SSL VPN Onboarding Express Developer's Guide

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Chapter 1: Introduction

Purpose

This document describes the 'sslvpnOnboardingExpress' JAVA tool and JAVA API that can be used to facilitate the ability to "offline" onboard an IP Office system and gather all relevant files into a single zip file for post-processing of the data.

As a bonus, two other JAVA tools and JAVA APIs have been added which provide a way to get the inventory xml file from IP Office and to upload an onboarding xml file to IP Office without the need to use IP Office Web Manager.

Intended audience

This document is designed for Business Partners and Avaya DevConnect Members who wish to use the 'sslvpnOnboardingExpress' JAVA tools directly as DOS batch files or reference the JAVA APIs for inclusion in other JAVA applications that can be developed for onboarding (e.g. mobile phone application used by an IP Office Installer).

Related resources

Documentation

The following table lists the related documents to SSL VPN and Onboarding on IP Office. Download the documents from the Avaya Support website at http://support.avaya.com.

Title	Description
Avaya IP Office SSL VPN Solutions Guide	Describes the SSL VPN solution for IP Office including the installation of Avaya VPN Gateway. This document also describes the onboarding process and contains configuration information that helps detail the contents of the onboarding xml template sample files in the SDK.
SSL VPN Onboarding SDK KT	Knowledge Transfer slides (consult Avaya DevConnect).
Avaya Mentor - IP Office R8.1 SSL/VPN On-Boarding	YouTube video explaining the IP Office Onboarding process in conjunction with the Global Registration Tool (GRT).

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Course code	Course title

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Chapter 2: Overview

Introduction

'sslvpnOnboardingExpress' is a set of JAVA based tools that can be used to perform offline onboarding of an IP Office system simply by answering a set of prompts in order to connect to IP Office and create an SSL VPN service including the configuration of other relevant components including the installation of the AVG self-signed certificate or the CA certificate that signed the AVG identity certificate.

Some or all of the onboarding express prompts can be pre-configured such that relevant default values are shown at the prompts rather than typing them over and over for every IP Office install. In the best case if all prompts are fully pre-preprogrammed in a "default_parameters.txt" text file, then no prompts will be needed and offline onboarding will happen in seconds. This particular use case can occur in the event that the user interface to collect the prompts is not the default command line interface but rather a graphical user interface or a mobile application.

Separate from the onboarding express tool and API there are two complementary tools and JAVA APIs that can be invoked independently of the **'sslvpnOnboardingExpress'** main class and which are contained in the same JAR file. They are used for downloading the inventory xml file from IP Office and for uploading a signed onboarding xml file to IP Office.

Installation

The tool is delivered as a zip file (SSLVPN_OnboardingExpress_SDK.zip). It requires java 1.6 or newer to be installed on the PC. Unzip the file in a directory on the PC. The unzipped file will contain the following:

- sslvpnOnboardingExpress.jar (java executable with 3 published APIs),
- sslvpnOnboardingExpress.bat (DOS batch script for invoking the main "Express" JAVA tool),
- get_inventory.bat (DOS batch script for downloading the get inventory JAVA tool),
- send_onboarding.bat (DOS batch script for uploading the signed onboarding xml file JAVA tool),
- SSLVPNOnboardingExpressDevelopersGuide.pdf (this document),
- templates (directory containing xml template references and the "default_parameters.txt" file).

Important Installation Notes

Before using the onboarding express JAVA tool and API it is mandatory to update two items.

1. The AVG server IP address or FQDN. This can be done in the sslvpn_template.xml file by editing the <ServerAddress> tag or by editing the “default_parameters.txt” file to uncomment and update the VPN_SERVER line with the appropriate AVG server IP address or FQDN. For the “default_parameters.txt” file to be used by the tool or API it must be explicitly specified in the command line parameters when invoking the tool or API.
2. The “sslvpn_template.xml” file must contain the proper AVG self-signed certificate or the CA that signed the AVG identity certificate. Replace the existing certificate enclosed in the <CertificateData> tag. The certificate is stored in PEM format.

When the tool is invoked, the “sslvpn_template.xml” file name is fixed and cannot be changed. However, the content inside the xml file can be customized. If required to use more advanced xml template configuration components, consult or rename file “advanced_sslvpn_template.xml” to “sslvpn_template.xml” and edit appropriately. In most cases the advanced features are not going to be used. To better understand the relationship of the configuration components inside the xml files, please consult the SSL VPN Solutions Guide in reference.

In order to complete the onboarding process, the “sslvpn_OUTPUT” folder should be shared with the Partner’s main office in order to collect and share all new offline onboarding that have been completed. This can be done as a “Cloud” drive for example or can be sent as an email. Each onboarding attempt will generate a zip file whether or not the onboarding was successful or failed (example 0000001234_1_ONBOARDED.zip or 0000001234_1_FAILED.zip). The zip filename is constructed with a “reference number”, a “sequence number” in case multiple attempts to onboard this system are performed and the onboarding status. The successful zip files are the ones that the main office will use to extract file 0000001234_1_sslvpn.properties in this example in order to create the SSL VPN service account credentials in the AVG local DB, Radius DB or LDAP DB and to perform SSL VPN tunnel IP address assignment. With this process of sharing onboarded zip files in the cloud, given that the creation of the SSL VPN credentials is done automatically by scripting, the IP Office Installer will be able to verify that SSL VPN client connectivity is functional in just a few minutes using the System Status Application (SSA) part of the IP Office Admin CD.

The get_inventory.bat DOS script can be used right away without any customization of input files. This batch script invokes a wrapper JAVA class that is designed as a how-to example on how to invoke the “GetInventory” JAVA API.

The send_onboarding.bat DOS script can be used right away without any customization of input files. This batch script invokes a wrapper JAVA class that is designed as a how-to example on how to invoke the “SendOnBoardingFile” JAVA API. Please note that in order to build a valid onboarding xml file one will need to get the inventory xml file from IP Office, execute the **’sslvpnOnboarding’** tool or API available in a separate SDK and JAR file, then invoke this send_onboarding.bat script after.

Chapter 3: Usage

DOS Batch Script for Onboarding Express

Place the **SSLVPN_OnboardingExpress_SDK.zip** file in a new folder and unzip. Open a DOS command prompt window. Navigate to the directory that you have unzipped the **SSLVPN_OnboardingExpress_SDK.zip** contents. Execute the tool by entering the name of the batch file with the desired parameters.

Important: When updating values in the "default_parameters.txt" file do not leave spaces between the "=" and the value and do not leave spaces after the value. Spaces are not trimmed so be careful.

sslvpnOnboardingExpress [-f <file>] [-nopause]

-f <file>: Specifies a TEXT file containing default startup parameters.

'default_parameters.txt' is an example parameters file.

This file supports the following parameters:

```
IP_OFFICE       =<IP Office fqdn/IP address>
ADMIN_ACCOUNT   =<Administrator account name>
ADMIN_PASSWORD  =<Administrator account password>
REF_NUM          =<Reference Number of the onboarding session.>
VPN_SERVER       =<Avaya VPN Gateway Server Address.>
VPN_NAME        =<Service Name - used to display info about the VPN service>
VPN_ACCOUNT     =<AVG (Avaya VPN Gateway) Account name>
VPN_PASSWORD    =<AVG Account password>
```

Some or all of the above parameters may be specified in the file.

Example of file contents:

```
IP_OFFICE=192.168.137.29
ADMIN_ACCOUNT=Administrator
ADMIN_PASSWORD=Administrator
REF_NUM=100
VPN_SERVER=example_AVG_name.com
VPN_Name=BP_Support
VPN_ACCOUNT=SA1
VPN_PASSWORD=sa1
```

-nopause : Do not pause; useful when combining this utility with other scripts.

Example 1: (Note: A shortcut icon could be created instead of opening a DOS command window)

sslvpnOnboardingExpress

In this example, the program will prompt for all of the required data.

Example 2: (Note: A shortcut icon with parameters could be created instead of opening a DOS command window)

sslvpnOnboardingExpress –f default_parameters.txt

Where 'default_parameters.txt' could contain the following data:

```
# default_parameters.txt
#
HOST                  =192.168.137.29
ADMIN_ACCOUNT         =Administrator
ADMIN_PASSWORD        =Administrator
VPN_NAME              =BPSupport
```

DOS Batch Script for Get Inventory

Place the **SSLVPN_OnboardingExpress_SDK.zip** file in a new folder and unzip. Open a DOS command prompt window. Navigate to the directory that you have unzipped the **SSLVPN_OnboardingExpress_SDK.zip** contents. Execute the tool by entering the name of the batch file with the desired parameters.

```
get_inventory.bat

Usage:  <ip office address> <username> <password> <inventory file path>

       <ip office>:      IP address or FQDN

       <username>:       Administrator service user

       <password>:       Administrator service user password

       <inventory file>: Destination inventory xml file path
```

DOS Batch Script for Send OnBoarding File

Place the **SSLVPN_OnboardingExpress_SDK.zip** file in a new folder and unzip. Open a DOS command prompt window. Navigate to the directory that you have unzipped the **SSLVPN_OnboardingExpress_SDK.zip** contents. Execute the tool by entering the name of the batch file with the desired parameters.

```
send_onboarding.bat

Usage:  <ip office address> <username> <password> <onboarding file path>

       <ip office>:       IP address or FQDN

       <username>:        Administrator service user

       <password>:        Administrator service user password

       <onboarding file>: Source onboarding xml file path
```

JAVA APIs

The JAVA tool is implemented as a JAVA class with a public main static method that is used to initiate the onboarding express prompts (unless all prompts are pre-answered in the default parameter file) then to perform the offline onboarding process after that. The class is com.avaya.sslvpn.sslvpnOnboardingExpress.

API: main

This is the main function of the JAVA class. It is used to process command line parameters. In this case the main function can be called without parameters or with the ones described in the DOS batch script section.

public static void main(String[] args)

Code Snippet

Please refer to the sslvpnOnboardingExpress.bat script as an example.

API: GetInventory

The following method is used to download and save the inventory xml file.

public static boolean GetInventory(String ipOfficeAddress, String username, String password, String inventoryFile, String logFileName, StringBuilder message)

Parameters:

Field Name	Description
String ipOfficeAddress	The IP address or FQDN of IP Office.
String username	The service user which has permissions to make configuration read and write web service calls. This is normally service user “Administrator”.
String password	The password of the service user.
String inventoryFile	Specifies the path of where the downloaded inventory xml file should be saved.

String logFileName	Optional. This parameter can be “null”. The provided string specifies the path of where the log file should be saved.
StringBuilder message	Optional. This parameter can be “null”. The provided “StringBuilder” object instance will be built with a useful string or set of strings containing relevant feedback information for the user invoking this API.

Exceptions:

No exceptions are returned. Instead a Boolean value is returned for success or failure.

Optionally a log file can be recorded with progress information. Also optionally is a message string that can be built to generate a user readable success or failure reason message.

Code Snippet

A complete code example has been provided in the zip file and that is exactly what the get_inventory.bat script invokes. Please consult file GetInventoryHelloWorld.java.

API: SendOnBoardingFile

The following method is used to upload a signed onboarding xml file to IP Office.

public static boolean SendOnBoardingFile(String ipOfficeAddress, String username, String password, String onboardingFileName, String logFileName, StringBuilder message)

Parameters:

Field Name	Description
String ipOfficeAddress	The IP address or FQDN of IP Office.
String username	The service user which has permissions to make configuration read and write web service calls. This is normally service user “Administrator”.
String password	The password of the service user.
String onboardingFileName	Specifies the path of where the signed onboarding xml file that will be uploaded to IP Office is located.
String logFileName	Optional. This parameter can be “null”. The provided string specifies the path of where the log file should be saved.

StringBuilder message	Optional. This parameter can be “null”. The provided “StringBuilder” object instance will be built with a useful string or set of strings containing relevant feedback information for the user invoking this API.

Exceptions:

No exceptions are returned. Instead a Boolean value is returned for success or failure.

Optionally a log file can be recorded with progress information. Also optionally is a message string that can be built to generate a user readable success or failure reason message.

Code Snippet

A complete code example has been provided in the zip file and that is exactly what the send_onboarding.bat script invokes. Please consult file OnboardingHelloWorld.java.

Chapter 4: Appendix A: IP Office 9.1.0.0 Release Notes

This is the first release for the introduction of the SDK.

To query the version of the JAVA tool simply invoke the DOS script.

For example:

C:\temp_onbexp>sslvpnOnboardingExpress.bat -h

sslvpnOnboardingExpress - 9.1.0.0 build 89

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