



Using Avaya IP Office Contact Center Wallboard

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Chapter 1: Introduction

Purpose

This document contains information on how to set up, use, and customize the Wallboard module.

This document is available in PDF format and as online help. You can access the online help version of this document by clicking the **Help** button in the Wallboard application.

Intended audience

This document is intended for people who work with the Wallboard module and want to learn about its features.

Related resources

Documentation

See the following related documents at the Avaya Support website at <http://support.avaya.com>.

Document title	Use this document to:	Audience
Overview		
<i>Avaya IP Office Contact Center Feature Description</i>	Understand IP Office Contact Center features and capabilities.	All users
<i>Avaya IP Office Contact Center Documentation Catalog</i>	Understand the structure of IP Office Contact Center documentation, and determine which document you should reference to obtain information on a specific subject.	All users
Using		

Table continues...

Document title	Use this document to:	Audience
<i>Using Avaya IP Office Contact Center for Windows</i>	Use the IP Office Contact Center User Interface for Windows. * Note: This document is also available as a help system through the product interface.	All interface users, including agents, supervisors, and administrators.
<i>Using the Avaya IP Office Contact Center Chrome and Web Interfaces</i>	Use the IP Office Contact Center User Interface for Chrome Devices and the IP Office Contact Center Web User Interface.	Agents and supervisors.

Related links

[Finding documents on the Avaya Support website](#) on page 8

Finding documents on the Avaya Support website

About this task

Use this procedure to find product documentation on the Avaya Support website.

Procedure

1. Use a browser to navigate to the Avaya Support website at <http://support.avaya.com/>.
2. At the top of the screen, enter your username and password and click **Login**.
3. Put your cursor over **Support by Product**.
4. Click **Documents**.
5. In the **Enter your Product Here** search box, type the product name and then select the product from the drop-down list.
6. If there is more than one release, select the appropriate release number from the **Choose Release** drop-down list.
7. Use the **Content Type** filter on the left to select the type of document you are looking for, or click **Select All** to see a list of all available documents.

For example, if you are looking for user guides, select **User Guides** in the **Content Type** filter. Only documents in the selected category will appear in the list of documents.

8. Click **Enter**.

Training

You can access training courses and credentials at <http://www.avaya-learning.com>. To search for a course, after logging in to the website, enter the course code or the course title in the **Search** field and press **Enter** or click **>**.

Table 1: IP Office Contact Center courses and certification credentials

Course code	Course title
ACSS-3003	ACSS — IP Office Contact Center credential
AIPS-4000	AIPS — IP Office Platform credential
ACSS-3000	ACSS — Avaya Midmarket Communications credential
4001	Avaya IP Office Platform Implementation Test
3002	Avaya IP Office Platform Configuration and Maintenance Exam
3003	Avaya IP Office Contact Center Implementation and Maintenance Exam
8S00010E	Knowledge Access: Avaya IP Office Contact Center Implementation and Support.
0S00100E	Knowledge Access: Avaya IP Office Contact Center Administration
0S00010E	Knowledge Collection Access: Avaya Midmarket Implementation and Support
8S00010I	Fast Track: Avaya IP Office Contact Center Implementation and Support Instructor Led
8S00010V	Fast Track: Avaya IP Office Contact Center Implementation and Support Virtual Instructor Led
10S00005E	Knowledge Access: Avaya IP Office Contact Center Platform Implementation
5S00004E	Knowledge Access: Avaya IP Office Contact Center Platform Support
2251E	Knowledge Access: Avaya IP Office Contact Center Platform Administration
2252C	Avaya IP Office Contact Center Expanded Configuration and Administration

Viewing Avaya Mentor videos

Avaya Mentor videos provide technical content on how to install, configure, and troubleshoot Avaya products.

About this task

Videos are available on the Avaya Support website, listed under the video document type, and on the Avaya-run channel on YouTube.

Procedure

- To find videos on the Avaya Support website, go to <http://support.avaya.com> and perform one of the following actions:
 - In **Search**, type `Avaya Mentor Videos` to see a list of the available videos.
 - In **Search**, type the product name. On the Search Results page, select **Video** in the **Content Type** column on the left.
- To find the Avaya Mentor videos on YouTube, go to www.youtube.com/AvayaMentor and perform one of the following actions:
 - Enter a key word or key words in the **Search Channel** to search for a specific product or topic.

- Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the website.

 **Note:**

Videos are not available for all products.

Support

Go to the Avaya Support website at <http://support.avaya.com> for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions, or request an agent to connect you to a support team if an issue requires additional expertise.

Chapter 2: Getting started

IP Office Contact Center Wallboard is an application that displays real time statistics for the objects that are configured in IP Office Contact Center. The Wallboard module is accessible using a web browser. You can also install a specific wallboard as a shortcut on your desktop.

Wallboard home page

The Wallboard home page is accessible at one of the following URLs:

`https://<IPOCC_Server>:28443/WallboardBroker`

`http://<IPOCC_Server>:28080/WallboardBroker`

You can gain access to the Wallboard application using HTTP, HTTPS, or both protocols depending on the system configuration.

Note:

Avaya recommends using the IP Office Contact Center host name or full domain name in the URL instead of the IP address.

Entering the Wallboard page through HTTPS using the IP address might still result in security warnings even after you import the IP Office Contact Center certificate into the web browser. This problem occurs if you use Internet Explorer. To avoid certificate warnings, use the host name or domain name of the IP Office Contact Center server.

The system handles access over HTTP and HTTPS as different sites for preference storage, such as the last selected wallboard name. This also applies to multiple instances on the same desktop. For HTTP access, the system uses secure encryption of the passwords.

Important:

The Wallboard URL can be added to the browser in the IP Office Contact Center user interface. In this case, Wallboard consumes a license in the standard manner and you must log out before closing the application.

The Wallboard application cannot be accessed from the IP Office Contact Center server.

The home page displays the following links:

- **Wallboard**, for gaining access to the menu for selecting wallboard instances or templates
- **Run elevated setting**, for downloading a registry script used for trusted mode configuration
- **Run elevated certificate**, for downloading a certificate file used for trusted mode configuration
- **Invoke wallboard script**, for running the Wallboard in full screen mode

System requirements

IP Office Contact Center Wallboard requires the following:

System requirements

Wallboard requires the following system specifications:

- Operating systems: Microsoft Windows Vista, 7, 8
- Processor: dual core
- RAM memory: 1 GB or higher

Silverlight plug-in

Microsoft Silverlight 5 or higher.

Some web browsers other than Internet Explorer might require enabling the Microsoft Silverlight plug-in when you enter the Wallboard. You must accept the prompts to run Silverlight in the page or in the toolbar.

When logging in to a computer without Silverlight installed, if the computer has access to the internet, you are prompted to install Silverlight. If the computer does not have access to the internet, Silverlight must be installed manually. For full details of Silverlight and the browsers on which it is supported, see <http://www.microsoft.com/silverlight>.

The web browser may provide the option to remember that the plug-in can always run on the Wallboard page. This setting affects only the current Windows user.

Web browser requirements

Wallboard is supported on the following browsers:

- Google Chrome 20 or higher

 **Note:**

Wallboard is not supported on Chrome version 42 or higher. For more information, see <https://support.google.com/chrome/answer/6213033?hl=en>.

- Mozilla Firefox 2 or higher
- Microsoft Internet Explorer 7 or higher

You must configure your web browser to preserve browsing history. If you disable the browsing history or use the private browsing mode, the login menu displays an error message.

For information about browser history settings, see the official documentation of your browser:

- [Google Chrome](#)
- [Mozilla Firefox](#)
- [Microsoft Internet Explorer](#)

Depending on the previous IP Office Contact Center applications that you have accessed using the same browser, you might be prompted to accept certificate warnings when you enter the Wallboard URL.

Firewall requirements	TCP/IP ports 28080, 28443, 18080, and 18443 must be open between each Wallboard client and the IP Office Contact Center server.
Graphics requirements	For the best rendering quality, Avaya recommends using a dedicated graphics card with the following specifications: <ul style="list-style-type: none">• Compatible with DirectX 9.0c or later for GPU hardware acceleration via DirectDraw• Video memory of 1 GB or more• Support for 60 Hz or greater refresh rate at the chosen resolution, for both card and monitor.
Audio requirements	Wallboard requires an audio card and speakers for the audio alarm feature.
External requirements	Wallboard requires an SMTP server that is internet-based or running in the local network for the email alarm feature.

Certificate configuration

Configuring Google Chrome and Internet Explorer to accept certificates on Windows

About this task

All users on the same computer must perform the following procedure to configure the browser to accept IP Office Contact Center certificates.

Procedure

1. In your browser, enter `https://xxx.xxx.xxx:28443/Administration`.
Replace `xxx.xxx.xxx` with the host name or the IP address of the IP Office Contact Center server.
2. In Google Chrome, do the following:
 - a. Next to the address bar, click the red cross.
 - b. Click **Certificate information**.
3. In Internet Explorer, do the following:
 - a. In the browser window, click **Continue to this website**.
 - b. Next to the address bar, click **Certificate error**.
 - c. Click **View certificates**.

4. In the Certificate dialog box:
 - a. Click the **Certification Path** tab.
 - b. Click the first node in the tree.
 - c. Click **View Certificate**.
5. In the next Certificate dialog box:
 - a. Click the **Details** tab.
 - b. Click **Copy to file**.
6. In the Wizard that displays:
 - a. Click **Next** twice.
 - b. To choose a folder, click **Browse** and enter a file name.
 - c. Save your changes.
 - d. Click **Next > Finish**.
7. When prompted to close all dialog boxes, click **OK** and exit the browser.
8. In Windows Explorer, locate the file that you saved in step [6.b](#) on page 14, and then do the following:
 - a. Right-click the file and click **Install certificate**.
 - b. Click **Next**.
 - c. Click **Place all certificates in the following store**.
 - d. Click **Browse > Trusted Root Certification Authorities**.
 - e. Click **OK > Next > Finish**.
 - f. In the Warning dialog box, click **Yes > OK**.
9. **(Optional)** Delete the file that you created in step [6.b](#) on page 14.

Result

You can now browse the IP Office Contact Center application website without certificate warnings by using:

- The host name or IP address in Google Chrome.
- The host name in Internet Explorer.

If you use the IP address, the system displays a certificate error next to the address bar.

Configuring Firefox to accept certificates in Windows

About this task

All users on the same computer must perform the following procedure to configure the browser to accept IP Office Contact Center certificates.

Procedure

1. In your browser, enter `https://xxx.xxx.xxx:28443/Administration`.
Replace `xxx.xxx.xxx` with the host name or the IP address of the IP Office Contact Center server.
2. Click **I understand the risks > Add Exception**.
3. In the dialog box, click **View**.
4. In the next dialog box:
 - a. Click the **Details** tab.
 - b. To highlight the top row, in the Certificate list, click the top root node.
 - c. Click **Export**.
 - d. Select a folder and ensure the file has a `.crt` extension.
 - e. Click **Save > Close**.
5. Select **Options** from the **Tools** menu or next to the toolbar.
6. Click **Certificates > View Certificates**.
7. From the **Authorities** tab, do the following:
 - a. Click **Import**.
 - b. Select the file that you created in step [4.d](#) on page 15 and click **Open**.
8. In the dialog box, do the following:
 - a. Select **Trust this CA to identify web sites**.
 - b. Click **OK**, close the dialog boxes, and then exit the browser.
9. **(Optional)** Delete the file that you created in step [4.d](#) on page 15.

Entering the Wallboard application

About this task

After logging in to the Select Wallboard window, you must select a wallboard to update.

The wallboards displayed in the list are not updated automatically. Any new wallboards that are added after you log in are visible if you log out and log in again.

Note:

- You must restart your browser for changes in mode to take effect.
- By default, only IP Office Contact Center team leaders and supervisors can access the Wallboard.

 **Warning:**

Refreshing the page while logged into the Wallboard can end your session and force you to log in again.

Procedure

1. In the Wallboard home page, click the **Wallboard**.
2. Enter your user name and password to log in.

You can select the **Remember Me** check box to save your credentials. When this check box is selected, the system stores the user name and the encrypted password locally on the Windows desktop and automatically fills the login fields when you open the application on the same desktop.

The credentials are removed from local storage if you clear the check box before the next login.

3. In the Select Wallboard window, do the following to update the settings for a specific wallboard:
 - a. Select a wallboard from the list.
 - b. Click **OK**.

In the page that displays, you can manage and update settings for the wallboard.

4. In the Select Wallboard window, you can also do the following:
 - a. To update its name or description, double-click a wallboard.
 - b. To create a new wallboard, click **New**.
 - c. To create a copy of the wallboard, select a wallboard and click **Copy**.
 - d. To delete the wallboard, select a wallboard and click **Delete**.
 - e. To import a wallboard file from your computer, click **Import**.
 - f. To export a wallboard definition to your computer, click **Export**. You can later import this definition to a different user account.
 - g. To log out of the Wallboard application, click **Log out**.

Automatic startup and bookmarks

You can set up your Windows operating system to automatically log in to IP Office Contact Center Wallboard. For information about enabling or disabling the automatic login for Windows Vista or higher, see <http://windows.microsoft.com/en-gb/windows-vista/turn-on-automatic-logon>. You can set up a local, non-administrative account to use with this feature.

 **Warning:**

Using automatic login can pose a security risk because anyone with access to your computer can access your programs and personal files.

You can also configure the Select Wallboard window or a specific wallboard to automatically start in your browser by using one of the following:

- A script for running Wallboard in full screen mode using Internet Explorer. You can download the script by clicking **Invoke wallboard script** on the Wallboard Broker page. You can also configure this script to run at startup.
- A bookmark link.

Related links

[Running Wallboard in full screen mode with optional automatic login](#) on page 17

[Running a bookmarked Wallboard with optional automatic login](#) on page 17

Running Wallboard in full screen mode with optional automatic login

About this task

On your computer running Windows, use this procedure to configure the wallboard application to start automatically in full screen mode in Internet Explorer.

Procedure

1. In your browser, navigate to `https://<IPOCC_Server>:28080/WallboardBroker` and save the VBS file.

The VBS file contains a script that starts Internet Explorer and opens the wallboard in full screen mode or *kiosk mode*.

2. In your profile, do one of the following to open the Startup Group folder:
 - Select **Start > All Programs > Startup** .
 - Select **Start > Run** and enter `shell:startup`.
3. Copy the script into a Startup Programs Group to run the script when the desktop is logged in to the account.
4. **(Optional)** To use this instance of Wallboard with automatic login, see the steps provided at <http://windows.microsoft.com/en-gb/windows-vista/turn-on-automatic-login>.

By configuring automatic login, you are automating the normal process that occurs after reboot of entering credentials and loading the desktop. The password that you set is stored securely and can be cleared if you want to remove automatic login.

Next steps

Reboot your computer to trigger automatic login and run the VBS script from the Startup Programs group.

Running a bookmarked Wallboard with optional automatic login

About this task

The bookmark option presents a link that you can use to access the wallboard in read-only mode with no login required. You can use an entry in your Startup Programs group to start the browser to the selected wallboard when your computer is logged in. You can also use the bookmark option with the script that displays a wallboard automatically.

Procedure

1. Enter the Wallboard application.
2. In Wallboard, click the appropriate footer action button to create a bookmark link.
3. In the pop-up window, use the URL to create a Windows shortcut for direct access to Wallboard and click **OK**.

You can repeat the same steps to remove the shortcut.

4. In your browser, navigate to `https://<IPOCC_Server>:28080/WallboardBroker` and save the VBS file.

The VBS file contains a script that starts Internet Explorer and opens the wallboard in full screen mode or *kiosk mode*.

5. Open the VBS script with any text editor and locate the URL `http://<IPOCC_server>:28080/WallboardBroker/EnterWallboard.html`.
6. Replace the URL with the bookmark link that you added in Step 3 on page 18, including the `wallboarduniqueid` parameter that identifies the specific wallboard.

This parameter identifies the wallboard, for example, `wallboarduniqueid=e2e63228-f68c-4968-8631-0115777e9a0f`.

7. **(Optional)** To use this instance of Wallboard with automatic login, see the steps provided at <http://windows.microsoft.com/en-gb/windows-vista/turn-on-automatic-login>.

By configuring automatic login, you are automating the normal process that occurs after reboot of entering credentials and loading the desktop. The password that you set is stored securely and can be cleared if you want to remove automatic login.

Result

The wallboard loads with no login required.

Note:

This instance is in a locked down mode where you can make minimal changes. The changes you can make include setting a cell to bold or clearing the graph. Access the Wallboard through the desired URL and follow the usual authentication step to make other changes.

Next steps

Reboot your computer to trigger automatic login and run the VBS script from the Startup Programs group.

Installing Wallboard on your desktop

About this task

You can optionally install a specific wallboard as a Windows desktop application. When installed on your desktop, you can access the wallboard from your Windows Start menu or as a desktop

shortcut. The wallboard runs in a window outside of a browser in Trusted mode. You can only install one wallboard on each Windows desktop.

Before you begin

In your browser, open the wallboard you want to install to your desktop.

Procedure

1. At the bottom of the wallboard in your browser, click **Install on Windows desktop** (📄).

The 📄 icon is disabled if the Wallboard is already installed on your desktop. The icon state does not change until you restart the Wallboard application. The icon state will not change if you simply log out and log back in to Wallboard.

2. Open the Installation dialog box that appears and follow the instructions to complete the installation.

The **Desktop** and **Start menu** short cut options are selected by default.

3. If you want to uninstall your Wallboard desktop application, use **Control Panel** on your computer.

* Note:

If the server is upgraded, you might also be prompted to upgrade your Wallboard desktop application when you try to log in.

Enabling trusted mode

About this task

Trusted mode enables additional features, such as:

- Adding Web Browser objects to the wallboard
- Audio alarm notifications
- Auto full screen option
- Audio message notifications
- Bookmark shortcut
- Keyboard entry in full screen mode

The following procedure describes how to enable trusted mode for IP Office Contact Center Wallboard.

Procedure

1. Enter the WallboardBroker page.
2. Right-click the **Run elevated setting** link and save the link as `AllowElevated.reg`.
3. Run the `AllowElevated.reg` script.

! Important:

The registry script must be run by a user with administrative privileges. The effects of this script apply to all the users on the system.

4. Click the **Run elevated certificate** link to download the IP Office Contact Center Wallboard certificate: `AvayaIPOCCWallboard.cer`.
5. Import the Wallboard certificate into the *Trusted Publishers* and *Trusted Root Certification Authorities* stores on your Windows desktop.

! Important:

This step must be performed by each of the system users that need to gain access to the wallboard.

Logging out


About this task

You must log out to ensure wallboard licenses are released. IP Office Contact Center server issues can occur if too many orphaned licenses collect. An administrator might need to restart IP Office Contact Center Watchdog to resolve these issues.

+ Tip:

Do not refresh your browser. This can cause sudden log-outs.

Procedure

1. When you finish editing the settings for a specific wallboard, click  to exit the wallboard page.
2. In the Select Wallboard window, click **Log off** to log out of the Wallboard software.

Chapter 3: Navigation

Wallboard elements and controls



Figure 1: Wallboard UI structure

The footer action buttons, from left to right, have the following functions:

Buttons	Functions
Enable or disable full screen mode	Displays the Wallboard in full screen mode in the current browser.
Change animation settings	Displays the Animation and Window Settings dialog box for the wallboard.
Save the Wallboard	Saves the current state of the wallboard.
Display Wallboard help	Displays the wallboard help in a separate window or tab of the browser. The Wallboard help is available in the English language.
Install the wallboard on the Windows desktop	Creates Desktop and Start Menu shortcuts for the wallboard.
Create a bookmark link to automatically log in to the wallboard	Creates a windows shortcut for direct access to the wallboard.
Export the definition of the wallboard to a file	Exports the wallboard definition so you can import it using a different user account. This action is the same as the action of the Export button in the Select Wallboard window.
Clear all the wallboard content	Deletes all wallboard cells and their settings. The background and content settings are preserved.
Configure SMTP settings for the wallboard	Displays the SMTP settings dialog box.
Exit the wallboard	Exits the wallboard and returns to the Display Wallboard window.

Hot keys

The following tables list the key combination that you can use for quick access to Wallboard UI functionality.

*** Note:**

Hot keys are inactive if the cursor is within a text box or the selection table is in focus.

Table 2: Hot keys for the Select Wallboard menu

Key combination	Function
SHIFT+L	Log off
SHIFT+O	OK
SHIFT+N	New
SHIFT+C	Copy
SHIFT+D	Delete
SHIFT+E	Export

Table continues...

Key combination	Function
SHIFT+I	Import
ESC	Default action
ENTER	Default action

Table 3: Hot keys for the Wallboard screen

Key combination	Function
SHIFT+L	Exit
SHIFT+M	SMTP settings
SHIFT+A	Animation and window settings
SHIFT+C	Clear
SHIFT+E	Export
SHIFT+B	Bookmark
SHIFT+D	Desktop install
SHIFT+H	Online help
SHIFT+S	Save
SHIFT+F	Full screen toggle
ESC	Default action
ENTER	Default action

Chapter 4: Operation

Working with wallboard objects

About this task


Wallboard objects are IP Office Contact Center objects with associated statistics or counters that display in the Wallboard application.


Some objects have their own color scheme that you can configure. Other objects inherit the color scheme from the content settings on the main Settings dialog box. You can also enable the *Per cell* scheme to configure the color scheme for each object individually.


Warning:

Do not add network statistic template objects on your own. Qualified support personnel must work with network statistics and monitoring. Network statistics names and descriptions are available in English only.

Procedure

1. Log in to the Wallboard.
 2. Select a wallboard or create a new wallboard.
 3. To use a template to create a new wallboard:
 - a. Select the template.
 - b. Click **Copy**.
 - c. Click away from the row and then click **OK**.
 4. To display the list of objects that you can add to the wallboard, in the upper-left corner of the wallboard, click .
 5. Add objects.
 - a. Drag objects onto the wallboard.
 - b. Drag the required statistics onto each object.

Dropping multiple statistics onto an object creates a group cell.
- If the wallboard is in the Automatic Layout mode, the system repositions and resizes existing items automatically as new items are added.
6. To remove an object from the wallboard, click the corresponding **X** button.
 7. To hide the object list, click .

8. To delete all wallboard content, cells, and settings, click **Clear board**.
9. Accept the warning that the system displays.
10. To save your settings, in the lower-left corner of the wallboard, click .
11. **(Optional)** If you do not want to save your settings, exit the wallboard without saving.

Related links

[Wallboard auto-save](#) on page 25

Wallboard auto-save

The following situation triggers the wallboard to auto-save:

- Loading an image fails

You are prompted to save before the system performs the following operations:

- Installing the wallboard as a desktop application
- Exporting the wallboard

If you configured a daily restart, the wallboard restarts only if the object list is closed and if the wallboard is saved. If the wallboard is not saved, the system functions as if the wallboard is still in design. Not saving the wallboard also prevents a restart if state time counters are present.

If objects are removed from the system or renamed, the changes are visible the next time you enter the wallboard. The system displays a warning message in this case.

New objects are also visible in the object list when you reopen the wallboard.

Statistics

Each IP Office Contact Center object has associated statistics that you can display by dragging the corresponding items unto the wallboard.

Note:

The Wallboard user interface refers to the IP Office Contact Center counters as *statistics*.

Statistic names are not converted for wallboard and match the counter names used in other interfaces.

Statistics are never reset and operate over time periods. The time periods can be shifts or rolling time periods, such as the last 5 minutes. The statistics are defined in the IP Office Contact Center configuration.

Some statistics are available for more than one object type. You can drag a statistic from any object group to an object that is present on the wallboard, if the statistic applies to the object.

The state time statistics are based on the moment when the wallboard starts and contain minimum values until the first state change occurs. The times may vary depending on each client and wallboard.

The background color of a statistic cell is affected by three conditions with the following priorities, listed from the highest to the lowest priority:

- State-related colors
- Alarm conditions
- The color that you configure manually for the statistic cell

You cannot modify the priorities of these settings, but you can enable or disable the alarms and state-related colors as needed:

- The alarm conditions take priority over the manual colors if:
 - Alarm settings are present and defined for the statistic cell
 - Alarm effects are enabled
- The state-related colors have the highest priority if:
 - The statistic has states
 - The **Use State Colors** field is selected for the respective statistic

Editing statistics settings

Procedure

1. Click the statistics box and select **Settings**.

The available options vary according to the statistic. Some statistics have no settings, in which case the menu remains blank.

2. In the **Manual Font Size** area, set the font size of the display text for the statistic.

The nearest point size of the existing display text is the default setting.

 **Note:**

The **Manual Font Size** section is available only if you enable the manual layout mode.

3. In the **Color Scheme** area, select the foreground color and the background color.

To reset the color scheme of the general color settings, click **Reset**.

 **Note:**

The **Color Scheme** section is available only if you enable the custom color scheme.

4. In the **State Alarm Thresholds** section, set the thresholds for calls included in the statistic:

- The time in state alarms, measured in seconds.

5. In the **Alarm Thresholds** section, select whether you want the statistic to include warnings and alarms.

If selected, use the slider to adjust the threshold levels at which the warning or the alarm occurs.

- Warnings are displayed by the statistic background color changing to yellow.
 - Alarms are displayed by the statistic background color changing to red.
6. To close the settings menu, in the upper right corner of the dialog box, click the **X** button.

Managing agent groups and agent group statistics

Procedure

1. In the object list, click **Agent Groups**.
2. Drag and drop an agent group to the wallboard.
3. In the object list, click **Agent Group Statistics**.
4. Drag and drop an agent group statistic to the wallboard.
5. Click the wallboard and select **Settings**.

The system displays the Statistic Settings dialog box for the corresponding object.

Related links

[Editing statistics settings](#) on page 26

Managing topics and topic statistics

Procedure

1. In the object list, click **Topics**.
2. Drag and drop a topic to the wallboard.
3. In the object list, click **Topic Statistics**.
4. Drag and drop a topic statistic to the wallboard.
5. Click the wallboard and select **Settings**.

The system displays the Statistic Settings dialog box for the corresponding object.

Related links

[Editing statistics settings](#) on page 26

Managing IVRs and IVR statistics

Procedure

1. In the object list, click **IVRs**.
2. Drag and drop an IVR to the wallboard.
3. In the object list, click **IVR Statistics**.
4. Drag and drop an IVR statistic to the wallboard.
5. Click the wallboard and select **Settings**.

The system displays the Statistic Settings dialog box for the corresponding object.

Related links

[Editing statistics settings](#) on page 26

Managing campaigns and campaign statistics

Procedure

1. In the object list, click **Campaigns**.
2. Drag and drop a campaign to the wallboard.
3. In the object list, click **Campaign Statistics**.
4. Drag and drop a campaign statistic to the wallboard.
5. Click the wallboard and select **Settings**.

The system displays the Statistic Settings dialog box for the corresponding object.

Related links

[Editing statistics settings](#) on page 26

Managing agent teams and agent team statistics

Procedure

1. In the object list, click **Agent Teams** .
2. Drag and drop an agent team to the wallboard.
3. In the object list, click **Agent Team Statistics** .
4. Drag and drop an agent team statistic to the wallboard.
5. Click the wallboard and select **Settings**.

The system displays the Statistic Settings dialog box for the corresponding object.

Related links

[Editing statistics settings](#) on page 26

Managing phone groups and phone group statistics

Procedure

1. In the object list, click **Phone Groups**.
2. Drag and drop a phone group to the wallboard.
3. In the object list, click **Phone Group Statistics**.
4. Drag and drop a phone group statistic to the wallboard.
5. Click the wallboard and select **Settings**.

The system displays the Statistic Settings dialog box for the corresponding object.

Related links

[Editing statistics settings](#) on page 26

Managing agents and agent statistics

Procedure

1. In the object list, click **Agents**.
The agents displayed in the object list are the agents enabled for IP Office Contact Center login, with Login name, and enabled for Telephony in the configuration.
2. Drag and drop an agent to the wallboard.
3. In the object list, click **Agent Statistics**.
4. Drag and drop an agent statistic to the wallboard.
5. Click the wallboard and select **Settings**.

The system displays the Statistic Settings dialog box for the corresponding object.

Related links

[Editing statistics settings](#) on page 26

Managing phones and phone statistics

Procedure

1. In the object list, click **Phones**.
2. Drag and drop a phone to the wallboard.
3. In the object list, click **Phone Statistics**.
4. Drag and drop a phone statistic to the wallboard.
5. Click the wallboard and select **Settings**.

The system displays the Statistic Settings dialog box for the corresponding object.

Related links

[Editing statistics settings](#) on page 26

League tables

League tables rank objects based on statistic values. For example, with a selected agent group and agent performance statistic, the performance of individual agents in the group can be displayed as a league table. The league table can display either the top, bottom, or a combination of both types of performers.

The league table menu also includes a **Reset** button to reset your league table options.

Adding a league table to the wallboard

Procedure

1. Click the **League Tables** item and drag one of the following objects onto the wallboard:
 - **Single Level League Table:** A table for objects without children. You can use this table for all the objects.
 - **Group Level League Table:** A table for objects with children. You can use this table for Agent Groups, Agent Teams, and Phone Groups.

The system adds a box for the league table to the display.

2. Click and drag the statistic that you want to display onto the league table.

The system sets the ranking type based on the chosen statistic. You can select a different ranking in the League Table settings dialog box.

Editing the league table settings

About this task

You can select whether the league table must display the top, bottom or a combination of the top and bottom performers in the object.

The color scheme for league tables is not configurable. However, the color settings that you configure for the canvas also apply to league tables.

Procedure

1. Click the league table and select **Settings**.
2. In the **Manual Font Size** field, set the font size of the display text for the statistic.

The nearest point size of the existing display text is the default setting.

 **Note:**

The **Manual Font Size** field is available only if manual layout mode is enabled.

3. In the **Ranking type** field, select the type of the league table:
 - Top 10
 - Bottom 10
 - Split 10
 - Top 20
 - Bottom 20
 - Split 20
4. In the **Statistic Data** field, select whether to display the respective statistic data for agents.

The default setting is **Show**. The League table menu now offers a reset.

Graphs

Statistics can be displayed as graphs that displays how the statistic value changes over time. Each graph only displays one statistic for each object, but you can add multiple graphs.

Adding a graph

Procedure

1. Click **Graphs** and select one of the following options:
 - **Area Graph**

- **Bar Graph**
- **Line Graph**
- **% Gauge**

*** Note:**

Reset and **Show Plot Points** do not apply to the **% Gauge** graph. If you select **% Gauge**, you must select a percentage statistic. All other statistics are rejected with an error message.

Click and drag the required type of graph onto the wallboard display area.

2. Click and drag the object for which you want to plot a statistic onto the graph.

Click and drag the required statistic onto the graph.

Changing graph content

Procedure

Using the same method as for adding a graph, drag a different object or object statistic onto an existing graph to change its contents.

Editing graph settings

Procedure

1. Click the graph and select **Settings**.
2. In the **Color Scheme** area, select the foreground color and the background color.

To reset the color scheme of the general color settings, click **Reset**.

*** Note:**

The **Color Scheme** section is available only if you enable the custom color scheme.

3. In the **Graph Settings** area, perform the following actions:
 - a. In the **Time Frame** field, set the maximum length of time to include in the graph as data is added.

The time length has an *hour:minute:second* resolution.

- b. In the **Sample Rate** field, set the frequency for updating the graph.

The frequency has an *hour:minute:second* resolution.

The **Plot Points** value indicates how many points will be used to plot the complete graph using the two settings above. The maximum possible is 500 plot points or for bar graphs 50 bars. The range of selectable values for **Time Frame** and **Sample Rate** above will adjust according to the current value of the other and vice versa.

4. If you select **% Gauge** as the Graph type, you can select the following settings in **Plot Options**.
 - a. Select the **Show Value** check box.

Show Value indicates if the statistic value is displayed in the middle of the gauge.
 - b. Select the **Show alarm ranges** check box.

Show alarm ranges indicates if the gauge is color-coded.

Resetting a graph

About this task

You can delete the current data from a graph without removing the graph or restarting Wallboard.

Procedure

1. Click the graph.
2. In the displayed menu, select **Reset Graph**.

Displaying plot points

About this task

In addition to plotting a line or solid area, you can also display or hide the individual data points.

Procedure

1. Click the graph.
2. In the **Plot Options** section, select **Show** or **Hide**.

Monitor tables

Monitor tables provide a way to arrange multiple objects and statistics in a table, while displaying each statistic value.

The items that you drop into the monitor table create rows and columns in the table. The drop position determines the spot where the item is added. To remove a row or a column, click the respective row or column and select the corresponding delete option.

You cannot add objects if sorting or grouping is active. You must first deactivate the sorting or grouping.

The monitor tables are of two types:

- Single level monitor table

- Group level monitor table

The Single Level table supports the sorting of rows based on values of a chosen statistic. You can toggle sorting by clicking the column header containing the statistic.

The group level table supports grouping, but not sorting.

Both monitor table types support column reordering. You cannot reorder rows.

Both tables support grouping of rows based on a chosen statistic. To group, drag the column header containing the statistic to the group bar at the top of the table. Grouping can be removed by clicking on the cross that appears inside the object on the group bar.

You can modify statistic names by over-typing the name in the header. You cannot modify object names.

If alarms are defined for a monitor table cell, the monitor table displays a green background for the cell.

Adding a monitor table

About this task

A monitor table displays a green background for elements with alarms defined, but the values are in a normal range. In a warning or alarm condition, the color changes.




Procedure

1. Click the **Monitor Table** element.
2. To add a blank monitor table, click and drag one of the following elements to the display area :
 - **Single Level Monitor Table**: A table for objects without children. You can use this table for all the objects.
 - **Group Level Monitor Table**: A table for objects with children. You can use this table for Agent Groups, Agent Teams, and Phone Groups.
3. **(Optional)** To change the monitor table settings, click the monitor table and select **Settings**.

Monitor table settings field descriptions

Name	Description
Manual Font Size	Sets the font size of the display text for the statistic. The nearest point size of the existing display text is the default setting.

Table continues...

Name	Description
	<p> Note:</p> <p>The Manual Font Size section is available only if you enable the manual layout mode.</p>
Color Scheme	<p>Selects the foreground color and the background color. The two colors you select alternate as the text color and background color.</p> <p>To reset the color scheme of the general color settings, click Reset.</p> <p> Note:</p> <p>The Color Scheme section is available only if you enable the custom color scheme.</p>
Object Statistic	<p>Selects the statistic that you want to configure.</p> <p> Note:</p> <p>The options available vary according to the selected statistic.</p>
Table Colors	<p>Selects the alternating background and foreground row colors.</p>
State Alarm Thresholds	<p>Sets the thresholds for calls included in the statistics. The time is measured in seconds.</p>
Alarm Thresholds	<p>Adjusts the threshold levels at which the warning or the alarm occurs.</p> <ul style="list-style-type: none"> • Warnings are displayed by the statistic background color changing to yellow. • Alarms are displayed by the statistic background color changing to red.

Managing web browser objects

About this task

Web browser objects display the content of a different web page inside the wallboard.

The web browser cell contents are always on top of other visual items, including drag arrows, without affecting wallboard functionality.

Before you begin

To use Web browser objects, you must:

- Run the elevated setting script and import the elevated certificates that are available on the WallboardBroker page.
- Run the wallboard using Internet Explorer or desktop installed mode.

Procedure

1. In the object list, click **Web Browser** and drag one of the following browser types to the wallboard:

- Small
- Wide
- Tall
- Large

2. In the **Address** field, enter the URL to display in the web browser cell.

The URL must start with `http://` or `https://`. The cell does not perform any redirection if you enter the address partially.

3. For navigation, the web browser cell contains controls that are similar to the controls provided by web browsers:

- The **Back** and **Forward** buttons, for navigating between the pages you have opened using the web browser cell
- The **Browse** button, for navigating to the URL in the **Address** bar.
- The **Cancel** button, for cancelling the loading of the current page.

The Web browser cell also contains an **Update** field that determines the update time for the content displayed in the cell. Setting an update interval of 0 minutes disables the update.

Alarm settings

Alarms can be set on statistic cells, grouped statistic cells, single level monitor table and group level monitor tables, and % gauge.

Audio alarms, alarm only and announcements

Use the following options:

- To enable audible alarms for each alarm condition, select the **Audio Alarms** check box.
- To enable speech for each alarm condition, including object name, statistic name and value, select the **Announcements** check box.
- To sound alarm only on alarm conditions and not warnings, select the **Alarm Only** check box.

It is possible to install more languages for alarm announcements. By default, the language of the Windows operating system is used if the current wallboard language is not installed. For more information, see <https://technet.microsoft.com/en-gb/library/hh825678.aspx> for Windows Vista or greater.

E-mail alarms, alarm only, and address list

Use the following options:

- To enable generation of e-mails for each alarm condition, sent to the address list separated by semi-colons, select the **Email alarms** check box.
- To send only on alarm conditions and not warnings, select the **Alarm Only** check box.
- To configure a list of email addresses that receive alarm notifications, type the email addresses separated by a semi-colon (;) in the **Email Addresses** field.

SMTP server settings

The action button displays the current SMTP server settings for the wallboard. To use the email alarms feature, configure the server here. The server host name, port, and originator address are mandatory. The originator name is optional. To connect to a secure TLS connection, select the **Use security** check box, and enter the user name and password. Security is enforced by the third-party SMTP server therefore, you can choose to configure empty passwords. Sample configurations are listed in the following table:

Setting	Internal MS Exchange Server	Google Mail (Internet)
Server hostname	exchange.net	smtp.gmail.com
Server port	25	465
Originator address	handle@org.net	username@gmail.com
Originator name	Surname, Firstname	Firstname Surname
Use Security	False	True
User name	—	username
Password	—	password

Note:

Some servers require user name authentication even over TLS. For example, Gmail requires that you lower the security settings on the configured account before it allows authentication of the Wallboard SMTP client. For more information, see <https://support.google.com/a/answer/6260879?hl=en>.

Chapter 5: Customization

Logos

You can add a logo image to the upper-right corner of the wallboard. If the wallboard includes a title, the logo and title are positioned next to each other across the top of the wallboard.

In case of an IP Office Contact Center restore or upgrade, the logo images are preserved.

Adding a logo to the wallboard

About this task

Each wallboard can include only one title bar. The title bar is always positioned above any other elements added to the wallboard and to the right of the logo if also added.

Procedure

1. In the object list, click **Extras** to display the list of items which includes the Company Logo element.
 2. Click and drag the **Company Logo** element to the display area.
-

Editing the logo image

About this task

You can change the image used for the logo and how it is resized when the wallboard size is changed.

Procedure

1. Click the existing logo and select **Settings**.
2. In the *Company Logo* section, perform the following actions.
 - a. To load an image file click **Open** and browse to the image that you want to use. The selected file is copied from its location to the IP Office Contact Center server.
 - b. Move the slider to the right for more opacity.
 - c. To change how the image is resized when the wallboard is resized select the required **Resize Method**.

Method	Description
Fill	If this method is selected, the image size is change so that both its height and width fit the space provided for it on the wallboard. This means that the image's original ratio between height and width is not maintained but the image fits the full display area.
Uniform	If this method is selected, the image size is changed, maintaining its original ratio between height and width, until both fit within the space provided for it on the wallboard. This method means that some blank space is left along either the horizontal or vertical edges.
Uniform Fill	If this method is selected, the image size is changed, maintaining its original ratio between height and width, until one of them fits the space provided for it on the wallboard. This means that some part of the image, at the bottom or the right is cropped.
Fixed	If this method is selected, the image size is not changed. Instead the display area provided for it on the wallboard is changed.

Removing the logo

Procedure

1. Click the existing logo image that is outlined by a box.
2. Click the **X** icon at the upper-right corner of the outline.

Title bar

A title can be added to the top of the wallboard. You can then adjust the font style, size, and color used for the title. If the wallboard includes a logo, the logo and title are positioned adjacent to each other across the top of the wallboard.

Tip:

The title bars height is determined automatically, based partially on the selected font size. At a point reducing the font size does not have an effect on the title bar height. Do not use a smaller font.

Adding the title to the wallboard

About this task

Each wallboard can include only one title bar. The title bar is always positioned above any other elements added to the wallboard and to the right of the logo if also added.

Procedure

1. In the object list, click **Extras** to display the list of items that includes the **Title Bar** element.
2. Click and drag the **Title Bar** element to the display area.

Editing the wallboard title

Procedure

1. Click the existing title area that is outlined by a box.
2. Click the existing text to display the cursor and edit or enter the title text required.
3. Click elsewhere on the wallboard.

Editing the title bar settings

About this task

Procedure

1. Click the title and select **Settings**.
2. Move the slider to the right for more opacity.
3. Select the **Foreground color** for the font.
4. In the **Font Style** section, select the font, font color, and font size.

The size of the title is automatically adjusted to fit the wallboard. The fonts available for use are restricted to those widely supported by web browsers.

Removing the title bar

Procedure

1. Click the existing title that is outlined by a box.
2. At the upper-right corner of the outline, click the **X** icon

Adding the time bar

Procedure

1. In the element list, click **Extras** and drag the **Time Bar** object onto the wallboard.
The system displays the current date and time in the upper-right corner of the wallboard.
2. To edit the time bar, click the time bar and select **Settings**.

3. In the **Date/Time Style** section, configure the following settings:
 - **Show date**
 - **Show time**
 - **Opacity**
 - **Foreground color**
 - **Font family**
 - **Font size**

Message bar

If a wallboard includes a message bar, IP Office Contact Center supervisors can display messages on the wallboard.

Each message has its own independent timeout (duration), the messages disappear only when they expire. System messages are displayed alongside custom messages (before the custom message), if you select the **Show System Messages** checkbox in the message bar settings dialog box.

To create a new message, click **New Message** and enter your text. You can also select the text color, duration, and delay. Click **Expire** to remove manually entered messages from the bar.

 **Tip:**

The message bar is always as wide as the width of the entire objects shown on the wallboard. If only one or two objects are needed, the message bar is more useful if the objects and their statistics are added as rows.

Adding the message bar to the wallboard

Procedure

1. In the object list, click **Extras** to display the list of items, which includes the **Message Bar** element.
2. Click and drag the **Message Bar** element to the display area.

Editing the message bar settings

About this task

You can adjust the speed and direction of scrolling applied to the messages that the wallboard displays. You can also select the font and limit the font sizes.

Procedure

1. Click the message bar and select **Settings**.
2. To enable settings, click **Message Settings**
3. Select **Show System Messages** check box.

! Important:

You can set the manually-entered messages to appear on the message bar. The manually-entered message follows the system message.

Message bar settings field descriptions

Name	Description
Color Scheme	<p>Selects the foreground color and the background color. If you want to reset the color scheme to the general color settings, click Reset.</p> <p>The Color Scheme section is available only if you enable custom color scheme.</p>
Scrolling	<p>Selects the direction of scrolling required and adjusts the speed.</p>
Font Style	<p>Selects the font to use and the size limits. The size of the message bar is automatically adjusted to fit the wallboard and the font size within the message bar is also automatically adjusted unless it reaches one of the limits set here.</p> <p>The fonts available for use are restricted to those widely supported by web browsers.</p>

Background and content settings

Editing the background image

About this task

The background of the wallboard is an image file which can be replaced with a file of your choice.

+ Tip:

The default uniform grey background does not distract from the information displayed. If you change the default background image, select an image that is not distracting.

In case of an IP Office Contact Center restore or upgrade, the background images are preserved.

Procedure

1. Click an area of the wallboard away from any of the other visible wallboard elements and then click **Settings**.
2. In the Background Image section, do the following:
 - a. Select **None** or **Color** for the background color. If you select **Color**, select the color you want for the background.
 - b. To load an image file, click **Open** and browse to the image that you want to use. The selected file is copied from its location to the IP Office Contact Center server.
 - c. To resize the image when the wallboard is resized, select the required Resize Method.

Method	Description
Fill	The image size changes so that both height and width fit the space provided on the wallboard. The image's original ratio between height and width is not maintained, but the image fits the full display area.
Uniform	The image size changes, maintaining the original ratio between height and width, until both fit within the space provided on the wallboard. Some blank space is left along either the horizontal or vertical edges.
Uniform Fill	The image size changes, maintaining the original ratio between height and width, until one of them fits the space provided on the wallboard. Some part of the image at the bottom or the right is cropped.
Fixed	The image size is not changed. Instead the display area provided on the wallboard is changed.

- d. Use the **Background Opacity** slider to change the transparency applied to the image.
- e. To delete the existing image click the **X** icon. When there is no image loaded the general background of the wallboard is white.

Editing the layout mode

About this task

By default, the system designs the wallboard layout automatically, but you can opt to design the wallboard layout manually. In the manual layout mode, you can resize the wallboard cells, put the cells at the positions of your choice, and change the font size of the text displayed in the cells.

Note:

- If you change to the manual layout mode, the background and content settings remain unchanged except for the Aspect Ratio settings.
- Independent of the manual mode setting, statistic cells within a group cell remain in an automatic layout mode with each statistic cell occupying a position within the grid.

- In manual layout mode, the content is not resized when the browser frame size changes, for example, full screen mode. Also, the maximize option is unavailable for the wallboard cells except for the cells within a group.
- If you change to the automatic layout mode from the manual layout mode, the wallboard cells are arranged automatically.
- If you change to the manual layout mode from the automatic layout mode, the wallboard cells are placed in the manual position that they were in when the manual layout mode was last enabled. When you enable the manual layout mode for the first time, the wallboard cells remain in their default automatic position.

Procedure

1. Click an area of the wallboard away from any of the other visible wallboard elements and then click **Settings**.
2. In the Layout Mode section, perform the following actions:
 - a. To enable the manual layout mode, check the **Manual Layout** check box.
 - b. To set the font size of the text displayed in the wallboard cells, enter or select a font size (in the range of 1-100) in **Manual Font Size**.
 - c. To apply the font size entered in Manual Font Size to the text displayed in all wallboard cells, click **Apply**. The message cell and the graph cell are not affected by the Manual Font Size setting, as the message cell has independent minimum and maximum font size settings and the graph cell is not text-based.
 - d. To put a wallboard cell at a position of your choice on the wallboard, drag the wallboard cell using the striped grip bar at the top of the cell. You can put a wallboard cell to overlap with another wallboard cell. The overlapping wallboard cells are displayed in the front-to-back style according to the content opacity defined for the cells.
 - e. To resize a wallboard cell, position the mouse pointer at the border of the cell and drag the border after the shape of the mouse pointer changes. You can resize a wallboard cell individually along any of the sides or simultaneously along any two of the sides forming a corner.

Editing the general colors and fonts

About this task

The background and font colors used for the elements added to the wallboard can be changed. The same colors are used for all elements added to the wallboard. The exception is the general background which uses an image file, a gradient between two colors, or a solid color if you choose the same color for the gradient. These settings are for the general font and colors used. Some wallboard elements, for example the title bar have their own specific settings for fonts and colors that can be set to differ from the general settings.

+ Tip:

- The choice of font and contrast colors between the foreground and background content are important. A fatter font and vivid color provide high visibility at distance. For example use Verdana, neon green (#FF00FF00) foreground and charcoal grey (#FF595959) background.
- Warnings and alarms cause statistics shown in the wallboard to turn orange or red respectively. So, use such colors for the background and foreground that the content can be red for a warning or an alarm.
- A high opacity, for example greater than 90% improves the readability of the wallboard. However a low value, for example 60%, makes it easier to see the highlighted element while editing a wallboard. Therefore it is useful to select a low opacity while editing and return it to a high value when finished.

Procedure

1. Click an area of the wallboard away from any of the other visible wallboard elements and then click **Settings**.
2. In the Content section, do the following:
 - a. To change the transparency applied to the wallboard elements, use the **Content Opacity** slider.
 - b. To change the font color, click the down arrow shown after **Foreground Color** and select the required color.
 - c. To change the background gradient used for the element shading, click the arrows shown after **Background Color** and select the first and second gradient colors.
 - d. To enable the option to have custom color schemes for the different wallboard elements, check the **Per Cell** check box.
 - e. To reset the foreground and background colors to the default values, click **Reset**.
 - f. If you do not want the background colors to change, clear the **Use State Colors** check box .
 - g. If you want the agent names to appear in full, select the **Use Full Agent Names** check box .
 - h. To change the font used for most wallboard elements, select a font in the **Font Family** drop- down. The font size is adjusted automatically.
The fonts available for use are restricted to those widely supported by web browsers.
 - i. The Animation Effect is applied to statistic values while they change. If no animation effect is required, select **None**.
 - j. In the **Alarm effect** field, configure the alarm animation effect applied to cells that are in a warning or alarm state. If no animation is required, select **None**.
 - k. Use the **Aspect Ratio** setting to control the ratio between the height and width of the wallboard elements (excluding the logo and title bar which always occupy the top of the display). The **Aspect Ratio** setting is disabled if the manual layout mode is enabled by selecting the **Manual Layout** check box.

Editing the background style of elements

About this task

By default, each element uses a shading style based on the background color selected earlier. You can switch to a solid background if required.

Tip:

Depending on the colors selected for the content foreground and background, using a solid background instead of a shaded background may make it easier to read data from a distance.

Procedure

1. Click the wallboard element.
2. To change the setting between a solid or a shaded background, from the menu, click **Bold** .

Note:

- Bold is selected when enabled.
- Bold might not be available for cells that are in an alarm state or displaying a state color.

Editing animation and window settings

About this task

Silverlight is used by the IP Office Contact Center wallboard and the customer map features. Use the following procedure to control the frame rate and change other animation settings.

Procedure

1. Click the icon at the lower-left corner of the wallboard and update the required menu setting.

Menu setting	Description
Initiate full screen	To start the wallboard in full screen mode. This option can only be enabled in trusted mode. The default setting is <code>False</code> .
Desktop top level	To keep the desktop window on top of other windows. The default setting is <code>False</code> .
Maximum frame rate	To set the maximum frame rate that the wallboard can use in frames per second. You can reduce the frame rate from the default to reduce CPU usage for lower performing systems. Animation quality decreases when you reduce the frame rate. The default frame rate is 60. The available range is 1 to 60.

Menu setting	Description
Enable full animation	To run the full range of animations. If not selected, the wallboard runs a reduced set of animations, which reduces CPU usage. The default setting is <code>True</code> .
Enable hardware acceleration	To enable hardware acceleration and run the wallboard using GPU assistance. This option is enabled when GPU assistance is detected. Otherwise, the wallboard uses software rendering only. The default setting is <code>True</code> .
Suspend in design mode	To suspend updates to statistics if the wallboard is in design mode with the configuration accordion open. The default setting is <code>False</code> .
Minimum update interval	To set the minimum interval for updates to statistics values used by statistic cells and grouped statistic cells. Other cell types use other minimum update intervals. Increase the setting to reduce CPU usage and server impact. The default setting is 2. The available range is 1 to 60.
Daily restart checkbox	To restart the wallboard daily. Graph cell data is retained, but league table position changes and manual messages are not. The default setting is <code>True</code> .
Daily restart time	If enabled, changes the local time of the daily restart. The default setting is 1 am.
Performance view	Provides information about memory use in MB, detected GPU details, and the CPU load factor.

2. Click **OK** to save any changes.

Wallboard elements layout

If the wallboard is in the automatic layout mode, the system moves and resizes the existing wallboard elements automatically as you add new elements or delete any of the existing ones. Except for the logo and title bar elements, which have fixed positions, you can drag and move existing elements.

To move an element, click the title bar of the element and drag it to the required position. The system adjusts the positions of other elements automatically.

Maximizing Elements

Within the elements, one of the elements can be maximized by clicking the up arrow at the upper-right corner of the element. When you do this, the element is enlarged and any element that is already maximized returned to its normal size. You can also return an element to its normal size by clicking the down arrow at its upper-right corner.

Best practices

You can use wallboards to display a community of agents some statistics that are important to the way the wallboards operate. A wallboard can also be used:

- By supervisors to monitor the activity on specific statistics for specific objects.
- To improve customer satisfaction by highlighting areas that need immediate attention.
- To increase agent's productivity.

A wallboard provides so much functionality. It is important to figure out the goal that the Contact Center Manager is trying to achieve and try to design one or multiple wallboards to reach that goal.

This document provides some tips when designing a wallboard when the goal is to maximize the amount of different statistics that can be displayed.

- Always wait until the wallboard has rearranged the screen before adding the next item to it.
- The choice of font and contrast colors between the foreground and background content are important. A fatter font and vivid color provide high visibility at distance. For example use Verdana, neon green (#FF00FF00) foreground and charcoal grey (#FF595959) background.
- Warnings and alarms cause statistics display in the wallboard to turn orange or red respectively. So, use such colors for the background and foreground that the content can be red for a warning or an alarm.
- The default uniform grey background does not distract from the information displayed. If you change the default background image, select an image that is not distracting.
- The message bar is always as wide as the width of the entire objects displayed on the wallboard. If only one or two objects are needed, the message bar is more useful if the objects and their statistics are added as rows.
- A high opacity, for example greater than 90% improves the readability of the wallboard. However a low value, for example 60%, makes it easier to see the highlighted element while editing a wallboard. Therefore it is useful to select a low opacity while editing and return it to a high value when finished.
- The title bars height is determined automatically, based partially on the selected font size. There is a point at which reducing the font size has no further effect on the title bar height. At this point, there is no need to use a smaller font.
- Depending on the colors selected for the content foreground and background, using a solid background instead of a shaded background may make it easier to read the data from a distance.
- If the goal of the wallboard design is to provide maximum possible statistics, the Company Logo and Message Bar are of fixed size. Do not add the Company Logo and Message Bar, if not required. Changing the font size of the Message Bar has no impact on the real estate it uses.
- For improving readability, you can select and type over object names, statistic names, and other titles. Modifying the titles does not affect the content of the respective object and statistics.

Design considerations

If you choose to present the statistics for objects in columns instead of rows, the display of the report is better.

Depending on the size of the wallboard and the distance to the furthest individual needing to read it, up to five statistics for five Hung Groups can be displayed. If a *Message Bar* is needed, it will take up the equivalent of 1 row of statistics. The *Message Bar* is always as wide as the width of the entire objects displayed on the wallboard. If only one or two objects are needed, the *Message Bar* is more useful if the objects are added as rows. However, the amount of statistics that can be added is significantly less before they become unreadable.

Since it is easier to see the highlights of a border when the opacity is set to a smaller number, you must lower the content opacity when designing the wallboard (60%). When the wallboard is ready for operation, the opacity can be set to a high number (>90%). This increases the contrast between the content background and foreground and therefore increasing readability.

Always wait until the wallboard rearranges the screen before adding the next item.

Maximizing Content

When designing a wallboard where a lot of information needs to be made available, there are a couple of factors to take into account: the size of the wallboard display itself and the distance between the wallboard and the furthest person that needs to read that information.

The choice of font and contrast colors between the foreground and background content is extremely important. A fatter font is preferable.

Warnings and alarms causes the statistics boxes to turn yellow or red respectively when the conditions occur. Ensure that the colors used for the background or foreground content does not make it difficult to read when a warning or alarm occur.

To avoid creating visual noise, it is also important that the wallboard background be of a uniform scheme, like the *grey background* provided by default.

Maximizing real estate

When the goal of the wallboard design is to provide as many statistics as possible on one screen, it is important to realize that the *Company Logo* and *Message Bar* wallboard elements are of fixed size and if not needed they should not be used. Changing the font size of the *Message Bar* has no impact on the real estate it uses. *League Tables* and *Graphs* are also using real estate that effectively provides duplicate information and therefore breaks the goal of the design. The *Title bar* can be sized to a smaller font and therefore does not really impede with the design.

Title bar font

Add the *Title bar* and resize the font to a value as small as possible. At one point, reducing the size of the font will no longer have an impact on the real estate used by the statistics. Experiment with the font size until that value is found. At this point, there is no need to use a smaller font.

Aspect ratio settings

Change the Aspect Ratio to try to use more of the screen real-estate. Experiment with the different ratios until the desired result is achieved.

Animation effect settings

To help bring attention to changing statistics, the animation effect can be used. Experiment with the different type of effects until the desired result is achieved.

To save your wallboard design, click  at the bottom left corner of the screen.

To change to Full Screen mode, click at the lower-left corner of the screen.

Objects and statistics

Objects

Since it is easier to add items from right to left, an object is added with the associated statistics. Then the next object is added. When adding an object, pull the object from the object list and drop it to the left of the header of the already added object. It does not matter where the first object is dropped on a blank palette.

Statistics

The first statistic is added to the object by pulling it from the object list and dropping it inside the object box. The box is highlighted when the cursor is inside the box.

The second statistic can be added by pulling it from the object list and dropping inside the first statistic box, at the bottom near the middle. The box is highlighted when the cursor is located within it.

The rest of the statistics are added by pulling the statistic from the element list and dropping it on the bottom border of the object column. The whole object and associated items are highlighted when the cursor is properly located at a border. It is possible that the dropping might not work. In this case, remove the statistic if it was added incorrectly and try again.

Content opacity

Change the content opacity to at least 90%.

Chapter 6: Troubleshooting

Login fails with a server communication error

Condition

When you try to log in to Wallboard, the login fails. You get the following error message `Failed to communicate with IPOCC server wallboard broker service.`

Solution

When you see this error, you must ensure that IP Office Contact Center certificates are configured in your browser.

Follow the steps in [Configuring Google Chrome and Internet Explorer to accept certificates on Windows](#) on page 13.

If you are using Firefox, follow the same steps using a Chrome or an IE browser.

Glossary

Counters	A component used to calculate durations, intervals, the number of events, or the number of objects. Each IP Office Contact Center counter has a unique name.
user	Agents, supervisors, or administrators that can log in to the IP Office Contact Center UI to use or administer parts of the system. Unique privileges can be assigned to each user.

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