IPFX Integrator for Excel
Product version 4.3 SP5
Introduction

IPFX Integrator for Excel is a system tray application that displays full-screen IPFX queue statistics in real time.
How does it work?

The application populates a special worksheet the DATA worksheet in a designated Excel workbook with live queue data from an IPFX Server. Using Excel's inbuilt functionality, you may create customised charts, graphs and tables from this raw data in other worksheets the display worksheets. The display worksheets are then converted to full-screen images, which are updated in real time.

See Also

Introduction
Pre-requisites
Pre-requisites

System requirements
- Microsoft Excel: version 2000 or later
- IPFX Server: version 4.3 SP2 or later, 5.0 or later
- Disk Space requirements: 200MB
- Operating system: Windows 2000 or later
- RAM: 256MB minimum
- CPU: 1.4GHz minimum

User requirements
- You must have access to the password for an IPFX extension of your organisation's IPFX Server.
- You must be familiar with creating charts and tables in Microsoft Excel.

See Also

- Introduction
- How does it work?
Installing IPFX Integrator for Excel

To install IPFX Integrator for Excel

1. Double-click on IPFX Integrator for Excel Install.exe.
2. The Installshield Wizard Welcome screen appears:

   ![Welcome screen](image)

   Click Next.

3. The License Agreement screen appears:
Click **Yes** to accept the terms of the license agreement and continue installing the software.

4. The Choose Destination Location screen appears:
Click the **Browse** button and select the directory where you wish to install IPFX Integrator for Excel. Click **Next**.

5. The **CT Server Connection** screen appears:
Enter the following information:

- **Computer Name of the CT Server**: The Windows computer name of the machine running the IPFX Server.
- **TCP/IP Address of the CT Server**: The IP address of the machine running the IPFX Server.
- **TCP/IP Port of the CT Server**: The port number used by the IPFX Server. A standard IPFX Server uses port 100.

6. The following screen appears:
The Installshield Wizard is now ready to install IPFX Integrator for Excel. Click **Install** to continue.

7. After a few moments, the following screen appears:
Click **Finish** to complete the installation.
Starting IPFX Integrator for Excel

To start IPFX Integrator for Excel:

1. Click **Start > Programs > IPFX > Integrator for Excel**

   The *IPFX Integrator for Excel* splash screen briefly appears as the application connects to the IPFX Server:

   ![](image1)

2. The Password Verification screen appears:

   ![](image2)

   Enter the IPFX password for your extension.

   **Tip:** To prevent the password prompt from appearing when *IPFX Integrator for Excel* is run subsequently, select **Save Password** (recommended for live displays).

3. Click **OK**.

4. If you are running *IPFX Integrator for Excel* for the first time, you will be prompted to **select a workbook as a basis for your IPFX Integrator**
for Excel display.

5. The IPFX Integrator for Excel Icon appears in system tray: ![Icon](image), and the selected workbook opens in an Excel window:

![Sample display for 3 queues](image)

You are now ready to select the queues and fields that you want to appear in the IPFX Integrator for Excel display.

**Note:** While the IPFX Integrator for Excel application is running, you will not be able to close the selected spreadsheet. See [Closing IPFX Integrator for Excel](#).
Selecting a workbook

To select workbook for use with IPFX Integrator for Excel:

1. Right-click on the *IPFX Integrator for Excel* icon in the system tray:

2. Select **Change Workbook**:

3. Choose an Excel workbook to use as the basis for your display. A number of sample workbooks are provided for your use:
Choose **New.xls** to create a **custom workbook**, or

Choose a sample spreadsheet from one of the following designs:

- **IPFX Sample1.xls**
  *Thermometer style, suitable for a single queue*

- **IPFX Sample2.xls**
  *Table style, suitable for two queues*
Tip: To create a new workbook based on a sample, locate the sample workbook (in `C:\Program Files\Performance Solutions\Integrator for Excel by default`) copy it, and select your copy in the dialog above.

4. The selected spreadsheet opens in an Excel window:

If this is the first time you have selected the workbook, you will need to select the queues and fields that you want to appear in the IPFX Integrator for Excel display.
Selecting Queues and Fields

You must select which of your IPFX Server's queues are linked to your workbook. Only statistics from the selected queues and fields can be displayed by IPFX Integrator for Excel.
Selecting Queues

To select queues for a workbook:

1. Right-click on the IPFX Integrator for Excel system tray icon, and choose the menu option Select Queues:

2. A list of the currently-selected queues (if any) is displayed:
Note: The first two rows of the **DATA worksheet** are reserved for IPFX-specific field information.

3. Click the **Add / Remove Queues** button to select the queues that you wish to include in your display:
Select a queue from the **Available Queues** panel by clicking on it, then click the > button to move the queue into the **Selected Queues** panel. Repeat until all the queues you wish to use are shown in the **Selected Queues** panel.

To remove a queue from the Selected Queues panel, click on the name of the queue and click the < button.

When you are satisfied with your selection, click **OK**.

4. A summary of your selected queues is displayed.
Use the up and down arrows to change the order in which your queues will appear in the spreadsheet.

5. Click **Ok**.

The selected queues are now linked to the **DATA** worksheet of your selected workbook.

**See Also**

- Selecting Queues and Fields
- Selecting Fields
Selecting Fields

To select fields for a workbook:

1. Click on the IPFX Integrator for Excel system tray icon, and choose the menu option **Select Fields**:

2. A list of the currently-selected fields (if any) is displayed:
3. Click the **Add / Remove Fields** button to select the fields that you wish to include in your display:
4. Choose the **fields** that you want to be able to include in your display. Select a field from the **Available Fields** panel by clicking on it, then click the > button to move the field into the **Selected Fields** panel. Repeat until all the fields you wish to use are shown in the **Selected Fields** panel.

   To remove a field from the **Selected Fields** panel, click on the name of the field and click the < button.

   When you are satisfied with your selection, click **OK**.

5. A summary of your selected fields is displayed.
Use the up and down arrows to change the order in which your queues will appear in the spreadsheet.

6. Click **Ok**.

The selected fields are now linked to the **DATA** worksheet of your selected workbook.

### In This Section
- Field definitions

### See Also
- Selecting Queues and Fields
- Selecting Queues
# Field definitions

<table>
<thead>
<tr>
<th>Field</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Real-time statistics</strong></td>
<td></td>
</tr>
<tr>
<td>Directory Number</td>
<td>The internal directory number of the queue.</td>
</tr>
<tr>
<td>Description</td>
<td>The name of the queue.</td>
</tr>
<tr>
<td>Total Agents</td>
<td>The number of agents belonging to the queue (whether enabled or not).</td>
</tr>
<tr>
<td>Is Open</td>
<td>A number representing the Queue's open/closed state:</td>
</tr>
<tr>
<td></td>
<td>▪ 0 (for a closed queue)</td>
</tr>
<tr>
<td></td>
<td>▪ 1 (for an open queue)</td>
</tr>
<tr>
<td>Is In Warning State</td>
<td>A number indicating whether the Queue is in a warning state:</td>
</tr>
<tr>
<td></td>
<td>▪ 0 (for a Queue not in warning state)</td>
</tr>
<tr>
<td></td>
<td>▪ 1 (for a Queue in warning state)</td>
</tr>
<tr>
<td>Is In Alert State</td>
<td>A number indicating whether the Queue is in an alert state:</td>
</tr>
<tr>
<td></td>
<td>▪ 0 (for a Queue not in alert state)</td>
</tr>
<tr>
<td></td>
<td>▪ 1 (for a Queue in alert state)</td>
</tr>
<tr>
<td>Queuing Calls Count</td>
<td>The current number of calls waiting in the queue.</td>
</tr>
<tr>
<td>Queuing Time (In Seconds)</td>
<td>The current longest call waiting time, in seconds.</td>
</tr>
<tr>
<td>Queuing Time (Formatted)</td>
<td>The current longest call waiting time, in the following format:</td>
</tr>
<tr>
<td></td>
<td>▪ ss (for wait time less than 60 seconds)</td>
</tr>
<tr>
<td></td>
<td>▪ mm:ss (for wait time between 60 seconds and 1 hour)</td>
</tr>
<tr>
<td></td>
<td>▪ hh:mm:ss (for wait time of 1 hour and greater)</td>
</tr>
<tr>
<td>Logged In Agents</td>
<td>The sum of the number of queue agents currently in the Queue Presence state + the number of queue agents currently in Work Time.</td>
</tr>
<tr>
<td>Normal Voicemail Messages</td>
<td>The number of voicemail messages of normal priority in the Queue's voicemail inbox.</td>
</tr>
<tr>
<td>Urgent Voicemail Messages</td>
<td>The number of voicemail messages of urgent priority in the Queue's voicemail inbox.</td>
</tr>
<tr>
<td>Total Voicemail Messages</td>
<td>The sum of the number of urgent and normal voicemail messages in the Queue's voicemail inbox.</td>
</tr>
<tr>
<td>Service Level (GOS%)</td>
<td>The current percentage Grade of Service, as defined by the Queue's Properties &gt; Priority/GOS tab. For</td>
</tr>
</tbody>
</table>
information about configuring queue properties, see the
IPFX Administrator Manual.

<table>
<thead>
<tr>
<th><strong>Agent State On A Call</strong></th>
<th>The number of Logged In Agents (q.v.) currently on any call.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agent State On a Break</strong></td>
<td>The sum of the number of agents currently in the default (i.e. no break code) Break Presence state + the number of agents in Break Code Presence states that are defined as AGENT_STATE_ON_A_BREAK.</td>
</tr>
<tr>
<td><strong>Agent State In Office</strong></td>
<td>The sum of the number of agents in the Office Presence state + the number of agents in Break Code Presence states defined as AGENT_STATE_IN_OFFICE.</td>
</tr>
<tr>
<td><strong>Agent State Unavailable</strong></td>
<td>The sum of the number of agents currently in the Meeting, Do not Disturb, Gone Out, Gone for the Day, Sick Leave, On Holiday, Away on Business Presence states or Break Code Presence states defined as AGENT_STATE_UNAVAILABLE.</td>
</tr>
<tr>
<td><strong>Agent State Wrapping Up</strong></td>
<td>The number of agents currently in WrapUp or Work Time.</td>
</tr>
</tbody>
</table>

**Daily Statistics**

<table>
<thead>
<tr>
<th><strong>Daily statistics are reset at midnight</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Talk Time</strong></td>
</tr>
<tr>
<td><strong>Total Answer Time</strong></td>
</tr>
<tr>
<td><strong>Maximum Queued Count</strong></td>
</tr>
<tr>
<td><strong>Maximum Queued Time</strong></td>
</tr>
<tr>
<td><strong>Total Answered Count</strong></td>
</tr>
<tr>
<td><strong>Total Abandoned Count</strong></td>
</tr>
<tr>
<td><strong>Total Other Count</strong></td>
</tr>
</tbody>
</table>
Displaying Queue statistics

To display queue statistics in full-screen mode

1. Right-click on the IPFX Integrator for Excel system tray icon and select Run Display:

2. The workbook's display worksheet expands to full-screen size and becomes populated with live queue statistics.

**Note:** If a workbook contains multiple worksheets, only the leftmost worksheet is displayed.
Displaying worksheets as a slideshow

If a workbook contains multiple display worksheets, the worksheets can be presented on the display in a cycle.

To display worksheets in a cycle

1. Right-click on the IPFX Integrator for Excel system tray icon and select Cycle Worksheets:

2. When the display is next run, each display worksheet will appear for 10 seconds before being replaced by the next display worksheet. The DATA worksheet is never displayed. When the last worksheet has been displayed, the sequence will start over from the beginning.

See Also

Displaying Queue statistics
Beep on Alert/Alarm
Using a screensaver
Beep on Alert/Alarm

IPFX Integrator for Excel can cause the PC speaker to "beep" if a selected queue enters an warning or alert state.

To turn on audible warnings/alerts

1. Right-click on the IPFX Integrator for Excel system tray icon and select Beep on Warning or Beep on Alert (both options may be selected independently):

2. The PC running IPFX Integrator for Excel will issue an audible "beep" when a queue enters an warning and/or alert state respectively.

See Also

- Displaying Queue statistics
- Displaying worksheets as a slideshow
- Using a screensaver
Using a screensaver

To reduce screen burn-out, *IPFX Integrator for Excel* can be set to use the Windows screensaver when none of the selected Queues are open.

**To use a screensaver:**

1. Set up a Windows screensaver: **Start > Control Panel > Display > Screensaver**.

2. Right-click on the *IPFX Integrator for Excel* icon in the system tray and choose the menu option **Use Screen Saver**.

When all selected Queues are closed, *IPFX Integrator for Excel* initiates the selected Windows Screensaver. The screensaver will appear after the wait time configured in the Windows *Display properties* screen. If a Queue becomes open while the screensaver is active, the screensaver will be interrupted and the display will return to normal.
Closing IPFX Integrator for Excel

To shut down the application, right-click on the IPFX Integrator for Excel system tray icon, and select **Close**:

![Screenshot of the IPFX Integrator for Excel system tray]

The *IPFX Integrator for Excel* application will save the current workbook, then close Excel and itself.
Advanced procedures

This section describes advanced or less commonly used procedures.
Changing workbooks

To change the workbook associated with IPFX Integrator for Excel:

1. Right-click on the *IPFX Integrator for Excel* system tray icon, and select **Change Workbook**:

   ![Change Workbook menu]

2. Select a new workbook from the list:
3. Click **Open**.

**See Also**

- Advanced procedures
- Creating additional workbooks
- Creating a custom display
- Defining break codes
- Clearing password
Creating additional workbooks

To create additional workbooks:

1. Open Microsoft Excel and create a new Excel workbook. Name one of the worksheets DATA; the remaining worksheets may have any name.

2. Save the new workbook in a location of your choice on the hard disk.

See Also

Advanced procedures
Changing workbooks
Creating a custom display
Defining break codes
Clearing password
Creating a custom display

To create a custom display:

1. Create a new workbook (or use the provided New.xls template).
2. Run IPFX Integrator for Excel (if not already running).
3. Select your new workbook.
4. Select the Queues that you want to include in your display.
5. Select the Fields that you want to use in your display.
6. The workbook's DATA worksheet cells will be populated with the appropriate statistics from the selected Queues and Fields. While IPFX Integrator for Excel is in edit mode, these cells will show default values; when the display is run the cells are populated with live values from the IPFX Server.

7. Design your display(s) in the workbook's remaining worksheet(s): create charts and tables by linking to the information in DATA worksheet.

8. To test your display, right-click on the IPFX Integrator for Excel icon in the system tray and select Run Display. To return to editing your display worksheet, right-click on the IPFX Integrator for Excel icon in the system tray and select Edit Display.

9. When you are satisfied with your display, save the Excel workbook.

See Also

Advanced procedures
Changing workbooks
Creating additional workbooks
Defining break codes
Clearing password

In This Section

The DATA worksheet
The Display worksheets
The DATA worksheet

**Warning:** Do not edit this worksheet! The DATA worksheet is entirely cleared and rebuilt every time you select queues and fields for the display. Create your charts and custom formulas in the Display sheet(s).

When you run the display the DATA worksheet is populated with live queue statistics from your IPFX Server. If you wish to change the queues and fields shown here, follow the procedure described in Selecting Queues and Fields.

Column A (containing the selected Queue numbers) and Rows 1 and 2 (containing the selected Field identifiers and descriptions) are hidden by default. The remaining cells will be populated with live queue data when the display is run.

**See Also**

- Creating a custom display
- The Display worksheets
The Display worksheets

Construct the charts, tables and graphs that you want to display in separate worksheets inside the selected workbook. Link cells and charts to the live statistics in the DATA worksheet.

You may create as many as display worksheets as you wish. Only the leftmost worksheet will be displayed unless you select the Slideshow option.

See Also

Creating a custom display
The DATA worksheet
Defining break codes

If your organisation uses Break Codes to categorise its agents availability, you may wish to define how *IPFX Integrator for Excel* interprets each Break Code for the purposes of agent availability. The Break Code settings described in this section affect the Agent State (Break, Office or Unavailable) to which an agent in a Break Code presence state is assigned. Agent States are described in the section *Field definitions*.

To define a break code:

1. Right-click on the *IPFX Integrator for Excel* system tray icon and select **Set Break Codes**:

2. The **Break Code Cross Reference** window appears:
3. Use the drop-down arrow to assign each of your organisation's Break Codes to one of the following categories:

- `AGENT_STATE_ON_A_BREAK`
- `AGENT_STATE_IN_OFFICE`
- `AGENT_STATE_UNAVAILABLE`

4. Click **OK**.

**See Also**

- Advanced procedures
- Changing workbooks
- Creating additional workbooks
- Creating a custom display
- Clearing password
Clearing password

If you have chosen to save your extension password, you may clear it by selecting **Clear Password:**

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**See Also**

- Advanced procedures
- Changing workbooks
- Creating additional workbooks
- Creating a custom display
- Defining break codes
Technical details
Key files

- Sample IPFX Integrator for Excel workbooks: C:\Program Files\Performance Solutions\Integrator for Excel (by default).

See Also

Technical details
Processes and Applications
Registry entries
Logging
Processes and Applications

- **Application:** IPFXIntegrator
- **Process:** Wallboard.exe

See Also

- Technical details
- Key files
- Registry entries
- Logging
Registry entries

*IPFX Integrator for Excel* creates the following registry entries under:

HKEY_CURRENT_USER > Software > Performance Solutions > Settings > PSCTI.INI > Wallboard_Info.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BeepOnWarning</td>
<td>&quot;0&quot; (off)</td>
</tr>
<tr>
<td></td>
<td>&quot;1&quot; (on)</td>
</tr>
<tr>
<td>BeepOnAlert</td>
<td>&quot;0&quot; (off)</td>
</tr>
<tr>
<td></td>
<td>&quot;1&quot; (on)</td>
</tr>
<tr>
<td>CycleSeconds</td>
<td>(number of seconds to display each worksheet in Cycle Worksheet mode)</td>
</tr>
<tr>
<td>CycleWorksheets</td>
<td>&quot;0&quot; (off)</td>
</tr>
<tr>
<td></td>
<td>&quot;1&quot; (on)</td>
</tr>
<tr>
<td>ExcelFile</td>
<td>(path to currently selected Excel workbook)</td>
</tr>
<tr>
<td></td>
<td>&quot;0&quot; (off)</td>
</tr>
<tr>
<td></td>
<td>&quot;1&quot; (on)</td>
</tr>
<tr>
<td>Screensaver</td>
<td>&quot;0&quot; (off)</td>
</tr>
<tr>
<td></td>
<td>&quot;1&quot; (on)</td>
</tr>
</tbody>
</table>

See Also

- Technical details
- Key files
- Processes and Applications
- Logging
Logging

Log file: %TEMP%\Performance Solutions\IPFX Integrator for Excel\yyyyymmdd_WBD.LOG

See Also

Technical details
Key files
Processes and Applications
Registry entries
Glossary of Terms

DATA worksheet
A worksheet in the selected Excel workbook, whose cells *IPFX Integrator for Excel* populates with live queue data. A workbook may have only one DATA worksheet. The Data worksheet may appear in any order with respect to the display worksheets, but must be named DATA.

Do not manually edit the values in DATA worksheet. To configure the types of data that appear in DATA worksheet, see Selecting Queues and Fields.

Display worksheet
A worksheet in the selected Excel workbook, in which you design the display for your queue data. Queue data is obtained by referencing values in the workbook’s DATA worksheet.

You may create any number of display worksheets, and they may appear in any order in your workbook. Display worksheets may have any name except DATA.