# Intel® vPro™ Technology Module for Microsoft* Windows* PowerShell*

## Invoke-AMTGUI  Editor Tool

# Revision History

| Revision | Revision History | Date |
|----------|------------------|------|
| 3.2.1 | Initial release | Jan, 2012 |

# Contents

**Figures**

# 1 Preface

Microsoft* Windows* PowerShell* is becoming more prevalent as an automation scripting language within many Information Technology (IT) environments. Whether writing scripts to automate tasks or taking advantage of native Windows PowerShell extensibility within existing management tools, the ability to Out of Band manage Intel® Active Management Technology (Intel® AMT) enabled clients with Windows PowerShell is a very attractive solution.

The Windows PowerShell command line shell and scripting language helps IT professionals achieve greater control and productivity. Using a new administrator-focused scripting language with consistent syntax and utilities, Windows PowerShell allows IT professionals to more easily control system administration and accelerate automation. Windows PowerShell is easy to adopt, learn, and use. It works with existing IT infrastructure and cmdlet investments. It runs on Windows XP, Windows Vista*, Windows Server* 2003 and is included as part of Windows 7, Windows Server 2008, and Windows Server 2008 R2. For more information on Windows PowerShell), please visit:

http://www.microsoft.com/windowsserver2003/technologies/management/powershell/default.mspx

By leveraging the Out of Band Management cmdlets within the Intel vPro PowerShell Module, IT professionals can extend their Windows PowerShell reach to include direct manageability of Intel AMT enabled clients independent of power or operating system health.

## 1.1 Document Scope

This document covers the requirements, installation and usage of the Intel® vPro™ Technology Module for Microsoft Windows PowerShell invoke-AMTGUI Editor Tool.

## 1.2 Intended Audience

This document is intended for IT professionals who want to learn more about using the Intel® vPro™ invoke-AMTGUI Editor Tool to customize the invoke-AMTGUI for their environment. The ability to customize the appearance and functionality of the invoke-AMTGUI enables IT professionals to create solutions to their business needs.

## 1.3 Related Documentation and Software

Download the package, module installer and supporting files referenced in this document at the following link:

http://www.intel.com/go/powershell

# 2    Introduction

The Intel® vPro™ Technology Module for Powershell GUI Editor Tool enables an IT practitioner to design and customize the GUI that is displayed by the invoke-AMTGUI script from the Intel vPro Powershell module. Both the functionality and appearance of the invoke-AMTGUI script are customizable to provide a tailored end user experience. New commands and scripts can be called from a customized GUI, easily allowing for extension of the interface. Multiple invoke-AMTGUI interfaces can be defined, which allows great flexibility in displaying different Intel vPro functions depending on the user and system under management. The power and flexibility of customizing the invoke-AMTGUI allows an IT professional to modify the script to solve their business need.

The invoke-AMTGUI Editor Tool creates an XML configuration file which the invoke-AMTGUI cmdlet interprets and displays. The invoke-AMTGUI script is located in the Intel vPro Technology Module for Microsoft Windows PowerShell. The module does not need to be installed to run the invoke-AMTGUI Editor and create the XML configuration files – but must be installed when calling the invoke-AMTGUI script.

## 2.1    Requirements

### 2.1.1    Invoke-AMTGUI Editor

The invoke-AMTGUI Editor can be run standalone on any system with the Microsoft .NET framework 3.5 or higher installed.

| IT / Console PC | Any PC with Microsoft Windows XP or later with: |
|---|---|
| | • Microsoft .NET Framework 3.5: |
| | http://www.microsoft.com/download/en/details.aspx?id=21 |

### 2.1.2    Intel® vPro™ Technology Module for PowerShell

The Editor creates an XML file that is used by the invoke-AMTGUI script in the Intel vPro Technology Module for PowerShell. The Editor and module need to be the same major and minor versions (3.2.X) to ensure interoperability.

| IT / Console PC | Any PC with Microsoft Windows XP or later with: |
|---|---|
| | • Windows PowerShell 2.0 installed |
| | • Intel vPro Technology Module for PowerShell (www.intel.com/go/powershell) |
| | • Windows Remote Management (WinRM) |

| | |
|---|---|
| | **Note:** WinRM is not natively included with Windows XP and Windows Server 2003.  Please ensure WinRM is installed prior to use: http://www.microsoft.com/downloads/details.aspx?familyid=845289ca-16cc-4c73-8934-dd46b5ed1d33&displaylang=en |
| | **Note:** Windows PowerShell is not included by default in Windows XP, Windows Vista, and Windows 2003 Server.  Please ensure Windows PowerShell 2.0 is installed prior to use: http://technet.microsoft.com/en-us/scriptcenter/dd772288.aspx or http://support.microsoft.com/kb/968929 |
| Managed Client with Intel vPro technology | • Intel® Active Management Technology (Intel® AMT) 3.0 or higher<br>• Intel® Management Engine is provisioned.<br>• See subsections 2.1.3, 2.1.4 for further information |

## 2.1.3　　　Cmdlet and Function Authentication

Prior to using the Intel vPro PowerShell module the client's Intel AMT firmware must be set up and configured. Use existing configuration management software or reference the material on the Intel® vPro™ Expert Center below on how to set up and configure an Intel AMT enabled client.

http://communities.intel.com/community/openportit/vproexpert

Credentials must be specified in order to invoke commands against an Intel vPro technology enabled client. Typical behavior of the Windows PowerShell Module for Intel vPro technology cmdlets and functions are as follows:

- When no credentials are provided  the cmdlets and functions will use the locally logged on Kerberos credential.
- When only the username (Kerberos or Digest) parameter is included a prompt will be displayed to provide the associated password.
- If the credentials are stored as a PowerShell variable, they may be passed into the cmdlets and functions with the credential parameter.

**NOTE**

*For Active Directory authentication to work correctly, a hostname or the Fully Qualified Domain Name (FQDN) must be specified.*

## 2.1.4　　　Cmdlet and Function Communication Encryption

If the Intel vPro enabled client is configured to use Transport Layer Security (TLS) by having a web server certificate issued to the Intel Management Engine the –TLS switch must be passed to the cmdlet.

When managing an Intel vPro enabled client over TLS (Port 16993), it is important that the computer name match the primary subject name of the issued TLS certificate. Typically, this is the Fully Qualified Domain Name (FQDN).

# 3 Invoke-AMTGUI Editor Setup

This chapter and its subsections step through setting up the invoke-AMTGUI Editor.

## 3.1 Downloading the Editor

Download the latest copy of the Editor from the following location:

http://www.intel.com/go/powershell

## 3.2 Installing the Editor

Install the Invoke-AMTGUI Editor using the following procedure:

1. Uninstall previous versions of the Editor.
2. Decompress the zip file to a directory.
3. Navigate to the directory where the file was decompressed.
4. From within the **x64** or **x32 directory** run **setup.exe**.
5. When the Installation Wizard appears click **Next.**
6. On the License Agreement confirmation screen, click **I Agree** and then click **Next** to continue with the installation.
7. There will be an opportunity to change the module installation folder. It is recommended that it be left to the default c:\Program Files\Intel Corporation\PowerShell\invoke-AMTGUI Editor\
   Click **Next**.
8. Click **Next** to confirm the installation.
9. If User Account Control is turned on a prompt will appear to continue.
10. When the installation complete screen appears, click **Close**.

The module installs into the following default directory:

**C:\Program Files\Intel Corporation\PowerShell\invoke-AMTGUI Editor**

### 3.2.1 Uninstalling the Editor

To uninstall the Invoke-AMTGUI Editor, use the Windows Add or Remote Programs feature or run the Editor Installer of the version to uninstall.

#### 3.2.1.1 Add or Remove Programs

1. In Windows under the Control Panel navigate to **Uninstall or change programs**.
2. Select **Intel® vPro(tm) Module for PowerShell invoke-AMTGUI Editor** and select **Uninstall**.
3. If User Account Control is turned on a prompt will appear to continue.

### 3.2.1.2    Running the Editor Installer

1. Navigate to the directory where the file was decompressed.
2. From within the **x64** or **x32 directory**, run **setup.exe**.
3. Select **Remove Intel® vPro(tm) Module for PowerShell invoke-AMTGUI Editor** and click **Finish**.

# 4 Windows PowerShell Setup and Configuration

## 4.1 Installing Windows PowerShell

Windows PowerShell is natively included with Windows Server 2008, Windows Server 2008 R2, and Windows 7.

Windows Management Framework makes some updated management functionality in Windows 7 and in Windows Server 2008 R2 available to be installed on Windows XP, Windows Server 2003, Windows Vista, and Windows Server 2008. Windows Management Framework contains Windows Remote Management (WinRM) 2.0, Windows PowerShell 2.0, and Background Intelligent Transfer Service (BITS) 4.0.

To obtain a copy of the Windows Management Framework and install Windows PowerShell, click the link below.

http://support.microsoft.com/kb/968929

### 4.1.1 Configuring Windows PowerShell

Windows PowerShell has its ExecutionPolicy set to Restricted by Default. This setting must be changed to execute the Out of Band Management PowerShell cmdlets and functions provided within the PowerShell Module for Intel vPro technology.

All the cmdlets and functions within the PowerShell Module for Intel vPro technology have been signed. At a minimum the PowerShell Execution Policy needs to be changed to RemoteSigned to execute the cmdlets and functions. If you have more restrictive security requirements set the ExecutionPolicy to AllSigned.

To apply the ExecutionPolicy to the LocalMachine run the following command within the Windows PowerShell Console (be sure to start the console with "Run as administrator"):

> **Set-ExecutionPolicy RemoteSigned**
>
> Or
>
> **Set-ExecutionPolicy –Scope LocalMachine RemoteSigned**

To apply the ExecutionPolicy to the current user only run the following command within the Windows PowerShell Console:

> **Set-ExecutionPolicy –Scope CurrentUser RemoteSigned**

To apply the ExecutionPolicy to the process only run the following command within the Windows PowerShell Console:

**Set-ExecutionPolicy –Scope Process RemoteSigned**

**NOTE**

*If using an ExecutionPolicy based process, it will be required to run Set-ExecutionPolicy each time a Windows PowerShell Console is launched.*

For more information on setting the Windows PowerShell ExecutionPolicy, please visit the following site:

http://msdn.microsoft.com/en-us/library/bb648601(VS.85).aspx

# 4.2 Installing the Windows PowerShell Module for Intel vPro Technology

Although the Editor can be used standalone the invoke-AMTGUI script in the Intel vPro PowerShell module uses the XML file the Editor produces. The module must be installed and loaded before the invoke-AMTGUI script is available.

## 4.2.1 Downloading the Module

Download the latest copy of the Windows PowerShell Module for Intel vPro technology from the following location:

http://www.intel.com/go/powershell

The download contains installation and configuration instructions.

# 5    Using the Invoke-AMTGUI Editor

## 5.1    The Basic GUI

To start the Editor open the start menu -> All programs -> Intel PowerShell Invoke-AMTGUI Editor. When launched the editor will display a new GUI as shown below:
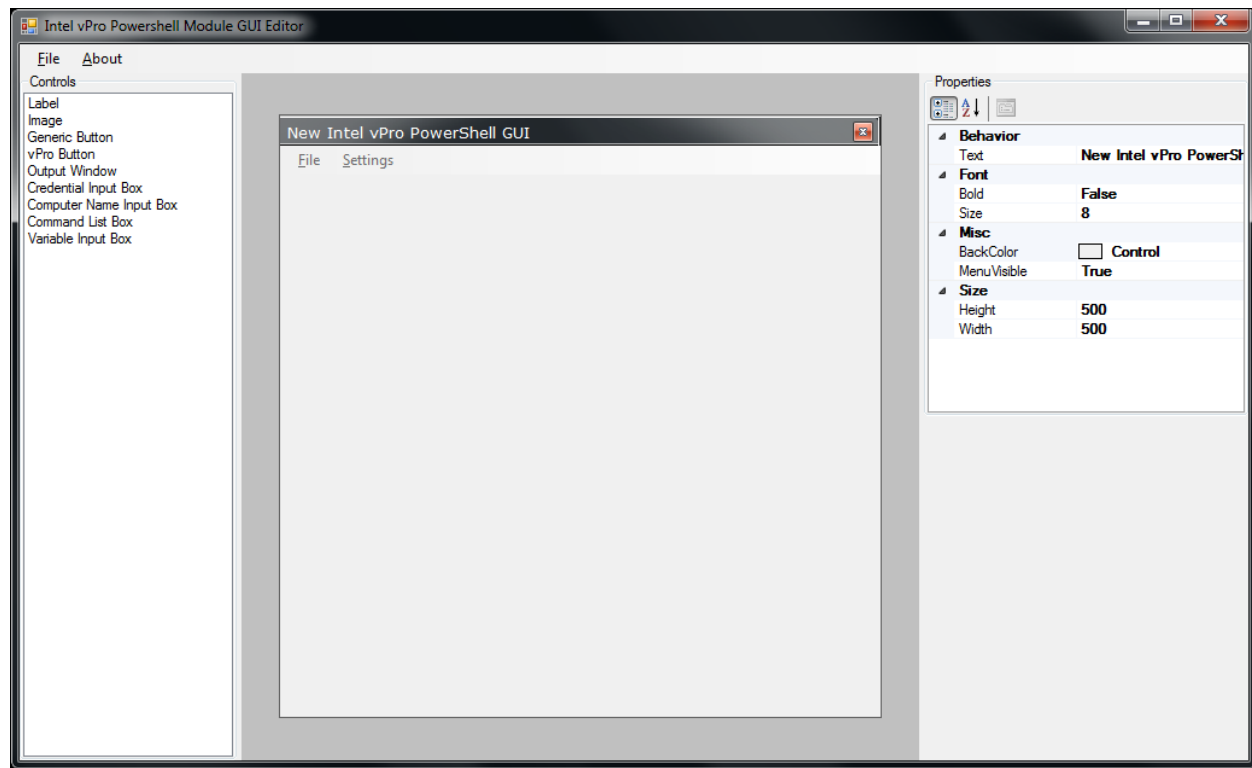


**Figure 1:  New GUI**

Different property items can be edited under the properties box.

- Text: This is the text that will be displayed in the application title bar
- Font: The font size and style
- BackColor: The color of the background
- MenuVisible: If set to true then the file and settings menus will be displayed at runtime. Having this menu displayed to the user at runtime allows them to be able to save the output, change the font size and edit variables.

## 5.1.1    Loading and Saving

The GUI can be loaded and saved by using the options under the file menu.

# 5.2    Controls

On the left side of the Editor is the Control box that contains the different controls that can be added to the GUI. To add a control to the AMT GUI form select the control from the control box and drag it to the GUI and release it. Now the control can be selected and its properties edited in the property window.
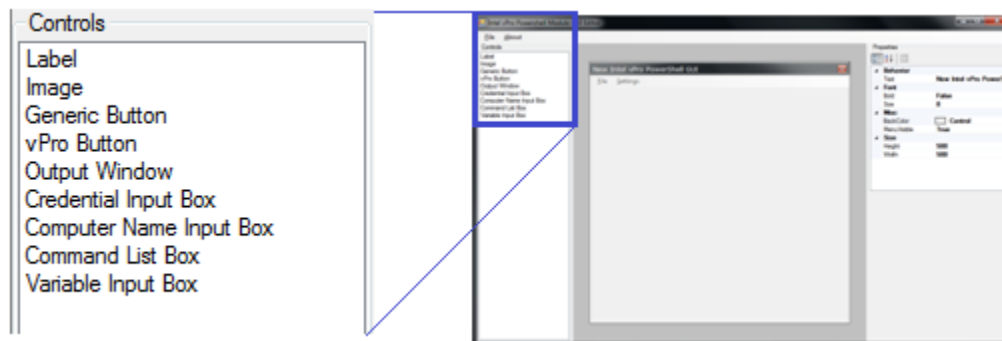


**Figure 2:  Controls**

Common properties between all controls:

- Location: The coordinates of the control
- Size: The height and width of the control

Controls can be moved by dragging them around the GUI. To resize a control, select the lower right corner on the control and drag.



**Figure 3:  Resizing a control**

## 5.2.1 Label

Use the label control to place a text label on the GUI. The text, font, and color can be edited. One usage of the label is to display information or simple commands to the user.
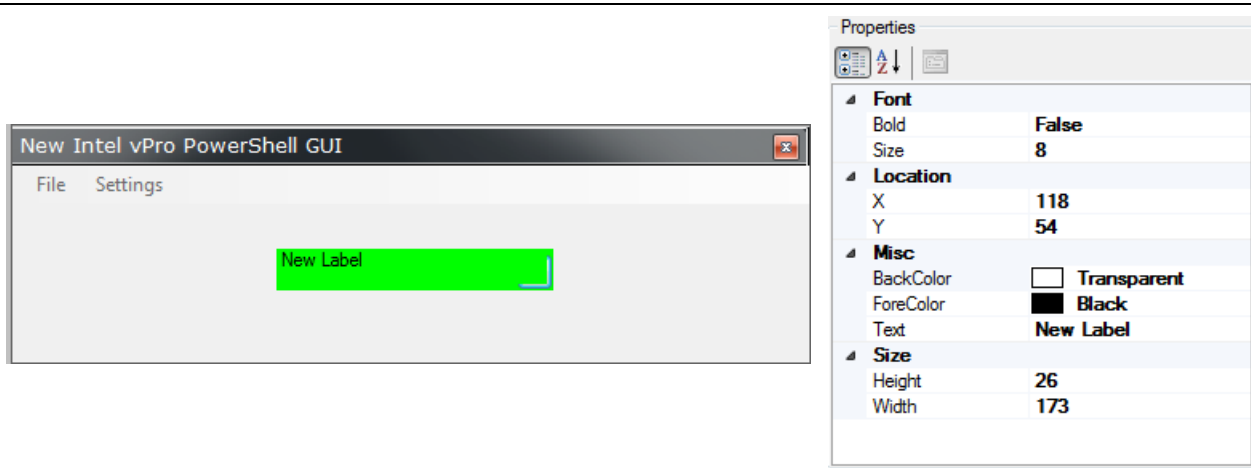


**Figure 4: Label Control**

## 5.2.2 Image

Use the image control to place an image on the GUI. Select an image by clicking on "Image" under properties. The layout property is used to determine how the image is displayed. Images are directly embedded into the XML file so there is no need to distribute them.
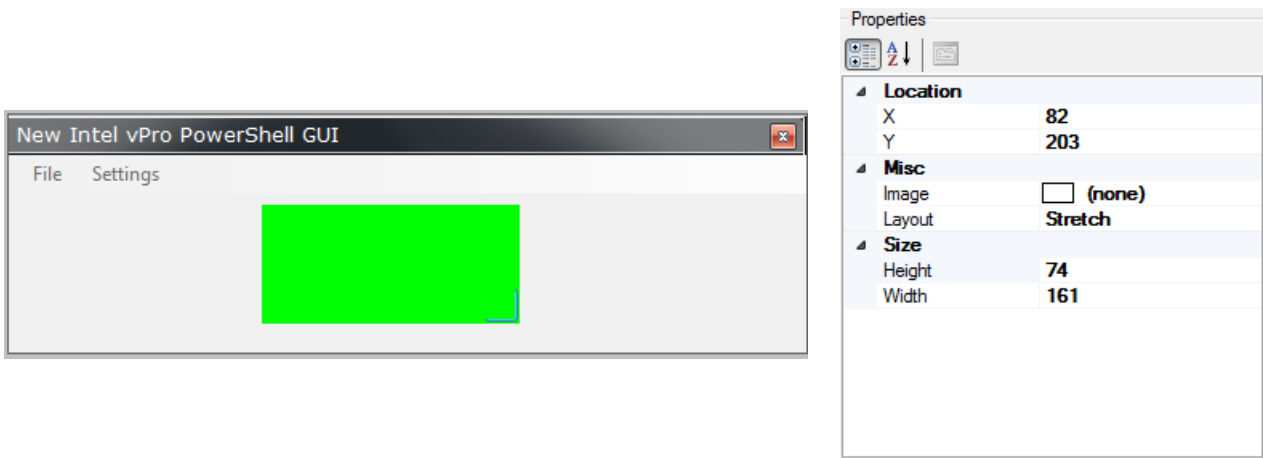


**Figure 5: Image Control**

### 5.2.3    Generic Button

The generic button control can call any script or executable. Set the CmdLineToRun property to the script, cmdlet or executable to run. Change the text of the button by using the Text property. The color can be edited and an image can be added.
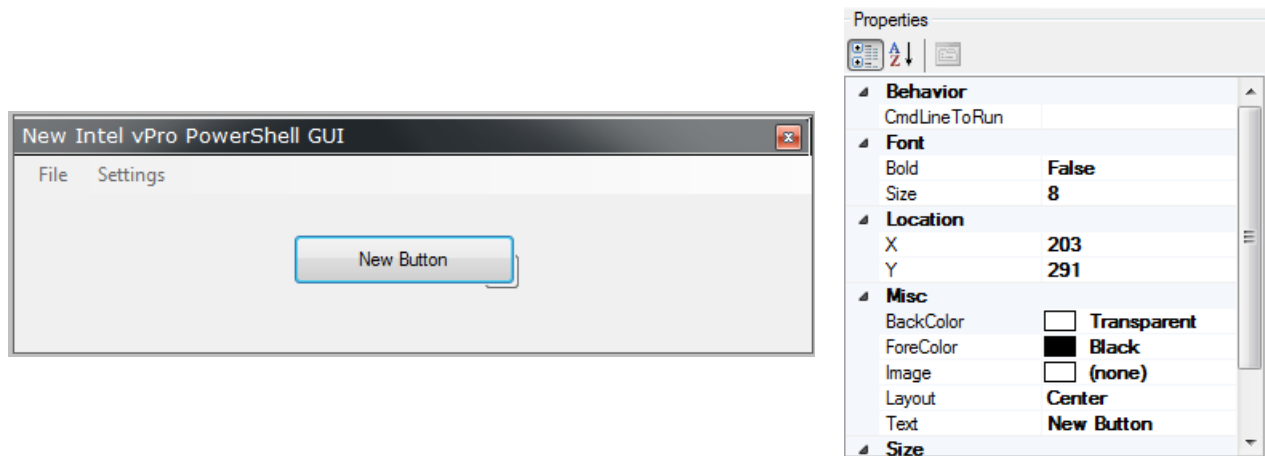
**Figure 6:  Generic Button Control**

### 5.2.4    vPro Button

The vPro button control allows the easy use of the Intel vPro technology scripts in the Intel vPro PowerShell Module. Choose the script the button runs through the SelectedScript property. If a script has parameters they are displayed below the Properties window. This allows for the customization of the script. These parameters are hardcoded into the button and are used when the user presses the button.
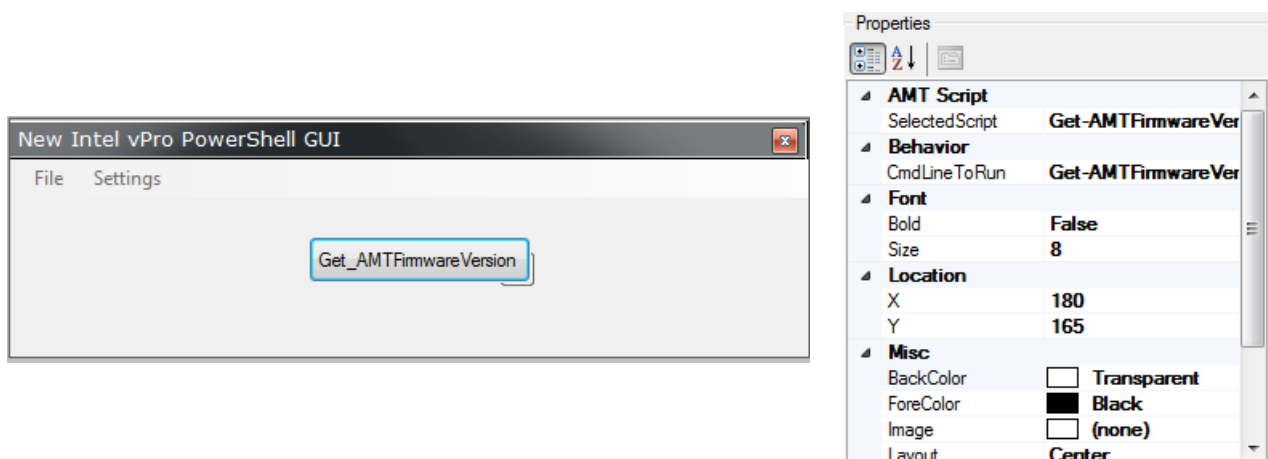
**Figure 7:  vPro Button Control**

## 5.2.5 Output Window

The output window control displays the output from scripts and applications run from the GUI.
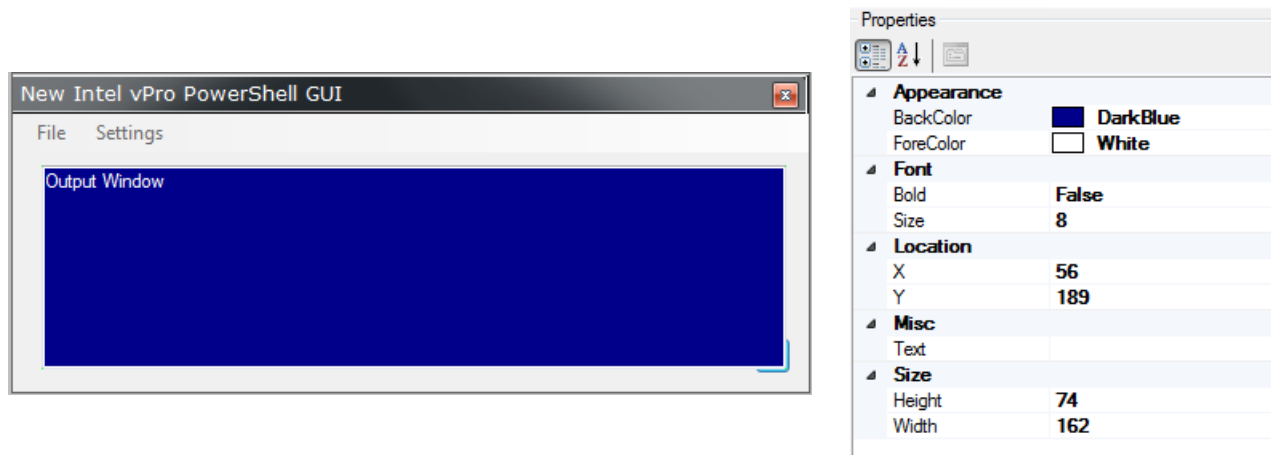


**Figure 8: Output Window Control**

## 5.2.6 Credential Input Box

There is a built in variable $credential that is passed to all built in Intel vPro technology scripts. If a credential input box is added then the user can edit the credential variable at runtime. It is not necessary to add this control since the credentials can be passed into the invoke-AMTGUI script when it is run. Any script can use the $credential variable.
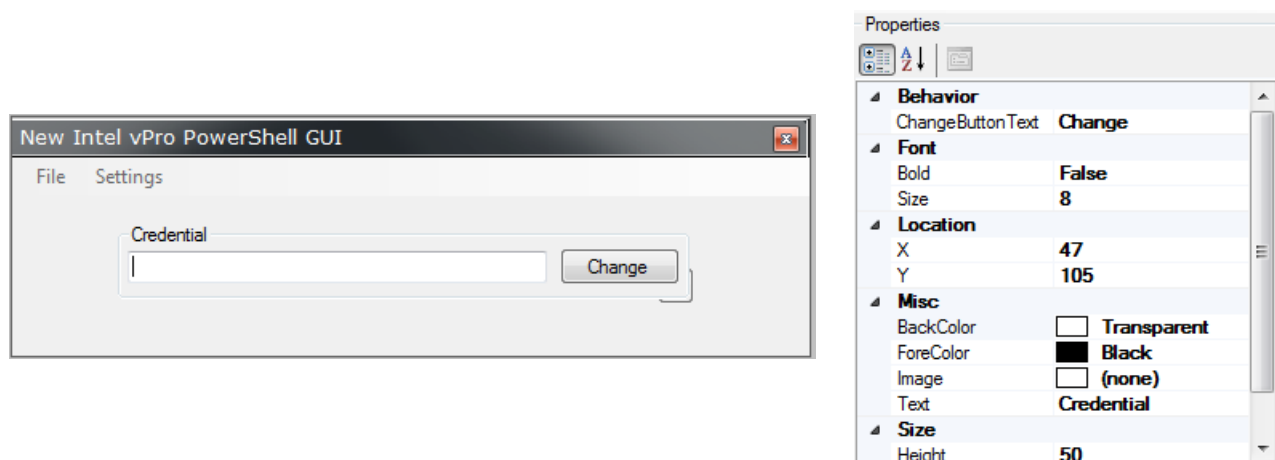


**Figure 9: Credential Input Box Control**

## 5.2.7        Computer Name Input Box

Adding the computer name input box to the GUI allows the user to enter in hostnames. Any hosts in this box are automatically used by the Intel vPro technology scripts. The computer names are stored in the variable $computerName that is available to any script.
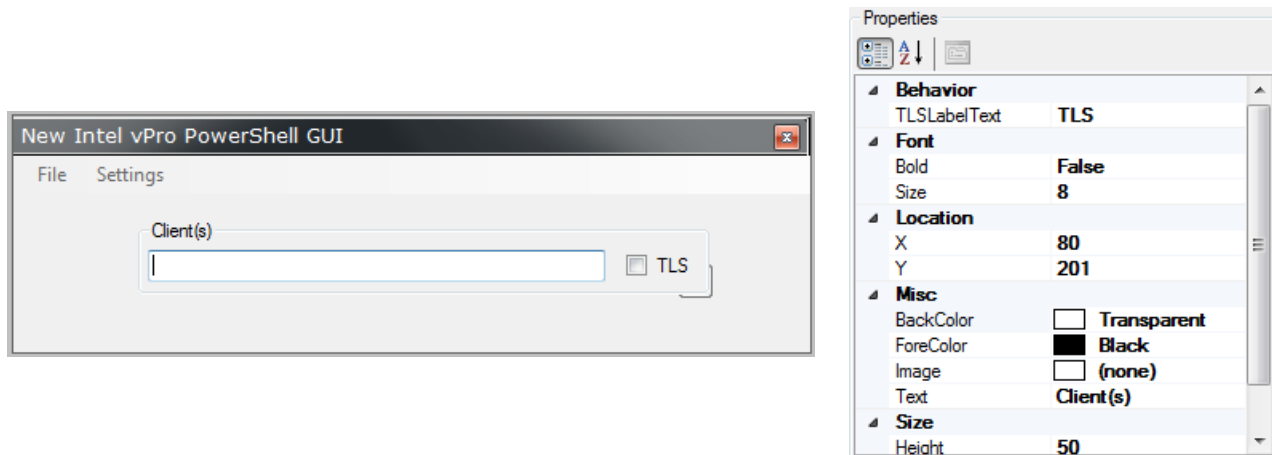


**Figure 10:  Computer Name Input Box Control**

## 5.2.8        vPro Command List Box

The vPro Command List Box control contains all the Intel vPro Technology scripts. The contents of this control are not editable. Use this control to give the user access to all the Intel vPro Technology scripts and their settings.
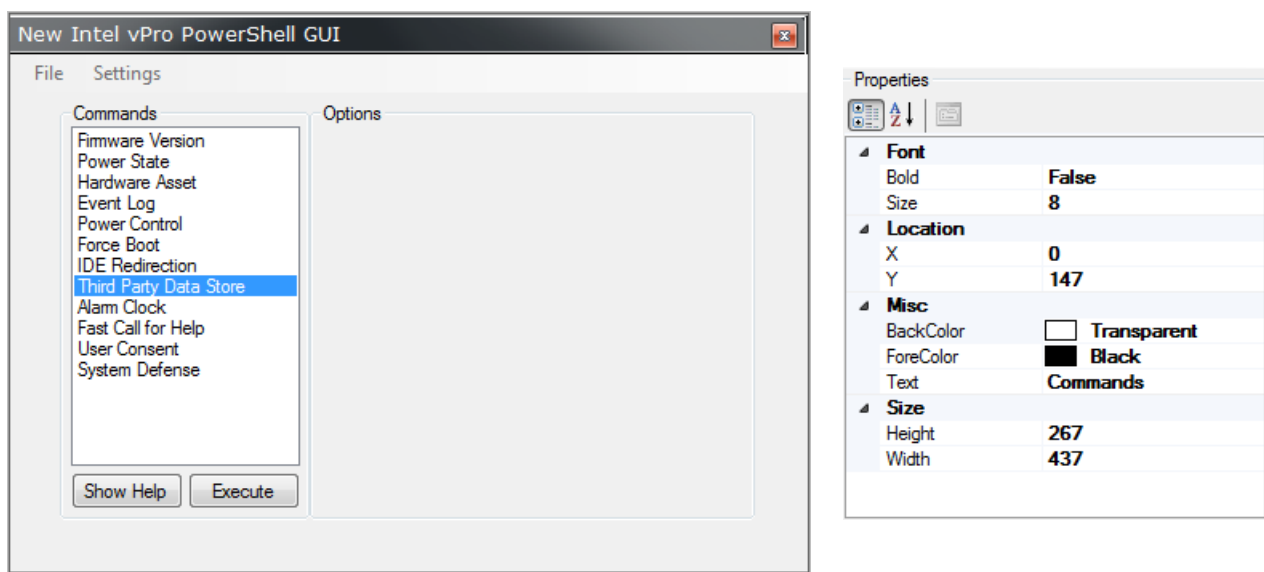


**Figure 11:  vPro Command List Box Control**

20

## 5.2.9　　Variable Input Box

If you have a custom variable that you would like to allow the user to edit it can be exposed using the variable input box.
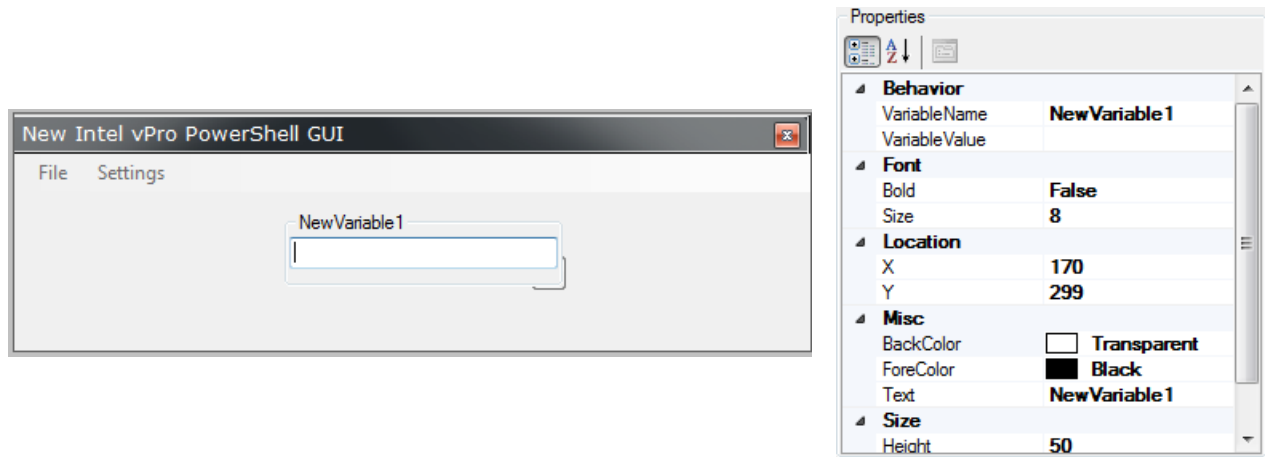


**Figure 12:  Variable Input Box Control**

Properties:

- VariableName: The name of the variable – it will be available to other scripts and controls as $"VariableName"
- VariableValue: the initial value of the variable
- Text: The text displayed on the group box

# 5.3　　Variables

## 5.3.1　　Built in

The following variables are built into the AMT GUI and are available for any script called by the GUI:

- $computerName: Any computer names
- $credential: The credential – this is a secure PSCredential
- $3PDSVendor: The Intel vPro Third Party Data Store Vendor
- $3PDSEnterprise: The Intel vPro Third Party Data Store Enterprise
- $3PDSApplication: The Intel vPro Third Party Data Store Application
- $3PDSBlock: The Intel vPro Third Party Data Store Block

## 5.3.2    Editing at Runtime

If you are displaying the menu to the user (section 5.1), the variables can be edited at runtime by selecting Settings->Edit Variables
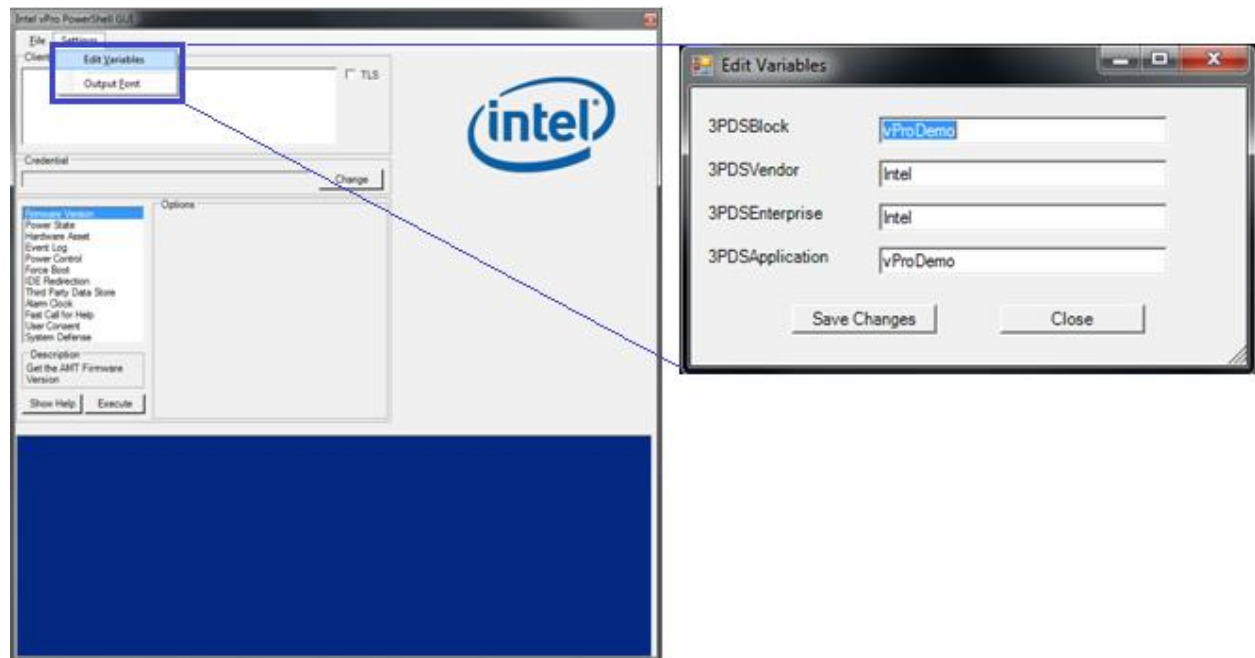


**Figure 13:  Editing Variables in invoke-AMTGUI**

## 5.3.3    Creating in the Editor

Variables can be created in the Editor that can be used by invoke-AMTGUI at runtime. These variables are accessible to any script or cmdlet called, and can be exposed to the user if the menu is displayed (section 5.1).
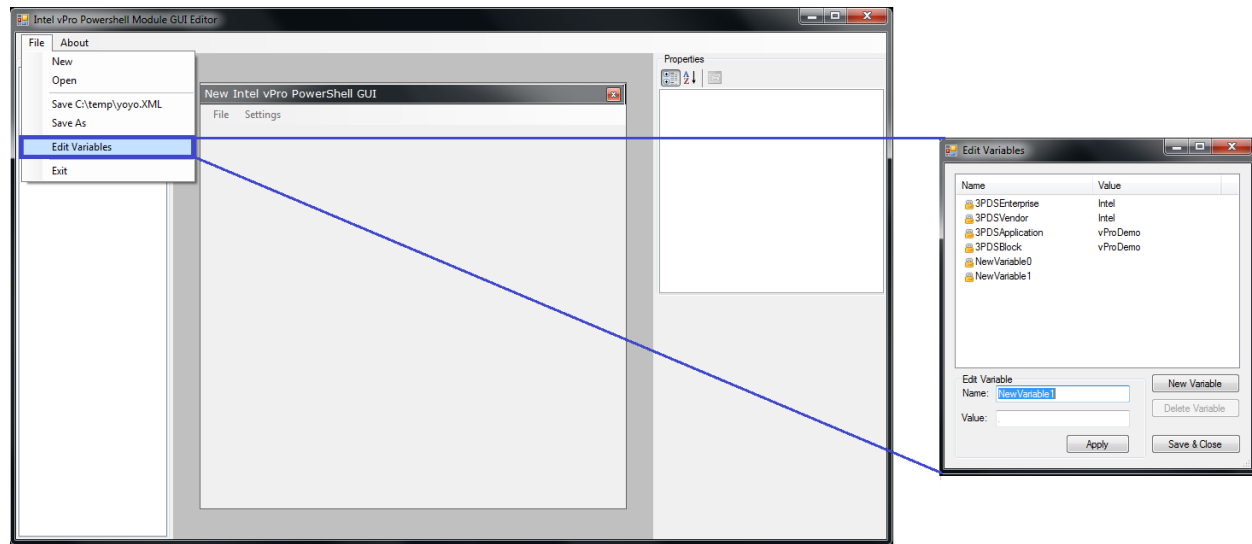
**Figure 14:  Creating Variables in the Editor**

## 5.4     Displaying the GUI

In the PowerShell console type:

### Invoke-AMTGUI –xmlConfig <your XML file name>

This will launch the AMTGUI and display your customized GUI. All data including the image is embedded into the XML so you only need to distribute the XML file.

**NOTE**

Although the Editor can be used standalone, the invoke-AMTGUI script in the Intel vPro PowerShell module uses the XML file the Editor produces. The module must be installed and loaded before the invoke-AMTGUI script is available. (section 4.2).

# A      Appendix A: QuickStart Guide

This appendix provides minimal information to install and use the invoke-AMTGUI Editor.

## A.1      Download the Editor

Download the latest version of the Editor at www.intel.com/go/powershell

## A.2      Install the Editor

Start setup.exe for the version of Windows you are running.

## A.3      Save GUI

Save the GUI you have created to an XML file.

## A.4      Download the Intel vPro PowerShell Module

Download the latest version of the module at www.intel.com/go/powershell

## A.5      Install the module

Start setup.exe for the version of Windows you are running.

## A.6      Launch invoke-AMTGUI with the XML configuration file

In a PowerShell console type:

**Import-module intelvpro**
**Invoke-AMTGUI –xmlConfig <your XML file name>**