STB Deploy Guide

Allwell IPTV125 STB Ver. 1.1

This document describes how to make JavaScript APIs to download configuration file from Internet to each STB. It co-work with PHP or MySQL server etc.,

Alwell Mfg. Inc.
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1. Overview

The general IPTV125 firmware is released with factory default setting. There are two methods to customize for different environment:

- Login into “Setup” page inside box and do modification step by step.
- Telnet or use console jag to edit configuration file via command line.

It is easy and convenient method for a few mount of STBs, but there should be other methods to reduce the loading if the deployment is large.

1.1 Purpose

The STB supports one “Initial Page” that can get from DHCP private option automatically. It can do lots of things at this “Initial Page”: change output format, replace portal page… etc, and even upgrade firmware. Because “Initial Page” is also a JavaScript file, therefore it can do everything that JavaScript APIs can.

For speed up this process, it also provides new JavaScript APIs for download configuration file from Internet instead of set each value by JavaScript. Just pre-edit the configuration file and then upgrade into STB to replace original one.

1.2 Content

This document describes how to make this mechanism work includes DHCP server setting and introduces some simple example of what it can do. If co-work with PHP or MySQL server…etc, it can assign IP for different Mac or other application. Set to factory default for recovery.

2. Initial Page

2.1 Booting Process

There is one API called xsystem.browserPortalPageByDhcp that is used to get the value of DHCP option 224 which is defined for set initial page URL. Current default index.html inside box will check this value first. If exist, it jumps to this URL directly.

If the behavior of index is not acceptable, please refer to another document “Set –Top- Box Customization_ Guide” to modify.

2.2 Environment Setup

The first step of this mechanism is set private option at DHCP server. The option number 224-254 Is for private use by DHCP server definition. It use option 224 and named as “browser-portal-page”, value format is string.

- **LINUX DHCP**

  - **Step1**

    Edit dhcpd configuration file, default location is /et/dhcpd.conf

    Add Private option declaration

    option browser-portal-page code 224=string;

    Then set value at subnet scope

    option browser-portal-page http://10.10.10.11/stb/init.html

  - **Step2**

    Restart dhcpd service by following command

    /etc/init.d/dhcpd restart

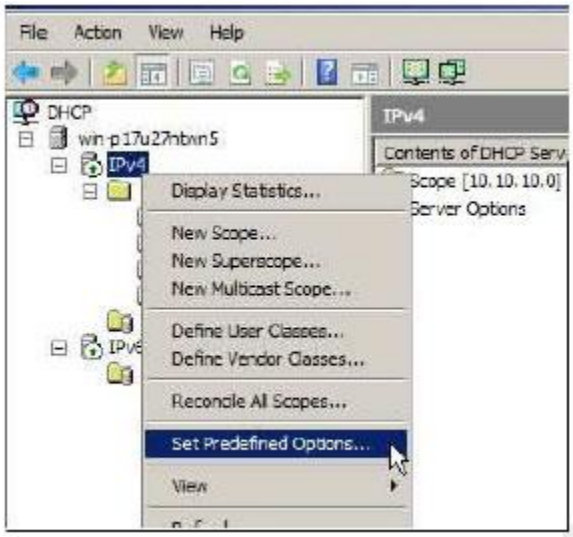
    Please verify at console return log about restart is OK.

    Shutting down dhcpd: [OK]

    Starting dhcpd: [OK]

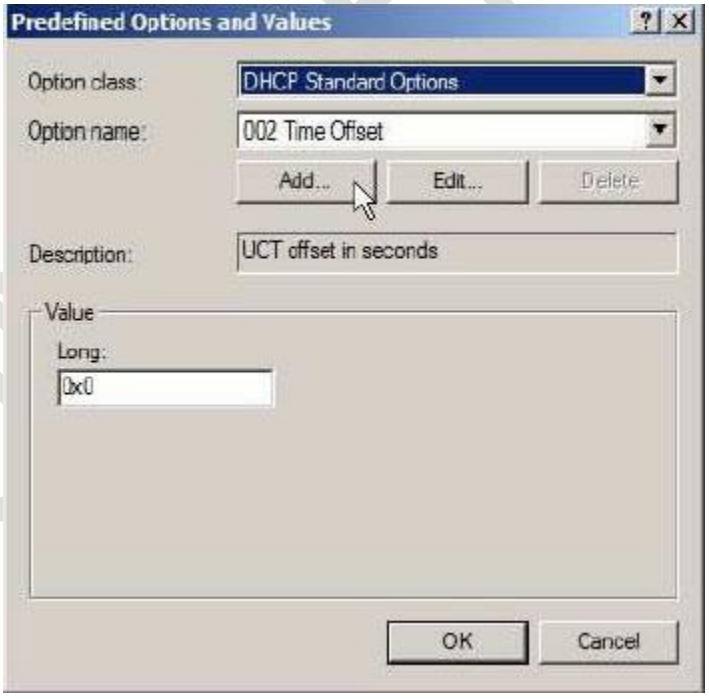
- **Windows Server 2008 DHCP Server**
  - **Step1**

    Right click IPv4 and select “Set Predefined Options”

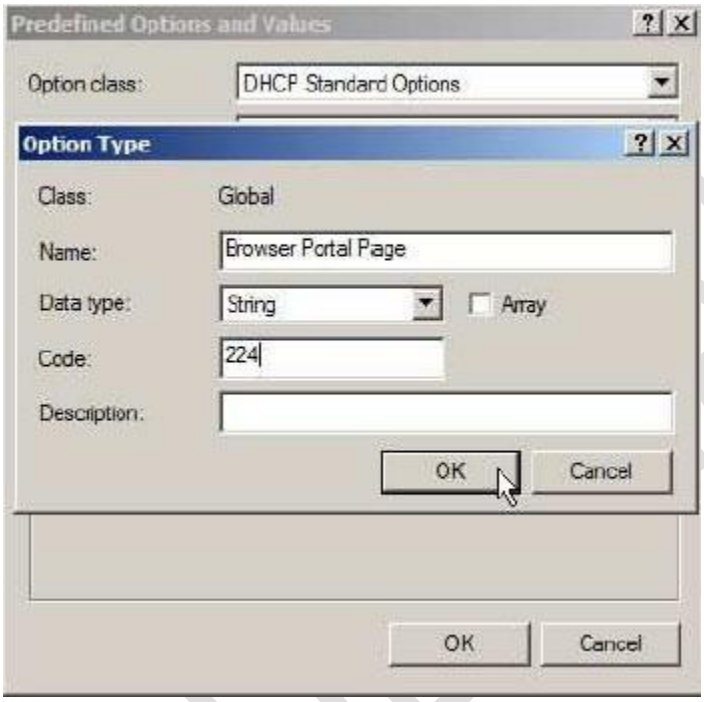


  - **Step2**

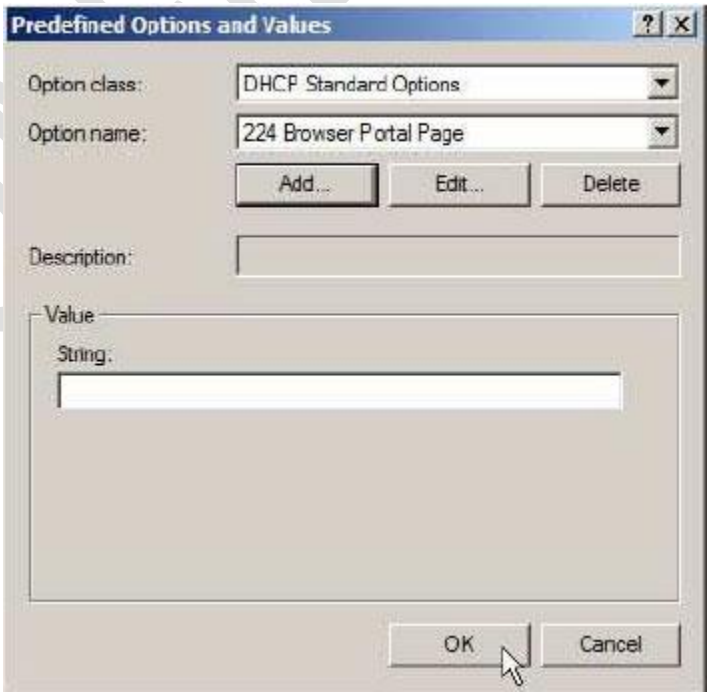
    Click “Add…” button



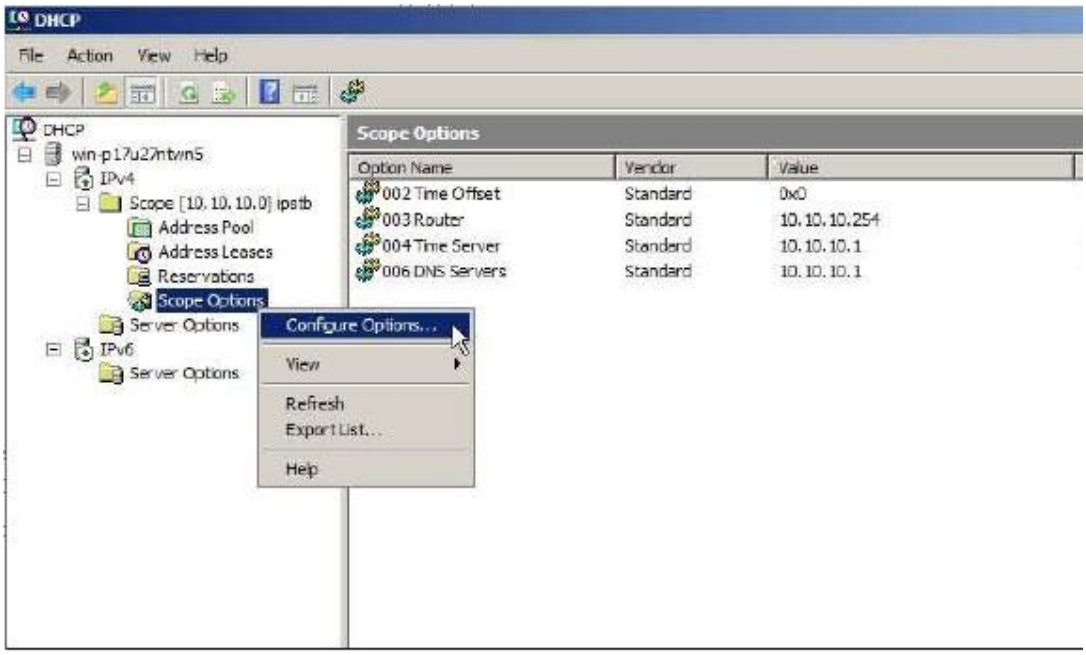
- **Step3.**
  Input “Brower Portal Page” as value of “Name”, select “String” as “Data type”, “Code” value is “224”, then press “OK” button. The “Option Type” window will close.



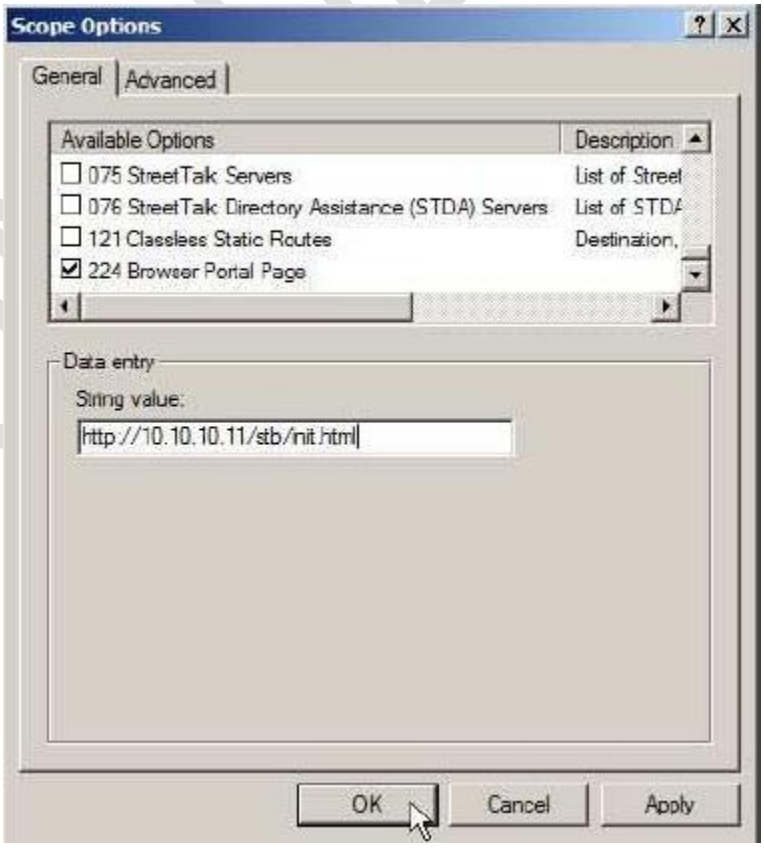
- **Step4**.
  Click “OK” button to close popup window.



- **Step5**.
  Right click “Scope Options” and select “configure Options…”

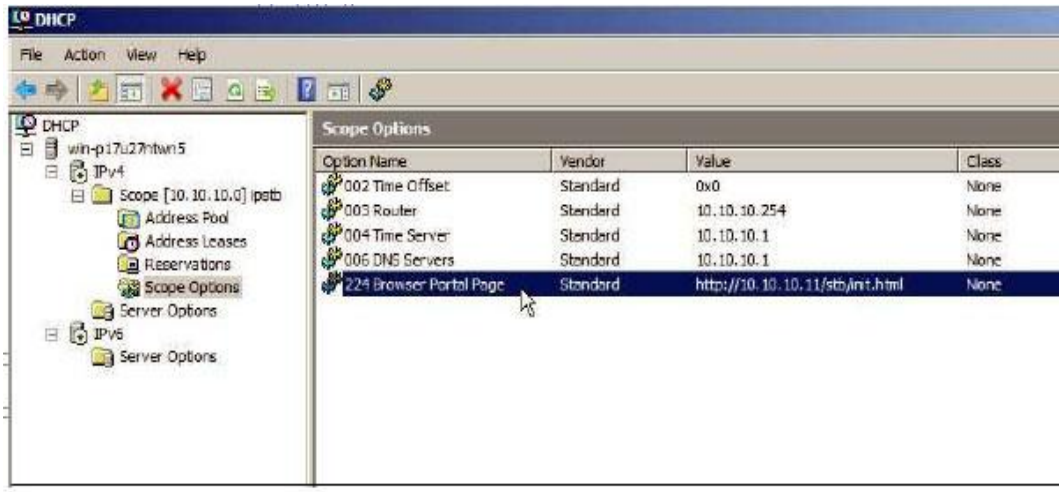


- **Step6**.
  Scroll “Available Options” to bottom, enable check box of “224 Browser Portal Page” and enter value at “String value”. Press “OK” to close popup window.



- **Step7.**

  The private option 224 has already added as a scope options.



  The second step is to put initial page at right location that option 224 specified. The default IPv4 type setting of STB is already DHCP, just connect Ethernet cable and boot the STB. If everything is fine then the STB should boot to the initial page.

2.3 Example

At this section provides some example to demonstrate what initial page can do.

- Replace default portal page

```
<!—init.html Example 1 Replace default portal page-->
<html>
<body>
<script language=”javascript”>
If(xsystem.browserPortalPage!=”http://10.10.10.11/stb/menu/menu.html”)
{
        xsystem.browserPortalPage =” http://10.10.10.11/stb/menu/menu.html”;
        xsystem.sysConfigSave();
}
window.location.replace(xsystem.browserProtalPage);
</script>
</body>
</html>
```

- Change default output format

```
<!—init.html Example 2 Change default output format-->
<html>
<body>
<script language=”javascript”>
```

```
If(xsystem.vidHdOutputFmt!=”720p50”)
{
        xsystem. vidHdOutputFmt =” 720p50”;
        xsystem.sysConfigSave();
}
If(xsystem.vidHdOutputFmt!=”pal”)
{
        xsystem.vidSdOutoutFmt= “pal”;
        xsystem.sysConfigSave();
}
window.location.replace(xsystem.browserPortalPage);
</script>
</body>
</html>
```

- Simple TV player

```
<!—init.html Example 3 Simple TV player-->
<html>
<body background=”tv:224.6.6.70:1234/”>
</body>
</html>
```

- Simple firmware upgrade

```
<!—init.html Example 4 Simple firmware upgrade-->
<html>
<body style=”margin-top:100px; margin-left:100px;>
<script language=”javascript”>
if(xsystem.sysFirmwareVer!=”1001”)
{
        var upgMtr = null;
        xsystem.sysFirmwareUpgrade(ftp://10.10.10.11/stb_1001.img);
        upgMtr = setInterval(“getResult()”,1000);

        function getResult(){
                var rtn = xsystem.sysFirmwareUpgradeProgress;
                document.write(“Upgrading…”+rtn +”%”);
                if(rtn==100)
                        xsystem.sysReboot();
                else if(rtn > 100)
                {
                        clearInterval(upgMtr);
                        document.write(“Upgrade Fail!!(“+ rtn + “)”)
```

```
                    }
                }
            }
            Else
            {
                window.location.replace(xsystem.browserPortalPage);
            }
            </script>
            </body>
            </html>
```

3. Upgrade Configuration File

The default configuration file (config.txt) usually doesn't suit different environment. Although it can set items at "Setup" page or use "Initial Page" to modify its value but there is one fast way. It can pre-edit your own configuration file and then upgrade from http ftp and tftp. Hole configuration file will be replaced by new one.

3.1 Command

- **Console Command**

Put new configuration file at http, ftp or tftp server and use below command to upgrade at console

Configupgrade ,url_of_config> [reboot]

For example:

configupgrade ftp://username:password@10.10.10.11/config.txt 1

configupgrade tftp://10.10.10.11/config.txt 0

configupgrade http://10.10.10.11/stb/config.txt

The new configuration file will replace old one at /root/data/config.txt

- **JavaScript API**

The APIs that used to upgrade configuration file are:

xsystem.sysConfigFileUpgrade(url_of_config) – Start upgrade

xsystem.sysConfigFileUpgradeProgress – Get upgrade progess or error code

For more detail information, please refrer to "JavaScript APIs" document.

Either console command or JavaScript APIs, it all need restart galio or reboot STB to take effect.

3.2 Deploy STB with New Configuration File

Combine with initial page and configuration upgrade: it is easy and fast to transfer numerous STB from factory default to individual value.

Case study:

- To modify the following setting: Portal Page, Display Region and Disable Throbber.

Step 1

Edit "config.txt" file, at first, modify config.txt file version. Assume the value is 1.1.

stb.config.version: 1.1

And then modify below items

browser.document.default:http://stb.com/home/home.html
stb.ui.width:720
stb.ui.height:480
controller.gif.throbber.enable:0

Save and move this file to server (Assume http://10.10.10.11/stb/config.txt)

Step 2

Write initial page and put into http server (Assume http://10.10.10.11/stb/init.html)

```
<html>
<body>
<script language-"javascript>
if(xsystem.sysConfigFileVer !=  "1.1")
{
        var upgMtr = null;
        xsystem.sysConfigFileUpgrade(http://10.10.10.11/stb/config.txt);
        upgMtr  = setInterval("getResult()",500);

        function getResult(){
                var rtn = xystem.sysConfigFileUpgradeProgress;
                if(rtn == 100)
                        xsystem.sysReboot();
                else if(rtn >100)
                {
                        clearInterval(upgMtr);
                        alert("Upgrade.Fail!!("+ rtn + ")")
                }
        }
}
Else
{
```

```
        Window.location.replace(xsystem.browserPortalPage);
}
</script>
</body>
</html>
```

Step 3

Set DHCP option 224 to http://10.10.10.11/stb/init.html

Step 4

Connect STB, STB will upgrade configuration file automatically.
If need to change the language to Chinese in the future, follow step 5

Step 5

Modify http://10.10.10.11/stb/config.txt

```
stb.config.verion: 1.2
dcument.languate.default:zh-tw
document.encoding.user: 2026
```

Step 6

Modify http://10.10.10.11/stb/init.html

```
……..
If(xsystem.sysConfigFileVer != “1.2”)
……..
```

Step 7

Reboot STB