NINTEX LIVE

Security and access aspects of Nintex Live

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1 Overview

"The cloud" opens up unlimited opportunities to connect, consume and contribute data and processes in new ways. The challenge is to find, manage, and apply the most suitable cloud services for a particular application or solution.

Nintex Live has been developed to address this need which is to make it easier for Nintex customers and partners to "put the cloud to work" in tangible ways. Nintex Live adds value to both Nintex Workflow and Nintex Forms.

When Nintex Live capability is enabled for Nintex Workflow, workflow designers will be able to add web services from the Nintex Live catalog to the Nintex Workflow actions toolbox. These can then be used in workflows to build more complete and timely workflows. With Nintex Forms, when Nintex Live capability is enabled for it, SharePoint forms can be published and hosted within Nintex Live which can then be submitted by anonymous or secure users easily and safely outside a company's firewall. This document covers the usage of Nintex Live with Nintex Workflow (2007[1] and 2010) and Nintex Forms 2010. Reference to Nintex Workflow covers both the 2007 and 2010 versions.

Data integrity and security are important aspects of a cloud offering. This document aims to address security and access aspects within Nintex Live by providing the following information:

- Nintex Live components
- Accessing Nintex Live
- Communications between the SharePoint farm and Nintex Live
- How data security is handled within Nintex Live
- Where data is stored and for how long

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[1] Nintex Live supported from V1.13 of Nintex Workflow 2007

2   Nintex Live Architecture
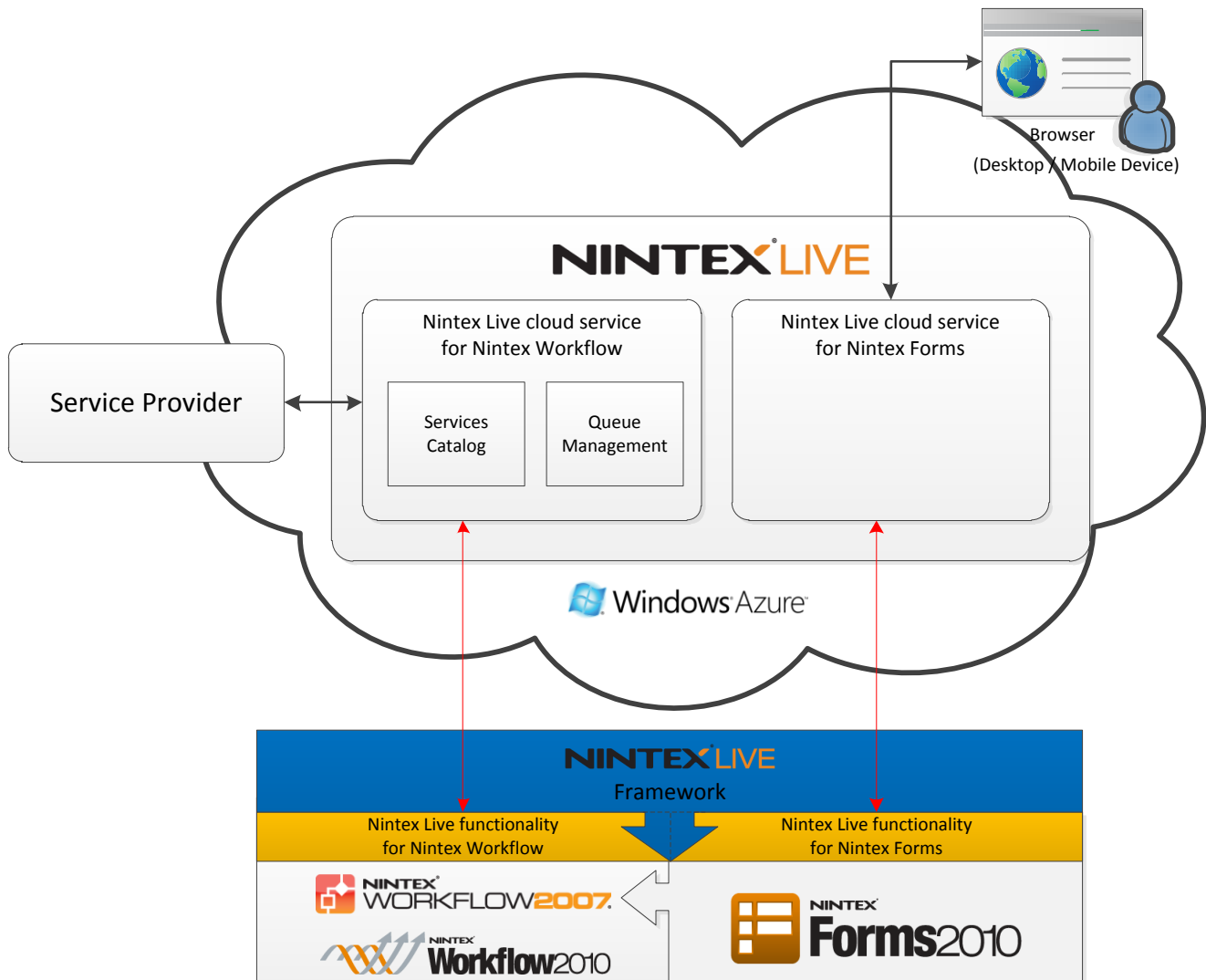
Figure 1: Nintex Live Architecture Overview

2.1   Nintex Live

Nintex Live is a hosted service provided by Nintex which extends the capability of the integrated capabilities of Nintex Workflow and Nintex Forms. Nintex Live is built on the Microsoft Azure platform.

At its core, Nintex Live works by utilizing cloud services which manage and handle authentication, data transfer and storage for both Nintex Workflow and Nintex Forms. The Nintex Live framework included with Nintex Workflow and Nintex Forms provides the connectivity component and details required to leverage the Nintex Live hosted service. Once the Nintex Live framework has been deployed successfully, *Nintex Live functionality for Nintex Workflow* and/or *Nintex Live functionality for Nintex Forms* can be activated.

2.2 Nintex Live cloud service for Nintex Workflow

Nintex Live cloud service for Nintex Workflow is a cloud service broker that provides message **queue management** and a **services catalog** (Nintex Live Catalog). A workflow designer is able to leverage real-time, web-based intelligence within the business processes.

Services Catalog

The Services Catalog lists the available web services that can be added to the Nintex Workflow actions toolbox. It also includes the details of the service provider, description of the service, whether the service is free or requires payment, if registration is required, and the terms of use for the service.

Service Provider

The service provider (e.g. StrikeIron, Facebook, Twitter) is the owner of the internet based application that has exposed a web service API for public or contracted consumption. Nintex Live considers broker services such as StrikeIron to be the service provider, even though they may pass the service request along to the actual service provider.

Queue Management

The Queue Management layer receives service requests and places them in a queue before they are executed. Queuing the service means that:

1. In the event that a web service is unavailable, Nintex Live can hold the request and continue retrying for a given period until the service is available again. This prevents workflows from failing due to intermittent service availability.
2. Priority can be given for requests made to specific services or made by specific subscribers.

2.3 Nintex Live cloud service for Nintex Forms

Nintex Live cloud service for Nintex Forms is a form hosting service. Forms are published from SharePoint on premise environments which have Nintex Forms deployed. This allows an organization to extend their forms beyond the intranet and extranet, making it available and accessible from anywhere without relying on the configuration of the SharePoint infrastructure. Forms can then be easily accessed on any device by anyone outside the corporate network who are connected to the internet.

2.4 Nintex Live Framework

The Nintex Live Framework (nintexlivecore.wsp) is included with Nintex Workflow and Nintex Forms 2010 to enable connectivity to Nintex Live. The Nintex Live Framework provides common settings such as connection details to Nintex Live for both Nintex Workflow and Nintex Forms 2010.

2.5 Nintex Live functionality for Nintex Workflow

Allows workflow designers to add web services from the catalog to the Nintex Workflow actions toolbox.

2.6 Nintex Live functionality for Nintex Forms

Allows form designers to make designated forms available to internet users via Nintex Live.

2.7   Accessing Nintex Live

A valid Nintex license key, also known as the Nintex License File (NLF), is used to authenticate the SharePoint farm when connecting to Nintex Live. To use the specific Nintex Live cloud service (Workflow/Forms), the product specific license key must be valid and explicitly activated for Nintex Live usage.

Once the SharePoint farm successfully authenticates with Nintex Live, a 50 character Authentication Key is generated and used to process further requests made by the SharePoint farm. The Authentication Key expires after a set period of time (at time of writing, less than 24 hours). The duration for a key can be changed and a key can be revoked / disabled by Nintex at any time. When an Authentication Key expires, the SharePoint farm will request a new key by authenticating with Nintex Live.

A SharePoint farm is identified using two pieces of information:

1. The Nintex product license key.
2. A Live ID. Nintex Live uses the Live ID as a unique identifier for the SharePoint farm. This ID is auto generated at product installation and can be updated or changed through the Nintex Live Framework Connection settings in SharePoint Central Administration.

Based on a combination of the Nintex product license key and the "Live ID", a unique identity is generated for the Nintex Live application (Workflow/Forms). This application identity is secured inside Nintex Live.

Nintex Live does not expose the ID of the SharePoint environment nor the service provider. Whenever a request is made (submitting a form / executing a Nintex Live action within a workflow), the request passes through Nintex Live and a random generated ID mapped to the application identity is provided to the service provider to respond to a request. This ensures that at either end point, there is no possibility to identify who the end point is, reducing security issues where the identity of the requestor or service can be deciphered.

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3 Nintex Live cloud service for Nintex Workflow

3.1 Communication

All communication points to Nintex Live use Secure Sockets Layer (SSL) to prevent data screening (eavesdropping) and tampering. No other methods over HTTP are supported. This includes the connection to and from the SharePoint farm and third party service providers.
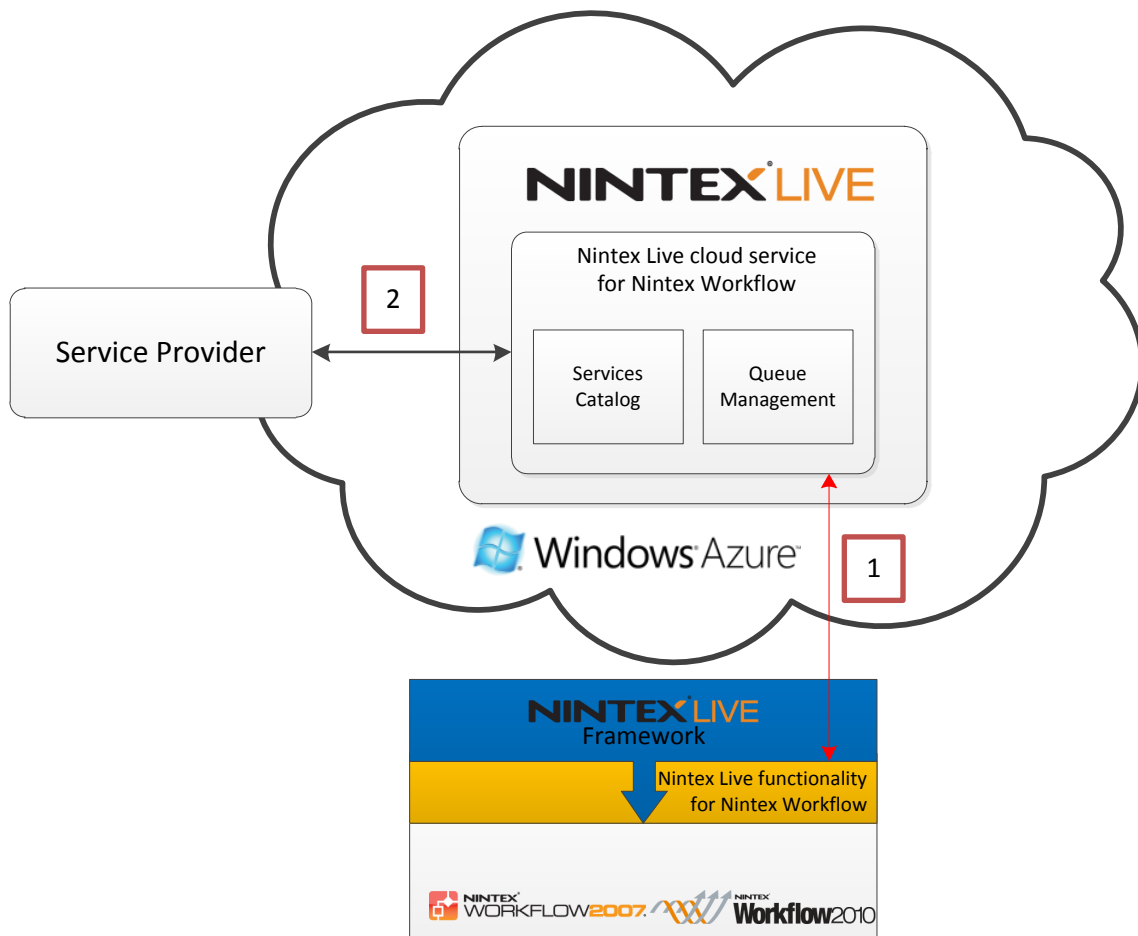
Figure 2: Nintex Live cloud service for Nintex Workflow communications

The following table refers to and describes the communication points in Figure 2: Nintex Live cloud service for Nintex Workflow communications.

Ref	SSL	Description
1	Yes	Request made to and received from Nintex Live (inc. file transfers if there are any).
2	Yes	Service provider connects to Nintex Live over SSL to retrieve and respond to the requests (inc. file transfers if there are any).

Note: Data is transmitted securely over SSL to and from Nintex Live and the third party service provider. Once the data has been successfully passed to the third party service provider, it is then the responsibility of the third party service provider to maintain the security and integrity of the data.

3.2 Data Storage

Nintex Live cloud service for Nintex Workflow uses cloud storage servers hosted by Microsoft Azure for its storage solution.

All files transferred between Nintex Live and the SharePoint farm are over a SSL connection. Refer to "Figure 2: Nintex Live cloud service for Nintex Workflow communications".

When a file is uploaded or downloaded using a service provider (i.e. SharePoint download file, File download, Upload to Dropbox, etc.), the file is temporarily stored in the secure storage container specifically allocated for each Live ID (SharePoint farm) within Nintex Live until the service request has been completed successfully. Once the request is completed successfully the file is deleted from Nintex Live immediately.

If the service request does not complete successfully, the file is cleared together with the service request. Refer to "

Table 1: Days responses and requests are kept in Nintex Live" for more information.

Requests and responses are kept for a limited time to assist debugging request issues.

Requests and responses (including files) are kept in Nintex Live:

# Days	If the request
3	Completed successfully (However, files are removed immediately after a service request completes successfully.)
5	Not retrieved by the service provider
7	No response from the service provider after it has been retrieved.

Table 1: Days responses and requests are kept in Nintex Live

3.3 Nintex Live Services

This section refers to the specific services (service providers) that have been created by Nintex and are available within the Nintex Live Catalog.

As described in Section 3.1 - Communication, Nintex Live communicates to service providers only through SSL connections. However, each service provider is responsible for how the service request is to be executed.

For example, Microsoft Office 365 services communicate with Microsoft servers through SSL only if the service is used against a Microsoft Office 365 site with an Enterprise subscription. Small Business subscriptions are forced to communicate through a plain HTTP connection. Note: This is an intentional design by Microsoft.

When a request is sent to the "Office 365 create list item" service provider, it operates over an SSL connection. However, when the service provider executes the request, if the request is to create an item in an Office 365 site with a Small Business subscription, the item will be created over a HTTP connection.

Security and access aspects of Nintex Live

Each service provider has their own security authorization model (i.e. OAuth, credentials, etc.). Nintex Live does not enforce a specific security authorization model but supports the use of them depending on the requirements of the service provider.

Note: In the future, third party service providers will also be able to contribute to the list of services available within the Nintex Live Catalog.

In general, cloud services can be easily accessed into workflows, using calls to web services. However, many cloud services have more complex authentication protocols. Nintex Live simplifies access, with a straightforward approach in the workflow execution. By leveraging the Windows Azure platform, Nintex Live manages access and authentication in scalable and secure fashion.

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4 Nintex Live cloud service for Nintex Forms

4.1 Communication

All communication points to Nintex Live use Secure Sockets Layer (SSL) to prevent data screening (eavesdropping) and tampering. No other methods over HTTP are supported. This includes the publishing of form definitions and submitting forms.

Figure 3: Nintex Live cloud service for Nintex Forms communications

The following table refers to and describes the communication points in Figure 3: Nintex Live cloud service for Nintex Forms communications.

Ref	SSL?	Description
1	Yes	Form definitions are published to Nintex Live cloud service for Nintex Forms.
2	Yes	Anonymous and authenticated forms are viewed and submitted.

4.2 Data Storage

Nintex Live cloud service for Nintex Forms uses cloud storage servers hosted by Microsoft Azure for its storage solution.

The following Nintex Live cloud service for Nintex Forms data is stored within the cloud storage servers hosted by Microsoft Azure:

- Form definitions which are published to Nintex Live.
- Data captured when a form is submitted through Nintex Live.

A form definition is kept in Nintex Live until the defined "Form Expiry Date" is reached or when the form has been unpublished from Nintex Live. The "Form Expiry Date" property is defined by the form designer when configuring the "Live Settings" for the Nintex form. If no "Form Expiry Date" is specified, the form will not expire and will remain in Nintex Live indefinitely.

Form submissions are kept for a limited time for debugging purposes.

Form submissions will expire in Nintex Live:

# Days	If the form data
3	Has been collected by the SharePoint on premises
5	Is not collected by the SharePoint on premises (SharePoint on premises fails to poll for the form data)

4.3   Authenticating against a form

When a form is published to Nintex Live, the form designer can choose to set the security restrictions (secure or anonymous) on the form. When selecting secure, the form designer will be required to specify the users who will be allowed to view and submit the form. When a user is specified, the email address is stored with the form to help identify the user.

Users are then required to authenticate with an authentication provider (e.g. Windows Live, Google, Facebook, LinkedIn). By authenticating with the provider, the provider will supply Nintex Live with the users registered email address. The email address will then be matched to the email address stored in the form to give access to the user.

4.4   Forms Published to the Internet

As described, form designers can publish Nintex designed forms to Nintex Live. These forms can then be accessed by anyone outside the corporate network who are connected to the internet. This however may require additional Microsoft server licensing.

Refer to licensing details of SharePoint Server 2010 for Internet Sites (FIS) about external or anonymous users, when publishing forms to Nintex Live.

5   Conclusion

Nintex Live extends the capability of both Nintex Workflow and Nintex Forms allowing for more possibilities and adds value to an organization's investment in SharePoint and Nintex products.

The Nintex Live functionality for Nintex Workflow and Nintex Forms provides a secure method using the Secure Sockets Layer (SSL) protocol for connecting to the functionality's corresponding Nintex Live cloud service. By using SSL, it provides an industry standard and best practice in ensuring that communication is secured.

In addition, Nintex Live has the structure in place to manage the storage of data efficiently. Nintex Live only holds the data for a limited amount of time for debugging purposes. Once the data is no longer required, it is removed and purged.

To try Nintex Workflow and to build hybrid on-premise and cloud solutions within SharePoint, go to:

http://www.nintex.com/en-US/Products/Pages/TrialDownload.aspx?v=NWF.2010

 to request a 30 day trial. If you are a Nintex Workflow SA customer, refer to the Nintex Workflow Help files on how to install and configure Nintex Live cloud services for Nintex Workflow.

To try Nintex Forms 2010 and to publish and host forms on Nintex Live, go to:

http://www.nintex.com/en-US/Products/Pages/TrialDownload.aspx?v=NWF.2010

to request a 30 day trial. If you are a Nintex Forms 2010 SA customer, refer to the Nintex Forms 2010 Help files on how to install and configure Nintex Live cloud services for Nintex Forms.

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