External Calendar

The digital signage software **FrontFace for Public Displays** and the interactive kiosk software **FrontFace for Touch Kiosks** can be extended by plugins that add additional functionality. This way you can e.g. display special content types, integrate external data sources or systems and add entirely new features to the software.

Description:

The Event Source Plugin "External Calendar" allows you to start playlists by appointments in a Microsoft Exchange calendar, a Lotus Domino (Notes) calendar, an iCalendar (ICS file) or an Excel file. The *FrontFace Player Application* automatically starts a playlist once an appointment (e.g. created with Outlook, Notes, Google Calendar or Excel) becomes due. Furthermore, you can also assign placeholder texts with an appointment which allows to easily implement a personalized welcome board for visitors of an organization.

Notice: This plugin is NOT for displaying appointments from an external calendar! If you want to display appointments in a table form, please use the content plugin „Schedules and Timetables" which is also available separately.

Installation:

Please refer to the user manual of *FrontFace for Public Displays* or *FrontFace for Touch Kiosks* on detailed information on how to install a plugin.

Caution: This plugin is an Event Source Plugin that cannot be used with *FrontFace for Touch Kiosks*! Event Source Plugins are only supported by *FrontFace for Public Displays*!

Notice: If you have previously downloaded and installed the trial version of the plugin, you must install the full version over the existing trial version in order to get the full version running. The procedure is exactly the same as for installing a new plugin. If you already used the trial version of plugin in your project, all settings will remain after installing the full version!

Setup and Usage:

After you have installed the plugin, please navigate into the *"Scheduling"* menu of the *Display Assistant* and select the *"Events"* tab. Then, add a new *"External Calendar"* event source and assign the playlist that is supposed to be started by appointments of the calendar. Finally, click on *"Configure Event Source…"* to configure your external calendar.

First, you have to select the desired data source from which the plugin will receive the calendar data to control the playlist. You can select from the following options:

- Microsoft Exchange Server
- Lotus Domino Server (Notes)
- iCalendar (ICS)
- Excel File

In addition to that, you also have to define the update interval of the data source (the number of minutes after which the calendar is checked for changes). Furthermore, you can also define a so-called pre-run. That is a timespan which will cause the plugin to trigger the given number of minutes earlier than it would normally do. E.g. if you have an appointment that starts at 9:00am and defined a pre-run of 15 minutes, the playlist will start to play at 8:45am. This setting is very useful for welcome and reception screens.

The display duration of a calendar-triggered event can also be configured. By default, the duration of the appointment from the calendar is used. However, you can also define a fixed duration which then applies to all appointments, no matter how long their actual duration in the calendar is. Alternatively, you can also define a so-called post-run: This is a number of minutes that is added to the duration of the event which comes from the appointment of the calendar. The value can either be positive or negative but may not reduce the display duration below one minute (in case of a negative post-run).

In the following, the data source-specific configuration options are described.

Configuration for Microsoft Exchange Server:

You have to make sure that **EWS (Exchange Web Services)** is enabled on your Exchange server since this serves as interface for the plugin.

Please enter login, password and domain (optional) for the Exchange user in the plugin's settings dialog. If you leave the credentials empty, the default credentials of the currently signed-in Windows account will be used (only supported for on-premise Exchange servers). In case your server does not support "autodiscover", please also enter the full URL to the EWS (Exchange Web Services). In case of Office 365, this URL is e.g.:

https://outlook.office365.com/EWS/Exchange.asmx

You will also have to specify the Exchange server version you are using (e.g. "Exchange Server 2013").

• Calendar from the user's mailbox:

By default, the main calendar of the user whose credentials you entered will be queried.

In order to use a different calendar from the user's mailbox, please enter the path to the calendar. E.g. if the calendar you want to display is located in Outlook under **"My Caldendars\My Cool Calendar"**, you have to enter:
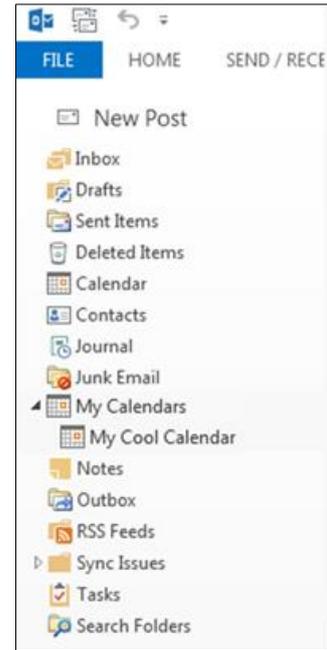
```
My Calendars\My Cool Calendar
```

• Calendar from a Public Folder:

In order to access a calendar that is stored in a *public folder*, you have to enter the path to the calendar with the **$PublicFoldersRoot** prefix. E.g. if the calendar you want to display is located in Outlook under **"All Public Folders\My Public Folder\My Cool Calendar"** you have to enter this path:

```
$PublicFoldersRoot\My Public Folder\My Cool Calendar
```

• Calendar from a Resource:

To directly access a "resource" (e.g. the calendar of a room) which is not implemented as "public folder" but as a separate mailbox without a login, simply enter the e-mail address of the resource as "path to the calendar". Please also make sure that you set the appropriate access rights for the user with which you connect to the Exchange server and that this user has been added as "delegate user" for the resource (see Microsoft TechNet for details).

Configuration for Lotus Domino Server (Notes):

You need a Notes database on a Lotus Domino Server (Domino 5 or higher) which can be accessed using Domino XML (DXL) over HTTP. It is required that the user account that is used to access the database does have a HTTP password in the Domino Person document. If possible, you should activate HTTP basic authentication. The plugin also supports the session-based authentication with cookies that is used by the Domino Web Access but generally it is recommended to use basic authentication in combination with this plugin.

If you want to access the personal calendar in the mailbox of a Notes user, the Domino Server URL ("URL to Lotus Domino Server") which you have to provide in the plugin configuration dialog is:

```
http://server-name/mail/username.nsf
```

Apart from login and password you also need to specify the authentication method that is being used (see above).

Generally, any Notes database that contains appointment data can be integrated since the required files for "start date/time", "end date/time", "subject" and "location" can be configured individually. You have to provide the XPath expressions that refer to the fields in the `ViewEntry` elements of the DXL `ReadViewEntries` method (see http://www.ibm.com/developerworks/lotus/library/ls-Domino_URL_cheat_sheet/ for details).

For the personal calendar of a user's mailbox, these are default XPath expressions:

Field	XPath Expression
ViewEntry Field StartDateTime	`entrydata[@name='$134']`
ViewEntry Field EndDateTime	`entrydata[@name='$146']`
ViewEntry Field Subject	`(entrydata[@name='$147']//text)[1]`
ViewEntry Field Location	`(entrydata[@name='$147']//text)[2]`
ViewEntry Field Additional (free text)	custom expression (optional)

Hint: In order to view the XML document to which these XPath expressions refer to, you can simulate the HTTP request that is performed by the plugin by entering the following URL in your browser:

```
http://server-name/mail/username.nsf/$Calendar?ReadViewEntries
```

Configuration for iCalendar (ICS):

The iCalendar format is a standardized format for the exchange of appointment and calendar data which is supported by many systems and applications. You can either provide a path (local path or an UNC network path) or a URL (http:// or https://) to an ICS file.

If you want to use a Google Calendar, you have to make the calendar "public" first (see http://support.google.com/calendar/answer/37083 for details) and then request the ICAL-URL.

Configuration for Excel File:

In case of using an Excel file, it is recommended to provide the UNC file name (e.g. "\\SOMESEREVER\folder\my-excel-file.xlsx") so that both the player as well as your local PC can access the file on the same location.

Please make sure that the Excel file has at least one worksheet that resembles the format of the included `Excel Sample Data.xlsx` file. The index of this worksheet has to be specified in the settings dialog as well. If you want to provide your appointment data in a different format you can do that but you will have to write a Visual Basic macro that converts your structure into the required format on a different worksheet which then serves as the actual "data source" for the plugin. You have to make sure that all date-related fields are formatted as "Date" while all time-related fields are formatted as "Time"; otherwise, the plugin is not able to parse the date correctly.

How the Plugin works:

After publishing the project to the player PC, the *FrontFace Player Application* will query the external calendar for appointments. As soon as an appointment becomes due (which means that start date and start time of the appointment match the current date/time) the configured playlist is started for the duration of the appointment. After that, the previously shown playlist will be shown again.

Troubleshooting and Diagnostics:

Due to the fact that this plugin is an event source plugin there is no output at runtime on screen, even in case of problems or errors. This makes it impossible to detect configuration errors (e.g. wrong server URL or invalid username/password, etc.) except that the plugin simply does not fire any events at all if appointments from the calendar become due. Therefore, you can view the log file on the player PC in order to find out more about possible problems or errors and their reasons. The log file is located on the player PC in the following path:

```
C:\ProgramData\mirabyte\FrontFace for Public Displays\FrontFace.log.txt
```

Once you have installed and configured the plugin you should take a look into log file in order to make sure that everting is working correctly and that there are no errors or warning being generated by the plugin.

> **Notice:** In case you are getting the error message "*Could not establish a trust relationship for the SSL/TLS secure channel.*" while using the Exchange Server data source, you have to make sure that your player PC trusts the SSL certificate of the Exchange server.
> Please open the EWS URL in the Internet Explorer on the player PC. You will get a warning message telling you that there is a problem with the Web page. Click on "continue" to show the Web page. In the address bar of the Internet Explorer a problem with the SSL certificate is now indicated by a red shield icon. You now have to add the certificate of that site to the list of trusted certificates on the player PC. When you afterwards access the EWS URL once again in the Internet Explorer, no warning message will appear and also the *FrontFace* player application will be able to successfully connect to the Exchange server using EWS.

Please also consider that an event is only triggered, if the start time of the corresponding appointment has become due. This means that an appointment that is scheduled for 9:00 am will NOT be triggered if you boot the player PC at 9:05 am. Also, consider that the system clock (date + time) of the player PC needs to be set correctly in order to work properly. It is also important to notice that Event Source Plugins such as "External Calendar" do not run within the preview of the Display Assistant. Event Source Plugins only work in the Player Application!

Using Placeholders:

In case a playlist uses text elements, you can define placeholders that are being filled with custom text by an appointment.

The following predefined placeholders of a default calendar item can be used:

Placeholder	Corresponding Outlook Appointment Field
$$EVENT_SUBJECT$$	Subject
$$EVENT_LOCATION$$	Location
$$EVENT_START$$	Start Time
$$EVENT_END$$	End Time
$$EVENT_DURATION$$	Duration (in minutes)
$$EVENT_BODY$$	Body Text Field (also multiline text!)

Alternatively, you can also define your own, custom placeholders in the body text field of the appointment element in Outlook by using the following syntax:

`$$MY PLACEHOLDER$$=Text that is to be shown`

Multiple custom placeholders can be entered line by line.

Behavior for Multiple Appointments at the Same Time:

If a calendar contains two or more appointments that start at the same point of time, the Event Source Plugin will only fire a single event. However, in this case the values of the placeholders for this event contain the merged values of the appointments that are due at the same time. In the settings dialog, you can configure the string *"Field Delimiter for Multi-Events"* that is used to concatenate the placeholder values. By default the string is ", ". E.g. the `$$EVENT_SUBJECT$$` placeholder will contain the value *"Appointment 1, Appointment 2"* in case you have two appointments in the calendar with the subjects *"Appointment 1"* and *"Appointment 2"*. The same logic is also applied for custom, user-defined placeholders. The end time and the duration of the merged appointment originates from the appointment that lasts the longest.

Help and Support:

If you need help or technical support when using this plugin or the *FrontFace* software, you can contact our support. For more information, please visit: http://www.mirabyte.com/en/support/