How to handle TLS1.2 for ColdFusion 9 and Older

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The upcoming Authorize.NET switch to using TLS 1.2 only has a lot of people scrambling to get their servers updated. This has been a long planned transition at Authorize.NET and at many/most/all other payment processing companies. The inevitable facts are that TLS 1.0 and TLS 1.1 are outdated and they are going away. **CF Webtools** we have been preparing for this inevitable day for the past few years.

ColdFusion 9.0.n is not tested to work on Java 1.8 and I have had cases were certain features of ColdFusion 9 did not work with Java 1.8. I have not tried any older versions of ColdFusion on Java 1.8 and I'm not going to. Adobe has not certified any versions of ColdFusion older than version 10 Update 14 (or ColdFusion 11 Update 2 and older). All of that being said, there is a workaround that uses a 3rd party commercial solution to make TLS 1.2 connections from ColdFusion 9. It works well, but I do not recommend that as a *long term* solution. The preferred long term solution is upgrading the server(s) and ColdFusion version to currently supported versions. This way there will be security updates to help protect against new threats. The commercial third-party CFX tag will require recoding the CFHTTP calls for the new CFX tag. The tag is CFX_HTTP5 and it is available **here**.

Follow the installation instructions that comes with the download and then you will have to recode your CFHTTP calls similar to the examples below. The code examples are for the older Authorize.NET Advanced Integration Method (AIM) API calls that you are most likely using in your older ColdFusion CFHTTP calls.

```
<cfset authURL = "https://test.authorize.net/gateway/transact.dll" />
<cfif AuthNetMode eq "live">
<cfset authURL = "https://secure.authorize.net/gateway/transact.dll" />
</cfif>

<!--- CFHTTP Call - Your code might look something like this --->
<cfhttp url="#authURL#" method="post" result="cfhttp">
<cfhttpparam type="FORMFIELD" name="x_Login" value="#AuthLogin#">
<cfhttpparam type="FORMFIELD" name="x_Password" value="#AuthPassword#">
<cfhttpparam type="FORMFIELD" name="x_merchant_email" value="#AuthEmail#">
<cfhttpparam type="FORMFIELD" name="x_delim_data" value="true">
<cfhttpparam type="FORMFIELD" name="x_test_request" value="#x_test_request#">

<!--- we're using AUTH_ONLY so the card isn't charged until the order is processed --->
<cfhttpparam type="FORMFIELD" name="x_type" value="AUTH_ONLY">
<cfhttpparam type="FORMFIELD" name="x_method" value="cc">

<cfhttpparam type="FORMFIELD" name="x_amount" value="#orderTotal#">
<cfhttpparam type="FORMFIELD" name="x_card_num" value="#cardNumber#">
<cfhttpparam type="FORMFIELD" name="x_exp_date" value="#cardExpiration#">
<cfif isDefined("cardSecurityCode") and cardSecurityCode eq "">
<cfhttpparam type="FORMFIELD" name="x_card_code" value="#cardSecurityCode#">
</cfif>

<!--- If you want an email to go to the customer via authorize.net change this to true. Make sure authorize.net is configured properly. --->
<cfhttpparam type="FORMFIELD" name="x_email_customer" value="#x_email_customer#">

<cfhttpparam type="FORMFIELD" name="x_first_name" value="#billingFirstName#">
<cfhttpparam type="FORMFIELD" name="x_last_name" value="#billingLastName#">
<cfhttpparam type="FORMFIELD" name="x_company" value="#billingCompany#">
<cfhttpparam type="FORMFIELD" name="x_address" value="#billingAddress#">
<cfhttpparam type="FORMFIELD" name="x_city" value="#billingCity#">
<cfhttpparam type="FORMFIELD" name="x_state" value="#billingState#">
<cfhttpparam type="FORMFIELD" name="x_zip" value="#billingZip#">
<cfhttpparam type="FORMFIELD" name="x_country" value="#billingCountry#">

<cfhttpparam type="FORMFIELD" name="x_customer_ip" value="#cgi.remote_address#">
<cfhttpparam type="FORMFIELD" name="x_Email" value="#billingEmail#">
<cfhttpparam type="FORMFIELD" name="x_Phone" value="#billingPhone#">

<cfhttpparam type="FORMFIELD" name="x_ship_to_first_name" value="#shippingFirstName#">
<cfhttpparam type="FORMFIELD" name="x_ship_to_last_name" value="#shippingLastName#">
<cfhttpparam type="FORMFIELD" name="x_ship_to_company" value="#shippingCompany#">
<cfhttpparam type="FORMFIELD" name="x_ship_to_address" value="#shippingAddress#">
<cfhttpparam type="FORMFIELD" name="x_ship_to_city" value="#shippingCity#">
<cfhttpparam type="FORMFIELD" name="x_ship_to_state" value="#shippingState#">
<cfhttpparam type="FORMFIELD" name="x_ship_to_zip" value="#shippingZip#">
<cfhttpparam type="FORMFIELD" name="x_ship_to_country" value="#shippingCountry#">
<cfhttpparam type="FORMFIELD" name="x_Description" value="#description#">
<cfhttpparam type="FORMFIELD" name="x_invoice_num" value="#invoicenum#">
</cfhttp>

<cfset response = cfhttp.fileContent>
```

To refactor your code you will want to do something like this.

```
<cfset authURL = "https://test.authorize.net/gateway/transact.dll" />
<cfif AuthNetMode eq "live">
<cfset authURL = "https://secure.authorize.net/gateway/transact.dll" />
</cfif>
<!--- CFX_HTTP5 Call - You'll want to refactor your code in this fashion --->

<cfset httpBody = "x_Login=#AuthLogin#&
x_Password=#AuthPassword#&
```

```
x_merchant_email=#AuthEmail#&
x_delim_data=true&
x_test_request=#x_test_request#&
x_type=AUTH_ONLY&
x_method=cc&
x_amount=#orderTotal#&
x_card_num=#cardNumber#&
x_exp_date=#cardExpiration#&
x_first_name=#billingFirstName#&
x_last_name=#billingLastName#&
x_company=#billingCompany#&
x_address=#billingAddress#&
x_city=#billingCity#&
x_state=#billingState#&
x_zip=#billingZip#&
x_country=#billingCountry#&
x_customer_ip=#cgi.remote_address#&
x_Email=#billingEmail#&
x_Phone=#billingPhone#&
x_ship_to_first_name=#shippingFirstName#&
x_ship_to_last_name=#shippingLastName#&
x_ship_to_company=#shippingCompany#&
x_ship_to_address=#shippingAddress#&
x_ship_to_city=#shippingCity#&
x_ship_to_state=#shippingState#&
x_ship_to_zip=#shippingZip#&
x_ship_to_country=#shippingCountry#&
x_Description=#description#&
x_invoice_num=#invoicenum#">

<!--- If you want an email to go to the customer via authorize.net change this to true. Make sure authorize.net is configured properly. --->
<cfset httpBody = httpBody & "&x_email_customer=#x_email_customer#">

<cfif isDefined("cardSecurityCode") and cardSecurityCode eq "">
<cfset httpBody = httpBody & "&x_card_code=#cardSecurityCode#">
</cfif>

<cfset cfxhttp = {}>
<cfset headers = "Content-Type: application/x-www-form-urlencoded">
<cfx_http5 url="#authURL#" method="post" out="cfxhttp.body" outqhead="cfxhttp.QHEAD" outhead="cfxhttp.RHEAD" ssl="5" body="#httpBody#"
header="#headers#">
</cfx_http5>

<cfset response = cfxhttp.body>
```

The code is a minor change and relatively easy to do. I've tested this method in a production environment and it works fine. I do not recommend this as a *long term* solution. The preferred long term solution is upgrading the server(s) and ColdFusion version to currently supported versions. This way there will be security updates to help protect against new threats. If you are on ColdFusion 10 or 11 then the best option is to install the ColdFusion patches and upgrade the Java version to 1.8 then you will be good to go. If you need an experience ColdFusion developer to make these changes then please do contact us, we will be happy to assist.

The CFX_HTTP5 tag uses WinHTTP which is a built into Windows PROXY server. Here is where part of the problem exists. Microsoft didn't update WinHTTP on Windows 2008 Standard SP2. They've only updated it for Windows 2008 R2 and up. See this update (https://support.microsoft.com/en-us/help/3140245/update-to-enable-tls-1-1-and-tls-1-2-as-a-default-secure-protocols-in). This leaves us not being able to use CFX_HTTP5 on Windows 2008 Standard and older.

This is one more friendly reminder to make sure your ColdFusion servers are patched! Either patch them yourself, have your hosting provider patch them. If you need help upgrading your VM or patching your server (or anything else) our operations group is standing by 24/7 - give us a call at 402-408-3733, or send a note to operations at cfwebtools.com.

CAVEATS:

- **This fix *will not work* for Windows 2003 Server, for any version of ColdFusion, as there is no support from Microsoft for TLS 1.1 or 1.2 in this server version.**
- **This fix *will not work* for Windows 2008 Standard Server (not R2), for ColdFusion 9.0.n and older, as there is no support from Microsoft for TLS 1.1 or 1.2 for WinHTTP in this server version.**