

Your Mission: Use the F-Response Enterprise Management Console COM Control to automate FEMC operations

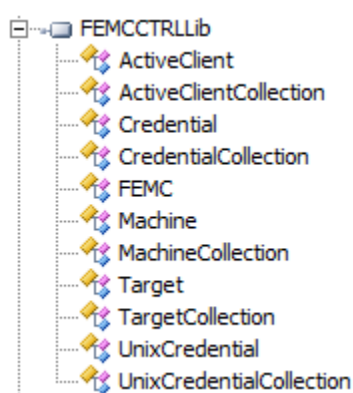
Note: This guide assumes you have downloaded and installed F-Response Enterprise Edition, the F-Response dongle is plugged in and the License Manager Monitor is running.

Overview

Starting in F-Response Enterprise 3.09.07 we included a fully scriptable COM Control (FEMCCTRL) that would allow any customer to automate the operations of the FEMC. In an effort to enhance the understanding of this COM control and how best to program it in a variety of languages we've included this Mission Guide with examples in VBScript, C#, Perl, and Python.

Understanding the FEMCCTRL Object Model

The FEMCCTRL control presents a very simple and straightforward object model that can be accessed from a variety of COM aware tools, including the free Microsoft Visual Studio Express edition¹.



Let's take a moment to provide a quick overview of the individual objects and collections in the FEMCCTRL.

ActiveClient & ActiveClientCollection

ActiveClient & ActiveClientCollection objects represent Machine objects that are currently connected to our License Manager. They possess many of the same methods as Machine objects, however they cannot be started/stopped/installed/uninstalled.

Credential & CredentialCollection

Credential & CredentialCollection objects represent Windows based Credentials, use these objects in much the same way as you would use the Credentials section of the FEMC.

FEMC

FEMC object represents the core FEMC Console, it provides properties and methods that replicate functions performed by the FEMC Console.

Machine & MachineCollection

Machine & MachineCollection objects represent potential or current F-Response deployment targets, use these objects in much the same way as you would use Scans in the FEMC.

Target & TargetCollection

Target & TargetCollection objects represent Machine or ActiveClient Disk/Logical Volume/Physical Memory Targets.

UnixCredential & UnixCredentialCollection

¹ Microsoft Visual Studio Express Editions are freely available from Microsoft at <http://www.microsoft.com/exPress/>

UnixCredential & UnixCredentialCollection objects represent Non-Windows based credentials, use these objects in much the same way as you would use the Unix Credentials section of the FEMC.

Using the FEMCCTRL Object in Visual Basic Script

Microsoft's Visual Basic Script² is a very simple COM aware scripting language and is a logical first environment to detail using the FEMCCTRL in. We have included two Visual Basic Scripts (.vbs) files in the standard F-Response Enterprise installation package. You will find those scripts in the installation folder (C:\Program Files\F-Response\). Let's take a minute to cover those scripts in more detail below:

Active Clients Example Script (FEMCCTRL-SampleActiveClients.vbs)

```
Dim femc, activeclient, targets, unixcreds, activeclients
On Error Resume Next

'Create the FEMC Object
set femc = CreateObject("FEMCCTRL.FEMC")

'Set the location of the configuration file for the FEMC (MANDATORY)
femc.FEMCConfigureFileLocation = "C:\Program Files\F-Response\"

'Load the FEMC Configuration (MANDATORY)
femc.LoadConfig

'Now let's create a collection of ActiveClients and begin performing work
Set activeclients = femc.ActiveClients

For each activeclient in activeclients
    set targets = activeclient.Targets
    For each target in targets
        target.Login()
        'Do work
        target.Logout()
    Next
Next

Next
```

Essentially the ActiveClients script is useful after you have deployed F-Response via the FEMC and have one or more "Active Clients" connected to your licensing dongle. This allows you to automate select operations on each ActiveClient. The most common operations would be "Login", "Logout", and "PhysicalDiskMapping". For additional information on methods and properties available see the Object Viewer in Visual Studio or another COM aware application.

Machine Deployment Example Script (FEMCCTRL-SampleMachines.vbs)

```
Dim femc, creds, machines, targets, unixcreds

On Error Resume Next

'Create the FEMC Object
set femc = CreateObject("FEMCCTRL.FEMC")

'Set the location of the configuration file for the FEMC (MANDATORY)
femc.FEMCConfigureFileLocation = "C:\Program Files\F-Response\"
```

² More information about Visual Basic Script as well as the complete language reference is available here
<http://msdn.microsoft.com/en-us/library/t0aew7h6%28VS.85%29.aspx>

```
'Load the FEMC Configuration (MANDATORY)
femc.LoadConfig

'Start by creating a collection of Windows Credentials
set creds = femc.Credentials

'Add a credential, in this instance we have added a Windows Domain credential
creds.add "username","DOMAIN","userpasswd"

'We can also create a collection of Unix Credentials
set unixcred = femc.UnixCredentials

'We will now create a Unix Root User credential and add it to the Unix Credential Collection
unixcred.AddRootUser "rootpasswd"

'Now let's create a collection of machines and begin performing work

Set machines = femc.Machines

'Let's add a machine by Machine name
machines.Add "Targetcomputer"

'Let's add a machine by IP Address
machines.Add "192.168.1.1"

'Enumerate and work with the machines in our collection
For each machine in machines
' Remember to refer to the Object Browser to show the Status Enumerations
' 0 = inaccessible, 1 = available not installed, 2 = installed stopped, 3 = installed started

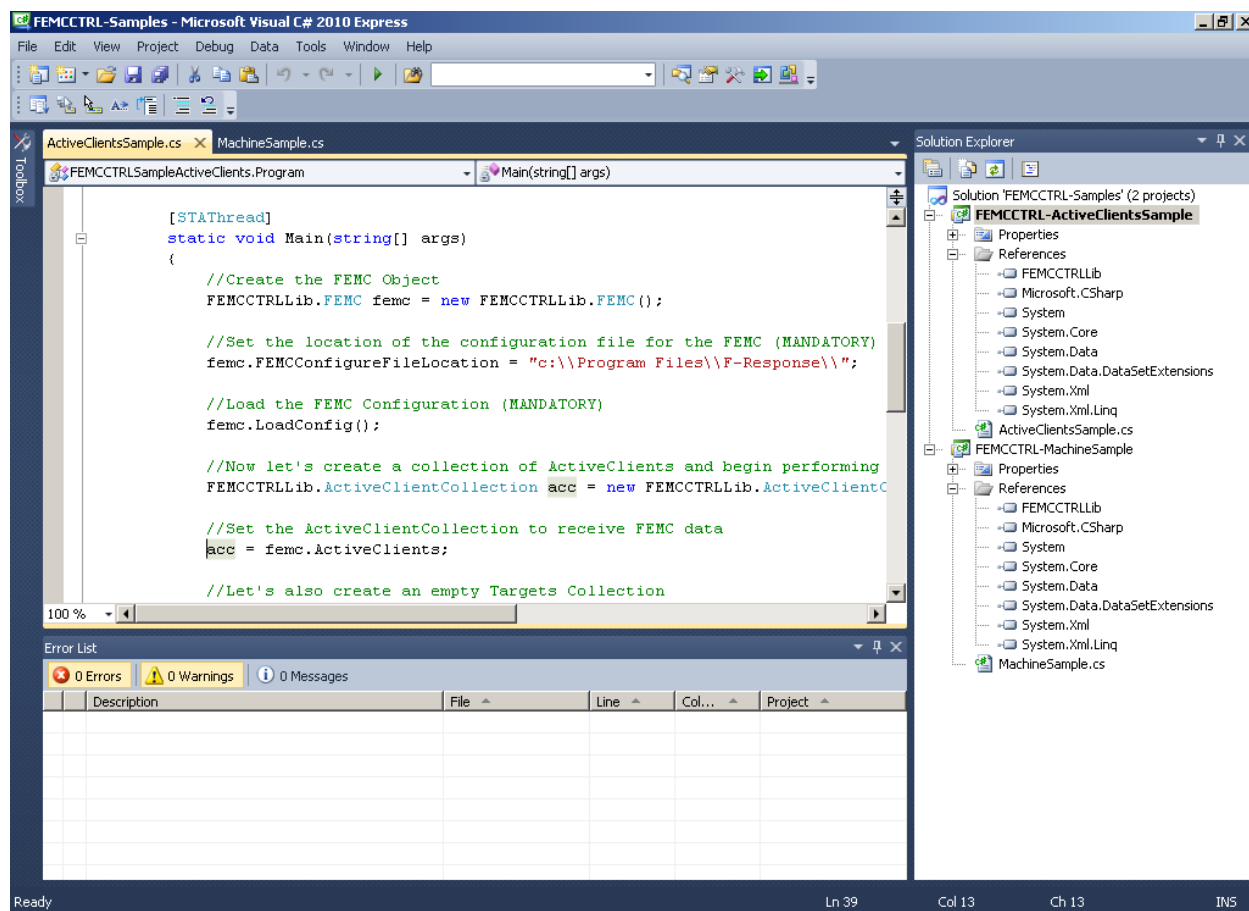
    If machine.Status = 1 Then
        'Machine is available and F-Response is not installed, install it
        machine.InstallFResponse()
    End If
    If machine.Status = 2 Then
        'Machine in available and has F-Response installed, start it
        machine.StartFResponse()
    End If
    'Get a listing of Targets'

    Set targets = machine.Targets
    For each target in targets
        target.Login()
        'Do work
        target.Logout()
    Next
    'Stop F-Response on the remote machine
    machine.StopFResponse()
    'Uninstall F-Response from the remote machine
    machine.UninstallFResponse()
Next
```

Essentially the Machines sample script is useful for automating the entire FEMC usage process. You'll see creating Windows and Unix Credential collections, a Machine collection, populating those collections, and using the Machine specific methods available to Install, Start, Stop, and Uninstall F-Response. For additional information on methods and properties available see the Object Viewer in Visual Studio or another COM aware application.

Using the FEMCCTRL Object in Microsoft .NET (C#)

Microsoft's Visual C# 2010 Express³ is the newest free Visual Studio environment for developing .NET applications. .NET is a COM aware technology however, because our COM object uses pointers, .NET requires we must use the "unsafe" keyword and brackets around very specific operations and set the project for Unsafe compilation.



Microsoft Visual C# 2010 Express showing two C# sample applications using the FEMCCTRL

The "unsafe" keyword and brackets must surround using the TargetsCollection, see below:

```
foreach (ActiveClient ac in acc)
{
    unsafe{ //We use object pointers so .NET must mark this as unsafe to effectively
execute it
        tcc = ac.Targets;
        foreach (Target tc in tcc)
        {
            tc.Login();
            //Do Work
            tc.Logout();
        }
    }
}
```

³ Visual Studio 2010 C# Express is available here <http://www.microsoft.com/express/Downloads/#2010-Visual-CS>

Using the FEMCCTRL Object in ActiveState Perl (Win32)

In addition to accessing COM controls via Microsoft technologies, there are also bindings available for traditional open source scripting languages such as Perl. The following code illustrates using the FEMCCTRL through Activestate Perl⁴.

```
#F-Response Sample Script for F-Response Enterprise COM scripting object version 3.9.7
#This sample script covers using the COM object to perform simple connection with the
ActiveClients Object Collection.
#Please consult the FEMCCTRL Object Model for additional information, Object model accessible
using standard scripting tools/apis
#April 2010

#Using the ActiveClients Object in the FEMCCTRL, you will want to use this object collection when
you have already deployed F-Response
#to target machines and they are currently connected to your licensing dongle.

use warnings;
use strict;

use Win32::OLE;
use Win32::OLE::Const 'FEMCCTRL';

#Create the FEMC Object
my $femc = CreateObject Win32::OLE 'FEMCCTRL.FEMC' or die $!;

$femc->{FEMCConfigureFileLocation} = "C:\\Program Files\\F-Response\\";

$femc->LoadConfig();

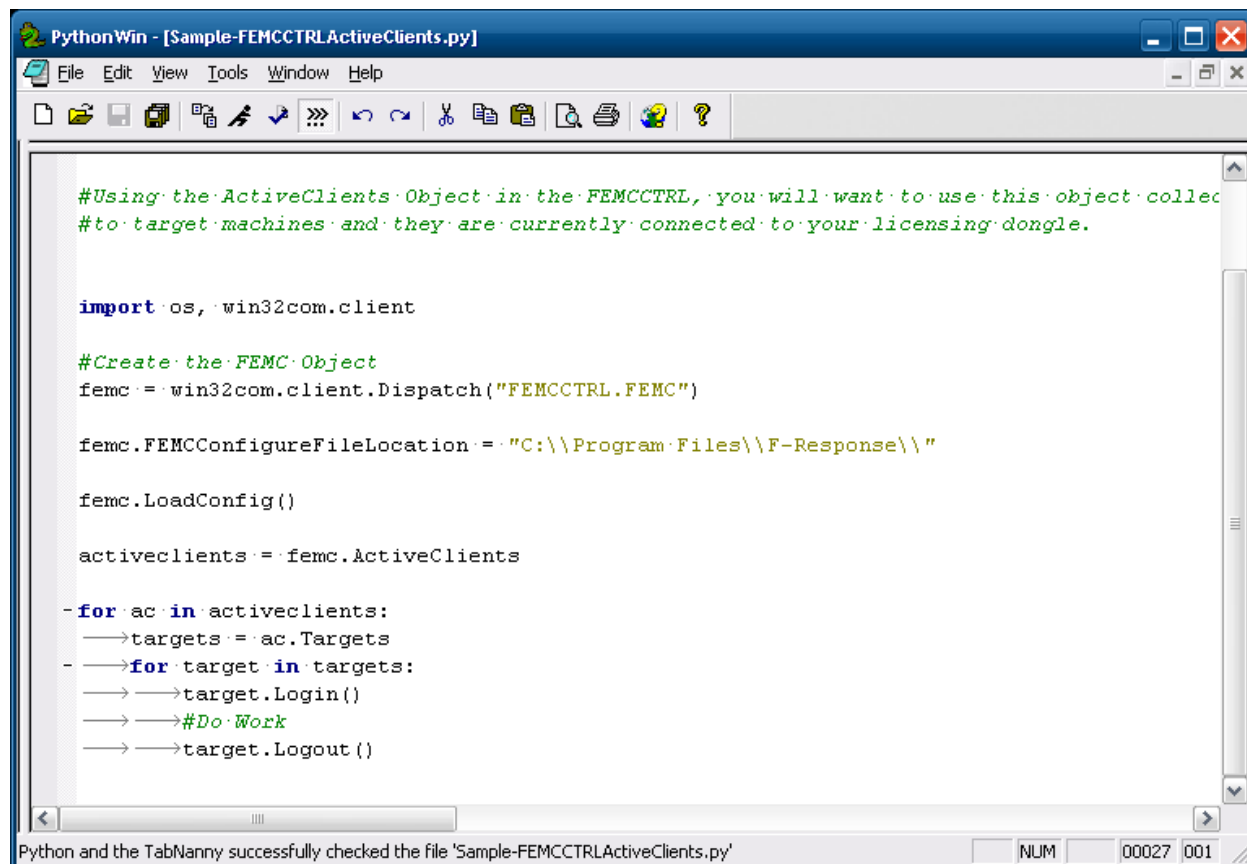
my $activeclients = $femc->{ActiveClients};

foreach my $ac (in $activeclients){
    my $targets = $ac->{Targets};
    foreach my $target (in $targets){
        $target->Login();
        #Do Work
        $target->Logout();
    }
}
```

⁴ Activestate Perl is available for the Windows platform at <http://www.activestate.com/activeperl/downloads/>

Using the FEMCCTRL Object in ActivePython

ActiveState also provides a Windows version of the popular open source programming language Python. As ActivePython on the Windows platform is also COM aware it can be used to interface with the FEMCCTRL.



```
#Using the ActiveClients Object in the FEMCCTRL, you will want to use this object collected
#to target machines and they are currently connected to your licensing dongle.

import os, win32com.client

#Create the FEMC Object
femc = win32com.client.Dispatch("FEMCCTRL.FEMC")

femc.FEMCConfigureFileLocation = "C:\\Program Files\\F-Response\\"

femc.LoadConfig()

activeclients = femc.ActiveClients

for ac in activeclients:
    targets = ac.Targets
    for target in targets:
        target.Login()
        #Do Work
        target.Logout()
```

Python and the TabNanny successfully checked the file 'Sample-FEMCCTRLActiveClients.py'

Summary

In summary the F-Response Enterprise Management Console COM control is a highly flexible and extensible interface providing automation capabilities to any COM aware programming environment. Furthermore, many of the scripts and code that have been presented in this document are also available in the F-Response Enterprise 3.09.07+ installation package in the "Samples" folder for your use.