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Before You Begin

Audience

The purpose of this document is to provide a comprehensive guide to the features and functionality of MITS Discover browser client for the purposes of creating, modifying, and working with flash screen reports.

**NOTE:** Many of the features of MITS Discover are controlled by security settings or licensing and will only be available if you have the appropriate permissions or license edition. If you have questions about security settings, see your MITS administrator. If you have questions about MITS Discover licensing, contact your MITS provider.

Requirements

Here’s what you will need in order to use MITS Discover:

**Web Browser**
The MITS Discover user interface is accessed using a standard Web browser, so it is expected that the user has access to and knows how to use a Web browser.

The following Web browsers have been verified as compatible for use with this version of MITS Discover:

- Windows® Internet Explorer® versions 8, 9, and 10
- Mozilla® Firefox® versions 10 and 18
- Google Chrome™ version 25
- Apple® Safari® version 5.1
- Mobile Safari on iOS devices including iPad® (1st generation not supported) and iPhone®

**NOTE:** Some issues not affecting core functionality may be experienced on iOS devices.

**MITS Discover URL**
MITS Discover is accessed through a URL which is typed into the address bar of your Web browser. This URL will be provided by your MITS administrator.

**NOTE:** While it is possible to configure the system so that it is accessible from any supported, internet-connected browser, MITS Discover access is typically confined to a corporate network. As such, you may need to be connected to a specific network (either directly or through a VPN) in order to access MITS Discover.
Login ID and Password
Each MITS Discover user will be assigned a unique login ID and password for the purpose of logging in to MITS Discover. This information will be provided by your MITS administrator.

Conventions
Throughout this document, the following conventions are used:

- Variable, user-specific data in commands and examples will be encompassed by two sets of angle brackets. The angle brackets, as well as the characters contained within, should be replaced with the pertinent information as explained in the paragraph(s) that precede or follow the command or example.
  
  Example: <<Variable>>

- Code and program samples will appear in a plain, mono-spaced font.
  
  Example: Code Sample

What’s New in MITS Discover Version 8.2

Features

- Active Directory® integration
- Addition of User Properties to simplify security
- Editing of full screen dashboards for power users and a new security permission to control it
- New charts in dashboards
- Bulk rename of users
- Support for Internet Explorer 10

Things to be Aware of When Upgrading from 7.x or prior

- Many of the administration-related security permissions have been merged into a permission simply named ADMIN. If you had configured users to have access to specific administration functions (only the scheduler, only the security user manager, etc.), these users will now have full administration access.
- The practice of "nesting" security templates (or including a security template in another security template) is no longer supported. Any existing nested templates will be "flattened" during the upgrade process, fully preserving the existing security functionality for your users. As an example: Prior to the upgrade, USER1 includes TEMPLATE1 and TEMPLATE1 includes TEMPLATE2. After the upgrade, USER1 will include both
TEMPLATE1 and TEMPLATE2, and TEMPLATE2 will no longer be included in TEMPLATE1.

## Getting Started

MITS Discover provides an easy-to-use, browser-based, Online Analytical Processing (OLAP) environment.

The MITS Discover Hypercube Application is a special database designed specifically to maintain interlinked historical data in a hierarchical manner, providing rapid answers to OLAP inquiries and exploration.

Start your MITS Discover experience by navigating your Web browser to the URL where MITS Discover is being hosted. If you don’t have the URL, contact your MITS administrator.

### Logging In

Once you have established a connection to MITS Discover, the first thing that appears is the MITS Discover Welcome Screen. This screen allows you to log in to MITS Discover. It also provides version and edition information.

Enter your MITS Discover User ID and Password to begin. This information will be provided by your MITS Discover administrator.

**NOTE:** If you receive a notification that your password has expired, follow the on-screen prompts to reset it.
Settings

Clicking Settings in the upper right corner of the page next to your username will allow you to change some of the settings for your user account.

Change Password

Clicking Change Password will allow you to set a new password.

Change Landing Page

Clicking Change Landing Page will allow you to configure the page that is displayed when you first log in to MITS Discover. You can select an existing saved flash screen, a full-screen dashboard, or one of the main tabs as your landing page.

1. Select Dashboard, Flash Screen, or Tab to set the type of page to display.
   - Dashboard: select the Library and the specific Dashboard to display. If the selected dashboard requires a prompt value, select the Specify Prompt Values check box. (You will be asked for these values upon clicking Next)
   - Flash Screen: select the Library and the specific Flash Screen to display
   - Tab: select the desired tab (Flash Screens, Dashboards, or Hypercubes).

2. Click Save.
The Flash Screens Tab
The interactive reports in MITS Discover are called flash screens. All included and user-saved flash screens are listed on the Flash Screens Tab. The components of this page are described below.

1. **Navigation Tabs**: The *Flash Screens* tab is for creating, viewing, and modifying flash screen reports. The *Dashboards* tab is for viewing dashboards and scorecards for the (optional) MITS Dashboard add-in product. The *Hypercubes* tab is for viewing the status of your Hypercube applications as well as scheduling Hypercube build jobs. The *Administration* tab is for general administration tasks such as creating users, defining credentials for the email services feature, and configuring build job notification messages.

   - **NOTE**: The presence of each tab is controlled by licensing. In addition, access to each of these tabs is controllable on a per-user basis via user security.

2. **New**: Click here to create a new flash screen. For a detailed explanation of flash screen creation steps and options, see *Creating Your First Flash Screen*.

3. **Library**: Select a flash screen library from this drop-down menu to view a list of the flash screen reports that are stored within that library. You can find more information about flash screen libraries in the *Flash Screen Libraries* section.

4. **Manage Libraries**: Click this link to add or remove existing flash screen, dashboard, and dashboard object libraries.
5. **Show/Hide Details**: Click this link to show or hide additional details about each flash screen, such as the build date range and information about report scheduling.

6. **Flash Screen Listing**: Click a flash screen title to display that flash screen report.

7. **Export**: Click here to display the export options menu for the corresponding flash screen. This allows you to quickly export the flash screen to one of a number of different file formats including Microsoft Excel and Adobe PDF. For more information about exporting, see *Exporting Dashboards and Flash Screens*.

8. **Email**: Click here to display the email options menu for a flash screen. This allows you to immediately send the corresponding flash screen as an email attachment or configure a scheduled email. For more information about emailing, see *Emailing Dashboards and Flash Screens*.

**NOTE**: If this button does not appear, your system has either not been configured to support the emailing of flash screens, or your security settings are preventing you from sending emails from within MITS Discover. Please contact your MITS Discover administrator for assistance.

9. **Delete**: Click this button to delete the corresponding flash screen.

**WARNING**: A deleted flash screen cannot be recovered!

**NOTE**: The default flash screens that shipped with your MITS Discover system are read-only and cannot be deleted.

**Flash Screen Libraries**

A *flash screen library* is simply a place where flash screens are stored. Every MITS Discover system comes with a generic flash screen library named COMMON. If user security has been enabled and initialized, each user will also receive their own personal flash screen library. Your system may have also come with pre-installed flash screens that are already organized into a series of flash screen libraries.

**NOTE**: User-specific flash screen libraries are automatically created the first time a user attempts to save a flash screen.
Creating Your First Flash Screen

MITS Discover flash screen data is retrieved from pre-configured MITS Discover Hypercube Applications.

**NOTE:** You must have at least one populated Hypercube Application available on your system to continue.

1. To begin, log in to MITS Discover and click the **New Flash Screen** button directly under the MITS Discover logo in the upper left corner of the main flash screen selection page.

2. The next step involves selecting the type of flash screen to create. There are a number of options available, but for this example we will select **Trending**. This flash screen type will show the difference and percent of change between two or more time periods for a specified value.

3. Once you have selected the flash screen type, a page similar to the one shown here will appear. Start by selecting a Hypercube application. We have selected **Sales Detail Analysis** for this example.
4. Next, select the Initial Drill-Down Path identifier, if desired. (This can always be changed after the flash screen has been created.) For this example, **Product Line** has been selected.

5. Choose the value that you would like to see in your flash screen. We have selected Sales for this example. This selection will be combined with each of the time periods you select to create the columns for your flash screen.

6. Select a time period group (month, year, etc.) from the **Time Periods** drop-down menu to filter the list of available time periods, then select the check boxes next to the time periods you want to compare. In this example, we have selected the time periods Year 2005 and Year 2004. These selections will be combined with our **Value to Trend** selection of Sales, which means that our flash screen results will be based on two columns: `Sales for Year 2005` and `Sales for Year 2004`.

7. Finally, click **OK** to view the flash screen.

As you can see here, the **Trending** flash screen type produces a report that includes the *difference* and *trend* (percent-of-change) between the two time periods for the selected value, as well as the two columns that were used to generate those values (for reference purposes):

### Sales Trending by Product Line

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SALESDEMO:</strong></td>
<td>-3,607,394</td>
<td>-91.9%</td>
<td>318,446</td>
<td>3,925,840</td>
</tr>
<tr>
<td><strong>AMREP SSS</strong></td>
<td>-1,220</td>
<td>-100.0%</td>
<td>0</td>
<td>1,220</td>
</tr>
<tr>
<td><strong>ARCTIC GLOVE COMPANY INC</strong></td>
<td>-15,637</td>
<td>-89.3%</td>
<td>1,875</td>
<td>17,512</td>
</tr>
<tr>
<td><strong>ARGON INDUSTRIES</strong></td>
<td>-154,373</td>
<td>-96.0%</td>
<td>6,465</td>
<td>160,838</td>
</tr>
<tr>
<td><strong>BAY WEST</strong></td>
<td>-1,243,866</td>
<td>-88.7%</td>
<td>158,752</td>
<td>1,402,618</td>
</tr>
<tr>
<td><strong>BETCO CORPORATION</strong></td>
<td>-86,665</td>
<td>-96.7%</td>
<td>2,936</td>
<td>89,601</td>
</tr>
<tr>
<td><strong>BIG D INDUSTRIES INC</strong></td>
<td>-3,027</td>
<td>-100.0%</td>
<td>0</td>
<td>3,027</td>
</tr>
<tr>
<td><strong>BUCKEYE</strong></td>
<td>-154,437</td>
<td>-96.5%</td>
<td>5,394</td>
<td>159,831</td>
</tr>
<tr>
<td><strong>BUTLER HENRY COMPANY</strong></td>
<td>-198</td>
<td>-100.0%</td>
<td>0</td>
<td>198</td>
</tr>
<tr>
<td><strong>CHEM METHODS</strong></td>
<td>-50,316</td>
<td>-91.2%</td>
<td>4,857</td>
<td>55,173</td>
</tr>
<tr>
<td><strong>CLARKE</strong></td>
<td>-8,892</td>
<td>-100.0%</td>
<td>0</td>
<td>8,892</td>
</tr>
<tr>
<td><strong>COAST BRUSH MANUFACTURING CO</strong></td>
<td>-9,005</td>
<td>-65.5%</td>
<td>4,750</td>
<td>13,755</td>
</tr>
<tr>
<td><strong>CONTINENTAL MANUFACTURING CO</strong></td>
<td>-47,267</td>
<td>-93.3%</td>
<td>3,398</td>
<td>50,665</td>
</tr>
<tr>
<td><strong>DART CONTAINER CORPORATION</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>DISCOVERY CHEMICAL CO</strong></td>
<td>-30,154</td>
<td>-100.0%</td>
<td>0</td>
<td>30,154</td>
</tr>
</tbody>
</table>
Flash Screen Types

When creating a new flash screen, you are given the option to select from six flash screen types which are explained below. The resulting flash screen may be exactly what you need...but if it isn’t, the flexibility of MITS Discover allows you to fully modify any flash screen. This means that any flash screen can be used as a starting point to meet your more complex reporting needs. You can add, remove, and re-order the columns, modify the drill-down path, apply sorting and/or filtering, and more; all without the need to learn a complex query language.

Custom

A Custom flash screen can be configured however you like. You can specify the initial drill-down path as well as the exact columns you want to include in your flash screen.

Here is an example of a basic flash screen showing sales dollars by warehouse for 2002, 2003, 2004, and 2005. (We will refer back to the values on this flash screen as we discuss the other flash screen types.)

<table>
<thead>
<tr>
<th>Sales History by Warehouse</th>
<th>...</th>
<th>Sales Year 2005 thru Jan 21</th>
<th>...</th>
<th>Sales Year 2004</th>
<th>...</th>
<th>Sales Year 2003</th>
<th>...</th>
<th>Sales Year 2002 from Sep 01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Demo:</td>
<td></td>
<td>318,446</td>
<td></td>
<td>3,925,840</td>
<td></td>
<td>3,823,303</td>
<td></td>
<td>642,370</td>
</tr>
<tr>
<td>Boise Branch</td>
<td></td>
<td>11,884</td>
<td></td>
<td>269,058</td>
<td></td>
<td>245,442</td>
<td></td>
<td>140,704</td>
</tr>
<tr>
<td>Portland Branch</td>
<td></td>
<td>134,643</td>
<td></td>
<td>1,403,856</td>
<td></td>
<td>1,210,672</td>
<td></td>
<td>114,510</td>
</tr>
<tr>
<td>Seattle Branch</td>
<td></td>
<td>106,979</td>
<td></td>
<td>1,202,623</td>
<td></td>
<td>1,375,778</td>
<td></td>
<td>248,381</td>
</tr>
<tr>
<td>Spokane Branch</td>
<td></td>
<td>64,939</td>
<td></td>
<td>1,050,302</td>
<td></td>
<td>991,411</td>
<td></td>
<td>138,776</td>
</tr>
</tbody>
</table>
**Trending**

As described in the *Creating Your First Flash Screen* example above, a *Trending* flash screen provides a quick comparison of a specified metric over two or more time periods.

This is an example of a simple trending flash screen. It shows the comparison of total sales broken down by warehouse between year 2003 and year 2004 as a dollar amount and a trend percentage. The originally selected columns are included for reference, and no filters are applied.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SALESDEMO:</td>
<td>102,537</td>
<td>+2.7%</td>
<td>3,925,840</td>
<td>3,823,303</td>
</tr>
<tr>
<td>BOISE BRANCH</td>
<td>23,616</td>
<td>+9.6%</td>
<td>269,058</td>
<td>245,442</td>
</tr>
<tr>
<td>PORTLAND BRANCH</td>
<td>193,185</td>
<td>+16.0%</td>
<td>1,403,856</td>
<td>1,210,672</td>
</tr>
<tr>
<td>SEATTLE BRANCH</td>
<td>-173,155</td>
<td>-12.6%</td>
<td>1,202,623</td>
<td>1,375,778</td>
</tr>
<tr>
<td>SPOKANE BRANCH</td>
<td>58,891</td>
<td>+5.9%</td>
<td>1,050,302</td>
<td>991,411</td>
</tr>
</tbody>
</table>

If more than two time periods are selected, there will be one *difference* and one *trend* column generated for each pair of selected time periods. For example, if we had also included year 2002 when selecting the time periods for the flash screen above, the columns in the resulting flash screen would be: *Sales for 2004, Difference between 2003 and 2004, Trend between 2003 and 2004, Sales for 2003, Difference between 2002 and 2003, Trend between 2002 and 2003, and Sales for 2002*.

**Trending Upward Overall**

The *Trending Upward Overall* flash screen type allows you to quickly retrieve a list of related identifier values which have shown an increase in a defined metric over two selected time periods.

This example shows a *Trending Upward Overall* flash screen by warehouse comparing sales amounts from year 2003 and year 2004. It includes the *difference* and *trend* between the sales values for year 2003 and 2004, as well as the base *Sales for*
2004 and Sales for 2003 columns for reference purposes. Additionally, a filter is applied to show only those rows which have had an increase in sales between 2003 and 2004.

If you compare this example with the flash screen from the Trending example above, you will notice that the sales for the Seattle warehouse were down $173,155 in 2004 when compared to the sales for 2003. For this reason, the Seattle warehouse does not appear in this flash screen.

If more than two time periods are selected, the difference and trend values will be calculated based on the oldest and newest time periods only. For example, if we had included year 2002 in the above flash screen, the columns in the resulting flash screen would have been: Difference between 2002 and 2004, Trend between 2002 and 2004, Sales for 2004, Sales for 2003, and Sales for 2002. The year 2003 column would appear in the final flash screen for reference purposes, but the 2003 values would have had no effect on the values in the difference and trend columns; therefore, the addition of this time period would not change the filtering.

**Trending Upward Consistently**

The Trending Upward Consistently flash screen type provides the ability to create a flash screen which includes the identifier rows that have shown a consistent increase for a defined metric over two or more selected time periods. Any identifier row that shows a decrease between any of the selected time periods is filtered out of the final display.

The example below shows a Trending Upward Consistently flash screen by warehouse comparing sales amounts from years 2002, 2003, and 2004. It includes the difference and trend between the sales values for 2002 and 2004, as well as the base Sales for 2004, Sales for 2003, and Sales for 2002 columns for reference purposes. Additionally, a filter is applied to show only those rows which have had an increase in sales between 2002 and 2003 and then again between 2003 and 2004.

<table>
<thead>
<tr>
<th>Warehouse</th>
<th>Difference Year 2002 from Sep 01 Sales Year 2004</th>
<th>Trend Year 2002 from Sep 01 Sales Year 2004</th>
<th>Sales Year 2004</th>
<th>Sales Year 2003</th>
<th>Sales Year 2002 from Sep 01</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALESDEMO</td>
<td>3,283,470</td>
<td>+511.1%</td>
<td>3,925,840</td>
<td>3,823,303</td>
<td>642,370</td>
</tr>
<tr>
<td>PORTLAND BRANCH</td>
<td>1,289,347</td>
<td>+1126.0%</td>
<td>1,403,856</td>
<td>1,210,672</td>
<td>114,510</td>
</tr>
<tr>
<td>SPOKANE BRANCH</td>
<td>911,525</td>
<td>+656.8%</td>
<td>1,050,302</td>
<td>991,411</td>
<td>138,776</td>
</tr>
<tr>
<td>BOISE BRANCH</td>
<td>128,355</td>
<td>+91.2%</td>
<td>269,058</td>
<td>245,442</td>
<td>140,704</td>
</tr>
</tbody>
</table>

If you compare this example with the flash screen from the Sales History by Warehouse example (under the Custom flash screen type), you will notice that while the sales for the Seattle warehouse were up $1,127,397 between years 2002 and 2003, they were down $173,155 between years 2003 and 2004. For this reason, the Seattle warehouse does not appear in this flash screen.

If only two time periods are selected, the resulting flash screen is no different than if the Trending
**Upward Overall** flash screen type had been created with the same time periods. If more than two time periods are selected, the difference and trend values displayed in the flash screen will be calculated from the oldest time period and the newest time period, but the filter will take each time period combination into account from oldest to newest as described above.

**Trending Downward Overall**

The **Trending Downward Overall** flash screen type allows you to quickly retrieve a list of related identifier values which have shown a decrease in a defined metric over two selected time periods.

This example shows a **Trending Downward Overall** flash screen by warehouse comparing sales amounts from year 2003 and year 2004. It includes the difference and trend between the sales values for year 2003 and 2004, as well as the base Sales for 2004 and Sales for 2003 columns for reference purposes. Additionally, a filter is applied to show only those rows which have had a decrease in sales between 2003 and 2004.

If you compare this example with the flash screen from the **Trending** example above, you will notice that the sales for the Seattle warehouse is the only warehouse that showed a decrease in sales between 2003 and 2004. For this reason, all warehouses except Seattle have been automatically removed from this flash screen.

If more than two time periods are selected, the difference and trend values will be calculated based on the oldest and newest time periods only. For example, if we had included year 2002 in the above flash screen, the columns in the resulting flash screen would have been: Difference between 2002 and 2004, Trend between 2002 and 2004, Sales for 2004, Sales for 2003, and Sales for 2002. The year 2003 column would appear in the final flash screen for reference purposes, but the 2003 values would have had no effect on the values in the difference and trend columns; therefore, the addition of this time period would not change the filtering.

**Trending Downward Consistently**

The **Trending Downward Consistently** flash screen type provides the ability to create a flash screen which includes the identifier rows that have shown a consistent decrease for a defined metric over two or more selected time periods. Any identifier row that shows an increase between any of the selected time periods is filtered out of the final display.
This example shows a *Trending Downward Consistently* flash screen by warehouse comparing sales amounts from years 2002, 2003, and 2004. It includes the *difference* and *trend* between the sales values for 2002 and 2004, as well as the base *Sales for 2004*, *Sales for 2003*, and *Sales for 2002* columns for reference purposes. Additionally, a filter is applied to show only those rows which have had a decrease in sales between 2002 and 2003 and then again between 2003 and 2004.

As you can see in the example above, all four warehouses have been filtered out of the final flash screen. Boise, Portland, and Spokane do not appear because the sales for these warehouses showed an increase between 2002 and 2003 and then again between 2003 and 2004. Seattle showed a decrease in sales between 2003 and 2004, but an increase between 2002 and 2003. In order to be included on this flash screen, a single warehouse would have needed to show a decrease in sales between 2002 and 2003 and then again between 2003 and 2004.

If only two time periods are selected, the resulting flash screen is no different than if the *Trending Downward Overall* flash screen type had been created with the same time periods. If more than two time periods are selected, the difference and trend values displayed in the flash screen will be calculated from the oldest time period and the newest time period, but the filter will take each time period combination into account from oldest to newest as described above.
Saving a Flash Screen

You can save the currently displayed flash screen at any time by clicking the Save button in the flash screen toolbar. A page similar to the image below will appear.

1. Select a flash screen library from the Library drop-down menu.
2. If you want to replace an existing flash screen, select the flash screen that will be replaced in the Current library contents box.
3. If you would prefer to save this flash screen as a new flash screen, enter a new name in the Flash Screen name box.

**WARNING:** Be sure to type a name that is unique within the currently selected flash screen library. If you type a flash screen name that already exists in the currently selected flash screen library, the original flash screen will be overwritten with your new flash screen.

4. Click Ok to save the flash screen.
Flash Screen Display Layout

The following example illustrates a flash screen. Each area is described in the list that follows.

1. **Flash Screen Tool Bar**: Controls interactions with the flash screen.

2. **Navigation Tool Bar**: Used to navigate multi-page flash screens. It appears at both the top and the bottom of the flash screen display. The top navigation tool bar also includes shortcuts to frequently used display modifiers.

3. **Flash Screen Heading**: Click the flash screen heading to modify it.

4. **Current Drill-Down Path**: Displays the names of the identifiers represented in the current flash screen’s drill-down path.

5. **Column Heading Area**: Each column heading describes the contents of the column’s cells. The headings can also be clicked to open the Column Options menu.

6. **Identifier Values**: Identifiers are the people, places, and things that make up the horizontal rows of a flash screen. The list of identifier values in the current drill-down path appear in the left most column of the main flash screen display. These links are used for deeper exploration of the data in this flash screen.

7. **Column Grid**: Each column displays accumulated information directly from a Hypercube or related information from supporting data files.

8. **Cell**: The intersection between a column header and a specific identifier value. Clicking the contents of a cell that is displayed as a link will display detailed source transaction information for that value. See the section titled *Detail Display* for more information.
Exploring Your Data

There are a number of ways to modify the display of a MITS Discover flash screen, but the most powerful is the expand ability. This is also known as “drilling down”. This feature allows you to get a more detailed breakdown of the information displayed in almost any flash screen row.

**Expanding a Flash Screen**

1. Click the identifier description you wish to expand from the left most column of your flash screen. A menu will appear, listing the identifiers that are available for expansion at that drill-down level.

2. Point to one of the identifiers and a submenu will appear showing the expansion options.

3. Select one of the four expansion options (described in more detail on the pages that follow) to complete the expansion.
**Expand**
This type of expansion will expand the single identifier value you originally clicked to show the individual values that make up that identifier. In the example below, the *Western Region* value has been expanded by the *Warehouse* identifier to show the two warehouses that reside in the Western region: *PORTLAND* and *SEATTLE*.

**Expand by Specific Values**
The second type of exploration allows you to expand an identifier value while selecting only those sub-values you would like to see. Click the identifier value you would like to expand, point to the identifier you would like to expand by, and then click **Expand by Specific Values**. A page similar to the following will appear:

1. A search box has been provided to filter the descriptions so that you can quickly find the identifiers you are looking for.

2. **Advanced Options** allows you to customize how the search box will filter the descriptions (such as Containing, Not Containing, Beginning With, Not Beginning With).
3. When you locate an identifier value you want to include, select the check box next to the desired value in the **Available Descriptions** box.

4. To change the order of the items in the **Currently Selected Descriptions** box, drag and drop the items until they appear in the desired order. To remove an entry, double-click on the unwanted value within the **Currently Selected Descriptions** box or clear the check box of the unwanted value within the **Available Descriptions** box. If you are manually entering IDs, remove the line containing the unwanted value.

5. If you want to clear the entire **Currently Selected Descriptions** box, click the **Remove All Selected Identifiers** button.

6. A list of identifier values can be typed or pasted into the ID box by clicking **Manually Enter IDs** and then typing in or copying and pasting the desired IDs into the **Currently Selected Descriptions** box.

7. Click the **Ok** button. The expanded flash screen will show only the values specified:

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**Expand All Rows** This exploration type will expand not only the identifier value that was clicked, but also the other identifier values on that level.

In the example shown here, the **Region** identifier has been expanded by the **Warehouse** identifier. As you can see, both regions were expanded to show the warehouses within those regions.
Expand All Rows by Specific Values
This is a combination of the Expand by Specific Values and Expand All Rows exploration types. When you select this exploration type, the **Lookup** page will appear, similar to the one shown previously. Your exploration should be prepared in the same way you would set up an “Expand by Specific Values” exploration, but when you click the **Ok** button, all of the identifiers of the current level will be expanded by the selected values.

"Drill Across" to a Dashboard or Scorecard

**NOTE:** This feature requires the optional MITS Dashboard add-on and at least one prompting, full-screen dashboard. For more information about MITS Dashboard, including custom-designed prompting full-screen dashboards made to your specifications, contact your MITS provider.

If your MITS Discover system has been licensed to allow for the use of the MITS Dashboard product, your user account has sufficient privileges, and you have at least one prompting full-screen dashboard, you may see one or more additional options in the expand menu, as outlined in this example.

These menu options notify you that a prompting full-screen dashboard or scorecard related to the selected identifier is available. Selecting this option takes you directly to the dashboard as though the selected identifier value had been entered for the prompt. This is called *drilling across*.

In this example, a customer scorecard has been defined on this system to show various information related to one specific customer.

Selecting the **Customer Scorecard** option in the flash screen above displays the customer scorecard for customer **A & S Enterprises**, as outlined below:
The Detail Display feature of MITS Discover provides a detailed list of the transactions that contributed to the value in certain flash screen cells.

**NOTE:** The availability of this feature is dependent on the configuration of each individual Hypercube application. Speak with your MITS Discover administrator if the Detail Display feature is not available in your Hypercube Application.

If the Detail Display feature is available for a specific column cell, the column values will be displayed as links. The Detail Display screen can be accessed for any of these column cells by clicking the link. When the link is clicked, a Detail Display screen similar to the one below will appear.

**NOTE:** This feature is not available in the “Lite” edition of MITS Discover.
Flash Screen Modification and Manipulation

As previously mentioned, a MITS Discover flash screen can be manipulated in a number of different ways to meet your reporting needs. This flexibility allows you to customize each report as desired.

**Sorting**

Flash screens can be sorted in either ascending or descending order based on the values in any available column.

**NOTE:** Sorting is only applied to the lowest identifier level in a flash screen. To perform a multi-level sort, apply sorting before drilling down.

1. Click the **Modify** button on the main flash screen tool bar.
2. Select **Column Sorting** to access the **Column Sorting** page.
3. Select the columns you want to use for sorting.
4. Specify a sorting direction (**Ascending** or **Descending**) for each selected column.
5. If you have specified more than one sort column, drag columns up and down in the list to specify the order in which sorts should occur.
   The first column in the list will be used for the initial sort, the second column in the list will define the second sort, etc.
6. Click **Ok** to apply the sorting to the flash screen.

**NOTE:** Flash screen sorting can also be accomplished by clicking on a column heading in a flash screen and selecting a sorting direction, but you cannot use this method to specify multi-level sorts.

**Filtering**

Use Column Filters to limit the flash screen results to ranges or specific values based on the contents of a particular column.
1. Open the **Column Filters** page by clicking the **Modify** button on the flash screen tool bar and selecting **Column Filters**. You can also access column filters from the column heading menu by selecting **Column Filters** or by clicking **No Column Filters/Column Filters Used** in the upper navigation tool bar.

2. Select the column to which the filter will be applied.

3. Select the arithmetic operator (>, <=, etc) that will be used for the filter.

4. Enter the desired filter value.

**NOTE:** Surround values that include spaces with double-quotes.

5. Click the **Add Filter** button to add the filter to the **Current Filters** box. Add additional filters if desired.

6. Verify the filters to be applied in the Current Filters list. To remove a filter from the **Current Filters** list, select the filter, and then click **Remove Filter**.

7. Click **Ok** to apply the filters in the **Current Filters** list to your flash screen.

**NOTE:** You can also access the **Column Filters** page from the upper navigation tool bar or the **Column Options** menu.
Adding/Removing Columns

You can add or remove flash screen columns at any time. The easiest method is to access the Modify Displayed Columns screen by clicking the Modify button on the Flash Screen tool bar and selecting Displayed Columns. A page similar to the following will appear:

1. Use the Time Period drop-down menu to filter the columns that appear in the Available Columns box. Only the columns that relate to the selected time period will be displayed.

2. Additional columns can be added to your flash screen by selecting them in the Available Columns box. Expand a column group to show the columns available in that column group.

3. If you want to clear the Currently Selected Columns list, click the Remove All Selected Columns link. To save the currently selected columns as a column set for quick recall later, click Save as a Column Set. A previously saved column set can be retrieved by clicking Load a Column Set. (Column sets are discussed in more detail in the Column Sets section.)

4. The currently selected columns can be reordered by dragging them to the desired location. (Remember that top to bottom in the list will be left to right in the flash screen.)

5. Remove a column from the Currently Selected Columns list by clicking the icon.

6. Click Ok to display the modified flash screen.

You can also insert a column from the Column Options menu by clicking either Insert Column Before or Insert Column After. Select a column group to see a list of the columns in that column group, and then click a column to insert that column.
**Column Repositioning**

Columns can be moved by dragging a column heading by its "handle".

1. The handle at the top of a column indicates that the column can be repositioned.
2. The column’s heading will change color when you start to drag it.
3. An arrow will appear above the column headings to show where the column will appear when the mouse button is released.

**Column Sets**

The Column Sets feature provides the ability to save and load a group or “set” of frequently used columns. This speeds column management by allowing users to swap out the columns of a flash screen without needing to remove and add columns manually.

**To Create a Column Set:**

1. In any flash screen, click Modify in the main tool bar and select Displayed Columns.
2. Using the instructions under Adding/Removing Columns, select the columns for your column set, place them in the order you would like them to appear, and then click Save as a Column Set.
3. On the Save Column Set page, provide a name for your column set. Alternately, you can replace an existing column set by selecting it from the Existing Column Sets list.
4. Click Save to save the column set.
To Load an Existing Column Set:
1. In any flash screen, click Modify in the main tool bar and select Displayed Columns.
2. Click Load a Column Set.
3. Select the column set you want to load. All of the columns in your current flash screen will be removed and replaced with the columns in the selected column set.

To Delete an Existing Column Set:
1. In any flash screen, click Modify in the main tool bar and select Displayed Columns.
2. Click Load a Column Set.
3. Click Delete next to the column set you want to delete.

WARNING: A deleted column set cannot be recovered!

Column Functions

Column Functions are columns populated with the results of a function (usually arithmetic) performed on one or more existing columns. When you click a column heading and select Insert Column Function, You will see a screen similar to the one displayed here. Some of the default column functions available are:

- Add two columns
- Subtract one column from another
- Multiply two columns
- Divide one column by another
- Average of two columns
- Trend from one column to another
- Percent of total for a column

After the column function has been selected from the Column Function drop-down box, a window similar to the one shown here will appear.
1. Select a column group from the **Column Group** drop-down list. The columns in that column group will be displayed in the **Column List to Select From** box.

2. Select one of the columns you would like to use in your column function.

3. Click the button next to the appropriate field to add that column to the function. Repeat these steps to insert the other column(s) for the function as required.

4. Select whether you would like the new column inserted *Before* (to the left of) or *After* (to the right of) the column you originally clicked to access this screen.

5. Click the **Ok** button to add the column function to your flash screen.

Once a column function has been defined, it will become available in the Modify Displayed Columns list for insertion in future flash screens. *One column plus another* columns will appear under the **Add** column group, *One column divided by another* columns will appear under the **Divide** column group, etc.

### Expanding Columns

Expanding a column causes a column that is based on a specific range of time (e.g. *year*) to be replaced with the columns that are based on the next smaller span (e.g. *quarter*) within that eon span. For example, expanding a quarter-based column will cause that single column to be replaced with the three month-based columns from within that year. In this same way, expanding a year-based column will cause it to be replaced with the quarter-based columns that made up that year.

### Column Maintenance

Column Maintenance allows users to create, modify, and delete column definitions. This feature requires an understanding of expressions used in column creation and is beyond the scope of this document. It is, however, treated in detail in the MITS Discover technical document titled *MITS Discover Expressions*. This and other MITS technical documents are available from your MITS Discover support provider.

### Viewing Additional Column Information

Some columns will include additional column information that describes how the column data is derived or where the data is being read from. If additional information is available for a particular column, there will be an **Additional Column Info** option in the column menu for that column which will expand to display this information.
Column Breaks

Adding a column break (Break on value under Column Breaks in the column menu) to a sorted column inserts a line break and a subtotal at each point where the values in that column change. Summarize on value takes this a step further by suppressing the details, replacing the flash screen results with a single, totaled line for each unique column value. These options are explained on the following page.

Break on Value

1. This flash screen includes a column which displays the STATE for each customer.

2. First, the flash screen was sorted by the CUSTOMER STATE column in ascending order, putting the two Oregon customers at the top of the list and moving the four Washington customers to the bottom:

3. After adding a break to the CUSTOMER STATE column, a bottom total and a blank line appear between each set of unique values in the column.
Summarize on Value
The Summarize on Value feature builds on the Break on Value feature by summarizing the totals for each of the unique column values.

As you can see, the individual customer names have been hidden. In their place, one row for each CUSTOMER STATE appears with a total for any numeric columns that exist in the flash screen.

Remove Breaks and Summarization
The Turn breaks off option in the column menu under Column Breaks removes all breaks and summarizations in the current flash screen.
Customizing the Flash Screen Display

There are a number of display modifiers available which can be used to affect the content and appearance of your flash screens. To access these options, click the [Display] button in the flash screen tool bar. A page similar to the following will appear:

1. **Identifier Tags** - You can show or hide the tags displayed to the left of each identifier. The tag is an abbreviation of the identifier name. This option toggles those abbreviations on and off.

2. **Identifier IDs** - You can show or hide the item IDs displayed to the right of each identifier. The ID is usually the code representing the key to the identifier in the operational master file. This option toggles the IDs on and off.

3. **Zero Rows** - You can show or hide data rows in the grid area that contain only zeros. Normally, rows containing only zeros are visible, but you can omit them from the grid if desired.

4. **Bottom Totals** - The Bottom Totals feature can be toggled on or off using this option. Bottom totals differ from top totals in that they only include the values for rows currently displayed in the flash screen; so applying a filter or using Expand by Specific Values will affect the bottom totals, whereas the top totals will always show the full total for a specific column regardless of what filters have been applied to the level(s) below it.

5. **Flash Screen Heading** - This box allows you to change the heading of the current flash screen.

6. **Clip Number of Rows** - This feature provides a way to limit the amount of data the server returns. By specifying a "clip level," you are limiting the number of rows that will be returned by the server. A common use of this feature would be to first sort a flash screen by the Sales Year-to-date column, drill down to a Sales Rep identifier, then set the clip level to 10 in order to show your top 10 sales reps year-to-date. To turn this feature off, set the Clip number of rows to 0. You can also specify a clip level from the Navigation Tool Bar.

7. **Display Rows per Page** - The number of rows that are displayed for each page of a flash screen can be modified in this box. This setting only affects the number of rows displayed on each "page" of the flash screen (for pagination purposes), whereas the Clip Number of Rows feature...
(above) affects the actual number of rows returned for the flash screen. The default is 30 and the maximum is 1000. Be aware that setting this too high can cause your flash screen requests to take longer to process. You can also modify this setting from the Navigation Tool Bar.

**NOTE:** The Display Rows per Page feature is different from the other settings on this page as it is a user-specific setting. This means that it will apply to all flash screens viewed by this user on this computer. The other settings on this page are saved with the flash screen definition, so they will be applied for any user that views this flash screen on any computer.

8. **Line Break** - Line Break is a feature used to add a blank line between levels of identifiers. Selecting a level to apply a line break will add a line between identifiers on the specified level.

9. **Omit Total Level** - The Omit Total Level feature is used to prevent the display of the grand total lines in the grid. This is useful when you would like to print or export a flash screen but do not want the totals of the higher levels to appear.

Click **Ok** to accept the changes and return to the flash screen.
Exporting Dashboards and Flash Screens

MITS Discover includes the ability to export dashboard and flash screen data to other formats. Dashboards can be exported to Adobe PDF format. Flash screens can be exported to Adobe PDF, Microsoft Excel, Comma Separated Values (CSV), and tab-delimited (TXT) formats.

Exporting Dashboards

There are two ways to export a dashboard:

The first method is accessed from the dashboard listing on the **Dashboards** tab. Click 📄 Export next to the dashboard you want to export and then select **Export to Adobe PDF**. If your dashboard is configured for prompting, you will be prompted to select and/or enter the required dashboard values.

As an alternative, if you are already viewing the dashboard you want to export, simply click 📄 Export to PDF in the tool bar.

Exporting Flash Screens

There are two ways to export a flash screen:

The first method is accessed from the flash screen listing on the **Flash Screens** tab by clicking 📄 Export next to the flash screen you want to export.

The second method is accessed from within a flash screen by clicking 📄 Export in the tool bar.

After clicking Export, select one of the following options from the menu:

1. **Export to Microsoft Excel**: Exports the selected flash screen directly to a Microsoft Excel file
2. **Export to Adobe PDF**: Exports the selected flash screen directly to an Adobe PDF file
3. **Advanced Exporting Options**: Opens the advanced exporting configuration page. See the next section for additional information.
Advanced Exporting Options

There are a number of advanced exporting options available for further modifying the formatting of your export.

1. Determine the number of rows to export. Selecting All Rows will export all rows of the flash screen, or you can specify the number of rows to export by selecting the second radio button and typing a number into the box.

2. If you want a normalized export, select the Repeat drill down path (normalize) radio button. A normalized export creates an individual column for each identifier level in the drill-down path. For example, a non-normalized ("Don’t repeat drill down path") export will place all identifiers in a single column as they are in the flash screen display. A normalized ("Repeat drill down path") export will place the top level identifier values in one column. The identifier values for each subsequent drill-down level will then appear in additional, separate columns.

NOTE: The Normalized Export option is not available when exporting to Adobe PDF.

3. Select the export format (XLS, CSV, TXT, or Adobe PDF)

4. When exporting to Adobe PDF, the following additional options are available:
   - **Header** - Short Text entry, placed at the top of each page of the PDF file. Defaults to the flash screen name.
   - **Footer** - Short text entry, placed at the bottom of each page of the PDF file. Defaults to “MITS Discover.”
   - **Orientation** - Landscape (horizontal) or Portrait (vertical)
   - **Fonts** - Arial, Courier New, Times New Roman
   - **Font Size** - 6, 8, 10, 12, 14, 16

5. Click the Ok button to complete the export.
Emailing Dashboards and Flash Screens

- The email features of MITS Discover provide the ability to:
  - Instantly send the results of a flash screen or dashboard to one or more specified email addresses
  - Configure an email schedule that will automatically send the flash screen or dashboard results to one or more specified email addresses on a daily, weekly, or monthly basis
  - Specify a "run-as" user for each email recipient, which will cause the data security for that user to be applied prior to generating the email (the availability of this specific feature is based on security settings)

Prerequisites

- In order to send email from within MITS Discover, the following statements must be true:
  - You have a "Standard" or "Premium" edition license for MITS Discover (this feature is not available in the "Lite" edition of MITS Discover)
  - Your MITS Discover system has been configured to interact with your organization’s email server.
  - For more information, please see the section titled Configure Email Server.
  - Your MITS Discover user account has been configured to allow for the sending emails
  - To email dashboards, you will also need a license for the optional MITS Dashboard add-on product and at least one full-screen dashboard
  - If any of these things are not true, the email buttons and options will not appear and you will be unable to use this feature. If you have questions, please contact your MITS administrator.

Flash Screen Emails

Send Now
1. There are two ways to send a MITS Discover email immediately. The first is from the Flash Screens tab by clicking Email in the Actions column next to the flash screen you want to send in an email and selecting Send Now. The second is to simply click the Email button in the flash screen tool bar while viewing any flash screen. Both methods will cause a screen similar to the one shown here.

2. Enter one or more email addresses in the Email Addresses box.
NOTE: Separate multiple email addresses with a space or a comma. You can also place them on separate lines within the Email Addresses box.

3. Modify the subject in the Subject box, if desired. (This box defaults to the flash screen heading.)

4. Add text for the body of the email message, if desired, to the Message box.

5. Click Next.

If you have been granted administrative email privileges and you have initiated this email from the flash screen listing on the Flash Screens tab (rather than by clicking Email in the tool bar from within a flash screen), you will be asked to select a "Run-As" user for each recipient email address specified. (If this screen does not appear, skip to step 6.) This screen allows you to specify the MITS Discover user account that the flash screen will be run as for security purposes. This provides two significant capabilities:

- If you want the received flash screen to follow the defined MITS Discover security model for a given user, select that user ID from the "Run-as User" drop-down menu.
- If you have a report that includes information which a specific MITS Discover user would not normally be able to see due to the security settings on their user account, you can choose to have the report run as a different user prior to sending the email. This will allow them to see this information without giving them full access to the data within MITS Discover.

WARNING: Be VERY aware of the MITS Discover security settings when selecting "run-as" user accounts, as this could allow the recipient to see potentially sensitive data that they would not normally be able to see. If there is any question about what the resulting report will look like, try sending the email to yourself first.

NOTE: When emailing a saved flash screen, the list of run-as users will be limited to those users who have at least read access to the flash screen library where that flash screen is saved. To send the flash screen to a user who does not appear in the list, save the flash screen to a library that the user can access.

Once you have selected the desired "run-as" user, click Next. A screen similar to the one pictured here will appear.

6. Select the desired format for the resulting email attachment. There are four options:

- MS Excel (XLS)
- Adobe PDF (PDF)
- Comma Separated Values (CSV)
- Tab Delimited Text (TXT)
For XLS, CSV, or TXT, select whether the drill-down path elements should be repeated (aka "normalized") or not repeated. For PDF, modify the header, footer, page orientation, font, and font size, as desired.

7. Click Send. The currently displayed flash screen will be exported to the selected format using the options specified, attached to an email, and sent to the email address(es) you specified.

Schedule for Later
1. Starting from the main flash screen menu page, click Email in the Actions column next to the flash screen you want to send in an email and select Scheduling. A screen similar to the one above will appear.

2. Click New Scheduled Email. A screen similar to the one pictured here will appear.

3. Enter one or more email addresses in the Email Addresses box.

NOTE: Separate multiple email addresses with a space or a comma. You can also place them on separate lines within the Email Addresses box.

4. Modify the subject in the Subject box, if desired. (This box defaults to the flash screen heading.)

5. Add text for the body of the email message, if desired, to the Message box. Click Next.

6. If you have been granted administrative email privileges, you will be asked to select a "Run-As" user for each recipient email address specified. (If this screen does not appear, skip to step 7.) This screen allows you to specify the MITS Discover user account that the flash screen will be run as for security purposes. This provides two significant capabilities:
   • If you want the received flash screen to follow the defined MITS Discover security model for a given user, select that user ID from the "Run-as User" drop-down menu.
• If you have a report that includes information which a specific MITS Discover user would not normally be able to see due to the security settings on their user account, you can choose to have the report run as a different user prior to sending the email. This will allow them to see this information without giving them full access to the data within MITS Discover.

**WARNING:** Be VERY aware of the MITS Discover security settings when selecting "run-as" user accounts as this feature could allow the recipient to see potentially sensitive data that they would not normally be able to see when logged into MITS Discover with their own user account. If there is any question about what the resulting report will look like, try sending the email to yourself first.

**NOTE:** When emailing a saved flash screen, the list of run-as users will be limited to those users who have at least read access to the flash screen library where that flash screen is saved. To send the flash screen to a user who does not appear in the list, save the flash screen to a library that the user can access.

Once you have selected the desired "run-as" users, click **Next**.

7. A screen similar to the one pictured here will appear.

8. Select the desired format for the resulting email attachment. There are four options:
   - MS Excel (XLS)
   - Adobe PDF (PDF)
   - Comma Separated Values (CSV)
   - Tab Delimited Text (TXT)
   For XLS, CSV, or TXT, select whether the drill-down path elements should be repeated (aka "normalized") or not repeated. For PDF, modify the header, footer, page orientation, font, and font size, as desired.

9. Click **Next**. A screen similar to the one pictured here will appear.

10. Click **Add Schedule** to define a new schedule event. This will determine how often this email will be sent.

**NOTE:** It is important to remember that a scheduled email will execute the flash screen at the moment the email is sent; so the data received by the recipient could be different than what you see in the system now, especially if a Hypercube build occurs between the time you configure the scheduled email and the time the email is received. For this reason, you should always be aware of your Hypercube build schedules as you decide when to have scheduled emails delivered.
11. From the Type drop-down menu, select Daily, Weekly, or Monthly.
   • If Daily is selected, you can choose to have an email sent once per day or every hour.
   • With Weekly schedules, select the time (as with the Daily schedule type), as well as the day of the week you want the emails to be sent. You can also choose to have the emails sent only on the weekdays (Monday through Friday) or only on the weekends (Saturday and Sunday).
   • For Monthly schedules, you select the time (as with the Daily schedule type), as well as the day and month you want the emails to be sent. You can even choose to have the emails sent on the first weekday, last weekday, or last calendar day of the month.

   NOTE: If the specified day of the month (31, etc.) does not exist in a given month, the scheduled email will not be sent that month.

12. Click . You will be taken back to the Email Schedules screen and your newly defined schedule will be listed. To add another schedule for this same flash screen, click and repeat step 11.

13. When you have defined all of the desired schedules for this flash screen, click .

   NOTE: When defining your email schedules, remember that the system will need to execute the entire flash screen prior to sending the email and adjust your schedule accordingly. For example, if a flash screen is configured for 2:00 but the flash screen takes an hour to run, the email will not be received until 3:00.

**Dashboard Emails**

**Send Now**
1. To send a MITS Dashboard email, start at the Dashboards tab. In the Actions column for the dashboard you would like to email, click Email and select Send Now. A screen similar to the one pictured here will appear.

2. Enter one or more email addresses in the Email Addresses box.

   NOTE: Separate multiple email addresses with a space or a comma. You can also place them on separate lines within the Email Addresses box.

3. Modify the subject in the Subject box, if desired. (This box defaults to the dashboard name.)

4. Add text for the body of the email message to the Message box if desired. Click Next. (If this option does not appear, click Send. Your email has been sent, so there is no need to proceed to the next step.)
5. If you have been granted administrative email privileges, you will be asked to select a "Run-As" user for each recipient email address specified. This screen allows you to specify the MITS Discover user account that the dashboard will be run as for security purposes. This provides two significant capabilities:
• If you want the received dashboard to follow the defined MITS Discover security model for a given user, select that user ID from the "Run-as User" drop-down menu.

• If you have a dashboard that includes information which a specific MITS Discover user would not normally be able to see due to the security settings on their user account, you can choose to have the dashboard run as a different user prior to sending the email. This will allow them to see this information without giving them full access to the data within MITS Discover.

**WARNING:** Be VERY aware of the MITS Discover security settings when selecting "run-as" user accounts, as this could allow the recipient to see potentially sensitive data that they would not normally be able to see. If there is any question about what the resulting report will look like, send the email to yourself first.

6. If the dashboard has been configured with prompting, you will be asked to enter or select values for the prompt(s). (If the prompt is a text entry box rather than a drop-down list, you can click the Find Values link to search for specific values.)

7. Click . The recipient will receive an email with an attached PDF depicting the contents of the selected dashboard at the time the email was generated.

**Schedule for Later**

1. Starting from the **Dashboards** tab, click **Email** in the **Actions** column next to the dashboard you want to send in an email and select **Scheduling**. A screen similar to the one below will appear:

2. Click **New Scheduled Email**. The **Email Content** screen will appear.

3. Enter one or more email addresses in the **Email Addresses** box.

**NOTE:** Separate multiple email addresses with a space or a comma. You can also place them on separate lines within the **Email Addresses** box.

4. Modify the subject in the **Subject** box, if desired.
5. Add text for the body of the email message, if desired, to the Message box. Click ✉️ Next. (If this option does not appear, click ✉️ Send. Your email has been sent, so there is no need to proceed to the next step.)

6. If you have been granted administrative email privileges, you will be asked to select a "Run-As" user for each recipient email address specified. This screen allows you to specify the MITS Discover user that the dashboard will be run as for security purposes. This provides two significant capabilities:
   • If you want the received dashboard to follow the defined MITS Discover security model for a given user, select that user ID from the "Run-as User" drop-down menu.
   • If you have a dashboard that includes information which a specific MITS Discover user would not normally be able to see due to the security settings on their user account, you can choose to have the dashboard run as a different user prior to sending the email. This will allow them to see this information without giving them full access to the data within MITS Discover.

WARNING: Be VERY aware of the MITS Discover security settings when selecting "run-as" user accounts, as this could allow the recipient to see potentially sensitive data that they would not normally be able to see. If there is any question about what the resulting dashboard will look like, send the email to yourself first.

   • If the dashboard has been configured with prompting, you will be asked to enter or select values for the prompt(s).

7. Click ✉️ Next.

8. Click ✉️ Add Schedule to define a new schedule event. This will determine how often this email will be sent.

   NOTE: It is important to remember that a scheduled email will execute the dashboard at the moment the email is sent. This means that data received by the recipient could be different than what you see in the system now, especially if a Hypercube build process occurs between the time you configure the scheduled email and the time the email is received. For this reason, you should always be aware of your Hypercube build schedules as you create scheduled emails.

9. From the Type drop-down menu, select Daily, Weekly, or Monthly.
   • If Daily is selected, you can choose to have an email sent once per day or every hour.
   • With Weekly schedules, you select the time (as with the Daily schedule type), as well as the day of the week you want the emails to be sent. Alternately, you can also choose to have the emails sent only on the weekdays (Monday through Friday) or only on the weekends (Saturday and Sunday).
   • For Monthly schedules, you select the time (as with the Daily schedule type), as well as the day and month you want the emails to be sent. You can even choose to have the emails sent on the first weekday, last weekday, or last calendar day of the month.
NOTE: If the selected day of the month does not exist in a given month, the scheduled email will not be sent that month. For example, if an email is scheduled to be sent on the 31st, that email will not be sent in February, April, June, etc.

10. Click Add. You will be taken back to the Email Schedules screen, but your newly defined schedule will be listed. To add another schedule for this same dashboard, click Add Schedule and repeat step 9.

11. When you have defined all of the desired schedules for this dashboard, click Finish.
Printing a Flash Screen

When printing a flash screen, you can choose to print the entire flash screen or just the content in the currently displayed rows.

1. Click the Print button in the tool bar of a flash screen.
2. Select whether you want to print the entire flash screen or only the currently displayed rows. The Print currently displayed rows option uses your browser’s print engine. The Print entire Flash Screen option will export the flash screen to a PDF file allowing you to print it from there.
3. If you selected “Print entire Flash Screen”, you will be taken to an options screen. Modify the options you want to change and click Print.
The charting feature of MITS Discover allows users to view their Hypercube data graphically.

To create a chart, click the **Chart** button in the flash screen’s tool bar. The **Chart Options** page will be displayed:

1. **Chart Type** - The desired chart type is selected here.
2. **Available Columns**: This box lists the columns available for insertion into the chart. Selecting a column and clicking the **Add Column** button will move the column into the **Currently Selected Columns** box.
3. **Currently Selected Columns**: This box lists all the columns you’ve selected for the chart. To change the order of the columns, select a column and use the **Move Up** and **Move Down** buttons. To remove a column from this box, select the column and click the **Remove Column** button.
4. **Display Options** - These options control the size of the chart (in pixels) as well as the orientation of the labels.
5. **Chart Title** - The title that will appear above the chart.
6. **Invert Chart** - Inverting the chart switches the rows and columns, as shown here.

In the standard example above, we see that the bars of the chart (which each represent profit for one branch over one year) are organized by branch. In the inverted example here, the chart’s bars are organized by year.

7. Click **OK** to generate the chart.
Available Charting Types

- **Bar charts** are useful for comparing data of the same type. For example, a bar chart could be used to compare profit dollars for a given quarter across all branches.

- **Line charts** are useful for finding trends over a given time. For example, a line chart could be used to discover which months are more profitable for a particular product.

- **Stacked Bar charts** are useful in comparing how a given section of data compares to other sections in relation to the whole category, as well as how one whole category compares to another across the same section. For example, a stacked bar chart could be used to see how a single product’s profit contributed to your branch’s profits over several quarters.
• **Area charts** are functionally the same as line charts, except that they fill in the space below the line for added contrast. For example, an area chart can be used to show how branches compare fiscally for a given time frame.

• **Pie charts** are useful for comparing how a piece of data compares to other pieces in relation to the whole. For example, a pie chart could show how the sales of a particular product compares to the other products in the same product line.
The Dashboards Tab
The optional MITS Dashboard add-on for MITS Discover provides the ability to view key metrics from your MITS Discover Hypercubes in a graphical, dashboard-styled interface. If you have purchased the MITS Dashboard add-on for your MITS Discover system, you will see a Dashboards tab to the right of your Flash Screens tab at the top of each MITS Discover page.

1. Select the Dashboards tab to view the dashboard selector page, displayed above.

2. Use these buttons to create and/or manage dashboards and dashboard objects. The creation of dashboards and dashboard objects is beyond the scope of this document. For more information about these features, see the MITS Dashboard User Guide document, available from your MITS provider.

3. Select a dashboard library to filter the list of dashboards by library or to manage existing libraries.

4. Click this button to expand the sidebar if it has been hidden.

5. Refer to these icons to determine whether a dashboard is a sidebar dashboard or a full-screen dashboard. The first dashboard in the list above is a sidebar and the second is a full-screen dashboard. More information about the various types of dashboards can be found in the Dashboard Types section.

6. Click a dashboard name to view that dashboard.

7. Select the Modify button to make changes to a dashboard. See Modifying Full-Screen Dashboards for more information.
8. Click the **Export** button to save the results of the selected dashboard as an Adobe PDF file.

**NOTE:** The New, Manage Dashboard Objects, and Modify buttons will only appear if your system has been configured to allow for the creation of dashboards and dashboard objects.

9. Click the **Email** button to send the selected dashboard results as an Adobe PDF file attached to an email.

10. Remove a dashboard by clicking the **Delete** button. This button will only appear for a given dashboard if your user account has write privileges to the dashboard library where that dashboard is stored.

**WARNING:** A deleted dashboard cannot be recovered!

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### Dashboard Types

MITS dashboards come in two formats: **sidebar** and **full-screen**. Full-screen dashboards can be further broken down into **prompting** and **non-prompting** dashboards.

Sidebar dashboards can be identified on the dashboards tab by this icon: 📈

Full-screen dashboards can be identified on the dashboards tab by this icon: 📈

Your system may have included some pre-configured dashboards in one or both of these configurations. For information about creating your own dashboards or having a custom-designed solution created for you, please contact your MITS provider.
**Sidebar Dashboards**

Sidebar dashboards appear in a narrow pane to the left of the main MITS Discover page, as shown here.

Each sidebar dashboard is made up of *dashboard objects*, which are created from your MITS Discover Hypercube data. In most cases, clicking on a sidebar dashboard object will cause a related flash screen to appear in the main MITS Discover pane.

The topics of creating and managing dashboard objects are beyond the scope of this document. For more information about these features, see the *MITS Dashboard User Guide* document, available from your MITS provider.

**Full-Screen Dashboards**

Any dashboard that appears in the main MITS Discover pane is known as a *full-screen dashboard*. One example of a full-screen dashboard is the executive sales dashboard displayed below:
This type of full-screen dashboard is a great way to get a wide overview of a large number of key business metrics in a single view.

**Prompting Dashboards**
Another type of full-screen dashboard is known as a *prompting* full-screen dashboard. Some prompting full-screen dashboards are also referred to as *scorecards*. When one of these dashboards is executed, a prompt screen appears where a specific value or values (such as a customer, sales rep, or product) can be selected. A full-screen dashboard is then generated and populated with data that pertains specifically to the selected value(s).

One example would be a Sales Rep scorecard. When executed, a prompt screen similar to the one shown here will appear. When a sales rep is selected, a scorecard similar to the following will appear:

In most cases, clicking on a dashboard object will display a flash screen showing data related to the dashboard object that was clicked.

Some dashboards will include small, linked flash screens that can be used to directly execute other prompting full-screen dashboards through the use of the "drill across" feature. This feature is described in more detail in the Expanding a Flash Screen section.
To select a different sales rep, click the Modify Prompt Values button in the tool bar.

To export a full-screen dashboard or scorecard to an Adobe PDF file, click the Export button in the tool bar.

To email a full-screen dashboard as an Adobe PDF file attachment, click the Send as Email button in the tool bar.

**NOTE:** Many of these options are controlled by user security. If you need access to one or more of these features and one of these buttons does not appear, contact your MITS Discover administrator.
Modifying Full-Screen Dashboards

**WARNING:** This is an advanced feature which requires knowledge of editing HTML. “Write access” to at least one dashboard library and “Manually Modify Fullscreen Dashboards” permissions are also required to complete the following steps.

1. Click **Modify** next to the dashboard you want to edit.

2. A text field will be displayed showing the existing HTML and MWML code for the selected dashboard.

3. Edit the code as desired, then select **Save**.

**NOTE:** Instructions on editing HTML and MWML are beyond the scope of this document. Please contact your MITS support provider for more information.

4. Select the library to save the modified dashboard to and provide a name for the dashboard.

5. Click **Ok**.
The Hypercubes Tab
Managing Your Hypercubes

The Hypercubes tab provides an interface for creating and scheduling build jobs as well as viewing the current status of your Hypercubes.

1. Select the Hypercubes tab to view, create, and manage scheduled build jobs and to view the status of your Hypercubes.

2. Click the New Scheduled Build Job button to create a new scheduled build job. You will find instructions in the section titled Creating a New Build Job.

3. Selecting the Auto-Refresh check box will cause the various status information on this tab to automatically refresh at the specified interval.

4. The Scheduled Build Jobs section shows information about the jobs that have been created and provides the ability to interact with those jobs. More information about this section can be found under Scheduled Build Jobs.

5. The Status section displays the current status of each Hypercube on your system. More information about this section can be found under Hypercube Status Information.

NOTE: Your display may differ due to the fact that much of the functionality and information on this tab is controlled by user security. If you require additional access, speak with your MITS Discover administrator.
Scheduled Build Jobs

MITS Discover Hypercubes are populated by build jobs. These jobs are usually run after business hours (overnight or on the weekend). The Hypercube build scheduler allows you to configure one or more build jobs and schedule them to occur as needed automatically.

If your user account has been configured to allow access to build scheduling, you will find a section at the top of the Hypercubes tab labeled Scheduled Build Jobs. This is where your build jobs will appear.

Creating a New Build Job

To create a new build job, start by navigating to the Hypercubes tab and clicking the New Scheduled Build Job button in the main MITS Discover tool bar.

NOTE: These build job creation steps do not give you access to all of the available job configuration options. Additional options are described in the section titled Advanced Build Job Configuration.

Choose Job Schedule

The first step is to specify when the job(s) should run.

1. Specify whether the job should run daily, weekly, or monthly. If the job is to be run weekly, select the check box(es) next to the day(s) you want the job to run. If the job is to be run monthly, select the day of the month and the month the job should run.

2. Define the start time.

3. Define the stop time, or select When Finished to allow the build job to run to completion.

4. Click Next.

NOTE: You can also configure yearly jobs using the Monthly schedule type. Select a specific day from the Day drop-down menu (instead of the default Every Day of the Month) and a specific month from the Month drop-down menu (instead of the default Every Month).
Define Task
In this step, you will specify the actual jobs that will be run. There are two Task Types: Hypercube Build and TCL Commands.

- If Hypercube Build is selected, select a Hypercube and then specify any necessary advanced build options. The available advanced build options are:
  - **Use MITS Load**: The build will be run using an alternate read/write algorithm which will often shorten the build times on especially large Hypercubes.
  - **B - Skip Wrapup**: The transformation phase of the build process will run and then halt prior to entering the build wrap-up phase. (Be aware that the data in your Hypercube may not be viewable and/or accurate until a build wrap-up has been run.)
  - **U - Dynamic Changes Only (Redos/Undos/Todos)**: This option activates an advanced, alternate Hypercube build mode and should only be used under the direction of a MITS Support technician.
  - **W - Wrapup Only**: The transformation phase of the build process will be skipped, proceeding directly to the build wrap-up phase. (Be aware that no new data will be added to your Hypercube during this process.)

**NOTE:** If you need to use an advanced build option that is not listed here, the build job should be specified using the TCL Commands option. Contact your MITS Discover support provider for more information.

- If TCL Commands is selected, specify a list of commands to be run at the scheduled time.

**WARNING:** This is an advanced feature which should only be used under the direction of a MITS Support technician.

Take note of the following when working with this feature:

- The list of commands will be executed from within the MITS.SYSTEM operational database account as a paragraph.
- If your list of commands includes a manually defined Hypercube build job, there are additional steps that will need to be taken after the scheduled build job has been defined. These additional steps are described in the section titled Configuration Page.

When you are finished defining your task, click Next.
Job Name and Description
Specify a descriptive name and an optional description for this build job, and then click Finish.

Run a Defined Job Immediately

To execute a scheduled build job, click Run Job Now in the Actions column for that job. The status will automatically refresh based on the Auto-Refresh setting in the Hypercubes tab tool bar.

To view the status for a currently running job, click the Running... link in the Last Status column and select View Build Details. For more information about build job status, see the section titled Build Job Information below.

Delete a Scheduled Build Job

To delete a scheduled build job, click Delete in the Actions column for that job.

WARNING: Deleted build jobs cannot be recovered!

Build Job Information

The Build Job Information screen shows a detailed breakdown of each step in the build process. It includes durations for each build task (broken down by phase) as well as a total job duration.

Currently Running Job Status
To view build job information for a currently running job, click on the word Running... in the Last Status column and select View Build Details from the menu. This display will automatically update as the job progresses.

Additionally, you can view the log file for the currently running job by clicking the View Log link at the bottom of the Build Job Information screen.

NOTE: The Build Job Information screen is also available for previously run jobs as described in the next section.
**Viewing Historical Build Job Information**

There is a **Job History** page for each defined build job which shows status and completion information for the last 50 times the job was run. This page can be accessed by clicking the **Status** entry for a scheduled build job and selecting **Job History**. The following tasks are available from the **Actions** column of this page:

- Clicking **View Details** will show the **Build Job Information** screen for that build job instance.
- The **View Log** link will display the build log from that job instance.
- If there were critical errors or non-critical warnings that occurred, you can click **View Warnings** or **View Error** to see more information.

**Build Logs**

The MITS Discover build scheduler keeps a log of the build job output for every job, and the 50 most recent build logs are kept for each job.

The build logs can be accessed for both currently running jobs and historical jobs. You will find a **View Log** option on the **Build Job Information** screen and on the **Job History** page.

You can download any log file in a "zip" format from the **Job Output Log** page by clicking the **Download Log File** button in the tool bar.
Advanced Build Job Configuration

The menu in the Actions column includes four options: Configuration, Job Tasks, Job Scheduling, and Disable/Enable Job. Each of these options is described below.

Configuration Page

The build job name or description can be modified on this page.

Additional Steps for TCL Command-Based Build Job Tasks
You may find one or more check boxes near the bottom of this page (one for each Hypercube on your system) as shown here. If the selected build job includes a "TCL command" task which executes a build job for one of your Hypercubes, select the check box for that Hypercube here. Multiple Hypercubes can be selected as appropriate for each build job.

This configuration step allows the system to enforce an important concurrency check which prevents multiple builds from running on a single Hypercube at the same time. Additionally, if you have one or more Hypercubes that rely upon external data source extractions, this check box will ensure that the extractions are run as a part of the build job.

Job Tasks Page

The Job Tasks page provides a number of additional build job configuration options which allow you to create more complex build jobs than you would normally be able to create using only the New Scheduled Build Job procedure. On this page you can:

• Modify an existing job task
• Add tasks to an existing scheduled build job, thus creating a single build job that performs multiple tasks
• Remove tasks from an existing scheduled build job
• Change the order in which the tasks for a scheduled build job are run

NOTE: If you add or remove a TCL command task that includes a manually specified Hypercube build command, be sure to select or clear the check box for that Hypercube as appropriate on the Configuration page. This is described in more detail under Configuration Page above.
Job Scheduling Page

The Job Scheduling page allows you to modify the schedule for a previously defined build job. This page includes the same options and abilities as the Choose Job Schedule screen that appears when creating a new scheduled build job.

Disable/Enable a Build Job

If you need to temporarily prevent a build job from running, use the Disable Build Job feature. To temporarily disable a scheduled build job, click Modify in the Actions column for that job and select Disable Job.

To reactivate a previously disabled build job, click Modify in the Actions column for that job and select Enable Job.
The lower section of the Hypercubes tab displays current status information about each of the Hypercubes that reside in your MITS Discover system. This display provides a quick and easy method to check on the build status and date range of a Hypercube. You can see information such as:

- Hypercube Name
- Current Status
- Current Date Range

**NOTE:** If the user does not have access to view a given Hypercube, that Hypercube will not appear.

### Build Job Notifications

If your system has been configured with email capabilities, your MITS Discover administrator also has the ability to configure build job notification emails that will automatically send an email to one or more specified email addresses when a build job completes or fails. For more information about this feature, see the *Build Job Notifications* section or speak to your MITS Discover administrator.
The Administration Tab
Introduction

The Administration tab of MITS Discover provides access to eight important administrative tasks: user management, template management, user properties management, library management, Active Directory authentication configuration, email server configuration, build job notification configuration, and the Support Console.

**NOTE:** Access to the items on this tab is controlled by user security. If you need to access something on this tab but are unable to do so, please contact your MITS Discover administrator.
Manage Users

The Manage Users page allows you as the MITS Discover administrator to create, delete, and modify user accounts that provide MITS Discover access to your users.

Create a New User

1. Click Create New User.
2. Specify a username, which will be used as the login name to access MITS Discover.

**WARNING:** If your system came with pre-configured security templates, there may be guidelines that you will need to follow when selecting a username in order for security to be applied correctly. For example, a sales rep security template may require the sales rep’s username to be the same as their sales rep ID in your operational system. If you have questions about this, please contact your MITS provider.

3. Specify the password that will be used to log in to MITS Discover. (Users can change their password after logging in by clicking on their username at the top of the MITS Discover page.) Be aware that passwords are case-sensitive and cannot contain spaces or the following characters:

   - tilde (~)
   - comma (,)
   - semicolon (;)
   - thorn (þ)
   - percent sign (%)

4. (Optional) Specify the first and last name of the user.
5. Click Next.
6. Select the check box next to the security template that should be applied for this user. For more information about security templates, contact your MITS provider.
7. Click Finish.
Delete a User

To delete a user, navigate to the Administration tab, select Manage Users, and then click Delete next to their username.

WARNING: A deleted user cannot be recovered!

Copy a User’s Account

To copy a user account, navigate to the Administration tab, select Manage Users, and then click Copy next to their username. You will be prompted to enter the name and password for the new account, which will retain the same properties as the account you are copying, but with the new login credentials you entered.

Change a User’s Password

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username and select Change Password.
3. Type the new password, then verify it by typing it again.
4. Click Save.

NOTE: A user can change their own password at any time by logging in to MITS Discover and clicking on their user name.

Change a User’s Assigned Security Templates

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username.
3. Select Templates from the list on the left side of the page.
4. Modify the templates as desired.
5. Click Ok or Apply.

View the Source of Each Assigned Permission

Each user’s effective permissions are often the product of one or more security templates. Permissions can also be directly assigned to a user.

When viewing System Permissions, Hypercubes, Flash Screen Libraries, Dashboard Libraries, or Dashboard Object Libraries for a given user, one or more buttons will appear near the bottom of the page. Click on a button to highlight the permissions that have been assigned by that object.
**Change a User’s User Property Values**

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username.
3. Select User Property Values from the list on the left side of the page.
4. Modify the value(s) as desired.
   
   - Add a value by entering a new value in the Add a value field and clicking on the icon.
   - Remove an existing value by clicking the icon next to the value you want to remove.
5. Click Ok or Apply.

**Change a User’s System Permissions**

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username.
3. Select System Permissions from the list on the left side of the page.
4. Check the boxes under Basic and/or Advanced to set user access as desired. (See below for descriptions of these settings.)
5. Click Ok or Apply.

The following table describes the available permissions:
## MITS Discover Security Permissions

<table>
<thead>
<tr>
<th>Permission</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>Gives the user the ability to send emails and set up scheduled emails from within MITS Discover.</td>
</tr>
<tr>
<td>Export</td>
<td>Allows the user to export MITS Discover data.</td>
</tr>
<tr>
<td>Column Set Maintenance</td>
<td>Allows the user to view, modify, or delete column set definitions using the Column Set Maintenance feature of MITS Discover.</td>
</tr>
<tr>
<td>Manually Modify Fullscreen Dashboards</td>
<td>Allows the user to modify fullscreen dashboards through a basic text interface, if they have write access to any dashboard libraries.</td>
</tr>
<tr>
<td>Administration</td>
<td>Gives the user the ability to administer permissions of other users, to schedule build jobs, manage flash screen and dashboard libraries, and activate the product.</td>
</tr>
<tr>
<td>Email Admin</td>
<td>Allows the user to change the email server configuration settings and modify scheduled emails that have been configured by other users.</td>
</tr>
<tr>
<td>MitsMaker</td>
<td>Allows the user to log in to the MitsMaker product. MitsMaker must be licensed for MitsMaker to be used.</td>
</tr>
<tr>
<td>Column Maintenance</td>
<td>Allows the user to create, modify, add, or delete column definitions using the Column Maintenance feature of MITS Discover.</td>
</tr>
</tbody>
</table>

---

### Change a User’s Access to Hypercubes

There are several ways to limit MITS Discover Hypercube access. You can add limitations based on a specific accumulator or identifier, or you can even grant or deny access to an entire Hypercube.

**Grant Access to a Hypercube**

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username.
3. Select Hypercubes from the list on the left side of the page.
4. Check the boxes next to each hypercube to grant permissions as desired.
5. Click the hyper linked text under the Identifier Restrictions or Accumulator Restrictions to view or modify specific data restrictions for the user. Click Ok or Apply to save these restrictions. For more information, see Identifier Restrictions and Accumulator Restrictions below.
6. Click Ok or Apply.
Identifier Restrictions
Identifier restrictions provide the ability to control row-level access to the data in your Hypercubes. Each identifier restriction is specific to a particular Hypercube. The restrictions begin by asserting control at the top level of the Hypercube by forcing the use of the restricted identifier(s) at the highest level of the drill-down path in any flash screen viewed by the user for that Hypercube. These restrictions also cause the top-level totals to be masked for that user.

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username.
3. Select Hypercubes from the list on the left side of the page.
4. Select the link in the Identifier Restrictions column for the appropriate Hypercube. The Identifier Restrictions page will appear, which is pictured here.
5. Click Add Restriction.
6. Select the identifier to restrict.
7. Select the appropriate option from the Show rows with values menu:
   - If you will be specifying the values to allow, select equal to the selected values (Allow).
   - If you will be specifying the values to restrict, select not equal to the selected values (Deny).
8. Enter the first value to allow or restrict into the Add Value text box and click the button to add that value to the list. Add additional values as necessary in this same way. To search for the value(s) to add, click the Find Values link. If you have a list of the values that need to be entered, click the Bulk Modify Values link, which will allow you to paste in a list of identifier IDs.
9. Click Ok.
10. If more than one restriction has been specified, select the appropriate option under Permit users to see Hypercube data. The AND option will allow the user to drill down by any restricted identifier, but numbers will only begin to appear after all identifier restrictions have been satisfied. For example, if a user has restrictions on two different identifiers, the flash screen numbers will not begin to populate until the drill-down path includes both identifiers. The OR option treats multiple identifier restrictions separately from one another.

WARNING: The OR option is not recommended for use as it could provide a user with unexpected data results. For example, consider a user that has two restrictions: one limits them to viewing only one SALES REP and the other limits them to seeing one WAREHOUSE.
If the AND option is selected, the numeric data will not appear in a flash screen until the drill-down path includes both WAREHOUSE and SALES REP - regardless of which one appears first.

If the OR option is selected, the restriction will (in this example) work properly when SALES REP is the top-level identifier; however, if WAREHOUSE is the top-level identifier, they will still be able to drill down to the SALES REP identifier and view ALL sales reps - not just the single sales rep to which they have been restricted.

**Accumulator Restrictions**
Accumulator restrictions provide the ability to dictate column-level access. It is important to note that this is done by defining restrictions on the base accumulators within the Hypercubes rather than the columns themselves. For example, if your Hypercube includes columns for sales, cost, and profit, quite often the profit column will be calculated on-the-fly from the values in the sales and cost columns. In this situation, restricting a user’s ability to see the cost accumulator would restrict their ability to see the cost columns AND the profit columns.

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username.
3. Select Hypercubes from the list on the left side of the page.
4. Select the link in the Accumulator Restrictions column for the appropriate Hypercube. The Accumulator Restrictions page will appear, which is pictured here.
5. Select the check box next to the accumulators you want to restrict. For information about which accumulators affect which columns, speak to your MITS Discover Hypercube Designer or contact your MITS support provider.

**Change a User’s Access to Libraries**

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username.
3. Select Flash Screen Libraries, Dashboard Libraries, or Dashboard Object Libraries from the list on the left side of the page.
4. Check the Read and/or Write boxes next to each library to grant permissions as desired.
5. Click Ok or Apply.
Change a User’s Landing Page

The landing page settings allow you to specify the page a user sees when they first log in to MITS Discover. You can select an existing saved flash screen, a full-screen dashboard, or one of the main tabs.

1. On the Administration tab, select Manage Users.
2. Click Modify next to their username.
3. Click Change Landing page.
4. Select Dashboard, Flash Screen, or Tab to set the type of screen to display.
   - Dashboard: select the Library and specific Dashboard to display; check the Specify Prompt Values box if you wish to select specific values for the dashboard (you will be asked for these values upon clicking Next)
   - Flash Screen: select the Library and specific Flash Screen to display
   - Tab: select Flash Screens, Dashboards, or Hypercubes tab to show upon login
5. Click Save.

NOTE: The options shown when configuring a user’s landing page and the data presented to them on their landing page will be constrained by their user security settings. The landing page for the Admin user cannot be modified and will always default to the Hypercubes tab.
Manage Templates

Templates are a way of defining roles to simplify security. Templates can be configured with access to data and given various restrictions, just like users. Users can then be assigned to one or more templates, causing the user to inherit all the data access and restrictions from their assigned templates.

Access security template management functions by navigating to the Administration tab and selecting Manage Templates.

Create a Template

2. Enter a name and optional description for the template.
3. Click Finish.

Modify a Template

1. Click Modify next to the template you wish to change.
2. Select menu options on the left side of the page and change values as desired.
3. Click Ok or Apply.
Using User Properties to Set Restrictions for a Template

Security is configured for templates the same as for users, with one exception: templates can have Identifier Restrictions that get the restricted value from a User Property. See the Manage User Properties section for more information about User Properties.

To set up an Identifier Restriction using a User Property:

1. Select **Hypercubes** from the left side of the page.
2. Click **Add Restriction**.
3. Select the identifier to restrict.
4. Select **equal to user property (Allow)**.
5. Select the user property you want to use from the **User Property** menu.
6. Click **OK**.

**NOTE:** Users assigned to the template who do not have a value for the User Property will not be able to log in until a value is assigned.

Copy a Template

1. Click **Copy** next to the template you wish to change.
2. Enter a new template name and optional description.
3. Click **Finish**.

Delete a Template

1. Click **Delete** next to the template you wish to remove.
2. Confirm you want to delete the template by clicking **OK**.
Manage User Properties

What are User Properties?

User Properties are custom user fields you create to simplify setting up security for new or existing users. They are used in conjunction with User Templates. The template defines a role, such as sales rep or branch manager, and the User Property defines a field that must be specified for MITS users in that role, such as the sales rep’s ID or the branches being managed.

A common scenario in which user properties are useful is when you want to restrict sales reps to only see their own customers and sales. To accomplish this with user properties, you would do the following steps:

- Add a new User Property, perhaps named SALES_REP_ID. Later, this will be the name of a field where you can enter the sales rep ID for a particular user. When a User Property is first added, it will show up in the list of all User Properties, but will not have any effect until you configure a user template with a restriction using that User Property.

- Once the User Property has been added, you will create and edit a User Template for the sales rep role, or edit the existing template if one already exists. In the management page for the template, you would find the Hypercube containing sales data, and create an Identifier Restriction on the sales rep identifier. When creating that restriction, you would choose for the restriction to show rows with values “equal to user property (Allow)” and then select the SALES_REP_ID from the list of User Properties. In this situation, the User Property represents a placeholder, where the restricted value will be specified later on each individual sales rep user.

- Lastly, whenever you create a MITS Discover user who is a sales rep, you would select the sales rep template, and MITS Discover will prompt you to enter the sales rep ID for that user. Whenever that user logs in, the data they see will be restricted using the sales rep ID that you entered.

Access User Property management functions by navigating to the Administration tab and selecting Manage User Properties.

Here you will see a list of any existing User Properties that have been created and the template(s) using each property.
Create a User Property

1. Select Create New User Property.
2. Enter a name for the User Property.
3. Click OK.

Add or Remove User Property Values

1. Click Assign Values next to the User Property you wish to modify.
2. Add or remove values for any user in the list.
   - Add a value by entering a new value in the Add a value field and clicking on the icon.
   - Remove an existing value by clicking the icon next to the value you want to remove.
3. Click Ok or Apply.

Delete a User Property

1. Click Delete next to the User Property you wish to remove.
2. A warning message will appear. Click OK to confirm removal of this property or click Cancel to cancel this action.
Manage Libraries

This section of the Administration tab allows you to create and modify libraries for flash screens, dashboards, and dashboard objects. You can access these functions by navigating to the Administration tab, selecting Manage Libraries, and selecting Flash Screen Libraries, Dashboard Libraries, or Dashboard Object Libraries.

Add New Library

1. Select Add new library.
2. Enter a name for the new library.
3. Click Ok.

Assign Users

1. Click Assign Users next to the library you wish to assign.
2. Select the appropriate check boxes to give Read and/or Write access to specific users.
3. Click Ok or Apply.

Assign Templates

1. Click Assign Templates next to the library you wish to assign.
2. Select the appropriate check boxes to give Read and/or Write access to specific user templates.
3. Click Ok or Apply.

Delete Libraries

1. Click Delete next to the library you wish to remove.
2. Confirm you want to delete the library by clicking OK.

NOTE: You may find some libraries in this list that have the Delete option greyed out. These libraries are system-generated and cannot be deleted.
Configure Active Directory® Authentication

Active Directory® Authentication allows users’ login credentials for MITS Discover to be verified against your Active Directory service so they do not need a separate user name and password for MITS Discover. You can access these configuration options by navigating to the Administration tab and selecting Configure Active Directory® Authentication.

Enable Active Directory® Authentication

1. Select the checkbox next to Active Directory® Authentication Enabled.

   NOTE: All users other than "ADMIN" will be required to log in using their Active Directory® credentials. Please ensure that MITS users exist for each Active Directory® user that should be allowed to log in. Also, please ensure the ADMIN password is secure.

2. Enter your network domain in the Domain name field.

3. Enter your Active Directory® server name in the Host field.

4. Check the Enable Encryption (SSL) box if your Active Directory service is configured with SSL and you wish to use that option.

   NOTE: If you check the Enable Encryption (SSL) box and your Active Directory service is not configured with SSL, MITS Discover will be unable to communicate with the service.

5. Enter the port number in the Port Number field. In most cases, you will want to leave this at the default setting.

6. You can test these settings by selecting Test User Authentication at the bottom of this window. This will provide you a prompt to enter a user name and password to validate against your Active Directory® service.

7. Click Save.
**Disable Active Directory® Authentication**

1. Uncheck the checkbox next to **Active Directory® Authentication Enabled**.

   **NOTE:** All users other than "ADMIN" will have their passwords restored to the password they used before Active Directory® authentication was enabled. Users created after Active Directory® was enabled will be unable to login until an administrator resets their passwords. These users will be marked as needing assistance on the user management page. Please ensure the ADMIN password is secure.

2. Click **Save**.
Configure Email Server

The email features of MITS Discover provide the ability to instantly send the results of a flash screen to one or more specified email addresses. You can also set up an email schedule that will automatically send the flash screen results to one or more specified email addresses on a daily, weekly, or monthly basis.

The email features will only be available to your users after the email features of MITS Discover have been enabled and the users have been granted permission to use these features. For more information or for assistance, please contact your MITS Discover support provider.

Enabling the Email Features of MITS Discover

1. On the Administration tab, click Configure Email Server. A window similar to the one pictured here will appear.

2. Enable the email features by selecting the Email Features Enabled check box.

3. In the SMTP Host or IP box, enter the DNS name or IP address of your SMTP email server.

4. If your email server uses a port other than port 25 for email, change the number in the Port box.

5. If your email server requires TLS encryption, select the Enable Encryption (TLS) check box.

6. In the Default From box, enter the email address that should appear in the FROM field of the emails that are sent from within MITS Discover. Keep in mind that some email servers will not allow a custom entry in the FROM field.

7. If your email server requires authentication, select the Authentication Required check box and enter the username and password for your email server.

8. Click Send Test Email. You will be prompted for an email address that the test email should be sent to, and you will be given the opportunity to set the subject and message body for the test email. When the test message is received, the email features have been successfully enabled. If the test message is not delivered, check your settings and try again.

9. Click Save.
Build Job Notifications

There may be times when you want to receive an email notification when a build job completes. The Build Job Notifications feature provides this capability and more.

Before using this feature, you must configure the email feature which allows MITS Discover to communicate with your email server. For instructions, see Configure Email Server.

1. On the Administration tab, click Build Job Notifications.

2. Enter one or more email addresses in the Email Addresses box. These are the email addresses that will receive the notifications. Multiple email addresses can be separated by spaces or commas, or they can be placed on separate lines within the Email Addresses box.

3. If desired, enter a prefix that will appear prior to the email subject line. (This can be especially useful if you will be defining a rule in your email client to automatically move these messages to a folder outside of your email inbox.)

4. Select the desired notification level:
   - Never: No notifications will be sent. This can be useful for temporarily disabling these notifications.
   - Build Failures: Notifications will only be sent when a build fails.
   - Build Failures and Warnings: Notifications will be sent when a build job fails and also when a build job finishes with one or more warnings.
   - Build Failures, Warnings, and Stopping before completion: Notifications will be sent when a build job fails, when a build job finishes with one or more warnings, and when a build job has been configured to stop at a particular time and that time was reached before the build job was complete.
   - Build Failures, Warnings, Stopping before completion, and Completion: Notifications will be sent every time a build job finishes whether successful or not.

5. If desired, click Send Test Email to send a test email to the addresses specified in the Email Addresses box.

6. Click Save.
Support Console

The Support Console provides advanced support options for troubleshooting and can be accessed by selecting **Support Console** from the main tool bar of the **Administration** page.

**Email Logging**

Checking the **Enable Email Logging** box will create additional log information to assist with troubleshooting of email issues. This additional information will be included in the zipped log files that can be downloaded (see **Download Logs** below). You may be directed by your support provider to enable this option.

**Preserve Phantom Logs**

Checking the **Preserve Phantom Logs from Hypercube Builds** box will keep any phantom log files produced from being automatically deleted.

**Download Logs**

Selecting **Download Zipped Logs** will initiate the download of a compressed archive of log files. Your support provider may ask you to send these logs to assist in troubleshooting various issues.

**Professional Services Tools**

This link is intended for use only by MITS Professional Services representatives.
License Activation

MITS Discover licensing controls the use of certain features. Each properly activated MITS Discover installation is licensed as Lite, Standard, or Premium.

The Lite Edition provides an affordable alternative for small businesses, but is feature-limited. In the MITS Discover User Guide and the MitsMaker Reference Guide, features that are limited or non-existent in the Lite Edition will be noted.

Licensing for MITS Discover (and the optional MITS Dashboard component) normally occurs when MITS Discover is first installed (and again when an upgrade takes place).

If you have problems with MITS Discover activation, please contact your MITS support provider.

MITS Discover Activation

From the Administration tab, click MITS Discover Activation at the top of the screen. The following fields will be shown:

- **Current Activation Status**: Displays the current state of activation for MITS Discover.
- **Company Name**: Enter your organization or company name.
- **License Serial Number**: Enter your license serial number for MITS Discover. The license serial number is assigned specifically to your organization.
- **System Signature**: The system signature is a code that is specific to the computer where the MITS Discover database accounts are installed.
- **Installation Key**: The installation key is generated based on your license serial number and system signature. Clicking the Get Installation Key link will take you to the MITS web page where you can choose a method of product activation and generate installation key.
**Dashboard Activation**

From the Administration tab, click Dashboard Activation at the top of the screen. The following fields will be shown:

- **Current Activation Status**: Displays the current state of activation for MITS Discover.
- **Company Name**: Enter your organization or company name.
- **License Serial Number**: Enter your license serial number for MITS Discover. The license serial number is assigned specifically to your organization.
- **System Signature**: The system signature is a code that is specific to the computer where the MITS Discover database accounts are installed.
- **Installation Key**: The installation key is generated based on your license serial number and system signature. Clicking the Get Installation Key link will take you to the MITS web page where you can choose a method of product activation and generate installation key.

**NOTE**: Dashboards cannot be permanently licensed until MITS Discover has been permanently licensed.
Appendix A: Understanding MQL
What is MQL?

MQL is an acronym, which is short for *MITS Query Language*. Unique to MITS Discover, this language is similar in style to the PICK access language and is used to formulate data mining and report output. This simple query language is used to create all of the flash screens in MITS Discover.

The MQL statement is the only thing that is stored by MITS Discover when a flash screen is saved. This means that no graphical components are required to recreate a flash screen. The MQL statement includes all of the information about the current exploration, columns, sorting, filtering, and formatting. If your MITS administrator has granted you the proper permissions, you can modify this command manually to create specific displays quickly.

Accessing the MQL Statement in MITS Discover

To access a flash screen’s MQL statement:

1. Click the **Modify** button from the flash screen’s main tool bar.
2. Select **MQL** from the list to open the **Modifying MQL** dialog.
3. The MQL statement can be modified as desired, following the correct syntax as provided below.
4. Click the **Execute** button to run the code and generate the flash screen.
Understanding MQL Statements

MQL (or flash) statements comprise one of the two components stored by MITS when a flash screen is saved (the other being the flash screen description). Each flash statement holds all of the necessary information about the current exploration, currently displayed columns, sorting, filtering, formatting, etc.

You can manually modify a flash statement to create specific displays quickly, and you can also make manual modifications to a flash statement that allow you to create custom flash screens that cannot be created using the standard tools and wizards provided in the MITS Discover browser client.

Breaking Down a Flash Statement

FLASH <appName> [identifiers] [columns] HEADING "[heading]"
FLASH SALESDEMO R W COST.Y COST.Y-1 HEADING "2Y Cost R by W"

<table>
<thead>
<tr>
<th>Token</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLASH</td>
<td>All MQL statements start with the word FLASH.</td>
<td>FLASH</td>
</tr>
<tr>
<td>&lt;appName&gt;</td>
<td>The name of the Hypercube that will be queried.</td>
<td>SALESDEMO</td>
</tr>
<tr>
<td>[identifiers]</td>
<td>Establishes the flash screen’s exploration (or drill-down) path. The identifier abbreviation is used here. Identifier values related to the “Expand” and “Expand by specific values” exploration types are also displayed here. In this example, the drill-down path would be REGION (R) by WAREHOUSE (W) using an “Expand All Rows” exploration type.</td>
<td>R W</td>
</tr>
<tr>
<td>[columns]</td>
<td>The column IDs of the columns displayed in the flash screen. Column sorting and filtering are also displayed here. In this example, the columns that will be displayed are Cost (year-to-date) and Cost (back 1 year).</td>
<td>COST.Y COST.Y-1</td>
</tr>
<tr>
<td>HEADING &quot;[heading]&quot;</td>
<td>The heading that will be displayed at the top of the flash screen.</td>
<td>2Y COST R BY W</td>
</tr>
</tbody>
</table>
**Working with Identifiers in a Flash Statement**

In this example, ‘W’ is the abbreviation for the WAREHOUSE identifier. This example signifies an initial exploration by warehouse.

```
FLASH SALESDEMO W
```

**Specifying Identifier Values for Exploration**

Explicit IDs can be specified using the WITH keyword. The following example will drill-down into warehouse 4 by the SALES REP identifier:

```
FLASH SALESDEMO WITH W = "4" SR
```

Continuing with that example, the next example will drill-down under sales representative Bob Donis by the CUSTOMER identifier:

```
FLASH SALESDEMO WITH W = "4" WITH SR = "BOD" C
```

The WITH keyword can also be used in conjunction with the NOT modifier as shown in the following statement. In this example, the resulting flash screen would explore all of the customers under all of the sales reps in warehouse 4, but would NOT display sales reps HOUSE1 or HOUSE2.

```
FLASH SALESDEMO WITH W = "4" WITH SR NOT "HOUSE1" "HOUSE2" C
```

**Working with Columns in a Flash Statement**

The flash statement below would display the “Sales (year-to-date)” column and the “Profit (back 1 quarter)” column, including the values for all of the warehouses.

```
FLASH SALESDEMO W SALES.Y PROFIT.Q-1
```

**Specifying Sorting**

By default, the rows of any flash screen are sorted by identifier description. You can instruct MITS Discover to sort the flash screen by the values in a specific column using the BY or BY-DSND modifiers.

The following flash statement will display sales dollars year-to-date for all warehouses, but instead of sorting by the (default) warehouse description the flash screen will be sorted by the values in the SALES.Y column in descending order:

```
FLASH SALESDEMO W SALES.Y BY-DSND SALES.Y
```
A flash statement can include any number of column sorts or filters using common relational operators. The following flash statement is important to note because it performs actions beyond what can be executed in the MITS Discover browser client:

```
FLASH SALESDEMO SR BY SALES. M C BY- DSND SALES. M SALES. Y
```

In this example, the list of sales reps will be displayed with an “Expand All” exploration by customer. The sales reps will be sorted in **ascending** order based on their corresponding values in the SALES.M column and the customers under those sales reps will be sorted in **descending** order based on their corresponding values in the SALES.M column. However, notice that the SALES.M column is not displayed - the SALES.Y column is displayed instead. This example shows that you can perform sorting and filtering based on a column that is not displayed in the flash screen. For this reason it is a good idea to keep an eye on your MQL statement as there may be sorting or filtering in place that is based on columns that are not visible.
# MQL Language Reference

<table>
<thead>
<tr>
<th>Command</th>
<th>Intended Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOTTOM TOTALS</td>
<td>Adds bottom totals to the current flash screen</td>
</tr>
<tr>
<td>BREAK-ON &lt;columnID&gt;</td>
<td>Summarizes the totals by the values in a column. For example, BREAK-ON C!STATE would add totals in each column for each unique state in the C!STATE column.</td>
</tr>
<tr>
<td>BY &lt;columnID&gt;</td>
<td>Sorts the display in ascending order by the specified column.</td>
</tr>
<tr>
<td>BY-DSND &lt;columnID&gt;</td>
<td>Sorts the current flash screen display in descending order by the specified column.</td>
</tr>
<tr>
<td>CLIP &lt;#&gt;</td>
<td>Restricts the viewable number of rows returned for the lowest identifier in the current drill-down path.</td>
</tr>
<tr>
<td>FLASH</td>
<td>The first word of every MQL statement. When used alone in character mode MITS, the flash statement for the current flash screen will be displayed.</td>
</tr>
<tr>
<td>HEADING “&lt;heading&gt;”</td>
<td>Specifies the heading that will be displayed at the top of the flash screen.</td>
</tr>
<tr>
<td>IDS</td>
<td>Displays the identifier IDs</td>
</tr>
<tr>
<td>LINE-BREAK &lt;identAbbr&gt;</td>
<td>Inserts a blank row between the horizontal rows for the specified identifier.</td>
</tr>
<tr>
<td>NOGRAND &lt;#&gt;</td>
<td>Suppresses the display of totals down to the specified exploration level.</td>
</tr>
<tr>
<td>NOIDS</td>
<td>Hides the identifier IDs in each identifier row.</td>
</tr>
<tr>
<td>NOTAGS</td>
<td>Hides the identifier abbreviations in each identifier row.</td>
</tr>
<tr>
<td>NOZEROS</td>
<td>Removes all horizontal rows that have a ZERO in every column.</td>
</tr>
<tr>
<td>WITH</td>
<td>Used to request specific identifiers or column range values for filtering purposes.</td>
</tr>
</tbody>
</table>