Template for Citrix XenDesktop 7 Installation

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Overview

The Template for Citrix XenDesktop 7 includes several "out-of-the-box" use cases including:

- High-level overviews supporting multiple farms
- Alerting
- ICA latency reporting
- User experience investigation
- User logon time details
- Performance visualization and monitoring
- Application usage
- Critical service monitoring

Since the overall ecosystem of XenDesktop environments will vary from company to company, the Template for Citrix XenDesktop 7 is meant to be a starting point for using Splunk with Citrix XenDesktop. The template is designed in such a way as to be easily customized to fit specific needs.

Installation

There two basic steps to any Splunk application:

1. Getting data in to Splunk.
2. Analyzing/reporting on the data.

The Template for Citrix XenDesktop 7 takes care of both of these steps. The first step (getting data into Splunk) involves installing a collection mechanism called a Universal Forwarder on the various XenDesktop machines based on machine role. The second step is accomplished by installing the Template for Citrix XenDesktop 7 on the Splunk server. The Template for Citrix XenDesktop 7 includes several dashboards, forms, alerts, and searches pre-configured. However, you are not limited to these out-of-the-box use cases. Dashboards can be modified or created to specifically suit your needs by following the official Splunk documentation at http://docs.splunk.com

Basic Installation steps

1) Install the Splunk Server.
2) Install the Splunk Universal Forwarder on the XenDesktop Machines.
3) Install the Template for Citrix XenDesktop 7 on the Splunk Server.
4) Copy the appropriate Universal Forwarder configuration files to the XenDesktop Machines. The following configuration files are based on the XenDesktop machine role and include:
    a. Desktop Broker.
    b. Desktop or Server with the Citrix Virtual Delivery Agent (VDA) installed.

Install the Splunk Server

The Splunk server components can be installed on a variety of operating systems including Microsoft Windows and Linux. The Template for Citrix XenDesktop 7 is not dependent on the operating system on which the Splunk server components are installed. You may choose any platform you like.
http://www.splunk.com/download

The Splunk server components can be installed on a single server or a distributed environment for scalability and high availability. For more information, reference the official Splunk documentation online:
http://docs.splunk.com/Documentation/Splunk/latest/Installation

Enable Receiving on the Splunk Server

After installing the Splunk server, enable the server to receive data from the deployed Universal Forwarders (details below). Detailed directions on setting up receiving can be found at the following location:
http://docs.splunk.com/Documentation/Splunk/latest/Forwarding/Enableareceiver

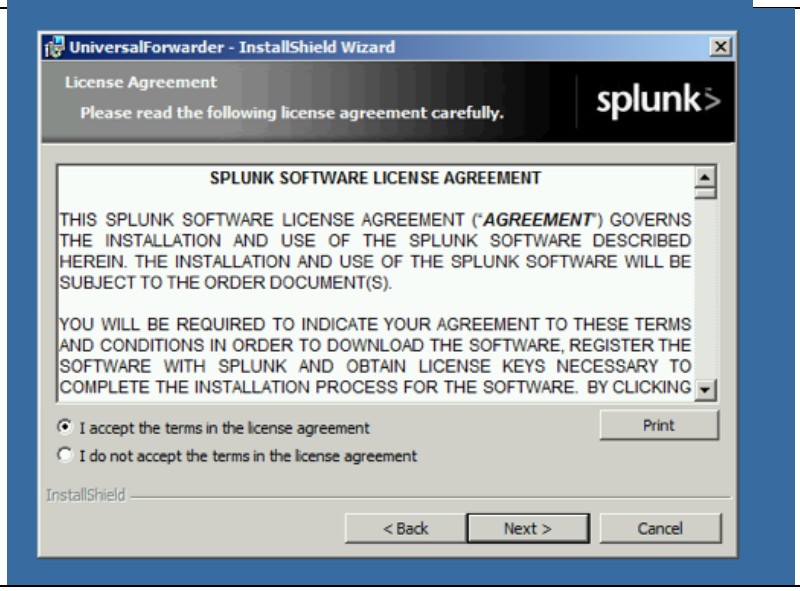
Install the Splunk Universal Forwarder on Each XenDesktop Machine

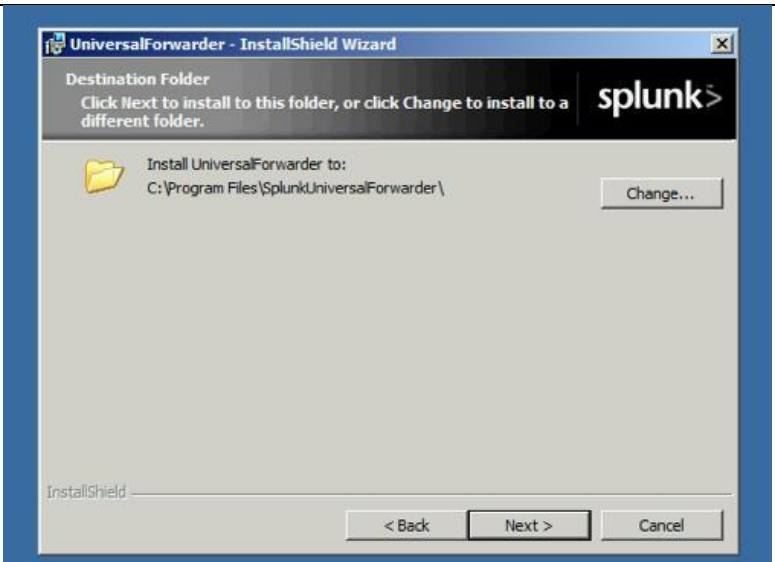
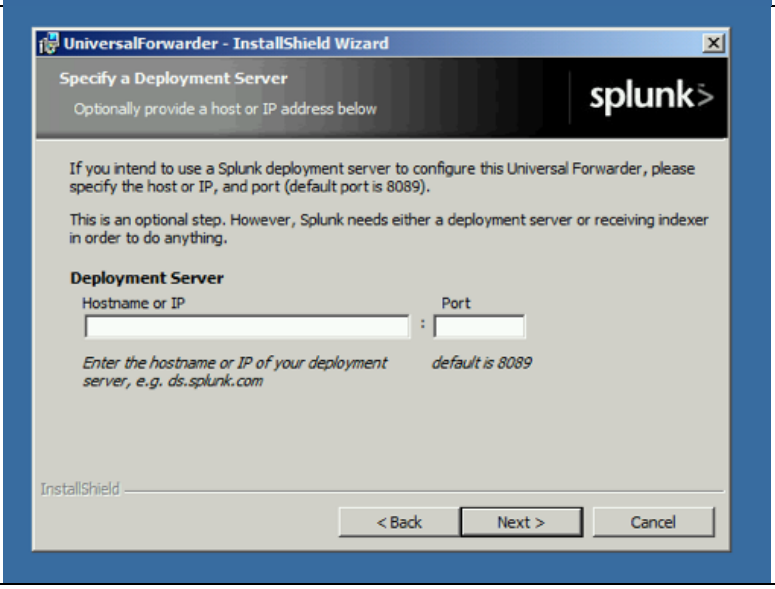
The Splunk Universal Forwarder is a piece of software that gathers specified information from the various Citrix XenDesktop machines. By default, the Splunk Universal Forwarder does nothing if installed as specified in this manual. Later during the installation process, the data gathering configurations will be specified for each Citrix XenDesktop machine role type - i.e. Desktop Broker and VDA.

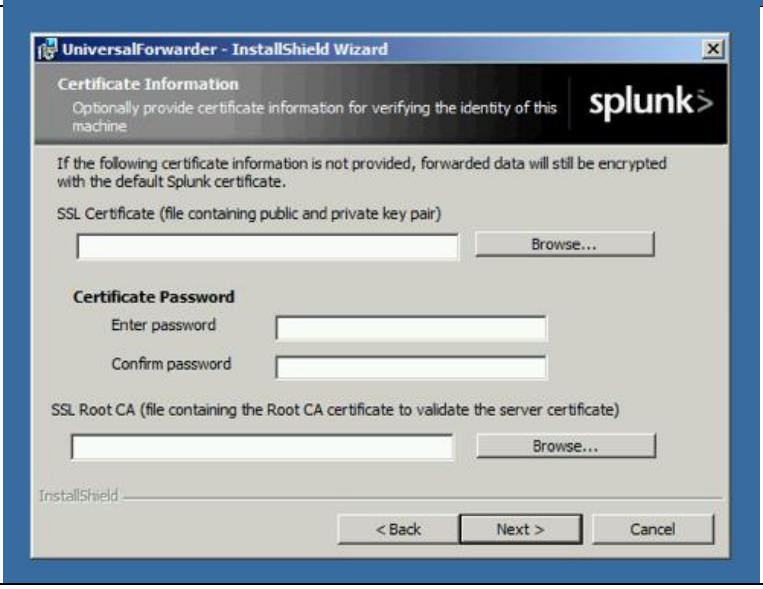
Download the Splunk Universal Forwarder for Windows from the following location:
http://www.splunk.com/download/universalforwarder

Manual Installation of the Splunk Universal Forwarder

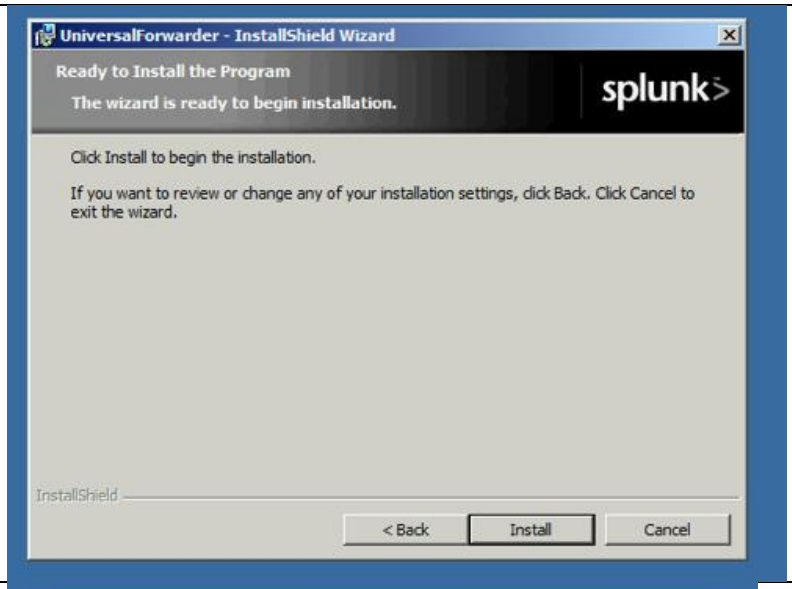
This needs to be completed on each XenDesktop machine regardless of role. Silent installation instructions are available in this manual as well.

1. Start the installation by double clicking the downloaded file from above.	
2. Accept the License Agreement.	

3. Choose and installation folder.	
4. Leave the Deployment Server settings empty for simple installations. For more information about centralizing configurations, read about Deployment Server here -> http://docs.splunk.com/Documentation/Splunk/latest/UPdating/Aboutdeploymentserver	

5. Enter the IP address or FQDN and listening port of your Splunk server. By default, the listening port on the Splunk server is 9997.	
6. Leave the SSL certificate information empty for simple installations.	

7. Select the option to collect Local Data Only.	
8. Leave all options **unchecked**. The configuration file that will be added later will tell the Universal Forwarder what to collect. If you select options here, duplicate data may be collected and inflate your daily indexing volume.	

9. Click the Install button to finish the installation.	
10. Click the Finish button.	

Silent Installation

The Splunk Universal Forwarder can be installed on the command line silently. This is convenient for installing the Universal Forward via traditional software delivery mechanisms. Here is an example (be sure to change the IP address for your RECEIVING_INDEXER and to substitute the asterisk "*" for the version of the Splunk Universal Forwarder version you downloaded):

```
msiexec /i splunkforwarder*.msi AGREETOLICENSE=yes
RECEIVING_INDEXER=192.168.100.11:9997 /quiet
```

Installing on a Shared Image such as Citrix Provisioning Services (PVS) or Machine Creation Services (MCS)

The Splunk Universal Forwarder can be installed on a shared system image such as Citrix Provisioning Services (PVS) or Machine Creations Services (MSC). Follow the instructions outlined in the Splunk documentation found here:

http://docs.splunk.com/Documentation/Splunk/latest/Forwarding/Makeadfpartofasystemimage

Post Installation Steps

Set the Splunk Universal Forwarder Account

The Splunk Universal Forwarder needs to be run as a local administrator. On Desktop Broker machines, the Splunk Universal Forwarder needs to run as a XenDesktop site administrator so that the PowerShell scripts will have access to the XenDesktop site information.

Start the Windows Services console and change the "Log On As" account for the "SplunkForwarder" service.

Set PowerShell Execution Policy

The Splunk Universal Forwarder utilizes Microsoft PowerShell to gather Citrix-specific information. Therefore, the Microsoft PowerShell Execution Policy needs to be set as RemoteSigned. To do this, launch PowerShell on your XenDesktop machines and execute the following command:

```
Set-ExecutionPolicy RemoteSigned
```

A Group Policy Object (GPO) can also be used to set the PowerShell Execution Policy.

```
Computer Configuration | Administrative Templates | Windows
Components | Windows PowerShell >> configure the Turn On
Script Execution setting
```

Install the Splunk Template for XenDesktop on your Splunk server

Download and unzip the Template for Citrix XenDesktop 7 from http://apps.splunk.com

Copy the TemplateForXenDesktop folder to the Splunk server in the following location:

```
$SPLUNK_HOME\etc\apps
```

By default, `$SPLUNK_HOME` is:

`C:\Program Files\Splunk` for Windows
`/opt/splunk` for *nix

Restart Splunk by executing the following command:
`C:\Program Files\Splunk\bin\splunk.exe restart`

Copy the appropriate Universal Forwarder configuration files to the XenDesktop Machines

By default, the Splunk Universal Forwarders installed on the XenDesktop machines earlier do not do anything. A Universal Forwarder configuration (called an add-on) needs to be copied to the appropriate XenDesktop machines based on role. The Splunk Universal Forwarder configurations can be found in the following location:

https://github.com/splunk/splunk-template-xendesktop-7/tree/master/app

There are 2 add-ons to distribute to the XenDesktop machines.

1. TA-XD7-Broker goes on all XenDesktop Brokers.
2. TA-XD7-VDA goes on all desktops or servers that have the Citrix Virtual Delivery Agent (VDA) installed.

How the Add-ons Work

These add-ons "tell" the Splunk Universal Forwarder what types of information to collect and forwards the results to the Splunk server for indexing/analysis. The information gathered is completely configurable. The add-ons use 3 primary methods of gathering data:

1. inputs.conf – this is the heart of the collection mechanism. inputs.conf is a text file that has several configuration options. All the options for inputs.conf can be found here: http://docs.splunk.com/Documentation/Splunk/latest/admin/inputsconf

2. wmi.conf – this file is similar to inputs.conf and is used primarily for gathering WMI data. All the options for wmi.conf can be found here: http://docs.splunk.com/Documentation/Splunk/latest/admin/wmiconf

3. Scripted Inputs – scripted inputs can be any script that the operating system understands. For Microsoft Windows, this could be a .bat file, a .cmd file, an operating system command like quser, PowerShell script, etc. Anything that gets written to stdout (the screen by default) will end up in the Splunk index. This makes it very easy to create and test your own scripts to gather data and extend Splunk.

All of the collection mechanisms are completely configurable. You are free to change intervals, remove collection metrics, add your own collection metrics, modify or create scripts, etc.

Using the Template for Citrix XenDesktop 7

More documentation about using the Template for Citrix XenDesktop 7 can be found by navigating to your Splunk instance where you installed the Template for Citrix XenDesktop 7 and clicking the "Help" menu option. For example: http://localhost:8000/en-US/app/TemplateForXenDesktop/help_using