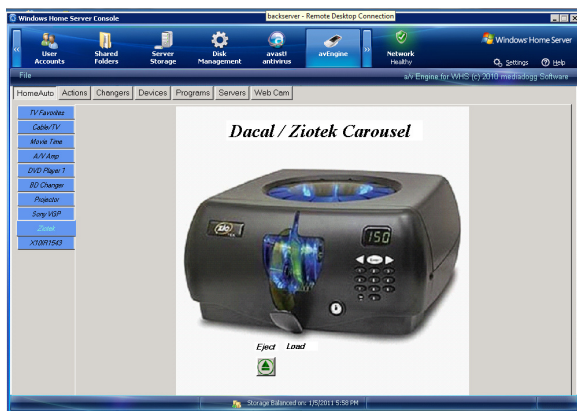




a/v Engine for Windows Home Server



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- Runs as WHS add-in
 - Works with any other program in your network
 - Works with any device that can connect over IP
 - Supports client / server in your home network
- Control devices with an IR receiver, including X10 and INSTEON
- Control Sony DVD Changers (VGPXL1Bx, CX995VX, CX777ES et al)

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Introduction

The MediaDogg a/v Automation System is an inexpensive way to build control sequences for devices that respond to infrared signals. The control sequences can be tied to graphical representations of hand-held remote control controls, buttons or any graphic image.

Underlying the Automation System are data structures in the form of XML files that are used to save the automation configuration and the configuration of virtual remote controllers. These files can be loaded and saved, so that an automation configurations can be created and adapted to various usage patterns.

The a/v Automation System also has dedicated support for several non-infrared controlled devices: (1) Sony VGPXL1Bx fire wire-controlled 200 DVD changers, (2) Sony CX777ES rs232 controlled 400 DVD changer, and (3) Dacal/Ziotek – style USB connected DVD carousels.

A standalone component, **a/v Dashboard** provides an Automation Editor and Virtual Remotes Editor, which presents the virtual remotes in a tabbed view. Buttons can be assigned and positioned, and infrared sequences can be captured (learned) and associated with the buttons on the virtual remote tabs. This component also supplies Remote Automation Services to other **a/v Automation System** components. Another standalone component, **a/v Engine** is the subject of this document.

Automation Tabs

a/v Engine is an add-in for the Windows Home Server. It shares the tabbed view of virtual tabs as in **a/v Dashboard**. The automation configuration tabs for Actions, Changers, Devices, Programs and Servers have also been retained. A new tab, Browser / Web Cam, has been added to make it convenient to monitor the output of a specific web URL, such as a web camera.

a/v Engine has all the same device support and automation actions processing as a/v Dashboard, hence it can serve as a central point of automation in the home. Changers can be directly connected to the WHS platform, or devices can be controlled using the USBUIRT blaster.

The one element that is not included in **a/v Engine** is the GUI virtual tabs editor. Tabs must be created by manually editing an XML file or using the a/v Dashboard. The complete XML file specification and action sequence command syntax is described in the [a/v Dashboard User Guide](#). Regardless of how created, the tab file should be put in a folder that is accessible to the add-in. The File menu opens “c:\Program Files\Windows Home Server\avEngine “ by default.

Following is a screenshot of a tab I created for my home theater called “Movie Night”. It includes all the controls that I need, set up to work just like the actual physical remotes work for familiarity. In addition, I have defined a few special purpose buttons such as “All Off”, “Start Movie”, “End Movie” that perform multiple device operations with a single click.

On this tab, I have my Screen, Projector, a/v Receiver, BD Changer and 3 DVD Changers available, as well as the aforementioned custom buttons. With the **a/v Dashboard**, you can easily design your own layout.

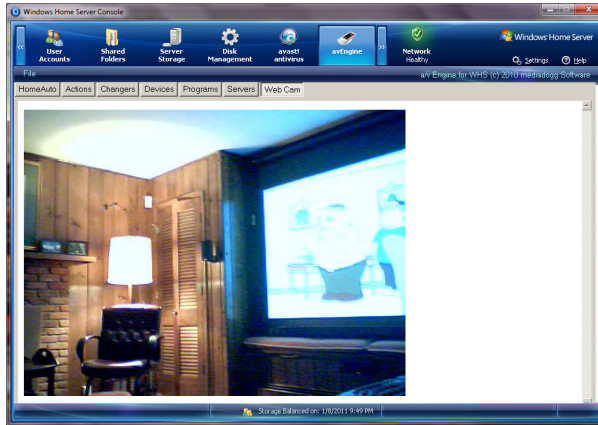
Sample: Movie Time Tab



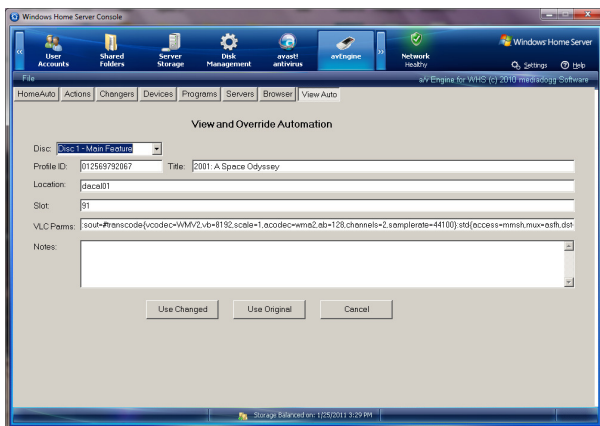
This is a tab that the author uses during a typical movie session. The leftmost remote has buttons for controlling the projection screen. Next follows the projector remote, the a/v receiver remote, the BD Changer remote, Sony CX777ES changer remote using code set “1” and remotes for two Sony CX995V DVD changers, using codes sets “2” and “3”. Hotspots for each remote button have been defined using **a/v Dashboard**. The resulting tabs and corresponding automation table have been loaded into **a/v Engine**. Notice that there are some buttons for controlling X10 / Insteon lights as well. The author’s WHS machine is physically connected to a USBIRT blaster, a Dacal / Ziotek changer via USB and to a Sony CX777ES via RS232 port. All of these devices can be controlled using a/v Engine directly, or by sending remote automation commands from any **a/v Automation System** client, such as **LoadDVD**, **LoadDVD Pro**, **a/v Dashboard**, another instance of **a/v Engine**, or the standalone component: **RunAction.exe**.

Browser / Web Cam Tab

For the purpose of remotely monitoring a specific URL (usually local, such as a security web cam), a Browser / Web Cam tab has been provided. The URL for the web camera defaults to 127.0.0.1:8080, but can be changed on the browser context menu.



A special feature designed expressly for users of Invelos DVD Profiler, is the ability to tie LoadDVD automation to an Online Collection. When a valid User ID is filled in on the context menu, that user's Online Collection is displayed. Automation commands are pulled from an exported XML file, based on the selected Profile ID.



following template should be loaded into Windows Media Player (replace the IP address with your own):

```
<?wpl version="1.0"?>
<smil>
<head>
  <meta name="Generator" content="Microsoft Windows Media Player"/>
  <meta name="ItemCount" content="1"/>
  <title>Streaming Media From WHS</title>
</head>
<body>
  <seq>
    <media src="mms://192.168.1.125:8080"/>
  </seq>
</body>
```

The Author has tested this tab with a popular webcam utility called Dorgem Webcam Capturer, available from SourceForge: <http://sourceforge.net/projects/dorgem/>.

Any other similar monitoring software should work as well. Just point the tab URL to the URL and port of the desired web camera. For an example, in my system, the webcam URL was set to 192.168.3.146:8080, where 8080 is the default Dorgem port.



The View Auto tab is automatically presented when the Run Automation context menu item is selected. If the exported XML contains the selected Profile ID, the information from the fields involved in automation are filled in. Temporary modifications can be made before running the automation. If the automation creates a request to play media, of course this would not make sense to do on the WHS. Instead, avEngine looks for an installation of VLC Player. If found, a streaming session is created. The default parameters are displayed on the View Auto page, and can be modified before the automation is executed. To view the streamed media on the network, a playlist using the

</smil>

Where To Get a/v Automation System Components

The software may be purchased and downloaded at the <http://www.mediadogg.com/shopping>. (http://www.mediadogg.com/shopping). The modest one-time only license fee entitles the user to free future upgrades. Only Paypal is accepted at this time.

Installation and Startup

1. The software is downloaded in “.zip” format. Once unzipped, a self-installing .msi file is created. The file should be placed in the \Software\ Add-Ins folder and installed from the Settings tab in the Windows Home Server console. Prior versions must be removed first. It is normal for the Console to reboot after each installation or de-installation.

Known Limitations

1. Port-forwarding and firewall issues may prevent, complicate or slow down the remote automation functions. The user is responsible for resolving these issues. Mediadogg software is not equipped to provide networking support, but will gladly share general information, tips and hints and other experience in a Forum context.
2. There is internal support for a limited number of devices, such as Sony changers, Dacal/Ziotek style carousels, the USBUIRT blaster and sample Virtual Device-Remotes that are reflections of what the author owns personally. Other devices can be supported by external scripts or programs that can be incorporated using the [PRG] action sequence.
3. A limited number of images and virtual remote tabs are supplied for demonstration purposes only. The user is responsible for obtaining the images that serve as button and tab backgrounds.
4. In certain circumstances, the avEngine status may become confused due to network errors or problems with device connections. For network problems, File\Restart Server may resolved the issue. If not, restarting the WHS console may resolve issues. Otherwise, it may be necessary to de-install then re-install the add-in. Meanwhile, check all devices are connected and installed correctly (USBUIRT, Ziotek, Sony changers, etc.). Device connectivity problems may possibly require access to the WHS Control Panel, which is not available from the WHS Console.

Support

The author appreciates the use of [We Got Served Forums](#) for discussion and support of this add-in.

The author may also be contacted via email: <mailto:plugindogg@mediadogg.com>.

System Requirements

1. a/v Automation System is supported under Windows XP (all versions), Windows Vista (all versions) and Windows 7 (all versions), except:
 - a/v Engine for WHS is designed expressly as an add-in for Windows Home Server.
 - LoadDVD and LoadDVD Pro are designed as Plug-ins for Invelos DVD Profiler
2. The USB-UIRT is the only supported IR blaster at this time. Other hardware can be supported using the program call capability.

Disclaimer and Limitations of Liability

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Sample automation configurations are provided for illustrative purposes. The Author makes no claim as to the applicability or usability of the sample configurations in any other environment than the Author's personally owned system. The images of various remote controls are of the Author's personally owned devices. However, you are not granted the right to further distribute images that support the sample XML configurations.

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Acknowledgements

As a newcomer to the world of object-oriented programming, I have taken liberal use of the many samples and code snippets available on the internet professional programming forums. Most notably, but not limited to: the Code Project, MSDN and switchonthecode.com. I have sometimes gotten the gist of a technique from an article, or at other times, pulled a code sample as a basis for tailoring to my needs. I am grateful for the generosity and ingenuity of the many authors from whom I've learned.

It goes without saying that the loving support of my family and friends are the foundation from which I draw all my inspiration and motivation.