UPTIVITY FUSION DESKTOP ANALYTICS ADMINISTRATION GUIDE, V5.5.1

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Introduction

Introduction

Audience

This document is written for system administrators, managers, supervisors, analysts, and others who will use Uptivity Fusion Desktop Analytics on behalf of their organizations. Readers should have a basic level of familiarity with general networking, usage of a PC and its peripherals, the Windows operating system, the Uptivity Discover WFO Software Suite, and the applications that will act as Fusion triggers.

Goals

The goal of this document is to provide knowledge, reference, and procedural information necessary to configure and use Uptivity Fusion Desktop Analytics. Information is presented in the following order:

- Overview of Uptivity Fusion Desktop Analytics

- Installation and configuration of the Fusion client application

This document is NOT intended as a specific system or network design document, nor does it provide guidance or best practices for implementing desktop analytics.

Assumptions

This document assumes that Uptivity Discover has already been installed and configured, and calls are being recorded correctly in your environment. It also assumes that your application administrator has configured the application for use based on your business rules and environment.

Need-to-Knows

Several Discover features use menus and other windows that may be considered as "pop-ups" by some browsers. inContact recommends that you configure your browser to allow pop-ups for the Discover site.

Discover allows administrators to customize field names and terminology in the Web Portal to fit your unique environment. Therefore, screen examples and field names used in this manual may differ from those seen in your implementation.

Introduction

Discover supports standard Windows methods for selecting multiple items in a list: press and hold the Shift key while clicking to select consecutive items or press and hold the CTRL key while clicking to select non-consecutive items.

In some cases, Discover provides more than one way to accomplish a task or access a feature. The procedures in this manual explain the primary method, but also note the **Alternative** where applicable.

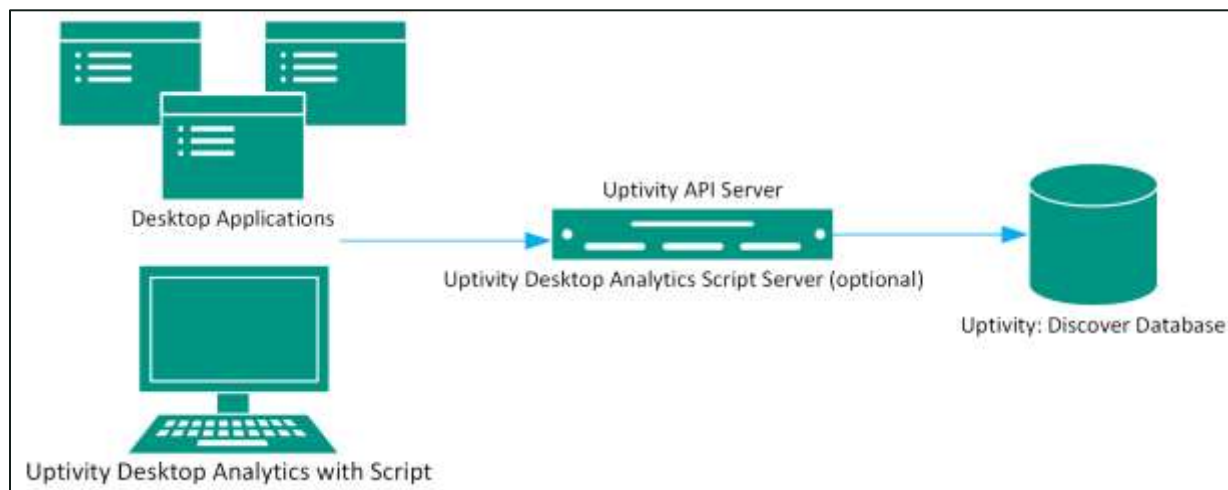# Technical Overview of Uptivity Fusion Desktop Analytics

Uptivity Fusion Desktop Analytics is part of the Uptivity Discover WFO Software Suite. Fusion is a desktop application that detects information in other applications and then performs actions based on that information. Possible actions include:

- Adding the information as metadata to a call recording in progress.

- Starting or stopping call recording.

- Triggering recording blackouts for compliance.

The actions performed by Fusion are controlled by one or more scripts written by the Uptivity Fusion development team. These scripts are installed on and run by each agent workstation.

As an alternative to maintaining script updates on every agent PC, Fusion can be deployed with an optional Script Server. This allows the scripts to be managed in a central location. When the agent PC starts up, each script is updated, read, and compiled automatically.

This diagram illustrates the product's components, their interactions, and deployment scenarios.

Component	Function
Uptivity Fusion Desktop Analytics	Desktop application controlled by a script which detects information in other desktop applications and performs actions specified in the script. The script is installed and managed locally. If the optional Fusion Desktop Analytics Server is used, the script can be updated at each login from the central server.
Uptivity Discover Server	Records the audio and creates the raw call audio files. Manages the writing of files to storage location(s). Creates call record files in the database.
Desktop Applications	Client applications that run on the agent PC and that can affect Fusion scripting. For information on the applications from which data can be captured, see Compatible Desktop Applications.
Uptivity API Server	Writes information from the Desktop Analytics application to the database.
Fusion Script Server	Optional component that provides a central repository for Fusion script(s). The Script Server service can be configured to run on the same system as the API server, or on any other Discover server.
Discover Database	Stores call records associated with call audio WAV files. Data collected by the Desktop Analytics client can be written to the call records.
Web Portal	The Discover Web Portal is used for reporting and for playing calls in the Web Player.

Engineering Considerations

These considerations are only for Uptivity Fusion Desktop Analytics. For additional information, see the *Customer Site Requirements* document. Final hardware specifications are determined by the Uptivity Discover WFO Sales Engineering team during the sales process.

Compatible Desktop Applications

inContact requires prospective customers to test whether Fusion is compatible with their applications. To test compatibility, the Fusion Test Tool must be used to try to capture information from an application.

Fusion has been compatible with applications written using versions of the items listed below:

- Win32
- Microsoft Foundation Class (MFC)
- Visual Basic 6
- Windows WinForms
- Java
- FoxPro
- WPF
- Flash
- Silverlight

Data has also been captured from within versions of:

- Terminal emulators (green screen emulators)
- Adobe Acrobat Reader
- Internet Explorer
- FireFox

Fusion is currently not compatible with Google Chrome and Microsoft Excel.

Microsoft Outlook is not fully supported. If message windows (i.e., popup windows) are opened from Outlook, the Windows title number is not identified consistently. Outlook arbitrarily assigns numbers to popup windows (i.e., <wnd cls="_WwB" title="Document12").

For example, a message is opened, assigned Document1, and then closed. A second message is opened and assigned Document2. If the original message is reopened, it will be assigned the title Document3. Fusion Desktop Analytics cannot associate different captures from the original message.

Deployment and Redundancy Guidelines

inContact Sales Engineers consult with customers to determine the most effective deployment to meet performance, redundancy, and security needs. Some guidelines to consider include:

- Fusion supports multiple scripts per installation, but only one script per blackout trigger.

- In the typical installation, all users logging into a PC will have the application(s) running with the script(s).

- Bandwidth usage depends heavily on the number of users and the amount of data written to the database.

- Network layout (e.g., branches, firewalls) can affect Fusion's ability to write data to the database.

Security

Fusion relies on the security and auditing measures of Discover, the Windows server hosting the applications, and the Windows PCs on which the desktop application is installed.

These points also must be considered:

- Access to script files should be restricted to administrators. If scripts are installed on PCs, users should not have Administrator permissions to the machines.

- For the Fusion client application to log events, the user must have access to the Fusion log file's location. For details, see Fusion Desktop Analytics Log File.

The Fusion Client installer must have Administrator permissions on the agent PC, including permission to modify specific registry settings (for details, see Install and Configure the Fusion Client. However, the client itself does not require Administrator permissions to run, nor are specific Discover user permission settings required to enable Fusion.

For information on system auditing, see the *Uptivity Discover Reporting Manual*.

Install and Configure the Fusion Client

This section explains how to install and configure the Fusion Desktop Analytics client. Once installed on an end user's PC, the application can be used by any user who logs into the PC. The same installer is used regardless of whether the target machine is 32- or 64-bit. Fusion installs and runs as a 32-bit application, even on 64-bit machines.

Before You Begin

Required Permissions

The Fusion installer must have Administrator permissions on the client PC, with specific permission to modify or access these registry settings:

- HKEY_LOCAL_MACHINE\SOFTWARE

- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\CLSID\

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run

- HKEY_LOCAL_MACHINE\SOFTWARE\JavaSoft\Java Runtime Environment – The installer does not modify any value under this setting. It accesses it for reading java version and java_home value.

Fusion Desktop Analytics Log File

Uptivity Fusion Desktop Analytics creates log files (FusionLog_yyyy_mm_dd.log) that are useful in troubleshooting. The user being recorded must have access to the directory where the file is located, or logging will not occur.

- For most versions of Windows, the file is stored in the %appdata%\Uptivity\Fusion directory.

- For Windows XP, the file is stored here: C:\Documents and Settings\[CURRENT_USER]\Application Data.

If you do not want users to have access to the %appdata% or Application Data directories, log files can be written to another location. However, inContact does **not** recommend this option because of possible inconsistency in configuring multiple PCs and the resulting problems that can occur in recording and software maintenance.

Install and Configure the Fusion Client

To configure another log file location:

1. Identify or create an alternate directory.

2. Assign the user(s) Full Control for this directory.

3. After the Fusion Desktop Analytics installer has successfully completed, open the NLog.config file on the user PC.

4. Enter the alternate path to the directory (for example, `filename=D:path_name`).

```
<targets>
        <target name="logfileDebug" xsi:type="File"
fileName="${specialfolder:folder=ApplicationData}\FusionLog_${shortdate
}.txt" />
</targets>
```

5. Confirm that the Fusion.ini file's Logging > Location setting has the directory path. For more information, refer to the INI configuration section relevant to the installation type:

    ▪ Fusion INI Settings for Installations WITHOUT the Optional Fusion Server

    ▪ Script Server Desktop Analytics INI

The NLog.config and Fusion.ini files are located in the directory where you install Desktop Analytics.

Older Versions of the Fusion Application

Before installing a new version of the application, older versions must be uninstalled. You can do this through the Windows Add/Remove Programs functionality in the Control Panel. The software will be labeled "CallCopy Fusion Software".

In addition, existing scripts will need to be tested and likely edited to work with the new version of Fusion.

Install the Fusion Client

To install Fusion Desktop Analytics on the user PC:

1. Log on to the PC using an account with Administrator privileges.

2. Navigate to and double-click the **FusionSetup.msi** file to launch the installer. The MSI file can be copied to the PC or accessed from a remote location.

3. Click **Next**.

4. Select the **I accept the terms in the License Agreement** check box and then click **Next**.

5. Do not change any settings on the Custom Setup screen. Click **Next**.

6. Configure the settings for this client based on whether your installation uses the optional Fusion Server (for details, see Server Setup Settings). Click **Next**.

7. Click **Install**. If Windows prompts you to allow the installer to run, click **Yes**.

8. Click **Finish**.

By default, the installer creates application files in the directory C:\Program Files (x86)\CallCopy\Fusion.
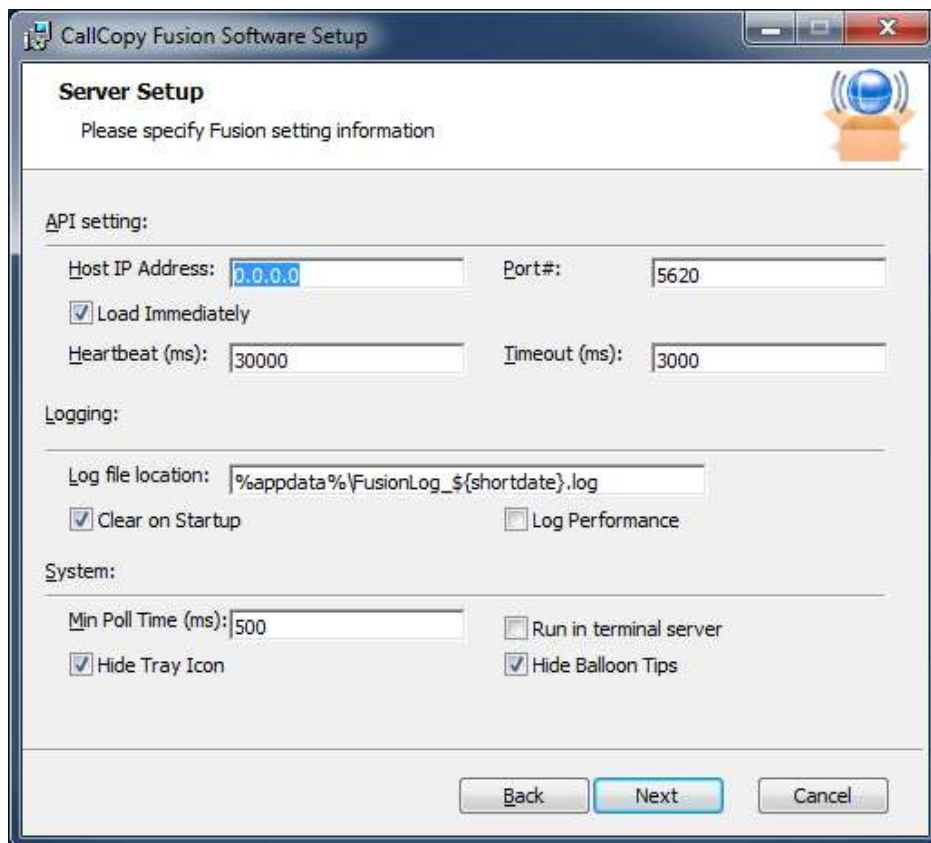
> **Note:** If you see Windows Installer Error 160, this is a general error code that indicates a problem occurred during the installation. This error may occur if the installer does not have adequate permissions, especially for the registry. To better troubleshoot this general error code, enable Windows Installer logging, which will allow you to view a log of all attempts and failures related to an installation. You can disable it after the installation is complete.

Install and Configure the Fusion Client

Server Setup Settings

This screen in the Fusion installer requires different settings depending on whether your installation uses the optional Fusion Server for centralized script management. Unless otherwise specified, use the default settings indicated in the screenshots in this section.

Settings for Installations WITHOUT the Optional Fusion Server

For definitions of the API server and client settings, see Configure Client INIs.

Uptivity strongly recommends *not* changing the log file location location. For details, see Fusion Desktop Analytics Log File.

If you choose not to check **Hide Balloon Tips**, users can set this option by right-clicking the Desktop Analytics icon in the system tray and selecting **Hide Balloon Popups**.

Settings for Installations WITH the Optional Fusion Server

- **Fusion Server Host#:** IP address of the server hosting the Fusion Server service.

- **Fusion Server Port#:** Specifies the communication port used by the Fusion Server service. The default value is 5634.

- **Fusion Server SSL:** Select the check box if your installation uses SSL for communication between the agent PC and the Fusion Server. In the **SSL Servername** field, enter the name of the server where the SSL certificate is located.

- **Fusion Server Auth:** Select the check box if the client must authenticate to the Fusion Server. In the **Auth Username** and **Auth Password** fields, enter the authentication credentials

Install and Configure the Fusion Client

Configure Client INIs

The application settings are read from a configuration file that is stored in the application installation directory (typically C:\Program Files (x86)\CallCopy\Fusion\). The file is named **Fusion.ini**. The contents of the file vary significantly depending on whether your installation uses the optional Fusion Server, so be sure to **ONLY** use the appropriate settings for your site.

Fusion Server INI settings and their default values (if applicable) are shown on the left in this table, with additional explanation of the settings detailed on the right.

Fusion INI Settings for Installations WITHOUT the Optional Fusion Server

[CallCopy]	
Host=0.0.0.0	Specifies the API server host IP address.
Port=5620	Specifies the TCP port on which the API server communicates.
LoadImmediately=true	When set to **true**, the application connects to the API server when it starts. When set to **false**, the application does not connect until the first time the Fusion script detects content that should be blacked out or recorded.
Heartbeat=3000	Specifies the frequency in milliseconds (ms) that the application sends a "heartbeat" message to the API server to test the connection.
ReadTimeout=3000	Specifies the time in milliseconds (ms) that the application waits for a read response from the API server. If this time is exceeded, the application throws an exception.
SendTimeout=3000	Specifies the time in milliseconds (ms) that the application waits for a send response from the API server. If this time is exceeded, the application throws an exception.
LoadScriptLocallyIfFailedToConnect =true	When set to **true**, causes the client to load and use the last available script if it cannot contact the Fusion Server after 10 attempts. When set to **false**, nothing will be captured until such time as the client can successfully connect to the server.

[Logging]	
Location=%appdata%\FusionLog_${shortdate}.log	Specifies the location for log files. This location should not be changed. The default entry creates a different log for each day, which is useful for troubleshooting. It also is accessible for both PC and terminal server uses.
ClearOnStartup=true	When set to **true**, clears the log file on application startup.
LogPerformance=false	When set to **true**, logs script execution metrics to the log file.
[System]	
MinPollTime=500	Specifies a minimum polling interval in milliseconds (ms) for checking the user's screen for content to block or record. This overrides the script setting.
HideTrayIcon=true	When set to **true**, hides the Fusion icon in the system tray.
HideBalloonTips=true	When set to **true**, prevents balloon tips from popping up.
RunInTerminalServer=false	Set to **true** for users running terminals.
MaxRamAllow=150000000	Specifies the maximum bytes of RAM that Fusion can use.

Script Server Desktop Analytics INI

[FusionScriptServer]	
Host=xx.xx.xx.xx	Specifies the API server host IP address.
Port=5634	Specifies the TCP port on which the API server communicates.
ClientLocation=100	Optional setting required only if Location was configured in the server-side **Fusion.ini**, and is equivalent to that value. Determines to which API server the client will connect. Value is set when the client installer runs and does not need to be set manually. Value can be modified to direct the client to communicate with a different API server as needed. Setting is ignored if using Subnet.

Install and Configure the Fusion Client

Install Java Support

Note: These instructions are for 64-bit Windows PCs.

If Fusion will be used to capture any data from Java-based applications, Java Access Bridge (JAB) software must be enabled on the PC. JAB is a library that allows Microsoft-based applications to interact with Java-based applications. Fusion uses Screen Scraper Studio's ScreenScrapeJavaSupport executable to install JAB software for Java Runtime Environments (JREs).

For more information, search "Java SE Desktop Accessibility" at the Oracle website.

Identify the JRE Path

Each Java application on a PC may use a different JRE. The path for each JRE used must be identified. To find the JRE path:

1. From the **Start** menu, run **regedit**.

2. Navigate to HKEY_LOCAL_MACHINE\SOFTWARE\JavaSoft\Java Runtime Environment.

3. Click the default JRE to display its properties. The JavaHome property shows the path needed to install JRE support.

Install Support for JRE

To install the Java Support executable:

1. On the client machine, open a command prompt.

2. Navigate to c:\Program Files(x86)\CallCopy\Fusion\ScraperLib\Java Support.

3. Run this command using the JRE path located earlier:

```
ScreenScrapeJavaSupport.exe /install /jrepath "<path>"
```

4. If prompted by Windows to approve running the installation, click **Yes**.

   Note: If the Java Support executable must be uninstalled, run this command:

```
ScreenScrapeJavaSupport.exe /uninstall /jrepath "<path>"
```

Test Java Support

After the tasks above are completed, your Uptivity Fusion Installation team will work with you to test the installation for each Java application from which data will be captured. Testing involves attempting to capture window information for an application. Ask your installation engineer if you have questions regarding window information.

If no window information is captured or only the window frame/header information is captured, one or more of the following may apply:

- JAB support is not enabled for the JRE the application uses. In this case, repeat the procedures to Identify the JRE Path and then rerun the Java Support executable.

- The application was created using an early Java version. In this case, Fusion may not be able to work with the application. Uptivity Fusion Development would need to investigate your application to determine a conclusive answer.

- The application may be a network application. Uptivity Fusion Development would need to investigate.

Fusion Security and PCI Compliance

Fusion is often used to blackout sensitive information for compliance with various laws and regulations. One example might be CVV2 numbers in credit card transactions for PCI compliance.

Blackout of audio and video recording is just one facet of an overall PCI compliance program. Interactions between Uptivity Discover WFO components such as application servers, file servers, archive devices, and the Web Portal can use SSL and TLS for data in transit. The system also offers optional support for encrypting files when they are written to disk. For more information on Discover's PCI compliance status and how to configure components to utilize encryption/SSL/TLS, see the *Uptivity Discover Administration Manual*.

Appendix: Troubleshooting Fusion Desktop Analytics

Screen/Application Flickers When Fusion Pulls Data

In some applications, the native setting may cause the application to repaint. This can cause screen "flicker" that is sometimes visible in Fusion. If users experience this issue, notify your inContact Fusion team. They may be able to modify your scripting to correct this issue.

COM Class Errors

If you see a COM class errors on workstations running the Fusion Client, this indicates the COM components didn't register properly. This is usually caused by the client application not being installed under a system administrator account.

To fix this issue:

1. Log on to the PC with an appropriately-permissioned account.

2. Locate the cc_FusionRegisterComComponents.exe.

3. Righ-click the executable and select "Run as administrator".

4. Select "Yes" or "Allow" on any pop-up dialogs.
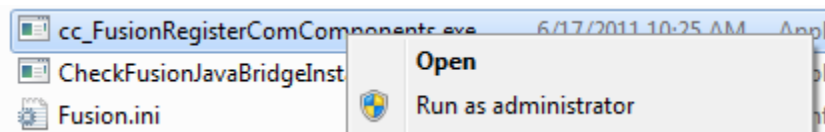
You can also register the COM components in the command line. The components must be registered under an administrator account and you should be familiar with manual component registration. To open a command prompt for use as an administrator:

- Right-click on a command prompt shortcut and select Run as administrator.

You will need to register **TCaptureX.dll**, **TSelection.dll**, **UIElement.dll** and **SSSystemObj.dll**. These files will be located in the ScraperLib subfolder where Fusion is installed.

Register the following components on a 64-bit PC:

Appendix: Troubleshooting Fusion Desktop Analytics

```
%windir%\syswow64\regsvr32 <fusion path>\ScraperLib\TCaptureX.dll

%windir%\syswow64\regsvr32 <fusion path>\ScraperLib\UIElement.dll

%windir%\syswow64\regsvr32 <fusion path>\ScraperLib\TSelection.dll

%windir%\syswow64\regsvr32 <fusion path>\ScraperLib\SSSystemObj.dll

%windir%\system32\regsvr32 <fusion path>\ScraperLib\TCaptureX_x64.dll

%windir%\system32\regsvr32 <fusion path>\ScraperLib\UIElement_x64.dll

%windir%\system32\regsvr32 <fusion path>\ScraperLib\TSelection_x64.dll

%windir%\system32\regsvr32 <fusion
path>\ScraperLib\SSSystemObj_x64.dll
```

Register these components on a 32-bit (x86) PC:

```
%windir%\system32\regsvr32 <fusion path>\ScraperLib\TCaptureX.dll

%windir%\system32\regsvr32 <fusion path>\ScraperLib\UIElement.dll

%windir%\system32\regsvr32 <fusion path>\ScraperLib\TSelection.dll

%windir%\system32\regsvr32 <fusion path>\ScraperLib\SSSystemObj.dll
```

Document Revision History

Revision	Change Description	Effective Date
0	Initial release for this version	2015-02-13