



WFM Adapter

Product Overview Guide

Contact center: Microsoft D365 Customer Service Workspace

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1 About WFM Adapter

The WFM Adapter compiles relevant call center information from your D365 environment to provide you with reports on agent and queue activities (historical feed) and near real-time agent status updates (RTA feed) to support WFM system forecasting and intra-day management processes. Options are available to customize which data is collected, how often, and how it is delivered.

Important:

- Monitored agent groups and queues must only contain licensed users.
- Users that *do not* have WFM Adapter security role are considered unlicensed and will not appear on agent related reports or the RTA feed.

1.1 Supported WFM systems

The following WFM systems are compatible with WFM Adapter:

- Alvaria WFM v8.x to v21
- Calabrio ONE Classic Cloud v11
- NICE WFM v4.x to v7.x
- Verint Systems v15.1 to v15.2

1.2 Supported D365 routing

Supports Customer Service Workspace add-on for D365 environment to route the work through unified routing.

1.3 Supported media channels

The following media channels are supported by the WFM Adapter:

- Voice
- Chat
- SMS

1.4 AWS regions

Data is stored in the AWS region corresponding to your location.

AWS region	WFM Adapter region
ap-southeast-2	Asia Pacific
ca-central-1	Canada
eu-west-1	Europe
us-east-1	North America

1.5 Supported single sign-on providers

WFM Adapter supports single sign-on using SAML authentication. The following SSO providers have been tested by Avtex Operations:

- Azure Active Directory
- PingFederate
- PingOne

2 WFM Adapter requirements

2.1 Browser

The WFM Adapter user interface is accessed through a browser. The most recent stable versions for the following browsers are recommended:

- Google Chrome
- Mozilla Firefox
- Microsoft Edge

Note: Microsoft Internet Explorer is not supported.

2.2 Reporting client server

For any premise WFM, a server to host the reporting client must be setup. For NICE or Verint private cloud WFM systems, customers must coordinate with the WFM vendor to set up a server to host the reporting client. The selected server must remain "awake" at all times to ensure connectivity; a laptop with sleep or power savings features enabled is not recommended.

See [Network configuration](#) for additional information.

Requirement	Description						
Software	The reporting client is .NET 6 compatible. For supported operating systems, see https://github.com/dotnet/core/blob/main/release-notes/6.0/supported-os.md . The following operating systems have been officially tested by TTEC Digital.						
	<table border="1"> <thead> <tr> <th>Operating system</th> <th>Version</th> </tr> </thead> <tbody> <tr> <td>Windows 10 Client</td> <td>Version 21H2 +</td> </tr> <tr> <td>Ubuntu</td> <td>20.04 LTS</td> </tr> </tbody> </table>	Operating system	Version	Windows 10 Client	Version 21H2 +	Ubuntu	20.04 LTS
	Operating system	Version					
	Windows 10 Client	Version 21H2 +					
Ubuntu	20.04 LTS						
Hardware	Processor: Core 2 Duo 2.66 GHz or newer Memory: 4GB RAM Available disk space: 10GB						

2.3 Report storage

From the user interface, the following storage or file transfer methods are available for reports:

- a folder local to the installed Reporting client
- FTP
- SFTP
- Amazon S3 bucket
- WebDAV

Note: Aspect VIA only uses WebDAV.

2.4 Bandwidth

Bandwidth requirements vary greatly based on size of organization, number of users, and queues actively reported.

- Real-time adherence feed (RTA): up to 0.33 MB/s
- Historical reporting: up to 100MB/hr

3 D365 specifications

3.1 Required functionality

The following settings and features are mandatory for the WFM Adapter to function:

- Customer Service Workspace
- Unified Routing in D365

3.2 API requests

API requests made by the WFM Adapter count towards the *API request allocation* in your D365 subscription plan.

API	Entity	Polling rate	Requests per day
OAuth	-	-	48
OData	msdyn_agentstatustories	3s	28,800
OData	msdyn_ocliveworkitemcharacteristics	3s	28,800
OData	characteristics	15m	96
OData	queues	15m	96
OData	msdyn_ocsessions	3s	28,800
OData	teams	15m	96
OData	teammemberships	15m	96
OData	systemusers	15m	96
OData	roles({UserSecurityRoleId})/systemuserroles_association	15m	96

The total API requests made per day is approximately $2800 \times 3 + 96 \times 6 + 48 = 87024$.

4 Setup overview

The WFM Adapter has three items to configure:

1. WFM Adapter package

The application installed in D365, will be available in Azure Active directory to provide the WFM Adapter security role permissions. Allows the WFM Adapter to capture the desired interactions from your D365 Customer Service Workspace contact center.

2. WFM Adapter

The WFM Adapter is comprised of a browser-based user interface to configure reporting needs and an additional reporting client application installed locally to communicate with the WFM system.

Note: Not all WFM systems require the WFM reporting client to be installed locally.

Scope: This is a container for the Source and Destination settings for each D365 environment. You can add additional scopes to manage multiple organizations, such as production and lab environments, or Canada and US environments.



- **Source:** This sets up the connection between your D365 and the WFM adapter. This connection determines what data comes across from your D365 environment.
- **Destination:** This contains all the configuration for your reporting needs. The destination sends reports and real-time data to your workforce management system. Multiple destinations may be configured within the same scope to send data to multiple WFM systems, if required.

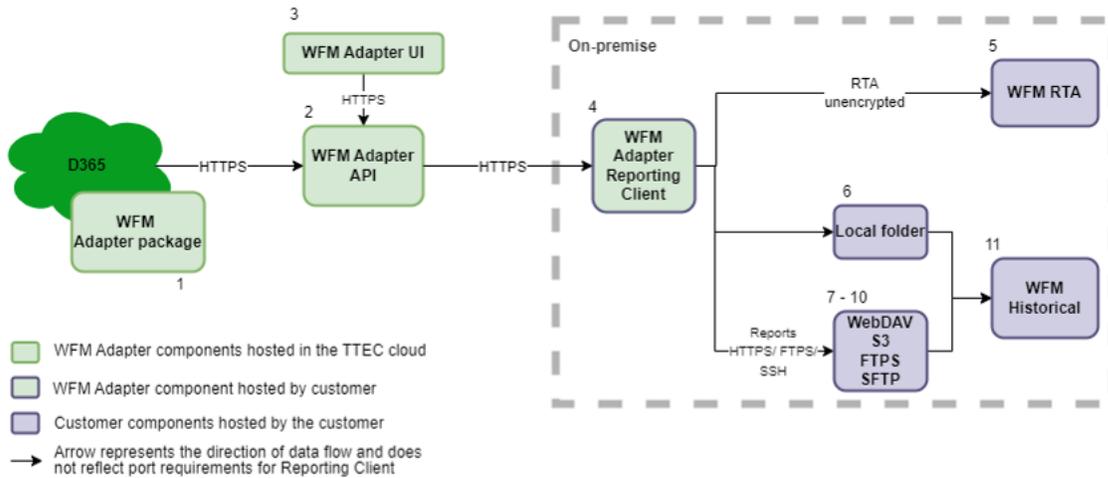
3. WFM System

Configuration is required in your WFM system to connect the RTA feed.

4.1 Data flow overview

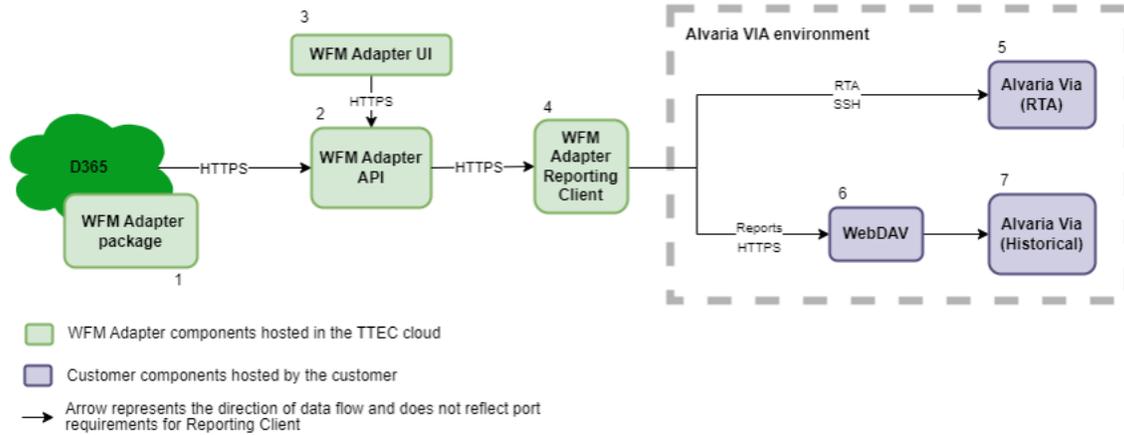
The following diagrams provide a high-level overview of how the data flows from D365 through the WFM Adapter.

4.1.1 All premise WFM



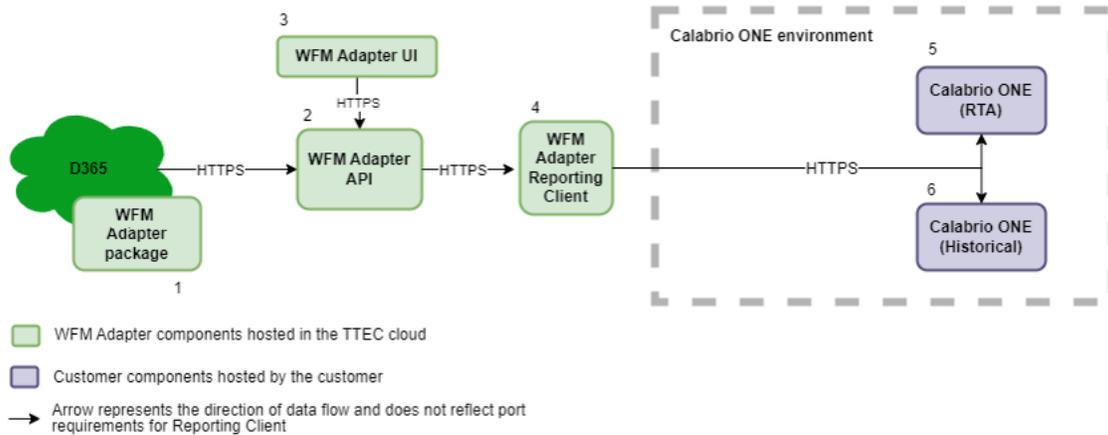
Item	Component	Description
1	Aria WFM Adapter package	Installed in customer's organization. The package sends data from D365 to the WFM Adapter API.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter UI	Configuration UI to change WFM Adapter settings.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to one or more locations specified by the customer. Note: Customers must set up a server to host the Reporting Client.
5	WFM RTA	Receives and processes RTA states.
6a	Local folder	Reports can be sent to a folder local to the installed Reporting client.
6b	WebDAV, FTPS, S3, SFTP	Reports can be sent to a WebDAV server, Amazon S3 bucket, FTPS server, and/or SFTP server.
7	WFM Historical	Receives and processes reports.

4.1.2 Alvaria VIA



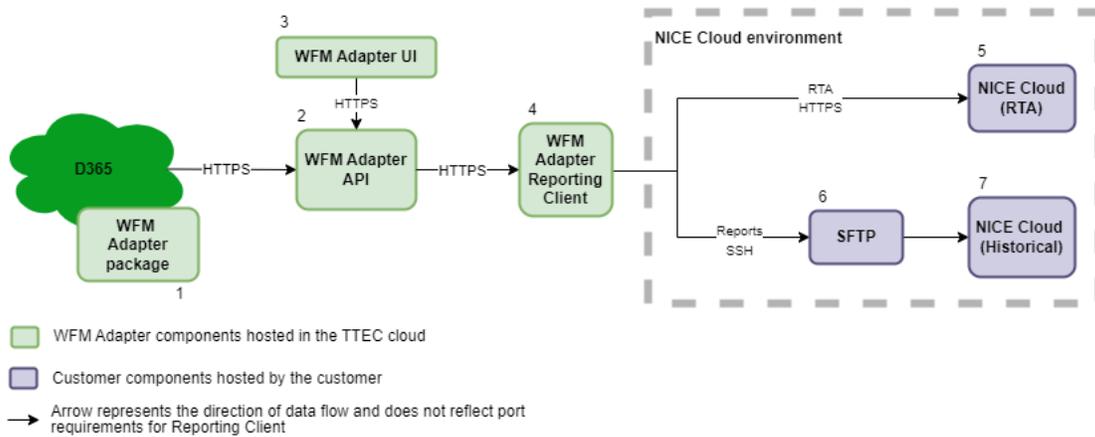
Item	Component	Description
1	[[[Undefined variable WFM.ProdName]]] package	Installed in customer's organization. The package sends data from D365 to the WFM Adapter API.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter UI	Configuration UI to change WFM Adapter settings.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to one or more locations specified by the customer. Note: TTEC hosts the reporting client in the cloud.
5	Alvaria VIA RTA	Receives and processes RTA states.
6	WebDAV	Reports sent to a WebDAV server.
7	Alvaria VIA Historical	Receives and processes reports.

4.1.3 Calabrio ONE



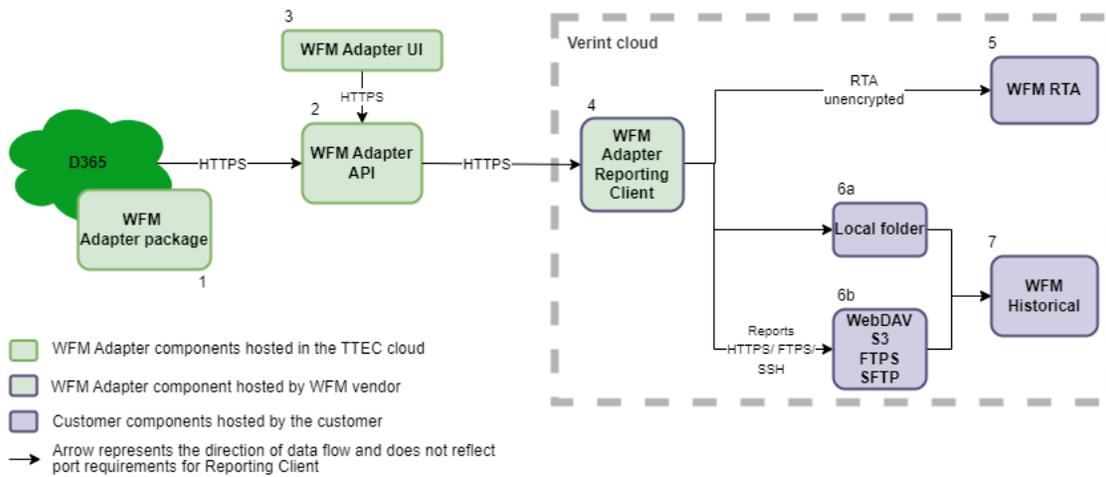
Item	Component	Description
1	Aria WFM Adapter package	Installed in customer's organization. The package sends data from D365 to the WFM Adapter API.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter UI	Configuration UI to change WFM Adapter settings.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to one or more locations specified by the customer. Note: TTEC hosts the reporting client in the cloud.
5	Calabrio ONE RTA	Receives and processes RTA states.
6	Calabrio ONE Historical	Receives and processes reports.

4.1.4 NICE Cloud



Item	Component	Description
1	Aria WFM Adapter package	Installed in customer's organization. The package sends data from D365 to the WFM Adapter API.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter UI	Configuration UI to change WFM Adapter settings.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to one or more locations specified by the customer. Note: TTEC hosts the reporting client in the cloud.
5	NICE Cloud RTA	Receives and processes RTA states.
6	SFTP	Reports sent to a SFTP server.
7	NICE Cloud Historical	Receives and processes reports.

4.1.5 Verint Cloud



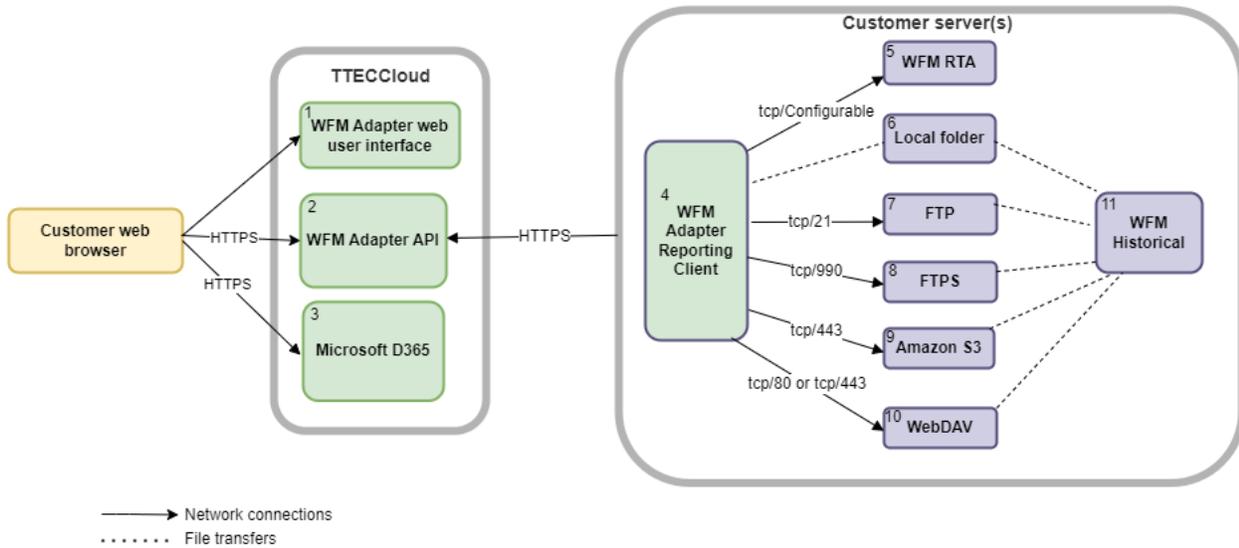
Item	Component	Description
1	Aria WFM Adapter package	Installed in customer's organization. The package sends data from D365 to the WFM Adapter API.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter UI	Configuration UI to change WFM Adapter settings.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to one or more locations specified by the customer. Note: Customers must coordinate with the WFM vendor to set up a server to host the reporting client.
5	WFM RTA	Receives and processes RTA states.
6a	Local folder	Reports can be sent to a folder local to the installed Reporting client.
6b	WebDAV, FTPS, S3, SFTP	Reports can be sent to a WebDAV server, Amazon S3 bucket, FTPS server, and/or SFTP server.
7	WFM Historical	Receives and processes reports.

4.2 Network configuration

Setup of the adapter is dependent on the WFM system in use. Follow the provided architecture diagram for your environment to identify the components that require firewall access. Refer to *WFM Adapter URLs to allow* and *Reporting client server ports* for additional detail.

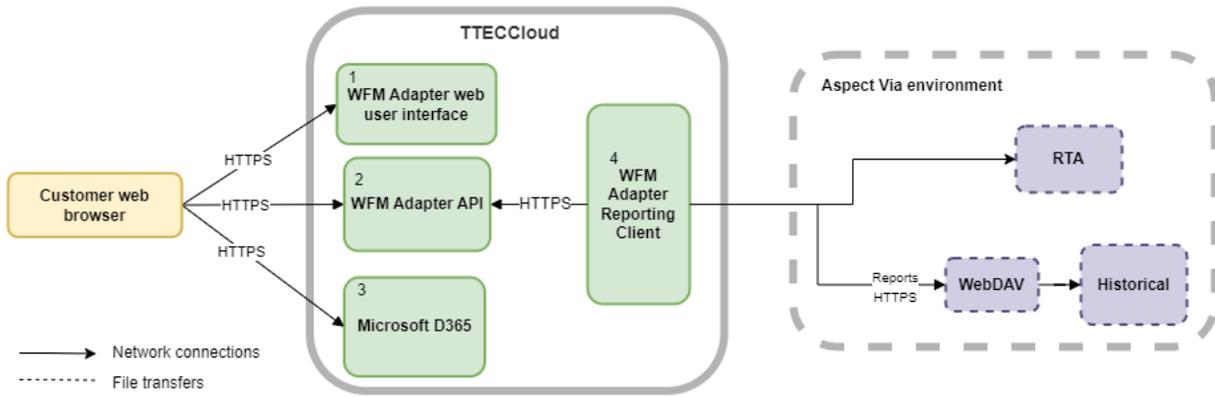
4.2.1 Architecture diagrams

Alvaria premise



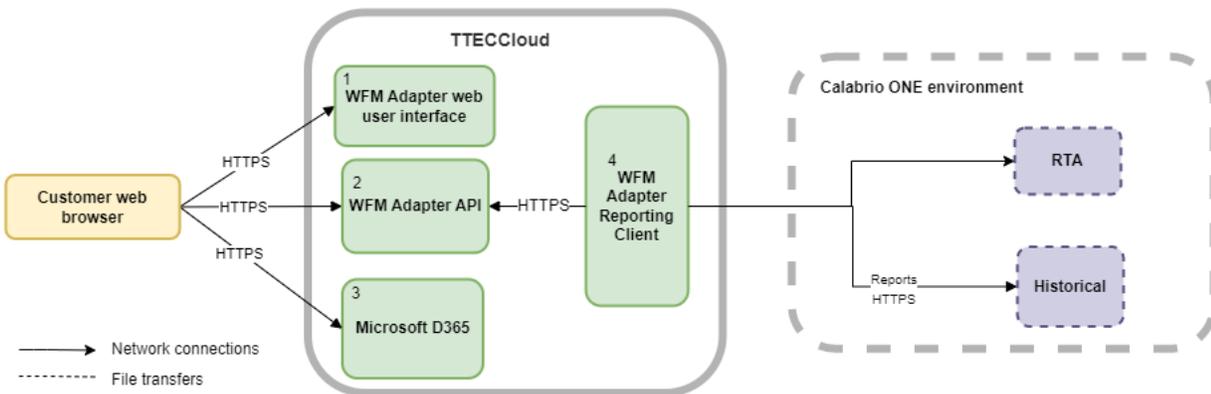
Item	Component	Description
1	WFM Adapter web user interface	Accesses the WFM Adapter web resource files to configure adapter settings.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter	The package sends data from D365 to the WFM Adapter API.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to one or more locations specified by the customer (items 6 - 10).
5	WFM RTA	Receives and processes RTA states.
6	Local folder	(Optional) Reports can be sent to a folder local to the installed Reporting client.
7	FTP	(Optional) Historical Reports can be sent to an SFTP server.
8	FTPS	(Optional) Historical Reports can be sent to an FTPS server.
9	Amazon S3	(Optional) Historical Reports can be sent to an Amazon S3 bucket.
10	WebDAV	(Optional) Historical Reports can be sent to a WebDAV server.
11	WFM Historical	Configured as required to retrieve reports from the available outputs.

Alvaria VIA



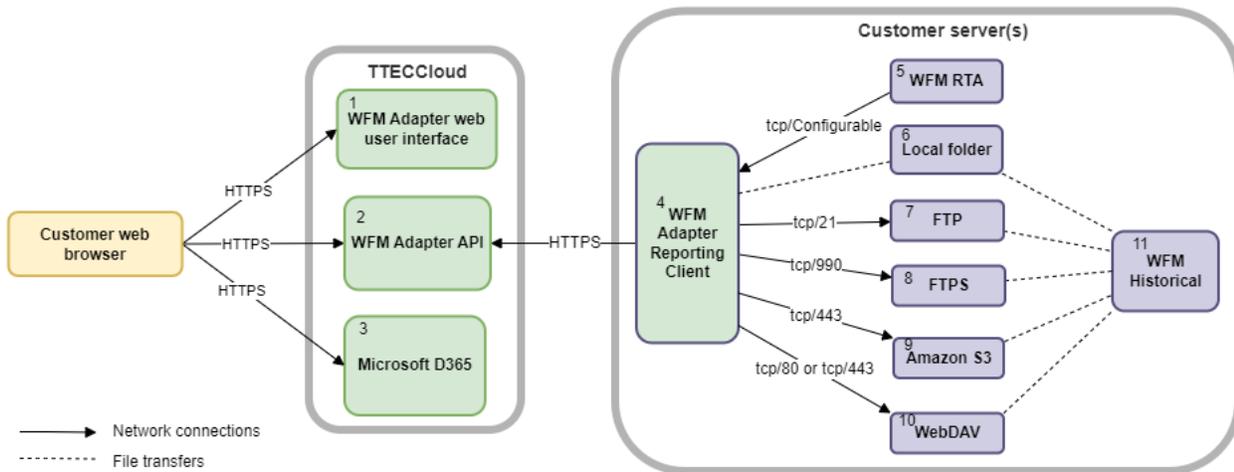
Item	Component	Description
1	WFM Adapter web user interface	Accesses the WFM Adapter web resource files to configure adapter settings.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter	The package sends data from D365 to the WFM Adapter API.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to WebDAV server.

Calabrio ONE



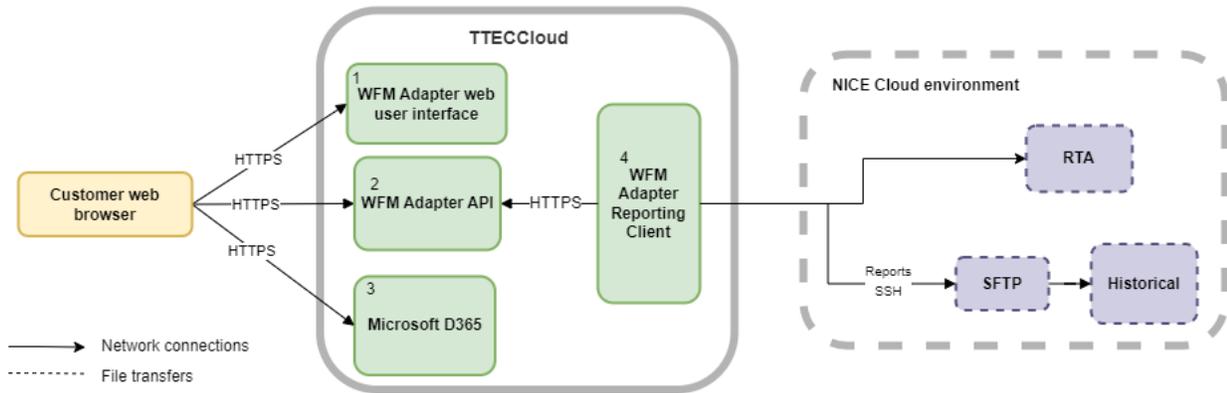
Item	Component	Description
1	WFM Adapter web user interface	Accesses the WFM Adapter web resource files to configure adapter settings.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter	The package sends data from D365 to the WFM Adapter API.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to Calabrio ONE environment.

NICE premise



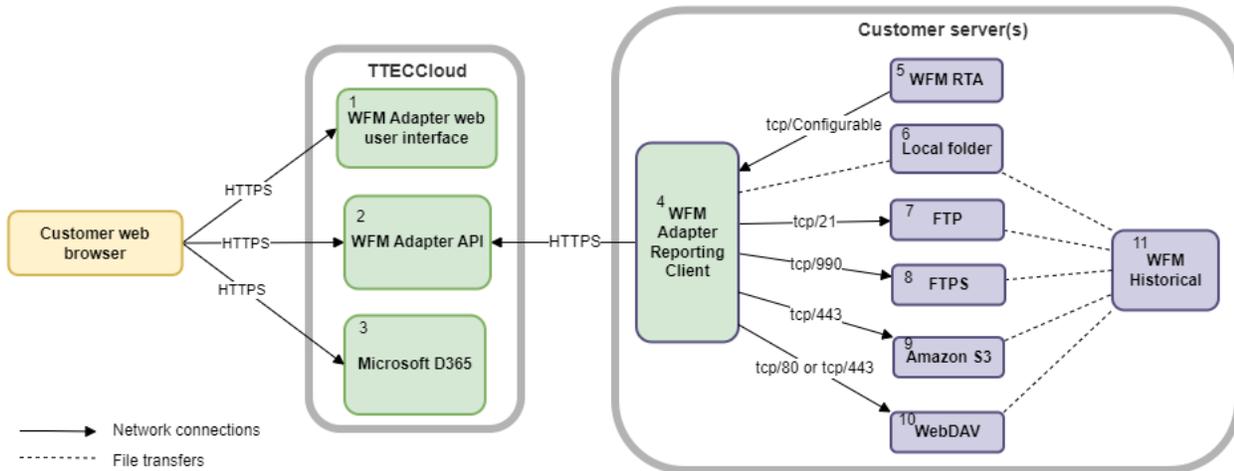
Item	Component	Description
1	WFM Adapter web user interface	Accesses the WFM Adapter web resource files to configure adapter settings.
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3	WFM Adapter	The package sends data from D365 to the WFM Adapter API.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to one or more locations specified by the customer (items 6 - 10).
5	WFM RTA	Receives and processes RTA states.
6	Local folder	(Optional) Reports can be sent to a folder local to the installed Reporting client.
7	FTP	(Optional) Historical Reports can be sent to an SFTP server.
8	FTPS	(Optional) Historical Reports can be sent to an FTPS server.
9	Amazon S3	(Optional) Historical Reports can be sent to an Amazon S3 bucket.
10	WebDAV	(Optional) Historical Reports can be sent to a WebDAV server.
11	WFM Historical	Configured as required to retrieve reports from the available outputs.

NICE Cloud



Item	Component	Description
1	WFM Adapter web user interface	Accesses the WFM Adapter web resource files to configure adapter settings.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter	The package sends data from D365 to the WFM Adapter API.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA. Sends historical reports to the NICE environment.

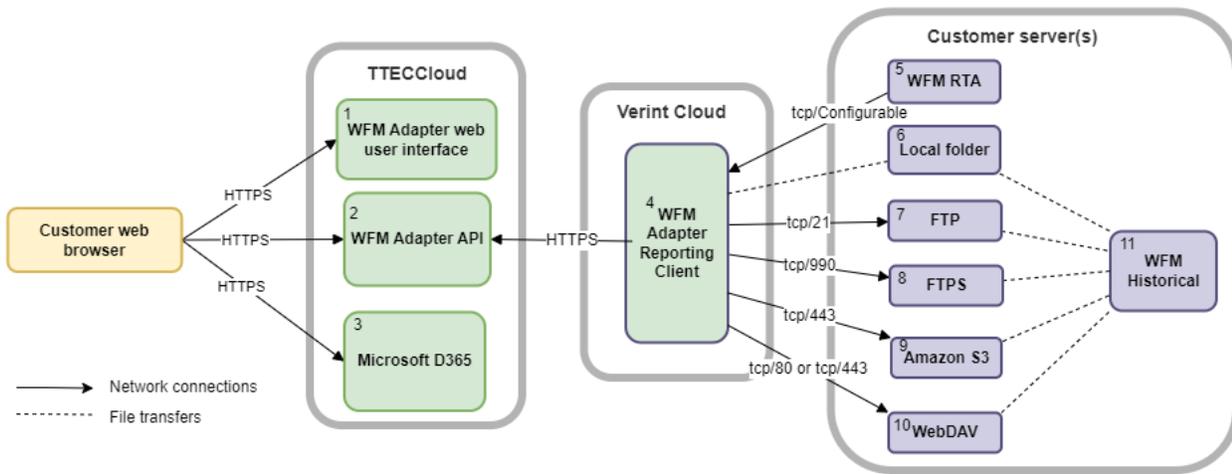
Verint premise



Item	Component	Description
1	WFM Adapter web user interface	Accesses the WFM Adapter web resource files to configure adapter settings.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter	The package sends data from D365 to the WFM Adapter API.
4	WFM Adapter Reporting client	Sends RTA status to the WFM RTA.

Item	Component	Description
		Sends historical reports to one or more locations specified by the customer (items 6 - 10).
5	WFM RTA	Receives and processes RTA states.
6	Local folder	(Optional) Reports can be sent to a folder local to the installed Reporting client.
7	FTP	(Optional) Historical Reports can be sent to an SFTP server.
8	FTPS	(Optional) Historical Reports can be sent to an FTPS server.
9	Amazon S3	(Optional) Historical Reports can be sent to an Amazon S3 bucket.
10	WebDAV	(Optional) Historical Reports can be sent to a WebDAV server.
11	WFM Historical	Configured as required to retrieve reports from the available outputs.

Verint cloud



Item	Component	Description
1	WFM Adapter web user interface	Accesses the WFM Adapter web resource files to configure adapter settings.
2	WFM Adapter API	Collects information from D365 and sends RTA and historical feeds to the Reporting Client.
3	WFM Adapter	The package sends data from D365 to the WFM Adapter API.
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5	WFM RTA	Receives and processes RTA states.
6	Local folder	(Optional) Reports can be sent to a folder local to the installed Reporting client.
7	FTP	(Optional) Historical Reports can be sent to an SFTP server.
8	FTPS	(Optional) Historical Reports can be sent to an FTPS server.
9	Amazon S3	(Optional) Historical Reports can be sent to an Amazon S3 bucket.

Item	Component	Description
10	WebDAV	(Optional) Historical Reports can be sent to a WebDAV server.
11	WFM Historical	Configured as required to retrieve reports from the available outputs.

4.2.2 WFM Adapter URLs to allow

The following URLs are used to send and receive data from the WFM Adapter. To avoid firewall barriers, add the URLs to the network allowlist.

Region	Description	URL
Asia Pacific	WFM Adapter User Interface	https://wfm-ap.ariacec.com
	WFM Adapter API	https://wfm-api-ap.ariacec.com
	Amazon Cognito Identity Provider	https://cognito-idp.ap-southeast-2.amazonaws.com
	WFM Adapter Authentication	https://wfm-auth-ap.ariacec.com
Canada	WFM Adapter User Interface	https://wfm-ca.ariacec.com
	WFM Adapter API	https://wfm-api-ca.ariacec.com
	Amazon Cognito Identity Provider	https://cognito-idp.ca-central-1.amazonaws.com
	WFM Adapter Authentication	https://wfm-auth-ca.ariacec.com
Europe	WFM Adapter User Interface	https://wfm-eu.ariacec.com
	WFM Adapter API	https://wfm-api-eu.ariacec.com
	Amazon Cognito Identity Provider	https://cognito-idp.eu-west-1.amazonaws.com
	WFM Adapter Authentication	https://wfm-auth-eu.ariacec.com
North America	WFM Adapter User Interface	https://wfm-na.ariacec.com
	WFM Adapter API	https://wfm-api-na.ariacec.com
	Amazon Cognito Identity Provider	https://cognito-idp.us-east-1.amazonaws.com
	WFM Adapter Authentication	https://wfm-auth-na.ariacec.com

4.2.3 WFM Adapter IPs to allow

If required, add the regional IP to your network allowlist.

Important: This is required for Alvaria VIA environment configuration.

Region	IP
Asia Pacific	52.65.184.190
Canada	3.96.111.104
Europe	52.212.134.244
North America	18.213.73.46

4.2.4 Reporting client server ports

The following features require firewall access through the identified ports for the WFM Adapter Reporting client application to operate successfully:

Direction	To/From	Port
Outgoing	WFM Adapter API URL	tcp/443
	FTP	tcp/21 (default; also configurable)
	FTPS	tcp/990 (default; also configurable)
	Amazon S3	tcp/443
	SFTP	tcp/22 (default; also configurable)
	WebDAV	tcp/80 or tcp/443 Note: tcp/80 is not secure
	Alvaria RTA	Configurable
Incoming	NICE RTA	Configurable
Incoming	Verint RTA	Configurable

5 Release process

Frequent, low impact releases are done to provide access to the latest features as soon as they are released, typically on Wednesdays. The WFM Adapter architecture is designed to minimize data loss during updates.

Updates to the WFM Adapter user interface and reporting client application are delivered seamlessly but the RTA feed may be interrupted for up to 10 seconds; the historical feed is not impacted.

If there are reports in progress of being generated at the time of the push, the update will wait and retry every minute until successful. After an hour of waiting, the update will force a restart of the client application if required.

Standard updates include new features, improvements, and minor bug fixes. During implementation, the project team communicates necessary releases to the customer. After project implementation, the customer receives product updates from the Support and Product Management teams.

- **Schedule:** Automatically applied to all regions on Wednesdays at 2pm MST.
- **Announcement:** The release announcement is sent to customers as soon as the update is complete. If an update requires you to change configuration in the UI or WFM, or changes how a metric is reported, we send an announcement at least 1 week prior to the update.

Hot fixes are urgent bug fixes. During implementation, the project team communicates necessary releases to the customer. After project implementation, the customer receives product updates from the Support and Product Management teams.

- **Schedule:** Deployed when it is ready. The deployment schedule can be outside of the standard update schedule.
- **Announcement:** The release announcement is sent to customers as soon as the update is complete.

Versioning: Releases are versioned by date.

6 Frequently asked questions

6.1 Does the reporting client support connecting through a proxy?

The WFM Adapter reporting client respects the proxy configuration of the system on which it is run. There are no changes required to the reporting client to use the system proxy.

If an *application specific* proxy server is required so reporting client network traffic is independent from the rest of the system, this can be configured in the post installation script file after the reporting client installation is complete.

For information, see *WFM Adapter Configuration Guide*.

6.2 How does WFM Adapter blend RTA feeds from multiple systems?

Calabrio ONE: If agents handle work from two platforms, the RTA feeds must be combined before they are sent to the WFM system as an agent can only be assigned to a single ACD stream in Calabrio ONE.

NICE: If agents handle work from two platforms, each source can feed into the WFM system. Affected agents will have two lines on the RTA screen.