Microsoft Dynamics CRM 2013

Application and User Interface New Features

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Module 1: Application

This module describes the refreshed user experience and changes in the application in Microsoft Dynamics CRM Online Fall ’13 and Microsoft Dynamics CRM 2013 (On-Premises).

Before You Begin

Before starting this module, you should:

- Review the Microsoft Dynamics CRM 2013 Setup and Upgrade New Features course as a prerequisite.

What You Will Learn

After completing this module, you will be able to:

- Describe the new in-page experience and changes to the navigation model, sitemap and command bar.
- Describe how data in the forms is consumable in different form factors/screen resolutions based on the width available.
- Configure different form controls like inline lookups, subgrids, and composite controls for the name and address fields.
- Discuss overlay dialogs, navigation tour and various enhancements to the notes and activities area.
- Explain the different form upgrade behaviors for customers on December 2012 Service Update for Microsoft Dynamics CRM Online and Microsoft Dynamics CRM 2011 (On-Premises).
- Explain how to activate/deactivate forms and merge information legacy forms with the refreshed forms.
- Discuss how legacy solutions can be imported into Microsoft Dynamics CRM 2013.
- Configure Bing Map controls on the refreshed forms by obtaining a Bing Maps API key.
- Discuss ways to disable auto-save functionality organization-wide or at a form level.
- Discuss how images can be displayed for people entities like users, contacts and leads.
- Discuss how access teams can be set up for enabling collaboration scenarios.
- Describe the support browser matrix and touch-enabled experience on different devices like the iPad and Android.
Lesson 1: Reimagined User Interface

This lesson provides a detailed overview of the reimagined user interface for Microsoft Dynamics CRM Online Fall ’13 and Microsoft Dynamics CRM 2013(On-Premises).

What You Will Learn

After completing this lesson, you will be able to:

- Describe the new in-page experience and changes to the navigation model, sitemap and command bar.
- Describe how data in the forms is consumable in different form factors/screen resolutions, based on the width available.
- Configure different form controls like inline lookups, subgrids, and composite controls for the name and address fields.
- Discuss overlay dialogs, navigation tour and various enhancements to the notes and activities area.
Introduction

In Microsoft Dynamics CRM 2011 (CRM 2011), ribbonized entities were built from Microsoft Dynamics CRM 4.0 (CRM 4.0) where the focus was refreshing primarily the end-user facing experience.

Also, in Microsoft Dynamics CRM December 2012 Service Update (December 2012 Service Update), there were 3 form modes introduced: Classic, Read Optimized and Process Flow based user interface (UI) for Contact, Opportunity, Lead, Account and Case (COLAC) entities.

Form events/Client SDK was not supported in either the Read Optimized or Process Flow based UI. If any java script was detected, the form would always fallback to classic mode however in Microsoft Dynamics CRM 2013 (CRM 2013) there is not going to be a fallback anymore.

With CRM 2013, the presentation of most forms have been updated and the extensibility gaps in the December 2012 Service Update have been filled in and new capabilities have been added.

Thirty entities as well as all custom entities, have all been updated to provide an improved user experience.

These entities are the ones which are most commonly used by people who use the application to do their work, especially for sales and marketing activities. There are many other entities which were not updated, but these are not as frequently used or are focused on managing services.

The following table represents 30 refreshed OOB entities:
<table>
<thead>
<tr>
<th>Entity</th>
<th>Entity</th>
<th>Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account</td>
<td>Appointment</td>
<td>Campaign</td>
</tr>
<tr>
<td>Campaign Activity</td>
<td>Campaign Response</td>
<td>Case</td>
</tr>
<tr>
<td>Competitor</td>
<td>Contact</td>
<td>Contract</td>
</tr>
<tr>
<td>Contract Line</td>
<td>Email</td>
<td>Fax</td>
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<tr>
<td>Invoice</td>
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<td>Letter</td>
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<tr>
<td>Marketing List</td>
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<td>Opportunity Product</td>
</tr>
<tr>
<td>Order</td>
<td>Phone Call</td>
<td>Price List Item</td>
</tr>
<tr>
<td>Product</td>
<td>Quick Campaign</td>
<td>Quote</td>
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<tr>
<td>Recurring Appointment</td>
<td>Sales Attachment</td>
<td>Sales Literature</td>
</tr>
<tr>
<td>Team</td>
<td>Task</td>
<td>User</td>
</tr>
</tbody>
</table>

The refreshed entities are also summarized in this diagram:
The defining user experience principles for CRM 2013 are as follows:

**Simple**
- Focus on the essential functions with a clear, consistent purpose that matches user intention

**Usable**
- Measure usability, incorporate feedback into designs

**Modern**
- Use appropriate web interpretation of Windows 8 UI to create delightful, engaging people and process centric experiences

**Fast**
- Design and deliver great perceived performance

**Loved**
- Design for Love. Create software that people not only want to use, but simply can’t live without.
Site Flattening

Site Flattening is the attempt to eliminate continuous window contextual switches that a user experiences through the course of using the CRM 2011 web application. Excessive window opening is difficult to manage and performance issues can sometimes arise.

The focus in CRM 2013 release has been to reduce the number of clicks required to accomplish some specific actions and optimize usage of pop-up dialogs and windows.

The new in-page navigation model helps redefine the web client UI. We will be discussing the following points in further detail:

- In-page experience to eliminate majority of popup behaviors.
- Instead of taking up page width permanently to display sitemap, the navigation construct displays only on explicit user action.
- Support for existing CRM 2011 sitemap customizations.

In-Page Experience

In CRM 2011, the left navigation has always been on the left side of the page with different areas, modules and navigation links. In the new navigation model, the navigation is now at the top with the items displayed in tile format. To navigate, click on the tiles and it will take you to the entity grid as an in-page experience rather than a pop-up window.

The concept of workplace in CRM 2011 is being removed in CRM 2013. This has been determined since end-users typically want to work within specific modules they tend to focus on and switching between the two modules should not be required often. For example, in CRM 2011, if a sales person is inside the sales module and looking at some opportunity records, they would need to switch to the workplace area to access a list of their activities.

In CRM 2013, based on your security role, you can now view specific modules and all the items previously situated in your workplace area will move to an existing module like Sales. Dashboards, Activities and Reports will be available in every module. The module switcher can be used to switch between the different available modules.

Note that some areas like Settings and Customizations may appear to take longer to navigate to in the new in-page experience and the forms have not been refreshed. Module switching is a slightly more complex than CRM 2011 but the user experience has been reworked to ensure that you do not need to change modules often. The mouse scroll wheel also works with the navigation bar and saves some time while navigating.
The Save and close button from refreshed forms has been eliminated to maintain an in-page experience. Also, Advanced Find still opens as a pop-up window rather than in-page.

Site navigation is now part of browser history

- Pressing “back” on the keyboard or browser back takes you back to previous page you were in. Pressing browser forward similarly takes you to next view (where you just pressed back from).
- Pressing “back” button does not undo actions done within a page.
- The number of backs remembered is what the browser history accepts.
- Under browser history, the page title is displayed as history links. For example, if you open a form, the browser page title changes to: “Microsoft Dynamics – Account Contoso” and that gets used in the history.
- Browser back and forward also updates the navigation bar to ensure that the correct current location and available links are reflected.

Navigation to/from new records - notification

When navigating away back and forth from new records, if there is any change made to its fields, then an in-page notification is displayed as a warning:

![Warning Notification](image)

Navigation to/from existing records - notification

When you navigate away back and forth from existing records, if there has been a change on the form as well as some related error, then an in-page notification is displayed as a warning:
However, if there are no errors on the form, then an auto-save occurs to update unsaved changes when navigating away on existing records. This will occur regardless of whether the auto-save feature is turned on or off. Additional details about the auto-save feature are available in the Microsoft Dynamics CRM 2013 Customization New Features course.

Pop-out windows:

For side by side comparison for records, you can pop-out windows from the in-page experience. There are two ways to do this:

1. There will be a pop-up link on the top right corner of the open record

2. You can also right click on the record and select the option to Open in a New Window.
Important:
For the new window, there would be no browser back or forward functionality initially since the navigation stack is empty. History from the older window does not transfer.

Addressable URLs:

With the introduction of an in-page experience, the addressable URLs have also changed in CRM 2013.

- The address bar now typically displays a URL in the following format: http://Server/Org/main.aspx#XXXXXXXXX
- The hash is composed of 9 digits and keeps updating real-time while navigating the website. It is used by the application to maintain states for all the different objects on the page.
- Based on the hash, on clicking browser back or forward, the navigation bar content updates to the correct state in a "breadcrumb" style of navigation. This path-based breadcrumb/breadcrumb trail is a type of secondary navigation scheme introduced in CRM 2013 which helps you figure out how you have arrived at a particular page.
- To access a specific record, there are three ways to get the URL:
  - Right-click the record from the entity grid and click the Email a Link button.
  - Open the record and click Email a Link from the command bar.
  - Pop-out the record as already discussed.

Tip:
What is the best way to add an iframe or web resource to take advantage of the new in-page experience?
If you write the java script to open a new window, in that case the pop-up window will still open however in most iframe scenarios the experience can be fully in-page. If you set the target to self for the iframe and set the URL dynamically, the experience is still in-page.
Navigation Bar

From an end-user perspective, CRM 2013 is an in-page navigation experience. Instead of over using the left side of the page, the navigation experience has been moved, taking inspiration from existing modern UI designs.

A navigation bar is now at the top of the screen rather than a traditional left navigation pane and collapses once you select an area. In the new navigation, you can use module switcher to select a module or area and the next level displays by selecting a sub-area within that area. The third level of the navigation tree displays the title for the entity record when opening a specific record.

Navigation pane versus Navigation bar

Navigation Bar Structure

(1) Product Icon- Contains CRM Areas or Modules (Sales, Services, Marketing, and Settings by default)
- The product icon is used to select the product areas – Sales, Service, Marketing and Settings.
- Clicking/Hovering on this icon or the chevron next to it, displays all the areas specified in the sitemap.
Selecting an area will take you to the first sub-area in the sitemap underneath that area – which is dashboards by default. The navigation bar collapses by default after selecting the area and shows only the top most row.

The last entity grid (sub-area) viewed in an area is sticky. So if you are on the sales area in contacts sub-area and select marketing area next-on returning to sales, you would still land on the list of contacts.

(2) “Home” button- Takes you to your assigned homepage.

• Clicking on the home button lands you in the area assigned to your CRM user in personal options.
• By default, this will default based on the user role as follows:

(3) Entity Types- Displays the current module/area for your user.

• Clicking/hovering on this icon or the chevron shows the available grids/sub-areas in your current module based off of the sitemap. (Account, Contact, Dashboards, Activities etc)
• If there is no area data available for the area (for example if you open a grid/view from an email with a link to it), then the navigation bar is not displayed in that case. Any records opened from this grid pop out in a new window.
In the second level menu, clicking on the Tile opens the grid with records of a specific entity.
In the second level menu, clicking on the downward arrow opens the relevant most recently used (MRU) for that entity as third level menu.
  o If MRU is empty, the following text is displayed: "(Empty)".
  o If you click on MRU items, this collapses the Navigation Bar, excluding the top level and the record is displayed in the same window.

(4) Entity Name- Displays the current entity grid/subarea name.
You can click on the split button to do one of two things:
  o Clicking on the tile opens the subarea again. If you were on a record, that would take you back to the grid. If you are already on the subarea page, then the page refreshes.
  o Clicking/Hovering on the downward arrow opens the relevant MRU for that specific entity, if available.
    ▪ If MRU is empty, the following text is displayed: "(Empty)".
    ▪ If you click on MRU items, this collapses the Navigation Bar, excluding the top level and the record is displayed in the same window.

If there is no area or sub-area data available (for example if you open a record from an email with a link to it), then the navigation bar only displays the record name.
(5) Record Name - Displays the current record.
- You can click on the split button to do one of two things:
  - Clicking on the tile reloads the same entity record.
  - Clicking on the downward arrow opens the relevant associated grids for that specific entity grouped by a group name, if available.
- In the second level menu, clicking on the tile opens the relevant associated grid for that specific entity.
  - The navigation bar content (breadcrumb tracking the navigation tree) does not change.
  - When you click on an associated grid, you will still see the parent record’s header. Hence the context is maintained.
(6) Global Quick Create button

- Quick Create out of box (OOB) settings
  - COLAC (Contact, Opportunity, Leads, Accounts and Cases), Competitor and Campaign Response entities are displayed here by default. These are ordered alphabetically in ascending order and new custom entities that get enabled for quick create continue to maintain that order.
  - 4 types of activities - task, phone call, email and appointment are also displayed by default. New custom activities are automatically inserted at the end of this list.

- Launching entities from global quick create
  - For entities, a form of quick create type gets launched.

- Launching activities from global quick create
  - For OOB or custom activities, the main form is always launched to create the record.

- Displaying a notification bar after the quick create is complete
When the record is finished creating, a notification bar displays to either view the new record in a full form or create another one via the same quick create experience. The message auto-fades away after approximately 10 seconds.

The notification bar is only applicable to entities, not activities, since they cannot launch a quick create form.

**Note:**

A record created by clicking on the global quick create button does not maintain any context to set a regarding object automatically. Please refer to the customization course for more details about the quick create experience.

(7) Login/User information- Displays current user full name, organization, and profile picture.

- On clicking on this section, an overlay window (div) pops out with a “sign out” button.

(8) Settings- Opens up a menu for settings and other horizontal menu items.

- The settings button will drop a pull-down menu containing the following items:
  - Options: In CRM 2011, this is under File->Option. We will open up the personal settings dialog as a pop-out.
o Print Preview: In CRM 2011, this is same as File->Print preview
o Open Navigation Tour: This opens a new feature which overlays over the website.

![Image](image_url)

o About: This is the same as File->Help->About in CRM 2011. It displays information about the current CRM system in a pop-up window.

(9) Help options.
  • This launches the contextual Help center or the default resources center as a pop-up window.

**Navigation Bar Behavior**

**Interaction Model**

• When switching modules/areas, the following is expected in the refreshed interface:
  o Lesser used module switching UI is hidden by default to optimize the user experience.
  o Clean tile based UI makes the switching experience more intuitive.
  o No extra clicks are required by default. The tile panel expands upon hovering.
  o Switching modules lands you into a module based dashboard by default.
When switching entity grids/sub-areas (Lead, Opportunity, Contact, Account etc.), the following is expected in the refreshed interface:

- Clean tile based entity interface makes switching more intuitive and fast.
- No extra clicks are required by default. The tile panel expands upon hovering.
- Clicking on different tiles lands you into entity grids.
- Clicking on chevron shows Most Recently Used (MRU) records for the entity as third-level menu.
• When viewing entity grids, the following is expected in the refreshed interface:
  o Quick switch between all recent records within a similar entity view.
  o More intuitive location for all entity specific MRUs.
• When viewing entity records, the following is expected in the refreshed interface:
  o Related records tile panel is only visible when viewing a record.
  o No extra clicks are required by default. The tile panel expands upon hovering.
  o The left navigation on the form has been removed and instead replicated in the top navigation bar.
**Color scheme for entities**

There are four types of colored entities:

1. Core entities (COLAC entities and dashboards)
2. Non-core entities
3. Activities
4. Custom entities

Specifically, the 6 core entities are all individually colored and the non-core entities are the same grey color. All custom entities are indicated by the same green color and individual activities are the same red color accessible from the global quick create button. You will not be able to change these colors since color picker will not be available in this release.

**Resizing behavior**

- The new site navigation resizes based on screen width so horizontal scroll bars are only displayed when necessary.
- When the first critical width in pixels is reached, the following items are hidden (in this order):
  - CRM display text for product icon
  - “Create” display text for global quick create button
  - User name/org name
  - Area, subarea and record name
Sitemap Changes

Sitemap Navigation

- Due to the tile-based structure in CRM 2013, the sitemap definition has been rendered in a different way, prioritizing what entities should appear first.

- The sitemap definition now makes module specific dashboards as the first entry of the sitemap for OOB Sales, Service and Marketing areas.

- The existing out of the box sitemap for CRM 2011 has been modified to render in the new refreshed experience.

- “Workplace” has been removed from the current sitemap as discussed earlier.

- The following default sitemap layout is provided for a new customer:
  - In order to help differentiate what’s new, orange cells are used to highlight what was removed from CRM 2011:

<table>
<thead>
<tr>
<th>Area</th>
<th>Grouping</th>
<th>Subarea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Sales</td>
<td>My Work</td>
<td>What’s New</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dashboards</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Activities</td>
</tr>
<tr>
<td>Customers</td>
<td>Accounts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contacts</td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>Leads</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Opportunities</td>
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<td></td>
<td>Competitors</td>
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<td>Collateral</td>
<td>Quotes</td>
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<td></td>
<td>Orders</td>
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<td></td>
<td>Invoices</td>
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<td></td>
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<td>Marketing</td>
<td>Marketing Lists</td>
<td></td>
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<tr>
<td></td>
<td>Quick Campaigns</td>
<td></td>
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<td>Goals</td>
<td>Goals</td>
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<td></td>
<td>Goal Metrics</td>
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<tr>
<td></td>
<td>Rollup Queries</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>My Work</td>
<td>What's New</td>
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<tr>
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<td><strong>Dashboards</strong></td>
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<td>Customers</td>
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<td>Contacts</td>
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<td>Services</td>
<td>Cases</td>
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<tr>
<td></td>
<td>Products</td>
<td></td>
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<td></td>
<td>Services</td>
<td></td>
</tr>
<tr>
<td>Goals</td>
<td>Goals</td>
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<tr>
<td></td>
<td>Goal Metrics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rollup Queries</td>
<td></td>
</tr>
<tr>
<td>Tools</td>
<td>Alerts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calendar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reports</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marketing</th>
<th>My Work</th>
<th>What's New</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Dashboards</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Activities</strong></td>
</tr>
<tr>
<td>Customers</td>
<td>Accounts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contacts</td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td>Leads</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marketing Lists</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Campaigns</td>
<td></td>
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<tr>
<td></td>
<td>Quick Campaigns</td>
<td></td>
</tr>
<tr>
<td>Collateral</td>
<td>Products</td>
<td></td>
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<tr>
<td></td>
<td>Sales Literature</td>
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<tr>
<td>Tools</td>
<td>Alerts</td>
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<td></td>
<td>Calendar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reports</td>
<td></td>
</tr>
</tbody>
</table>

| Settings | ... <No Change> | ... <No Change> |

| Help | Help | Resource Center |
Sitemap Customization

- The sitemap in CRM 2013 is still customizable via sitemap XML in the same way. However, the sitemap XML is read and rendered differently now by the platform:
  - Top navigation bar always exists in the web client for forms and grids.
  - However, in Microsoft Dynamics CRM for Microsoft Office Outlook, the grids and dashboards still have the old navigation bar on the left, like in CRM 2011. This decision was made due to dependencies with Outlook.
  - In Microsoft Dynamics CRM for Microsoft Office Outlook, entity forms will now have the new navigation bar in the top with no path to go to dashboards.

- Associated grid customizations using the form editor to add new navigation links are still supported in CRM 2013. These links are rendered on the top navigation bar in the related records tile panel.

Tip:
What about client API support for form left navigation pane to add or remove some navigation links?
The client API will continue to work for this scenario. Under the hood, the navigation pane is being hidden to allow syncing the display with the top navigation bar.

- For more information about how to customize the sitemap, please refer to the CRM 2011 SDK documentation: http://msdn.microsoft.com/en-us/library/gg309424.aspx
Sitemap Upgrade

For existing customers who upgrade to CRM 2013, the sitemap gets upgraded as follows:

- The CRM 2011 sitemap is not replaced or merged when upgrading to CRM 2013.
- For customers with a customized workplace areas, this will continue to work and the workplace area will display in the sitemap. However, if this area was not customized in CRM 2011, then it will be removed from the sitemap by default.
- For customers that already use workplace today, further customizations to that area would need to be done via sitemap XML, as there is no option to customize workplace in the CRM 2013 user interface.

Fluid Forms

One of the main goals in CRM 2013 is to make data in the forms consumable in different form factors/screen resolutions, based on the width available.

Form contents can dynamically re-arrange themselves according to the width of the window, in order to give a better reading experience. The concept of a template has also been introduced. These are basically shortcuts for creating tab layouts. Once the tab layout is defined, system customizers can drag relevant grids/fields into the templates via form customization. We will be discussing the following points in further detail:

- Proper resizing behaviors to allow fluid and fast navigation between screens. Given certain window widths, each component should be able to understand the area given to it and reflow/rescale appropriately.
- Increase readability and access to information of CRM Forms across form factors/screen resolutions.
- Providing templates, based on best practices, as shortcuts to create tab structures quickly.
- Reflow logic for the following components:
  o Header
  o Footer
  o Form Body – Tab column level

Form Customization Changes

Form selector control:

- A form selector is provided for toggling between available forms.
Form Next/Previous Navigation:

- Next and Previous buttons are provided to move to the previous or next item in the form grid.
- Previous and Next are both added to the navigation history stack. So if the navigation path is:
  Contact grid -> contact record -> previous record -> previous record

Then after clicking the browser back button three times, you will land back on contact grid. You can also press browser forward at any stage to retrace the original navigation steps.

Customization changes in form editor:

In order to define the exact reflow behavior for forms in CRM 2013, two key changes are being introduced to the current form definition.

- A Tab can now have up to three columns. You can select one of three options – One column/Two Column / Three Column.
- When you select One column – none of the widths are editable. The first column is set to 100%.
- When you select Two columns – column 3 width is not editable. When one column is edited to change value up or down, the other column adjusts to keep the total to 100%.
- When you select Three columns – all values are editable.
  - When the column 1 width is edited to change value up or down, the other two columns adjust equally to keep the total to 100%.
  - When the column 2 width is edited to change value up or down, only column 3 width is adjusted.
  - When the column 3 width is edited to change value up or down, the other two columns adjust equally.

- At the form level, you can also specify the maximum width in pixels.

There is a new form property available under the Display tab which defaults to 1900 pixels.
Note:

The minimum expected width is 400 px and the maximum is 2,147,483,647 px. Also, this property is solution-aware and will be exported/imported.

Resize Behavior

When the browser width changes, the page and its components re-arrange its contents using a pre-determined algorithm.

Header Tile

On reaching a particular width, header tiles reflow so that they can still display.

Note that headers in CRM 2013 can contain up to four attributes represented as tiles. You can still add more than four fields, multi-line fields and iframes/web resources into your form’s header, but the header will be rendered as a legacy one and the following notification in the form editor would display:
Solution: Default Solution

Form: Account

Footer Area

A border has been added to the footer element for separation. No further resizing is supported.

Form Tab Columns

- Forms reflow in refreshed forms but not for non-refreshed forms.
- The form does not resize to less than 400px even through the browser window could potentially be resized further below. A horizontal scroll bar gets displayed in that case.
- Form reflow/rescale happens at some pre-determined breakpoints. Between these breakpoints, the form scales proportionally i.e. as the page shrinks, the columns shrink together. However, if one of the tab columns shrinks to minimum pixel width, then that one is not reduced further. If all columns reach a minimum width, then a template reflow logic is enforced.
- Once the first breakpoint is reached (e.g. 1024 px), a template fitting logic is applied to fit the tab layout to one of the pre-defined layouts. Tab columns are scanned based on whether the width is less than 40% (narrow) or equal to/more than 40% (wide).
• This was done to help scale between different form factors/monitor sizes (for desktops and tablets in CRM 2013).
Microsoft Dynamics CRM for Microsoft Office Outlook will also support the same reflow mechanism for forms in refresh mode.
Command Bar

The ribbon model which was introduced in CRM 2011 has actions and layout very closely tied together which makes reusing the infrastructure for different types of rendering a bit challenging. The ribbon also provides a lot of information in a very dense format however based on research it has been determined that there tends to be a smaller set of actions that the end-users want access to.

In CRM 2013, you can quickly find the specific set of commands you use on a daily basis. Also, the commanding infrastructure has been improvised so that it will be easy to consume by both mobile client applications like Microsoft Dynamics CRM for tablets (CRM for tablets) and the web client. The existing out of the box business logic for CRM 2011 has been reworked to completely use documented supported/public APIs so that the same business logic can now run on new type of clients.

We will be discussing the following points in further detail:

- Simple rendering of commands using the command bar instead of the ribbon model.
- Shareable command infrastructure across different type of clients.
- Support existing customer’s ribbon customizations for migration to the new command bar.

Architecture

Summary

- In CRM 2011, with the ribbon model, resize and scaling behaviors were accounted for in the ribbon XML but the new command bar is modeled much simpler with a set of commands shown and an overflow menu (more menu).

- In CRM 2013, the scaling information about how to transform each control size based on the window size (which used to be a big part of the ribbon layout definition) has been removed. There was also a lot of book-keeping information about menu section, group count etc. - some of this has also now been removed from the layout definition.

- The data is retrieved for command information by the context in which the commands are associated with rather than by some Tab Id. Basically, the definitions are organized by context rather than Tab Id which provides a more consistent model for querying and delivering the definitions.

- For a standard entity form, there are about 4 or 5 tabs defined which would all be separate requests to the server, carrying a fairly heavy payload. By organizing the command bar definitions by context rather than Tab Id, tabs that share same context can now be merged into the same payload.
• Because tabs are being merged now, commands and rules for tabs can also be merged. So a lot of rules being reused across do not need to be duplicated in the layout definition. This will provide performance benefits since there is less information being sent as well as fewer requests to the server.

• Commands and rule definitions that never get displayed in the command bar will get trimmed. If a specific button isn't valid for the command bar layout, it is not included in the definition being sent down to the client. This is different from CRM 2011, where all users in the application got the same definition and then some display rules were applied on top. A trim list was being maintained that trimmed information for the user. The trim list is still used in CRM 2013 for evaluating user permissions but for the definitions, the controls that never display on the command bar are simply filtered out.

• The amount of work done during the run-time in the application layer to build up the ribbon definitions has been reduced. Some caching of the definitions is also done on the client.

• Similar performance benefits would apply to CRM for tablets since some data can be preloaded that is necessary during configuration and on-demand information can be loaded later during the life of the application. Local storage is heavily used on those devices to persist definitions in order to eliminate server round trips assuming that the ribbon information isn’t being heavily customized.

Commanding User Interface

You can perform an action on an individual record and find relevant commands in the command bar at the top of the page. A single click will trigger the most used commands and an extra click will expose the less frequently used set of commands.

Only refreshed entities display the new commanding infrastructure while non-refreshed entities will continue to rely on the ribbon model.

• The command bar has at most 5 buttons at the high level. Any additional buttons are part of the more menu (...). An infinite scrollbar is introduced if there are too many commands in the list.
When the browser window is resized such that all five commands cannot all be displayed, they are moved into the **more menu** until none are remaining.
• Within the more menu, commands can be displayed with a split button where the control is wrapped as a flyout anchor and there is no default action associated with the button.

• Dynamic actions such as reports are presented as split buttons without any default action (flyout anchor). Clicking on the high level menu will load all the underlying options and finally clicking on a specific option will trigger some action.
On the main command bar, a split button is also used where there could be more than one type of action associated. Clicking on the button triggers the default action and clicking on the arrow next to the button opens any additional options that are also clickable.
Command Bar Types

- **Dashboard Command Bar:**

![Dashboard Command Bar Image]

Dashboard: Sales Activity Dashboard

- **Sales KPIs**

Sales Pipeline

- **Form Command Bar:**

![Form Command Bar Image]
- **Grid Command Bar:**
  - By default, the grid command bar is displayed as follows:

    ![Image of Microsoft Dynamics CRM grid command bar](image1.png)

    **My Active Accounts**

    | Account Name                        | Main Phone | Address 1: City | Primary Contact          | Email (Primary Contact) |
    |-------------------------------------|------------|-----------------|--------------------------|-------------------------|
    | A. Datum Corporation (sample)       | 555-0150   | Redmond         | Rene Valdes (sample)     | someone_r@example.com   |
    | Account                             |            |                 |                          |                         |
    | Adventure Works (sample)            | 555-0152   | Santa Cruz      | Nancy Anderson (sample)  | someone_a@example.com   |
    | Alpine Ski House (sample)           | 555-0157   | Missoula        | Paul Cannon (sample)     | someone_p@example.com   |

  - When a record is selected in a grid, commands are displayed for individual or bulk actions at a record level. To select a record, a checkmark is displayed as the first column and can be applied to one record, specific records or all records.

    ![Image of Microsoft Dynamics CRM grid command bar with actions](image2.png)
- **Associated Grid Command Bar:**
  - As discussed earlier, associated grids for a record are now accessible via the top navigation bar.
  - A command bar is exposed for the account record for associated entity types such as Activity.

- Upon selecting a record from the associated grid, the command bar surfaced is form-level.
Microsoft Dynamics CRM for Microsoft Office Outlook Behavior

- MAPI grids would continue to have Ribbons.
- Launching forms would have a command bar since these render the web client user interface. Sub grid and dashboard grids are also upgraded to have contextual commands in Outlook.
- The same Ribbon XML is still being parsed so there should be no changes in behavior in all other areas of Microsoft Dynamics CRM for Microsoft Office Outlook.
- The places where the ribbon in Outlook is being kept are as follows:
  - Navigation grid
  - Associated grid
  - Full (homepage) grid
  - Dashboards

- Here is a table with the full list:

<table>
<thead>
<tr>
<th>Type of object</th>
<th>For a Refresh entity</th>
<th>For a Non-refresh entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refresh form</td>
<td>Command bar</td>
<td>N/A</td>
</tr>
<tr>
<td>Sub grid</td>
<td>Contextual sub grid commands</td>
<td>Legacy sub grid</td>
</tr>
<tr>
<td>Dashboard grid</td>
<td>Contextual sub grid commands</td>
<td>Legacy sub grid</td>
</tr>
<tr>
<td>Home grid</td>
<td>Ribbon</td>
<td>Ribbon</td>
</tr>
<tr>
<td>Associated Grid</td>
<td>Command bar</td>
<td>Ribbon</td>
</tr>
<tr>
<td>Edit Form</td>
<td>N/A</td>
<td>Ribbon</td>
</tr>
<tr>
<td>Outlook Client MAPI Grids</td>
<td>Ribbon</td>
<td>Ribbon</td>
</tr>
</tbody>
</table>
Upgrade Considerations

- For tabs that have custom commands, these are retained with a flyout for the commands in the more menu. Any customized commands in the main entity tab for CRM 2011 will appear in the command bar in the order specified in the ribbon XML. If no order is specified, they get added to the bottom of the more menu.

- For the command user interface, all the actions are merged based on the order specified in the ribbon xml. The out of box ribbon tabs defined in the system are merged into one command bar definition for each context.

- All the groups from each OOB tab are taken and the tab hierarchy is flattened out into the command bar definition. Groups stay defined in the Ribbon XML as separate definitions but when they are loaded into the system, they are converted into one larger definition with all the groups appended.

Note:

There is now a specific rule type available for ribbon customizations to allow commands to be applicable to only specific client types. Additionally, there will be some unsupported button types in CRM 2013- please refer to http://msdn.microsoft.com/en-us/library/dn281891.aspx

We will discuss these points in the SDK course further.

Inline Lookup Controls

As a part of the application refresh in December 2012 Service Update, inline lookup controls were introduced.

For CRM 2013, we will be discussing the following points in further detail:

- Allowing users to create new records from within the lookup control.
- Allowing users to customize the columns which are shown in the search results.
- Partylist lookup control.
Create records from lookup controls

- A **New** button is displayed at the bottom of the Inline lookup control.

- When you click the **New** button, the Quick create form opens up on top of the form like the Global quick create button.
  - **Single Entity Lookups:** - Quick create form of the entity to which the lookup points launches.

  - **Multi-entity Lookups**
    - **Customer Lookup:** - Contact Quick form opens up.
- **Owner lookup**: New button is not displayed.

- **Regarding Lookup**: New button is also not displayed.

- **Partylist Lookup**: Contact Quick form opens.

- If the Quick create form of an entity is not available, clicking the New button opens the default entity form.

- A new record created using Quick create form/entity form gets populated back in lookup control.
If you do not have permissions on the entity whose new record is to be created, then the **New** button is also not displayed.

**Customize data columns for lookup controls**

In the December 2012 Service Update, customers could not specify the data which they wanted to see in the search results for lookup controls. This gap has been addressed in CRM 2013 as follows:

- A default view gets passed to the lookup control as a parameter.
- A total of three columns of the view specified are shown in the inline lookup.
  - These three columns will include the primary attribute and the first two columns of the specified default view.
  - If primary attribute is present in the first two columns, then the next column of the view gets used.
- By default, only up to 10 results are available in the inline lookup control. Clicking on **Look Up More Records** exposes the full lookup form with search criteria such as selection of entity, view etc.:
Partylist lookup control

Party list lookup control is used on Activity entities like Email, Phone call etc. in fields like to, cc, bcc etc. This control allows you to search and select multiple values.

- There are three possible states like all other inline lookup controls:
  - Read-mode
  - Edit hint mode: By hovering over the control
  - Edit mode: By pressing enter or clicking on the control
• On typing a value, most recently used (MRU) are displayed and on pressing **Enter**, the search results are displayed inline.

**New Email**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td>a</td>
</tr>
<tr>
<td>To</td>
<td></td>
</tr>
<tr>
<td>Cc</td>
<td></td>
</tr>
<tr>
<td>Bcc</td>
<td></td>
</tr>
<tr>
<td>Subject</td>
<td></td>
</tr>
<tr>
<td>Attachments</td>
<td></td>
</tr>
<tr>
<td>File Name</td>
<td></td>
</tr>
<tr>
<td>To enable this content, click on the search icon.</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

A new property to disable MRU is available from the form editor for any lookup controls.

• To select more values in the lookup control, you have to type another query, search and select the value from the search results. Also, a new value can only be added at the end of the text box.
• When the number of values selected in the text box exceeds the length of the text box, then the text box expands. The maximum height to which the text box will expand is three rows, after which a vertical scroll bar is displayed as shown below:

On clicking on a value present in the lookup control, that value will be selected, a record will open on double clicking the value and Backspace/Delete key can be used to remove value.

• If you have typed a string in the search box and exit the control, search query is fired as follows:
  
  o **When no search result is returned:**
When only one search result is returned:
The lookup control resolves to one value

When more than one search result is returned:

- When a value is already present in the lookup control and there is an issue with the auto resolution, the value triggering the error gets highlighted in red.

Auto resolve gets fired by performing any of the following actions:
- Pressing CTRL + K after typing in the field.
- Tabbing out of the field after typing in the field.
- Clicking outside the field after typing in the field
**Inline Subgrid Controls**

As part of the application refresh in December 2012 Service Update, inline subgrid controls were introduced.

We will be discussing enhancements to four types of grids in CRM 2013:

a) **Form Subgrids** – These are shown on the form and used to show a small amount of related data on the form. These subgrids can be based on a relationship or they can be of unrelated data as well. Unlike CRM 2011, form subgrids do not update the form’s contextual command bar/ribbon.

b) **Associated Grids** – These are always based out of relationships and show large amount of related data. The command bar of these subgrids is customizable.

c) **Dashboard grids** – These are used to show data related to a user. They are typically used for less amounts of data.

d) **Home page grid** – Landing page of an entity. These are used to show all the records of any entity. The command bar of these grids is customizable.

**Form Subgrids**

- View Selector is supported as a property. If the view selector is not turned off for the subgrid, then the label for the subgrid is not displayed on the form.
• Column resizing and sorting can be done on the form subgrid.
• Subgrid command bar always has an add and a delete action:
  
  - Clicking on the add button (+) selects a row in the subgrid to type a query and opens an inline lookup control.
  - For a subgrid (based on a relationship), you can now choose to create a new “related” record from the inline lookup control. Any records created from the quick create form launched will honor the relationship mappings between the parent and child entities.

  ![Stakeholders Subgrid](image)

  ![Account Subgrid](image)

  ![Important notice](image)

  - Some entities like quote, order and invoice will always launch the full create form experience on clicking the add button, regardless of whether a quick create form has been setup or not for these entities.

  - Clicking on the delete button (x) prompts you prior to deleting the record or in some cases will only remove the record. (e.g. connection subgrid )
  - For subgrid (based on a relationship), a third action button for expanding the list is also available.

• Form Subgrids do not support adding any new command bar actions apart from what is provided out of box.
- Errors are also rendered in-line and on hovering on the error icon, the message gets displayed.

![Error Message](image)

- You can now also enable Charts on the Refresh forms via “Show Chart Only” and “Display chart Selection” properties.

![Set Properties Dialog](image)

- Here is an example of how charts would render for the competitor form where opportunities are surfaced as a form subgrid but are also related to the competitor:
Inline editable: Products subgrid on Opportunity, Quote, Order and Invoice

• In the December 2012 Service Update, the information architecture and commands were defined for the opportunity form and header. For CRM 2013, we have now defined the product line item subgrid and the quote subgrid which were hidden previously on opportunity.

• This product subgrid is also surfaced on quotes, orders and invoices. This particular subgrid is inline editable out of the box. Also note on the opportunity form, there is a Stakeholders sub grid which has one column called "Role" that is inline editable as well.

• Product subgrid functionality:
  o There are three options to add products in this subgrid:
- Existing Product (from catalog)
- Write-In Product
- Get Products (copy products from an opportunity)

- The write-in products are differentiated from the existing products by an icon appended to the left.
- For existing products, only discount and quantity are inline editable but for write-in products all the available fields in grid can be edited.
- Selection of a record in the sub grid enacts edit mode and a delete button also becomes available on the extreme right. You can also re-order the list of products in the sub grid using up and down arrows.
- Every time you add a product in the sub grid, the totals are refreshed so temporarily a spinning wheel may display indicating that server side processing is occurring until the totals finish updating.
- Underneath the sub grid, the calculation is displayed with the fields formatted with a + and - sign.
- The lock icon on products sub grid for invoice, can either lock the pricing so that it is not inline editable anymore or you can unlock it to use current pricing. On clicking on this lock icon, the action is applicable to all product rows for that record. If the pricing is locked, then you can only add existing products from the catalog.

**Associated Grids**

- You can click on the icon on the right to expand the list of records from the subgrid. This is a third type of action available on associated grids or form subgrids (based on relationships).
Note:

Expanding the list action type is not visible on following subgrids:

a) Access Teams on Opportunity form
b) Stakeholders on Opportunity and Lead forms
c) Product line items on Opportunity, Quote, Order and Invoice forms

- This will land you in the grid view with the same default view selected as the subgrid. Here you can multi-select records, change query filters, refresh the list etc.

- The grid filter icon (🔍) will be shown on the header of the row, next to the refresh button. On clicking on the grid filter button, filter icons will be shown on each column. The filters can also be saved as a view via the view selector. (“Save filter as new view” and “Save filter to current view”.)
Save filter to current view option in the view selector is only enabled when at least one column has a filter applied and a user defined view is already selected.
Dashboard Grids

- Actions available on Dashboard subgrids are the same as Form subgrids - properties such as view selector, column sorting/resizing etc are available.

Homepage Grids

- Homepage grids have a full command bar similar to associated grids.
- Non-refreshed entities would still have the old layout - e.g. queues and facilities grid when accessed via System -> Business Management.
• The home page grid command bar has an action called **Chart Pane** which controls whether the chart pane is shown or not. It can also set whether the pane should be displayed to the right or at the top.

• A Chart Pane will be in collapsed mode by default and can be expanded partially. Also, a pin icon is available next to the view selector to set a specific view as the default.
- The Chart Pane can also be expanded fully by clicking on an action on the command bar to expand/collapse the pane.

- Functionality of the Chart Pane like drill down and expansion into records is the same as CRM 2011.
Overlay Dialogs

In CRM 2013, dialogs are being rendered as iframes and centered in the browser window.

- They are lightboxed i.e. the areas around the inline dialog will be dimmed with a semi-transparent grey fill.
- If the browser window is resized, the dialog will still remain in the center.
- The dialogs will also be keyboard accessible and pressing Escape (Esc) will close the dialog.
- There is no change in the Microsoft Dynamics CRM for Microsoft Office Outlook experience and windowed dialogs will continued to be rendered.

This is an example of a dialog that prompts for confirmation to delete a case record.

Note: Javascript alerts will also render as an in page experience.
Composite Controls

In the December 2012 Service Update, a set of inline edit controls was designed to allow read-optimized forms to be editable.

This effort has been extended in CRM 2013 to fields associated to Name and Address so that space available on the form can be optimized while still ensuring that you can edit the individual fields easily.

Summary

- Composite Control is a flyout with related fields displaying in edit mode.

  - Clicking Done or losing focus of the flyout commits the changes and the composite display refreshes to the most current value. The changes finally get saved whenever the form is auto.saved/manually saved.

  - Validation of the fields still occurs individually in the composite control.

  - Errors are highlighted in the control:
When tabbing into a composite control, the fly-out opens with the constituent fields in edit mode.

- Composite Control for Name:
  - The control consists of the following fields:
    - First Name
    - Middle Name
    - Last Name
  - Name ordering is as follows:
    - First name, Middle Name, Last name: default
    - Last Name, First Name: Chinese (Hong Kong, Taiwan, PRC), Japanese, Korea

- Composite Control for Address:
  - For each locale, the composite control flyout displays fields as follows:
    - Format 1 for Japan:
      Zip/Postal – textfield
      Country/Region – custom control, Textfield + dropdown combination
      State/Prov – Textfield
      City – Textfield
      Street – Textarea
    - Format 2 for China, Korea:
      Zip/Postal – textfield
      Country/Region – custom control, Textfield + dropdown combination
      State/Prov – Textfield
City – Textfield  
Street – Textarea

- **Format 3 for remaining countries:**  
  City – Textfield  
  Street – Textarea  
  State/Prov – Textfield  
  Zip/Postal – Textfield  
  Country/Region – custom control, Textfield + dropdown combination

  - The display value is auto-formatted based on the fields filled out. Existing Outlook formatting logic is being used, which is based on the country the address is being sent to.

- The form editor displays the composite control as a removable field.
  - Name is identified as “fullname” – a single line of text.
  - Address is identified as “address1_composite” of type multiple line of text and has additional formatting options to specify number of rows occupied by the control.
- Business Required and Business Recommended fields also get marked in the composite control flyout.
- Client API support (on change event) is also provided for the composite controls.
- You cannot customize the composite control to create new controls composed of your own custom field sets in this release.

**Bing Map Control**

- The address composite control updates a Bing map control on the entity form. This map control can be seen in the form editor and can also be removed:
You can also map specific address field sets such as address 1 or address 2 to the Bing map control as well as set formatting options.

Bing maps is also exposed on the form editor as a first class control for forms that use address fields.

Important:
Multiple Bing maps on a single form are NOT supported. The “Bing Maps” button will be disabled when there is already an existing map control on the form. Even on merging forms, if a second Bing map control is found on the merged form, it does not render.

Upgrade Considerations

- New customers always get composite controls available on their forms by default.
- Existing customers would continue to have individual fields for full name and address after the upgrade to CRM 2013.
  - These customers would need to drag the new composite controls onto their legacy forms and get rid of the individual fields.
  - Even when there is a mix of composite and the individual fields being used, the fields can just sync across each other.
Notes/Activities Enhancements

One of the main goals of the refresh experience, is to provide a seamless UI, by reducing the number of clicks and eliminating pop-ups. The notes and activities experience has been enhanced keeping these goals in mind.

Notes Enhancements

- Notes has been converted to use quick create form as well as metadata XML. Files can now be attached inline along with the Note and opened with the native application. There is a server blacklist that will prevent attaching possibly malicious files.

- For uploading attachments, synchronous calls are made to server (like the CRM 2011 notes control). For non-attachment updates (text) asynchronous calls are used.

- A note can be created with no text and just an attachment. When this attachment is deleted, an empty note will be created instead with no text and no attachment.

- Notes functionality now leverages wall infrastructure rather than the CRM 2011 notes infrastructure. The look and feel will be very similar to the activity feeds wall - a delete button appears with subsequently an Undo option for a few seconds after the delete.

  The note has been deleted. Undo

- There is no pop-up experience for looking at the note description and you can infinitely scroll through the description as needed. The title needs to be set manually and does not default with the Created By and Created On attributes.

- The only information that appears at the bottom of the note is who last modified the note and when the note was modified. Cascading actions could make this information
not as useful. E.g. If a cascade action occurs that updates all the notes, then Modified By and Modified On would be the same for all Notes.

- The Created By and Created On are available on mouse over/hover as a tooltip along with the existing Modified By and Modified On information.

**Activities Enhancements**

- Activities in the December 2012 Update only allowed you to add Phone Calls and Tasks. This has been expanded to allow you to add other activity types and also includes some new filtering options to do things like only show “Overdue” activities.

- Phone calls and tasks use OOB quick forms for the create experience and are defined in the system as “quick forms”. You can also customize these quick forms.

- Activities have been converted to use quick forms and metadata XML. This entails a new user interface for both create and editing. You can now create any custom activities and they will be added to the flyout (+) button to create Activities in the list.

Note: On the social pane for accounts and custom entities, a default tab can be set now. You can click on the control in the form editor to surface the default tab option:
**Navigation Tour**

In CRM 2013, upon logging into the website, a quick tour is always displayed by overlaying across the web client.

- You can disable this per user however it cannot be set globally for the organization by an administrator.
- There are five different animated screens as part of this tour that discuss hints to get started navigating in the web client.
In the final screen, there are links exposed to the "Get Started" website as well as information to contact customer support.
Lesson 2: Upgrade Experience

This lesson provides a detailed overview of the form and solution upgrade experience in Microsoft Dynamics CRM Online Fall ’13 and Microsoft Dynamics CRM 2013 (On-Premises).

What You Will Learn

After completing this lesson, you will be able to:

- Explain the different form upgrade behaviors for customers on the December 2012 Service Update for Microsoft Dynamics CRM Online and Microsoft Dynamics CRM 2011 (On-Premises).
- Explain how to activate/deactivate forms and merge information legacy forms with the refreshed forms.
- Discuss how legacy solutions can be imported into Microsoft Dynamics CRM 2013.
Form Upgrade

The guiding principles for the form upgrade are as follows:

- **When upgrading, “do no harm”**
  - When upgrading the forms to support the new reflow capabilities, existing form layouts are not reorganized (there may be some minor exceptions).

- **Put the Customer in control**
  - You can choose the new Information Architecture and capabilities on your own terms.

  All customers will get the new form rendering in CRM 2013 by default where inline editing, process capable forms, the new command bar and auto save functionality are enabled. Notes and activities enhancements will also be available by default.

**Note:**

**Resulting recommendations:**

- Existing customers do not receive the new form layouts (3 column layouts) and Information Architecture on upgrade by default.

- Enable customers to merge existing form layouts with the new ones on a case by case basis.

To improve the user experience, the layout for forms has changed. Customers upgrading from earlier versions have spent a lot of time customizing their forms and new layouts will not be arbitrarily forced for your custom forms. New forms have been added for all the entities that have been updated. These new forms include a three column layout that demonstrate a refreshed experience. If you upgrade from the previous release, you will find your existing Information main form and a new main form named after the entity. The new form for the Account entity is Account, the new form for the Opportunity entity is called Opportunity, and so on. When you upgrade you can edit this new form and choose Bring in another form from the ribbon. This will append the Information form to the bottom of the new form and you can drag and drop the parts of your original form into the new form so that you can take advantage of the new layout and features.
Activating/Deactivating Forms

You now have visibility into all the forms in the system and have complete control over which ones to use and which ones not to.

- For new customers using refreshed entities, out of the box all “information” forms (legacy) are inactive, and all refresh forms (updated) are active.
- New views in the customization editor display new buttons for **Activate** and **Deactivate** as actions.

- An inactive form will not be displayed anywhere in the application but it can be edited via the form editor. The following notification is displayed in the editor:
**Note:**

You can select the action to “Save As” for this legacy form and continue to build the older CRM 2011 form experience.

- The activate/deactivate option is only available for forms of type “Main” since the other types have not been refreshed and an error would be displayed if you try disabling a different form type:
• There must be at least one active main form (either legacy or refreshed) and if you try to deactivate the last remaining active main form, an error message prevents this.

**Upgrade Behaviors**

• Upgrading CRM 2011 customers:
  o For existing customers upgrading from CRM 2011, their default active form is the old information form from CRM 2011.
  o They will get an additional refresh form for the refreshed entities, however the new refreshed forms are inactive by default
  o The new forms will have the lowest form order in the system, underneath all the existing system and custom forms.

• Upgrading December 2012 Service Update for Microsoft Dynamics CRM Online release customers:
  o The COLAC (contact, opportunity, lead, account and case entities) refresh forms will be replaced by the CRM 2013 refresh form. All the existing COLAC forms that will upgrade to CRM 2013 are set to “active” by default.
  o The remaining bucket of refreshed entities will have the default active form set to the old information forms from CRM 2011.
  o For any customizations that conflict with the update which need to be resolved later, these are grouped into a Conflicts Tab.

• Summary of features for existing customers:
  o Sitemap and ribbon customizations will upgrade seamlessly. However, there are some considerations that will be discussed in their related sections. All customers will get the new navigation bar and command bar.
  o Inline lookup controls, inline subgrids, process flow UI and autosave functionality will be present by default.
  o Notes and activities enhancements automatically display.
  o Composite controls (full name and address controls) and Bing Maps controls do not display by default. Theses can added to the form later though.
  o The workplace area has been removed from the sitemap by default – however upgrading organizations will retain their existing workplace areas (provided that it has been customized) but you will no longer have the option to personalize what is displayed there within the **Personal Options**.
Whatever personal option settings were set at the time of the upgrade will persist.

- Microsoft Lync presence will not be supported on the updated user interface entity forms and in Activity Feeds. Lync presence will be enabled in homepage/entity grids and form subgrids though.

- Duplicate detection during create and update operations will not be supported for Microsoft Dynamics CRM updated user interface entities. Duplicate detection of individual records won't be supported for custom entities as well. However, to detect duplicates in bulk, you can use the `BulkDetectDuplicatesRequest` message and the `RetrieveDuplicatesRequest` message.

The following table contains a list of the updated user interface entities available in CRM 2013. These entities will not have duplicate detection support during record create or update operations:

<table>
<thead>
<tr>
<th>Schema Name</th>
<th>Display Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account</td>
<td>Account</td>
</tr>
<tr>
<td>Appointment</td>
<td>Appointment</td>
</tr>
<tr>
<td>Campaign</td>
<td>Campaign</td>
</tr>
<tr>
<td>CampaignActivity</td>
<td>Campaign Activity</td>
</tr>
<tr>
<td>CampaignResponse</td>
<td>Campaign Response</td>
</tr>
<tr>
<td>Competitor</td>
<td>Competitor</td>
</tr>
<tr>
<td>Contact</td>
<td>Contact</td>
</tr>
<tr>
<td>Email</td>
<td>Email</td>
</tr>
<tr>
<td>Fax</td>
<td>Fax</td>
</tr>
<tr>
<td>Incident</td>
<td>Case</td>
</tr>
<tr>
<td>Invoice</td>
<td>Invoice</td>
</tr>
<tr>
<td>Lead</td>
<td>Lead</td>
</tr>
<tr>
<td>Letter</td>
<td>Letter</td>
</tr>
<tr>
<td>List</td>
<td>Marketing List</td>
</tr>
</tbody>
</table>
### Form Merge/Migration Behavior

- A new button has been built into the form editor called “Bring in another form”.
  - This gives you the option to select any legacy information form (and bring it into a Refreshed form as a customization by appending to the bottom of the current form.
  - All scripts, fields, field settings, etc. are brought in working. This includes iframes, custom web-resources, and any dependencies those may have.
  - The header & footer from the old information form will be converted into a tab with one column, and one section in their equivalent to the section settings in header. These get named as *Information Header* and *Information Footer*. Header goes before the body of the new form and the footer goes after the body of the form.
  - There is no limitation to how many times old forms can be merged into the main refreshed form.
• This manual form update action is simply an **insert action**, which concatenates new refreshed form definition at the beginning of the same old form. The old form (header, body, section) will be wrapped up in a section below new form’s body and you would need to manually fix the layout of this merged form.

• Changes made after merging the forms and completing a publish action cannot be undone. You should do testing of merging forms on copies of the forms and a warning is also displayed as follows in the editor:
Important: If the number of events/web resources after the merge into the main form is greater than 50, changes are rolled back and an error message is displayed to remove some form events.

Solution Upgrade

- CRM 2011 solutions import to CRM 2013 however CRM 2013 solutions cannot be imported into older versions of CRM like CRM 2011.
  - The solution files are converted to the new format on import.
  - Both unmanaged and managed solutions are supported.
  - Two versions of the form XML co-exist for upgraded customers— one for CRM 2011 and the other for CRM 2013. Updates are selectively applied to the form XML based on whether a solution was built on CRM 2011 or CRM 2013.
  - What this would mean is that if a customer has been using the refreshed forms in CRM 2013, and now installs a solution built off of CRM 2011, this would update the old information form (legacy).
  - You can merge the CRM 2011 information form (legacy) and any updates applied to it with the CRM 2013 refreshed form.
  - If you install a solution built off of the December 2012 Service Update for Microsoft Dynamics CRM Online release, the forms get auto-upgraded to CRM 2013 via a relaxed merge.

Solutions Primer for Form Merging

<table>
<thead>
<tr>
<th>Final Merged Result</th>
<th>What the user finally sees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customization Layer (diff)</td>
<td>Customizations on top of all managed solutions.</td>
</tr>
<tr>
<td>2011 Managed Solution (diff)</td>
<td>Each Managed solution represents a set of diffs off the base form XML from which it was created.</td>
</tr>
<tr>
<td>2011 Managed Solution (diff)</td>
<td>Diff Instructions: Add, Modify, Remove... tabs, sections, fields</td>
</tr>
<tr>
<td>Base CRM 2011 Form ID = “Main”</td>
<td>Base form XML describing form layout (tabs, sections, fields) and scripts</td>
</tr>
</tbody>
</table>
- If a V5 solution is coming in, only update the v5 Base form.
- If a V6 solution is coming in, only update the v6 Base form.
Lesson 3: Miscellaneous Features

This lesson introduces miscellaneous application features introduced in Microsoft Dynamics CRM Online Fall ’13 and Microsoft Dynamics CRM 2013(On-Premises.

What You Will Learn

After completing this lesson, you will be able to:

- Configure Bing Map controls on the refreshed forms by obtaining a Bing Maps API key.
- Discuss ways to disable auto-save functionality organization-wide or at a form level.
- Discuss how images can be displayed for people entities like users, contacts and leads.
- Discuss how access teams can be set up for enabling collaboration scenarios.
- Explain module based dashboards as entry points for users in the application.
Bing Maps

Mapping integration was provided for accounts, contacts and leads with the December 2012 Service Update. This integration leveraged Bing Maps service to render maps for entities like leads and accounts mashed up with maps in the CRM user interface. The December 2012 Service Update implementation of the Bing Maps API required that the operation teams internally set this up for CRM online customers.

In CRM 2013, mapping integration can now also be used by On-Premise customers by setting up a Bing Maps API developer key for their installation.

Setting up the Developer Key

- Click **Settings**, click **Administration**, and then click **System Settings**. Click the **General** tab, and then review the **Enable Bing Maps** section.
  
The Bing Maps key would need to be entered here by the CRM on-premise customer.

Obtaining the Developer Key

- The process of getting a Bing Maps API key from [https://www.bingmapsportal.com/](https://www.bingmapsportal.com/) is described below:
Bing Maps Account Center

My Account
- Update or view account details
  - Create or view keys
- View my Bing Maps API usage

Map Apps
- Submit a map app
- View my map apps

Resources
- Bing Maps Platform
- Bing Maps APIs
- Bing Maps Forums
- Bing Maps Blog
- Bing Map App SDK beta

Announcements

Bing Maps Service update
Posted: January 14, 2013
Bing Maps Service Announcement: Metro S

Windows 8 legacy key is set to expire January 1

What is a Windows 8 legacy key?

Windows 8 legacy keys (previously known as):
- Metro style apps (BETA)
- Trial / Windows Metro style app

The Bing Maps Key system was updated in July, a legacy key and was automatically migrated to

Create key

* Application name

Application URL

* Key type
  - Trial

* Application type
  - Public website

* Enter the characters you see
  - Try a new image

Click [here](#) to view/download complete list of keys.
Auto Save

In the December 2012 Service Update, a new capability was introduced called Auto save which automatically saved changes in forms every 30 seconds after the first edit. Auto save helps people focus on their work without having to manage saving data in the form. If someone else has updated the same record while you are editing it, those changes will be retrieved and displayed in the form when auto save occurs.

Disabling Auto Save

If you have plugins, workflows, or form scripts that execute when a record is saved they will be run each time auto save occurs. This might lead to undesirable behaviors when these extensions were not designed to work with auto save. With auto save, plugins, workflows, and form scripts should be designed to look for specific changes, and should not execute indiscriminately for each save event. This is true whether auto save is enabled or not.

If you have auditing configured for an entity, each save is treated like a separate update. If someone lingers on a form with unsaved changes for more than thirty seconds, you will see an additional entry if they add more data after the auto save is performed. If you have reports that depend on auditing data and treat each save as an individual ‘touch’ of a record, you might see an increase in the frequency of touches. If you are using this approach, you should consider that individual user behaviors make it an unreliable metric with or without auto save enabled.

Disable auto save for your organization

If you determine that auto save will cause problems with any extensions you are using, you can disable it for your organization. There is no setting to disable auto save for individual entities or forms.

- A new setting has been introduced as follows:
  - Navigate to Settings > Administration and click on System Settings.
  - On the General tab, the first setting is Select the default save option for forms.
  - To disable auto save, for the Enable auto save for all forms option, choose No.
• Note that the Save button is not displayed on the command bar if auto Save is enabled when updating records. It will only display in the lower right corner (status bar) by default and also indicates unsaved changes. You can click on this button to save the record and refresh data in the form immediately.

• In the command bar, a save button gets displayed when this setting is turned off. The auto save area in the lower right corner (status bar) still displays but does not trigger auto-save anymore.

• Navigating away from the form will always trigger a save without prompting the user. This is done only when the form is dirty i.e. some field’s value has changed.

Disable autosave for a form

• Javascript On Save calls are fired on both auto save and on explicit saves. The following actions qualify as an explicit save:
  
  o Clicking on the Save button in the command bar
  o Clicking on the Save button in the status bar (in case of auto save)
  o Navigating away from the page by
• Clicking on a linked record
• Clicking on Back
• Closing the window
• Associated grid

• Since the Save event triggers on both auto save and explicit save, a way has been provided to differentiate whether the Save event is being triggered by autoSave or explicit save. A new "Auto Save" mode with an unique value of 70 has been added to the CRM SDK so that the getSaveMode() can return a specific value for ISVs to use. Refer to MSDN link for more information about the existing method in CRM 2011.

• If you want to enable auto save for your organization but disable it for specific entity forms, you can add code to the OnSave event to prevent auto save from occurring for that form only. This steps below will prevent auto save from occurring, but will not display the Save command in the command bar. Data will still be saved when you navigate away from the record or close the window as that is considered as an explicit save.

  o Navigate to Settings > Customizations > Customize the System
  o In the solution explorer, expand the Entities node and locate the entity for the form.
  o Expand the entity node and select Forms
  o Double click the form you want to edit.
  o Create a JavaScript web resource and add it to the form
    ▪ In the form editor, in the Form group, click Form Properties.
    ▪ On the Events tab, below Form Libraries click Add.
    ▪ In the Look Up Record dialog, click New.
    ▪ Enter the following in the web resource form:

      | Name         | preventAutoSave          |
      |--------------|--------------------------|
      | Display Name | Prevent Auto Save        |
      | Type         | Script (JScript)         |

      ▪ Next to the Type field, click the Text Editor button.
      ▪ In the Source field, paste the following code:

      **JavaScript**
function preventAutoSave(econtext) {
    var eventArgs = econtext.getEventArgs();
    if (eventArgs.getSaveMode() == 70) {
        eventArgs.preventDefault();
    }
}

 Click OK to close the text editor.

 Click Save to save the web resource and then close the web resource window.

 In the Look Up Record dialog the new web resource you created will be selected. Click Add to close the dialog.

Configure the OnSave event

 In the Form Properties window, in the Event Handlers section, set Event to OnSave.

 Click Add.

 In the Handler Properties window, set Library to the web resource you added in the previous step.

 Set Function to preventAutoSave.

 Make sure that Enabled is checked.

 Check Pass execution context as first parameter.

 Click OK to close the Handler Properties dialog.

• Click OK to close the Form Properties dialog.

• Click Save and Close to close the form.

• In the solution explorer, click Publish All Customizations.

Note: After you apply this script to the OnSave event, when you edit a record using this form the message unsaved changes will appear in the bottom right corner of the form just as it would if auto save was not disabled. But this message will not go away until you click the save icon next to it (explicit save).
People Pictures

In CRM 2011, there was no way of associating a picture to any entities. This has been a limitation for people entities like users, contacts, leads etc where customers had to use an image Web Resource in the header to get around this limitation.

In CRM 2013, the image data type is now supported as a first class data type, opening up the door for the web client to also render these images. We will discuss the image data type in detail in the next module for customization.

The following assumptions are applicable for images in CRM:

- CRM 2013 supports only one image per entity.
- The default image will be enabled for certain out of the box entities.
- There are no custom image fields for out of the box entities.
- For custom entities, you can add an image field.

Specifically, we will discuss the following points in this section:

- Ability to display an image in the form header on any entity.
- Ability to manually update the image.
- Ability for the system customizer to turn off showing the image for any entity.

Display the Picture

- In every image-enabled entity record, the picture is displayed before the name. (144x144 max)
- If a picture is not defined, a default image is shown.

- The image will be available as a relative URL addressable from the platform. An absolute path is built to pull the image.
The image loads asynchronously so that it does not affect form load performance time. Until the image loads, the default image is displayed.

Update the Picture

When you click on the image, you can upload the picture. Also, the picture will show right away in the form without reloading the form.

A preview of the picture can be viewed before uploading.

The image is resized but not cropped so the aspect ratio is preserved.

Only jpg, jpeg, tiff, gif, tif, bmp or png formats are accepted and the maximum upload size is 5 MB.
On a create form of the entity where the record has not yet been saved for the first time, we cannot upload images. The record must be created first.

**Form Editor Changes**

- Form editor shows the placeholder for image if the entity is image enabled.

- In the Form editor, within form properties you can choose whether the image is displayed or not.
Here are the out of the box entities that are image enabled and have this setting to display the image turned on by default.

- Contact
- Account
- Lead
- User

If the image for a user is updated, the change will reflect in the navigation bar header as well as activity feeds.

Additional OOB entities that can have this setting turned on their forms are Competitor, Product, Campaigns, Case, Contract, Invoice, Order, and Sales Literature.

### Access Teams

CRM 2011 has a comprehensive security model. It allows for role based authorization that can be scoped to meet the needs of big organizations that are organized along geographic regions or business functionality. CRM also has the functionality to allow records to be owned by users or groups of users (teams). Today, the same concept of “ownership” is used to indicate the primary individual(s) who own the record in terms of the security model as well as “Working on” i.e. Primary person working on the record. Some customers may use custom fields to model these two concepts, but out of the box, only the ownership attribute is provided.

A common scenario in the financial industry involves a set of users working on a client relationship who want to have access to the records related to the client. These set of users vary across different client records. With the current security model, these customers would have to model this scenario using owner teams. A team would be created per record, assigning a role to the team that would allow for access to the entity record as well as have the team own the record itself.

1) There is a business need for ownership of records to a group of users, but in most cases, such ownership is limited to a static set of teams rather than dynamic set (team per record). Currently, the teams in CRM 2011 need security roles to be enabled for ownership. In CRM 2013, these type of teams will be classified as “Owner teams”.

2) For a more dynamic team-based scenario where a team of users need access but not ownership, a new category of teams will be available- “Access teams” (Collaboration based)
to be created. These teams are not assigned any security role and do not need to be cached so they can scale to a large number (~millions).

3) Any entity can now be “access team” enabled:
   a. Team templates can be specified. The team name, team access rights for records of this entity type and team collaboration connection roles.
   b. One team per record is allowed by default for all deployments. This restriction can be eased for on-premise deployments to allow for more than one team per record, but for the CRM 2013 release, this limit cannot be changed for CRM Online.
   c. The platform security model will automatically create the template team(s) when a record is created. There is a check to ensure that the team is only created when there is at least one user other than the owner that needs access.
   d. The platform security layer will automatically grant access to the records of this entity type for the access team.
   e. Allow for each related entity through its relationship to the parent collaboration entity to specify if the collaboration team members need access to the related records of the parent entity.

4) PrincipalObjectAccess (POA) table optimizations:
   The POA team is used under the hood to enable access teams so some optimizations have made for this table. Essentially the record (and related records) get shared to the team.

**How to choose the right model**

- **Business Units**
  - To organize users based on access scope and the access requirements can be limited to records owned by these users or by other users in the same business unit.
  - For isolating access between departments/regions.
  - For organizing hierarchical access to users in business units at the top of the organization. Do not use this model when hierarchical access causes explosion in the number of business units.

- **Teams**
  Using teams in Microsoft Dynamics CRM is optional, however, working with teams can make it much easier for you to share information and collaborate with other users across business units. As a group, you will own a record or access a record. You will be able to track information about the records and perform assigned tasks in a more efficient and coordinated way. While a team belongs to only one business unit, it can include users from other business units. Also, a user can be associated with more than one team.

There are two types of teams that you can work with: owner and access.
The owner teams own records and have security roles assigned to them.

The access teams do not own records and do not have security roles assigned to them. Instead, the access teams provide access rights, such as Write, Read and Append, on specific records.

Choosing the type of the team may depend on the goals, nature of the project, and even size of your organization. There are a few guidelines that you can use when choosing the team type.

Ownership Teams
- Owning records, by entities other than users, and applying security roles is required by your company policies. The reports can be easily generated to show progress by each owning team.
- Number of teams in the organization is fairly small and static, with team members are not being added or removed frequently.
- The team members require equal access to the record through team’s security roles. However, this creates a problem when some of the team members require more access to the records than others. The only way to work around it is to start sharing records with the users who are not on the team and giving them fewer rights.

Access Teams
- Teams are dynamically formed and dissolved, and the team members are moving in and out of the team frequently. This often happens, when the teams are working on special projects, with records that do not fit a clear category, such as established territory, product, or volume. You can easily create a team to work on new unique sales opportunities. A team like that may include an account manager, a sales representative, and a pre-sales consultant. To work on a new account, create a team with an executive sponsor, dedicated support representative, and project manager, as team members.
- Users require different access rights on the record. A record can be accessed by several access teams, each team providing different access rights on the record. For example, one team provides the Read access right on the account and another, Read, Write and Append access rights on the same account.

Types of Access Teams
- Access teams are of two types: auto created and user created. An auto created team can access only one record. A user created team
can access multiple records of the same type, such as accounts, opportunities or leads. An auto created access team is based on the team template. When you create a template, you specify the name of the template, an entity type the team is accessing and access rights on the entity record. For example, you can create two templates for the opportunity entity, one, with the Read access rights and another one with the Read and Write access rights.

- A maximum number of templates that you can create for an entity is specified in the MaxAutoCreatedAccessTeamsPerEntity deployment setting. The default value is 2. A maximum number of entities that you can enable for auto created access teams is specified in the MaxEntitiesEnabledForAutoCreatedAccessTeams deployment setting. The default value is 5.

---

**Note:**

Because of parental relationship between the team template and the access teams, according to cascading rules, when you delete a template, all access teams created from this template are also deleted.

---

The following table is a short summary of the available team types that may help you to choose the right team:

<table>
<thead>
<tr>
<th>Team</th>
<th>When to use?</th>
<th>What entity to use?</th>
<th>Use team template?</th>
<th>Owns records?</th>
<th>How many records owns or has access to?</th>
<th>Has security roles assigned?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>Team needs to own records. All team members require the same access to the record.</td>
<td>Team</td>
<td>No</td>
<td>Yes</td>
<td>Can own many records, however, in most cases, one team owns one record.</td>
<td>Yes</td>
</tr>
<tr>
<td>Access, auto created</td>
<td>Team Template</td>
<td>Yes</td>
<td>No</td>
<td>Can access only one record.</td>
<td>No. Provides access rights on the record.</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------</td>
<td>-----</td>
<td>----</td>
<td>----------------------------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Unique set of users works on a single record. Different access rights on the record are required. Creating teams manually per record is not desirable.</td>
<td>Team</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access, user created</td>
<td>Team</td>
<td>No</td>
<td>No</td>
<td>Can access multiple records of the same type, such as accounts, contacts or leads.</td>
<td>No. Provides access rights on the record.</td>
<td></td>
</tr>
<tr>
<td>Team works with multiple records of the same type. Different access rights on the record are required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Manage access teams**

- You can define and manage your own access teams via Settings-> Administration-> Teams.
- **Team-type** is a new drop-down that can be set to Owner or Access. The default value is Owner.
- The access teams can only be viewed in a new view called “All User Access Teams”. Note, that options to reassign records and manage roles are not available on access teams.
• Owner teams can be converted to Access Teams by an action on the command bar. When converting an owner team to the access team, all queues and mailboxes associated with this team will be deleted. This action cannot be undone.

• An owner team cannot be converted to an access team if it owns records.
If the owner team has any roles assigned to it prior to conversion, this triggers an error:
Enable access teams for an entity

- The administrator can define “Access team” metadata for an existing or custom entity. They can also define this setting when creating the custom entity.

- The administrator can define access team templates for an entity via the Administration area. A template can be created for any entity enabled for access teams with seven types of access rights available.
An opportunity sales team template is shipped out of the box and available as a subgrid called “Sales Team”.

If you change access rights for the team template, the changes are only applied to the new auto created access teams. The existing teams are not affected.

**Manage user security for record**

- A subgrid has been introduced to support adding users to entity records for defining the access teams.
- When configuring the subgrid, you can specify which access team template to use.
- The subgrid is based on the team entity – it uses the following query:
  - All users that belong to associated record team (of type access team template) for this record.
- Dependencies between the entity and the form are managed so that you cannot delete the team template when there is a reference to it in the form subgrid.
- When the first member is added, the actual team of type Access is auto-created under the hood.
Module Based Dashboards

Dashboards are the entry point into CRM and give the user the first run experience.

The following related features are being introduced in CRM 2013:

- A Dashboard node has been added to Sales, Marketing and Service in the Sitemap.
- Module based dashboards for each Module land at the assigned default dashboards as defined below:
  - Sales Module – Sales Activity Social Dashboard
  - Service Module – Customer Service Representative Social Dashboard
  - Marketing Module – Marketing Social Dashboard
  - Other Modules – Microsoft Dynamics CRM Social Overview Dashboard
- When you click on “Set As Default” on any dashboard from the command bar, that will be set as the new default for the assigned module for your user. This option will not be available on other modules for your user.

- The administrator can also set the default dashboard at an organization level from customization editor->Dashboards as follows:
- Defaults are carried forward after an upgrade from CRM 2011 for existing customers as follows:

<table>
<thead>
<tr>
<th>CRM 2011</th>
<th>CRM 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Admin had set a dashboard as default for all users.</td>
<td>This Dashboard should appear as the dashboard for each role’s landing page (irrespective of the role). Please note that now there are multiple modules so the previous dashboard is fixed as default in the Primary module/landing page for the users.</td>
</tr>
<tr>
<td>User had set a dashboard of choice as a default dashboard.</td>
<td>This user should see this dashboard on the primary module/landing page of his role.</td>
</tr>
</tbody>
</table>

- Role based dashboards can be set up via:
Personal options below can be set to default on a user-specific basis to default to a specific home page pane and tab:

Set Personal Options
Change the default display settings to personalize Microsoft Dynamics CRM, and manage your email templates.

- Stickiness across modules helps preserve the state so that when the user moves back and forth between modules, the last accessed dashboard in the current navigation path gets displayed.
Lesson 4: Supported Browsers

This lesson introduces changes to the touch enabled experience on different devices for Microsoft Dynamics CRM Online Fall ’13 and Microsoft Dynamics CRM 2013(On-Premises).

What You Will Learn

After completing this lesson, you will be able to:

- Describe the supported browser matrix.
- Describe the touch enabled experience on different devices like the iPad and Android.
### Supported Browser Matrix

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Windows 8 (Pro and RT)</th>
<th>Windows 7</th>
<th>Windows Vista</th>
<th>Apple OS X 10.8 (Mountain Lion)</th>
<th>iOS 6.0 and above (iPad)</th>
<th>Android 4.2.2 (Nexus 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browsers</td>
<td>• IE10 desktop</td>
<td>• IE9</td>
<td>• IE9 desktop</td>
<td>• Latest version of Safari</td>
<td>• Latest version of Safari</td>
<td>• Chrome</td>
</tr>
<tr>
<td></td>
<td>• IE10 modern</td>
<td>• IE9</td>
<td>• IE9 desktop</td>
<td>• Latest version of Firefox</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Latest version of</td>
<td>• IE9</td>
<td>• Latest version</td>
<td>• Latest version of Firefox</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Firefox</td>
<td></td>
<td>• Latest version</td>
<td>• Latest version of Chrome</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Latest version of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chrome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Latest versions as of today are Firefox 21, Chrome 27, Safari 6

### Not supported
- IE7 on On-Premise
- Windows XP
- Outlook clients using IE7 or Win XP

### Tablets
- Tablets like Surface RT & Pro now support Internet Explorer 10 modern and desktop mode.
- This will load up the entire application and is a touch enabled experience.
- Note that, Microsoft Dynamics CRM for Tablets is a touch optimized experience.

### iPad and Android
- The model has been changed to use the sitemap now and there will be a black-list of unsupported areas and entities that are not refreshed for these device experiences. When rendering the navigation bar in these touch surfaces, the elements of the sitemap are iterated in the XML and only items that are not on the unsupported list are displayed.
- Only refreshed entities are displayed.
- No settings, goals or service calendar area.
- Some commands are not supported — dashboard editor, reports, etc