenshot shows the standard New Appointment form:
In an appointment, we track a required subject, the required and optional attendees, a location, the related record the appointment is about, start and end time and date, and any related documents required.

The status and priority fields allow us to track the progression of this activity, and the importance.

**E-mail**

An e-mail activity allows us to generate and track e-mails directly in Dynamics CRM. The following screenshot shows the default e-mail form when generating a New Email:

E-mails can also be created and tracked from Microsoft Outlook once integration with Outlook is configured.

**Fax**

A fax activity allows us to track faxes received from and sent to customers. The following screenshot shows the standard *New Fax* form:

While a duration on the fax activity is tracked, the default 30-minute duration being applied to most activities in this case might not necessarily make sense to be tracked.
Letter

The letter activity allows us to track customer interactions via regular mails. These activities, along with all the other mails, participate in creating a log of all client interactions.

The default form used to create a New Letter activity looks like the following screenshot:

![Letter Form Screenshot](image1)

The format is very similar to that of the fax activity, as it tracks only the action and not necessarily the context.

Phone call

The phone call activity allows us to track communication with customers via phone. While integrating our CRM system with a telephony system, a number of details about the phone conversation we are tracking can automatically be populated. We can automatically determine the From and To fields, phone number and direction details, as well as the duration of the call. This makes things much easier for the system user, who now has to input only details about the conversation.

The default form used to create a New Phone Call activity looks like the following screenshot:

![Phone Call Form Screenshot](image2)
Dynamics CRM Application Structure

**Task**
The task activity is a record used to track work that needs to be done. The standard task activity can be assigned to other system users. It can also be associated with other entities.

The default form used to create a standard **New Task** activity looks like the following screenshot:

![New Task Form](image)

**Address**
The address entity is used to store a generic address. By default, it is associated with other entities such as accounts and contacts. This association allows us to store multiple addresses in relation to a specific record.

**User**
The user entity defines the properties of a system user. It defines the existence of a user account. In order to give a new user access to the system, you must first create a user account and then assign permissions to that account. A user record by itself, with no permissions assigned, will not allow the respective system user to log in.

**Connection role**
Connection roles are used in conjunction with system entities to determine special relationship types between them. As an example, we can use connection roles to define the stakeholder relationship between contacts and a custom committee entity. We can create several connection roles for specific committee roles, such as chair, internal member, external member, and so on. We then associate contacts with the committee using these connection roles. Using this approach makes it quite easy to display on the committee page a listing of all committee members and their roles.
Sales module
The Microsoft Dynamics CRM sales module facilitates the sales team in managing leads and opportunities, closing these opportunities in a shorter, more orderly fashion, and increasing the opportunity for success.

Within the sales module, the sales team has the ability to manage their own customers and contacts, and get full visibility on customers, current orders and services, existing issues, and resolutions. With all of this information at their fingertips, a salesperson can walk into any new opportunity fully prepared, and avoid surprises. Furthermore, they can show full knowledge of the customers and their current needs, level of satisfaction, and potential subjects of contention.

The sales module is comprised of a set of entities, processes, dashboards, and reports, and has the ability to see the products and services offered as well as the associated sales literature. Within this same module, the sales team can see their progress against predefined goals. In addition, each of the sales staff can manage their own customer interaction through the use of some of the marketing features built in the system. The sales pipeline feature presents in a visual way the current status of the sales engagements, while allowing further drill-down into the detailed data.

Sales entities
The Dynamics CRM sales module includes a set of entities that are shared across modules, and entities specific to sales in particular. We will be looking at these two generic categories and each of the entities included in them.

Sales-specific entities
Sales-specific entities are entities that are used mainly within the sales module. Some of these include the leads used in sales and marketing, opportunities, products, quotes, orders, invoices products, and sales goals.

When you are customizing the system, the scope of each of the out-of-the-box entities can be changed simply by modifying the navigation and associations. For example, a new entity can be made accessible only through a specific module, or an entity from one module can be transferred to another module.

The default sales process takes us across several entities. We start with a lead, which is an unqualified prospect. Upon qualification, we convert the lead to an opportunity. Along with generating the opportunity, by using the lead, we can also generate an account and a contact. While working on the opportunity, we can generate quotes and orders, followed by invoices before closing the opportunity.
Dynamics CRM Application Structure

Leads

The leads entity is a representation of an unqualified opportunity. A sales representative will work on the lead through to qualification. They will track all activities with the final purpose of qualifying the lead and generating an opportunity. Leads can be classified in various stages, each representing the probability of qualification based on the amount of information collected and the interaction with the potential client.

Leads can be generated in various ways. They can be the result of direct sales engagements, or generated from the marketing module as a result of a marketing campaign. They can also be generated as a result of various events or collected from various portals.

The following screenshot shows a standard New Lead form in Dynamics CRM:

![New Lead Form]

The lead management qualification process is the process of managing a possible opportunity until qualification. This process is kept separate from the opportunity management process by the use of the lead entity.

A lead record can be in one of the three default states: open, qualified, or disqualified. Once a lead is qualified, it can be converted to an opportunity. From the associated data collected, an account and a contact can also be created.

The lead record can be related to other system data including contacts, accounts, activities, and notes. This relationship can be easily represented in Dynamics CRM, and greatly enhances data integrity and the ability to surface related records in searches. In addition, documents can be attached to leads, allowing the sales staff to store all related materials in the same place and make them easily accessible from a single location.
Opportunities

The opportunity entity is meant to store a potential sale in a new or existing customer. It is used by the sales staff to keep track of and forecast sales engagements that they are working on. An opportunity can be created directly in the system or generated as a result of qualifying a lead.

Based on business opportunities, a company can forecast business demands for products and services, as well as sales revenues.

An opportunity in the system must be related to an account and/or contact. This is one of the differences between lead and opportunities, where an account or contact must be already qualified in the system for an opportunity to be able to associate with it.

Same as with the leads, a sales representative can track phone calls, e-mails, tasks and other activities against the opportunity. This gives the representative complete visibility of all the steps that were involved in closing each opportunity.

The following screenshot shows a standard New Opportunity form in Dynamics CRM:

Every opportunity in the system usually has one or more products or services associated with it. This association is achieved through the use of an intermediary system entity called opportunity product. In addition, processes can be put in place to validate that only certain products or services are available for a specific opportunity, based on either the account or contact selected, or any other set of business rules.
Dynamics CRM Application Structure

Processing an opportunity results in its closure. An opportunity can be closed either as won or lost. Upon the closure of an opportunity, an opportunity close activity is generated. This activity record stores information about the reason for closing, date, and revenue.

An opportunity can be associated with accounts, contacts, competitors, quotes, orders, and activities. In addition, you can include notes and store attachments against an open opportunity, as well as relate sales literature.

Quotes
The quote entity is an important part of the sales process defined within the Dynamics CRM platform. It works in conjunction with products and orders to complete the sales cycle.

The quote entity represents an offer of products and/or services at a predetermined price. In addition, payment terms are associated with the respective quote.

A quote in the system can be stored as draft, active, or closed. A draft quote is a quote that is still being worked on. Once work is completed and it is ready to be sent to the customer, the quote becomes active. On completion, whether accepted or rejected, the quote becomes closed. A completed quote that is accepted by the customer can be converted into an order.

The following screenshot shows a standard New Quote form in Dynamics CRM:
When a quote is created from an opportunity, the products and services associated with that opportunity are automatically added to the quote. When the quote generates an order, all products and services are kept and the quote can be left open or closed.

Information stored with the quote includes the various dates that relate to the quote processing. These include effective dates and requested delivery dates as well as capturing the due date. It also stores one or more Ship To addresses. They can be split by line item.

Other entities that can be associated with a quote include the customer as an account and/or contact, competitors, products and/or services, opportunities, as well as customer addresses. Within a quote, we can track notes and associate attachments.

Once completed, a quote is ready to be activated. An activated quote is a quote that is ready to be presented. At this point, it can be printed for the customer. If changes need to be made, the quote can be revised and reactivated. The quote can be closed if it is not accepted. If it is accepted, an order can be directly created from the existing quote. When you create an order from within the quote, just like creating the quote for an opportunity, details about the products and services along with prices are carried over to the new entity.

Orders

The order entity is a quote that has been accepted by a customer. They can be created either from a quote or directly as a new order.

The following screenshot shows the standard New Order form in Dynamics CRM:
Dynamics CRM Application Structure

The order form is quite similar to the quote form, and allows us to track similar information as that of the quote, as well as the ability to associate the same entities with the quote form.

Invoice
An invoice represents an order that has been processed and billed for. The following screenshot shows the standard **New Invoice** form in Dynamics CRM:

Similar to orders and quotes, the user interface presents information and the ability to associate products and/or services. When an invoice is generated from an order, all the order details get prepopulated on the invoice. They can be later adjusted before marking the invoice as Paid.

Competitor
The competitor entity stores details about another organization offering similar products and/or services. This allows us to associate a competitor record throughout the sales cycle as needed. This type of relationship is not required by the system, but it can prove beneficial when doing further market analysis. In addition, we can store details about the competitor including listing of their products that compete directly with our sales literature and any other sales materials.

The following screenshot shows the standard **New Competitor** form in Dynamics CRM:
These competitors can be categorized and details can be recorded on each competitor's strengths and weaknesses along with their profile. All of this data collected allows sales representatives to make more informed decisions on each opportunity, in order to increase its potential.

One or many competitor records can be associated with every opportunity.

Products

A part of the product catalog entity, the product is a record that represents an individual product or service offered to customers. Products can be associated with opportunities, quotes, orders, and service cases. A product can contain associated sales materials as well as details about competitor offerings.

Products can be grouped and categorized in product families. The relationship between specific products can be visualized in a relational diagram, as shown in the following diagram:
Dynamics CRM Application Structure

In addition, we can now define product bundles. These are possibly prepackaged sets of products that are commonly sold together. For example, we can have an office suite, and define individual included products such as Access, Excel, InfoPath, Lync, OneNote, and so on. The following screenshot shows an example of an office suite:

Product properties can be created for product families and inherited by all products. The following screenshot shows the standard **New Product** form in Dynamics CRM:
In addition to defining product properties, product relationships now help with cross-selling and up-selling, and are presented as either cross-sell, up-sell, substitute, or accessory. These are presented to sales staff as possible suggestions when working with the sales entities.

As a part of the product catalog, a product can have one or more pricing models and discount lists associated with that catalog.

Based on user permissions, products can be created, updated, disabled, or deleted. It is advisable not to delete any product records for historical purpose. Always disable products rather than deleting them.

Part of the product management process, we now have the ability to version our changes to product properties. A product is available to be used only if it is set as active. When you are working with products, they are in draft mode by default.

Creating new products with similar properties can easily be achieved by cloning existing products. This greatly speeds up the process of populating the product catalog. Once a product catalog is created, it can be exported from and then imported to another organization using the updated configuration migration tool.

Sales goals

The goals configuration and tracking process allows managers to monitor progress against targets. Taking advantage of the goal management processes across sales and other business aspects allows better planning and growth for the business.

Goals in Dynamics CRM can be created in a hierarchical structure, and can be rolled up from the individual user to the team and department level. This allows greater visibility of the success of certain new initiatives and regular processes and regions.

A goal entity interacts directly with two types of user records—the goal manager as the record owner, with rights to update and modify the goal properties, and the goal owner as the user that has to meet the goal targets. In addition, the goal is set for a certain period of time, mapped to either a fiscal period or a custom arbitrary period.

Tracking progress against preset goals can be done visually through the use of graphs that can be placed on dashboards. This way, enhanced visibility into the progress against goals can help the goal owners see where they are, and whether they are behind in any of the assigned goals or not.
The following screenshot shows the standard **New Goal** form in Dynamics CRM:

![New Goal form in Dynamics CRM](image)

### Sales processes

**Business Process Flows** is a new feature that was introduced with Dynamics CRM 2013 and greatly enhanced in Dynamics CRM 2015. It allows the system user to follow a predefined business process to completion and track progress in a visual way. The business process flow is a great way to guide the system user through a common process that spans multiple entities. This allows us to put the business logic in front of the separate entities, which makes the business user's tasks much more cohesive. Defining specific stages in a Business process flow also helps segment the general flow into business-specific components, making things easier to handle at each step. Once a step is completed, the user has the ability to progress to the next step. Business process flow can be customized to make decisions regarding which path to follow based on the previously selected values. This is achieved by defining branches and branching rules.

On an entity form, the Business process flow is presented to the user through the visual representation at the top of the form. The following screenshot shows the standard Business process flow graphical interface, as seen on the default **New Lead** form:
On a default base installation of Dynamics CRM, two sales processes are included in the sales module. They are as follows:

- Lead to opportunity sales process
- Opportunity sales process

Let's look at each one of the boxes business process flow provides with the platform.

**Lead to opportunity sales process**
This business process flow guides the user through the qualification of a system lead to an opportunity record.

The following screenshot shows the Lead to Opportunity Sales Process customization form:
Dynamics CRM Application Structure

This process defines the data needed to be captured on a lead in order to qualify it. The previous screenshot lists the data fields needed.

**Opportunity sales process**

This business process defines the stages required to qualify an opportunity. Just like the previous business process described, the fields required at each stage are highlighted.

The following screenshot shows the **Opportunity Sales Process** customization form:

![Opportunity Sales Process Customization Form]

**The sales dashboards**

Microsoft has introduced a set of dashboards in the sales module specifically for sales staff. They are as follows:

- Sales activity dashboard
- Sales activity social dashboard
• Sales dashboard
• Sales performance dashboard

Let's have a look at each dashboard and see what the difference is.

Sales activity dashboard
The Sales activity dashboard consolidates the day-to-day data required by a sales representative to complete their regular tasks. It includes charts that represent the sales pipeline, a view of open leads, top opportunities, and customers, as well as a view of pending activities.

All of the data represented in the previous dashboard is relevant to the currently logged-in sales representative.

Sales activity social dashboard
The sales activity social dashboard takes most of the similar data representations from the regular sales activity dashboard, but it also adds the social pane and a component allowing the user to follow other users and see the followers.
The following screenshot shows the **Sales Activity Social Dashboard**:

This dashboard allows greater interaction between sales representatives within the organization.

**Sales dashboard**

The standard sales dashboard is less focused on charts and visual elements. Instead, it digs right into the data, and presents listings of accounts, leads, opportunities, and activities. The next screenshot will give you a clearer understanding of a sales dashboard:
Sales performance dashboard

The sales performance dashboard focuses less on the sales data and more on aggregating it to produce reports on goals, total views on deals and progress, and a sales leaderboard.

This dashboard will come in handy when comparing your sales staff performance against goals and against other sales staff.

Sales reports

A default installation of Dynamics CRM will include a set of reports to get you started. There are reports for every module of the application, and general reports spanning data from across multiple modules.

When working with reports, in most cases you will end up customizing your own reports. The default ones provided are presented as guidance, but they can, on certain occasions, be useful with no customization.

The standard reports revolve around accounts and contacts, activities, leads, sales history, and sales pipeline.

Reports in Dynamics CRM can be customized either through the use of the wizard-driven interface, or by building custom SQL Server Reporting Services (SSRS) reports. We will be covering the aspects of building a new wizard-driven report later in Chapter 6, Dynamics CRM Administration.
Marketing features
While the sales module is different from the marketing module logically, certain features from marketing are exposed here. As such, a sales representative has the ability to create his or her own marketing lists and then generate quick campaigns. This is meant to allow sales staff to contact a group of customers at a time and track this interaction within the system. This functionality is on top of the regular direct customer interaction, and is tracked in the same way as any other customer contact.

Service
The service module is one of the most powerful features of Microsoft Dynamics CRM, allowing service users and managers to manage and track customer complaints and service activities, as well as customer interactions within a user's organization.

The service module can be looked at from the point of view of service management and service scheduling. The management aspect deals primarily with managing service tickets. They are called cases within the context of Dynamics CRM. The other aspect, scheduling, provides the ability the schedule resources for customers.

Service entities
Just like the sales module, the service module contains specific service entities, as well as shared entities. The service-specific entities are explored in the following sections:

Cases
The case entity represents an incident or a ticket logged in the system as it relates to a customer. The system users create cases to track a request, problem, or question from an existing customer. This entity is also the central point for tracking all future communications and actions performed while handling the request until its completed.

The cases tracked in the system can be in one of the following states: active, resolved, or canceled.
The following screenshot shows the standard **New Case** form:

Starting with Dynamics CRM 2013 Service Pack 1, the ability to relate cases hierarchically is supported. This allows better organization of data and easier management of cases by users.

Only one level of hierarchy is supported. A case cannot be associated with another case that in turn is associated with a third case.

You can associate up to 100 child cases with a parent case.

While closing a case, a case resolution activity is created. It stores details about the reason for closing, duration, and billing status.

**Contracts**

A contract is an agreement with a customer to manage support services to be provided. It defines either a specific number of cases or a set of periods of time to be provided for support. Thus, the contract defines the type and level of support a customer will receive.
Contracts can be created for existing and/or new customers. They must be related to either an account or a contact entity. This is how the standard New Contract form looks in Dynamics CRM:

The contract is registered in the Dynamics CRM system as a draft until it is invoiced. As long as a contract is a draft, it can be updated and the template used can be changed.

Once a contract is marked as invoiced or active, all changes to the contract are saved as a new contract, and associated with the original contract.

**Articles (knowledge base)**
In Dynamics CRM, the knowledge base is comprised of individual articles. Each article has one or more headers, and is searchable by the header, by keywords in the context, or by the subject.

The knowledge base is a repository driven by metadata. In addition, article templates can be used and articles can be related to additional materials such as documents, graphics, and other web pages.

Every article in the knowledge base can be associated with products and services, and it can then be retrieved in cases and forwarded to customers.
The following screenshot shows the standard **New Article** form:

While an article is being worked on, it is in a state of draft. Once work is completed, the article is submitted for approval. After it is approved, the article becomes published and visible to all organization users.

**Queues**

Queues are used within Dynamics CRM to organize, prioritize, and monitor a user's or team's work. In conjunction with routing workflows, queues play an important role in automating standard business processes and improving efficiency.

From an underlying point of view, queues are comprised of queue items. Each queue item is a record pointing an existing system entity. For example, you can have a queue holding various cases. Each queue item would point back to an existing case. A queue item can point to a task, e-mail, or case. In addition, all new custom entities can be enabled for queues.

A queue can hold more than one entity type. Thus, a queue can hold tasks and cases together.
Each system user gets a personal queue that is associated with the respective user profile. In addition, new queues can be created, and they can be either private or public.

**Services**

The service entity represents work to be performed for a customer. It is defined by the date and time, duration, name, resources assigned, and other fields as needed.

The service appointment works in conjunction with the service calendar and the resource calendar, along with other factors that are used to determine the resource ranking and availability. This entity is used to create scheduled activities and works in conjunction with resources, equipment, and services offered.

The following screenshot shows the **New Service** standard form in Dynamics CRM:

![New Service Form](image)

**Calendar entity**

The service calendar is the representation of all service records created, based on the availability of resources and equipment, and the duration of a service activity. The calendar entity aggregates the service data with holiday schedules and business closures, and presents availability for scheduling new service activities.

Calendars are related to calendar rules, which define duration, availability, recurrence, and start or end times. These rules can be ordered and ranked to determine precedence and they can overlap.
Goals management
Just the same as the sales module, in the service module, goals can be configured for users. While these goals will probably not deal with sales amounts unless up-sells are counted, they will most definitely deal with the scope and number of service calls handled, and sometimes with Service Level Agreements (SLAs).

Just like before, goals are set up for users, are rolled up at a team level, and must be configured for a specific duration.

Goals can be related as parent or child goals, and the results will be automatically rolled up.

Service processes
With a default Dynamics CRM deployment, for the service module, we get only one predefined Business Process flow. This is the phone to case process.

The Business Process flow for the Phone to Case Process is shown in the following screenshot:

This process lives on the case entity and handles the standard approach to solving cases through three standard stages.
Dynamics CRM Application Structure

This Business Process flow created in the previous wizard will display on a New Case form, as shown in the following screenshot:

Service dashboards

For the service aspect of the business, just as for sales, dashboards are an invaluable resource to present data to the system users in a variety of ways. By default, the service module comes with five standard dashboards serving various roles.

Customer service representative social dashboard

As an aggregation of case details, listing of activities and the social component that presents real-time posts from various records, the customer service representative social dashboard is the default dashboard for the service module. The dashboard looks like the following screenshot:
Customer service representative dashboard

The customer service representative dashboard strips out the social aspect and focuses entirely on the data that a service representative will need to work with on a day-to-day schedule.

The following screenshot shows the Customer Service Representative Dashboard:

This dashboard focuses entirely on the case types, various categories of processes, resolution, performance, and goals, as well as the activities in the service representative's queue.

Customer service performance dashboard

The performance dashboard focuses primarily on the service representative's performance against SLAs, and looks at case mix and trends. It is a charting dashboard that gives a quick overview of the current status.

Customer service operations dashboard

The operations dashboard analyzes cases by origin and priority, and structures data by owner and priority. The leaderboard section looks at cases across the current team.

In addition to case-specific diagrams, this dashboard also includes information about articles in the knowledge base and their status.
Customer service manager dashboard
The manager dashboard combines the social aspect of notifications with generic information across the whole team. Sections of this dashboard present views as cases such as agents, team, queues, and priority.

Service reports
Just like the other modules, the service module presents us with a set of standard reports. These include, but are not limited to, reports about activities, case summaries, service activity volumes, and top knowledge base articles.

A large variety or additional reports can be customized in various ways. More information on reporting customization can be found in Chapter 6, Dynamics CRM Administration.

Marketing
The marketing module completes the set of modules provided with the Dynamics CRM platform. This module is targeted at marketing professionals, and provides them with a solid set of tools for retaining existing customers, attract new ones, and expand their business.

This module fits in nicely with the sales module, as it allows to track generation of leads from specific campaigns.

Marketing entities
As a part of this module, the main entities revolve all around customer communication. We have management of marketing lists, campaigns, and quick campaigns. They all work in conjunction with base system entities such as accounts, contacts, leads, and even articles from the knowledge base.

Marketing lists
The marketing list is the foundation of any marketing campaign. It is a collection of customers that are grouped according to specific criteria.

Marketing lists can be created in Dynamics CRM in two ways. They can be static or dynamic. A static marketing list is a list that, once created, remains unchanged until a system user performs the changes manually. On the other hand, a dynamic marketing list is a list that is generated based on a set of conditions. At each refresh of the list, the conditions are applied as a filter across all records and the list is regenerated.
Chapter 2

The following screenshot shows the standard **New Marketing List** form in Dynamics CRM:

![New Marketing List form](image)

On the standard marketing list management form, besides the definition fields and the members associated with the list, we can see which campaigns and quick campaigns our list is associated with. This is an easy way to find out whether a marketing list is being used in the system or not, and where it is being used.

**Quick campaigns**

A quick campaign is very similar in structure to a regular campaign. The main difference is the number of channels that can be used to reach out to customers. In a quick campaign, we are limited to a single method of communication with our customers. As such, for an e-mail blast, the only method of communication is e-mail, and thus we can use a quick campaign.

As far as targeting a quick campaign, we can target only the members of a single marketing list, or the resulting members that are selected through a search query. This query could return entities of various types, for example accounts, contacts, and leads.

The way to create a quick campaign is from within a marketing list. From the navigation ribbon, select the ellipse to expand the additional options, and select a section in there to create a quick campaign.
Dynamics CRM Application Structure

The following screenshot shows where the Create Quick Campaign is located on a Marketing List Demo form:

The quick campaign wizard will then guide you through the necessary steps to create the campaign. Once created, it is left in an open state, with a progress bar.

The following screenshot shows the Quick Campaign form:

Activities are automatically created and tracked in the campaign. Once all the related activities are completed, the campaign is marked as complete.

Campaigns

The campaign in Dynamics CRM is the entity that collects information about the mediums in which communication with the customer is achieved, as well as related cost information.
The campaign is meant to achieve a clear result. As such, within the campaign itself, there are **Key Performance Indicators (KPIs)** and metrics available to gauge its success.

Within a regular campaign, communication to customers can take place in various ways. A campaign allows us to track direct mail, e-mail, and phone communication against one or more specific marketing lists.

A campaign is comprised of planning activities and tasks, campaign activities, communications, and responses from customers. A campaign also has a list of related products and/or services and various sales literature elements.

A campaign can be targeted at more than one type of entity. For example, we can target it to accounts and leads by creating two different marketing lists and associating both with the campaign.

In the process of organizing a campaign, we can structure and organize all tasks and activities, just like planning any other project. As such, we can add campaign activities for research, content preparation, target marketing list creation, lead qualification, content distribution, direct initial contact, direct follow-up contact, and reminder distribution. All these activities can be assigned to the team that participates in the creation and management of each campaign.

The following screenshot shows the **New Campaign Activity** form in Dynamic CRM:

In addition, we can create a set of planning activities within the campaign. They help with the preparation of the campaign. They are standard activities in the context of Dynamics CRM, and are associated directly with the campaign.
Dynamics CRM Application Structure

The following screenshot shows the expanded options for adding new activities in Dynamics CRM:

Campaign responses can also be tracked within the campaign. They can be either directly tracked for e-mail marketing campaigns or manually entered for other types of campaigns.

The following screenshot shows the **New Campaign Response** standard form in Dynamics CRM:
A campaign can comprise all the previously mentioned elements, but it can also be a parent of another campaign. As such, we can create a hierarchical structure of campaigns, with various subcampaigns managed independently. Reporting across all related campaigns can then roll up all related data to give the marketing analysts an overall view from the highest level.

**Quick campaigns versus campaigns**

Quick campaigns and campaigns in Dynamics CRM are used in very different ways. A quick campaign is a bulk activity targeted to a subset of accounts, contacts, or leads. It can distribute a single activity. However, it cannot use a predefined template, track planning activities, and be reported on. Additionally, you cannot associate products and price lists with a quick campaign.

A campaign, on the other hand, is used for more complex planning. It allows a marketing specialist to manage it as a project, plan various activities, track the associated costs, and assign activities to other marketing team members. It can also be configured to target multiple channels and multiple marketing lists of accounts, contacts, and leads.

Using a campaign allows us to track financial information and the Return On Investment (ROI) related to the campaign, report on the campaign progress, as well as associate products and price lists. This makes the campaign a very powerful tool in managing marketing initiatives.

**Dynamics CRM marketing module dashboards**

With the marketing module, Microsoft provides two default dashboards. They are as follows:

- Marketing dashboard
- Marketing social dashboard

Let’s have a quick look at each one individually.
Marketing dashboard

The marketing dashboard focuses on campaigns, leads generated by campaigns, costs, and revenue. In addition, activities and campaigns owned by the current system user are rolled up and made available from a simple interface.

Marketing social dashboard

The marketing social dashboard builds on top of the previous dashboard, adding the same social features we have seen in the other modules. A marketing representative who uses this dashboard can follow specific entities and receive notifications directly in the dashboard through the social pane displayed on the top right area of the dashboard.
Marketing reports
Marketing reports are also included in the Dynamics CRM platform by default. The main marketing reports provided with the system include the ability to report on campaigns and campaign performance.

Additional reports can be customized and added to the system, as described in Chapter 6, Dynamics CRM Administration.

Other core functionalities
The items explored in the following sections play an important role in mapping business processes and requirements in the system. They are essential to conduct business in an efficient fashion and provide usage guidance and enhanced visibility.

Processes
Dynamics CRM allows a business to define and enforce consistent business processes, helping users to focus more on performing their regular work and less on remembering what needs to be done at each step on the way.

The processes defined can be as complex as needed, and can be grouped and related to achieve even greater complexity. The processes on the CRM platform can be created and managed by non-developers. This brings ease of use and allows managers and power users to manage and update them as time goes by. For this reason, the system can easily stay up to date with the business as it evolves.

Within the Dynamics CRM platform, at the time of writing this, there are four categories of processes available; they are dialogs, workflows, actions, and business process workflows. We will be looking at each one individually, and when you should use one over another.

Dialogs
The dialogs in Dynamics CRM are used to create a graphical interface to guide a user through a process to be followed when interacting with a customer or performing a set of actions. They are similar to a script used in a call center scenario. They are meant to be executed in one session from the beginning to the end.
Dialogs help users collect data and create new records, and guide the user through a set of actions to be performed based on various answers from a customer. A running dialog that collects user input looks like the following screenshot:

Workflows help automate actions behind the scenes. They do not present a user interface and are not limited to being completed in a single session. Workflows can run over a period of time to completion.

A workflow is usually initiated by a system action, but they can also be customized to be triggered by a user directly. They can work asynchronously or synchronously. Synchronous workflows are also referred to as real-time workflows, and they have been introduced with the CRM version of 2013.
Actions
An action in Dynamics CRM is a custom process that allows us to create custom messages. It is used to add a new functionality to the application, or to combine multiple requests into a single one. They use the underlying web service architecture to group complex or specific actions. These are used in components built by a developer, and can be used for very specific functionalities.

Creating an action is very similar to creating a workflow. They can be created using the wizard-driven interface or custom code. Custom code is supported for on-premise deployments only.

An action is associated with a specific entity or can be defined at a global level. Through an action, we can invoke custom workflow activities, which are custom business logic components built by developers.

New actions are exposed through the standard API, and can be triggered through custom code or through integration from other applications.

One very important aspect of actions is that they are not supported by offline clients.

Business process workflows
Business process workflows are visual elements that allow a system user to input required data by grouping the required fields together at the top of the screen. They can be created using the wizard-driven user interface. They show the user the progress of the record through a predetermined set of steps to completion.

The opportunity sales process is a very good example of such a customization. Users will see the following section on their screen:
For the customizers of the system, the interface to generate this is quite simplistic and easy to use, and looks as follows:

![Business Process Flow Diagram]

Each stage of the process is defined, and within it, each required field can be added and marked as required or not. Progressing through stages requires that all fields marked as required be filled in before advancing to the next stage. A control on the screen also allows users to navigate back and forward to see what is required at each stage.

Business processes are a key differentiator for Dynamics CRM in the market. By providing users with step-by-step guided processes and visual indicators, business processes enforce a standard in how processes are conducted while also creating measurable and verifiable outcomes.
Dashboards

Dashboards in Dynamics CRM are visual components that allow users quick access to aggregated data in the system. They are a visualization and analytics tool that enhance the value of your system by allowing users to quickly glance at aggregated data and dig deeper into the underlying data that is used to generate the visualization. They act as business intelligence tools, providing snapshots of the system data presented in various forms.

Dashboards are comprised of various elements, including charts, grids, web resources, and iframes that expose external and integrated information. With additional customizations, reports can be incorporated into dashboards as well. In fact, dashboards are containers for these elements and can present up to six visualizations at a time.

Dashboards comprise tabs, sections, and components. They can be easily created through the wizard-based interface and can be targeted to a specific module, user or team. From an ownership perspective, dashboards can be organization-owned or user-owned. A user-owned dashboard can be shared with other users.

Reports

A user can report on system data in various ways from the simplistic advanced find, where tabular data can be retrieved and exported to Excel for further analytics, to wizard-driven report generation and all the way to custom SQL Server Reporting Services (SSRS) reports. This flexibility makes reporting easy to use and very powerful.

Each of these options has its own strong points and weaknesses. For example, while custom SSRS reports are the most powerful, not only with respect to the amount of data collected and visual representation options but also from the flexibility point of view, they do require a developer with extensive knowledge of SSRS reporting and Dynamics CRM to produce.
Power users of the system will find it familiar to create wizard-driven reports. Though they are limited in the complexity and have a standard user interface, the ease of creating them will appeal to users with no development background.

The following screenshot shows a report rendered through CRM:

![Report Screenshot]

These reports support the use of custom parameters to filter data and allow us to save it for offline use as well as export data in some of the most common formats including Excel, Word, and PDF.

**Extensibility options**

Dynamics CRM is a very flexible platform, with a multitude of extensibility options. The system can be extended using various methods and components. Third-party solutions can be acquired from the Dynamics CRM marketplace and internal customizations can be performed, packaged, and exported from one environment to another.
Application navigation

User experience has evolved a lot with every new version of Dynamics CRM. This continues with the release of Dynamics CRM 2013 in which a user interface and a navigation paradigm are presented, both completely redesigned. In line with the Windows 8 tiled interface, the navigation has been enhanced to present the user with options to get to data with less clicks, and to flatten the interface. As part of this process, navigation is less obtrusive, takes less screen real estate, and is more dynamic.

The default navigation is presented in the following screenshot:

![Default Navigation Screenshot]

The navigation remains highly customizable and the logical modules are clearly presented. This navigation can be changed to add new modules, remove existing ones, and rearrange items.

On individual records, the left-side navigation has been replaced with a consistent similar navigation option, and the ability to navigate up, down, and laterally in the system has been highly increased.

The application ribbons have also been redesigned, with a similar horizontal display at the top of the form, just below the navigation. The most common actions are left visible, with additional ribbon elements collected under a More commands... menu.

![Customizable Navigation]

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Summary

Throughout this chapter, we looked at some of the most important elements comprising the Microsoft Dynamics CRM platform. We reviewed the three standard modules that comprise the default Dynamics CRM platform: the sales, service, and marketing modules. We also looked at the major components of these modules, and how they relate to a specific module or work across multiple modules. We also looked at entities and what an entity is in the context of Dynamics CRM. We reviewed dashboards, reports, and the default navigation through the application. At this point we should have an understanding of how everything is tied together and what to look for when we need to customize the system.

The next chapter will take you through some of the most common elements that comprise an entity, the options to customize them, and working with existing and new entities.
Where to buy this book

You can buy Microsoft Dynamics CRM Customization Essentials from the Packt Publishing website.

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