



# **NV-310, NV-501-Wac**

**Application Store**

**Installation and Operation Manual**

| Document version          | Issue date       | Changes   |
|---------------------------|------------------|---|
| Version 1.5               | 18 October 2017  | Added:<br>APPENDIX B. Weather Forecast Service  |
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| Firmware version: 4.53b-4 |                  |   |

## Terms and Definitions

**Application Store** is a client/server solution, which allows client's devices to download latest versions of applications and firmware.

**The server side of the application store** represents an online resource storing various versions of an MIPS/ARM Android application and latest firmware versions for NV-310 and NV-501-Wac devices. The server side allows you to customize STB launchers by changing logo, tags, background, etc. Configuration is available in web interface. A beta testing function is also available for applications and firmware to allow users to install and test new features of applications and firmware.

**Client** is an Android application configured for the application store. The client side shows applications available for installation and update. The applications are sorted by categories and provided with description and screen shots.

## Conventional Designation

| Designation              | Description   |
|--------------------------|---|
| <b>Bold type</b>         | Notes, warnings, chapter headings, and titles are marked bold.  |
| <code>Courier New</code> | Command entry examples and command execution results are written in Courier New in a frame with a shadow. |

## Notes and Warnings



Notes contain important information, tips, or recommendations on device operation and setup.



Warnings inform users on hazardous conditions, which may cause injuries or device damage and may result in the device malfunctioning or data loss.

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TABLE OF CONTENTS

|       |  |    |
|-------|--|----|
| 1     | ABSTRACT.....  | 5  |
| 2     | INSTALLING THE APPLICATION STORE.....                              | 5  |
| 2.1   | Description .....  | 5  |
| 2.2   | Installing the Application Store from a Deb Package .....          | 5  |
| 2.3   | Installation Verification.....                                     | 5  |
| 2.4   | Updating the Application Store.....                                | 6  |
| 2.5   | Installing or Updating the Store from an Archive .....             | 6  |
| 2.6   | Setting Access Ports .....   | 6  |
| 2.7   | Connecting the Application Store Web Portal .....                  | 7  |
| 3     | NAVIGATION IN THE APPLICATION STORE PORTAL .....                   | 8  |
| 3.1   | Firmware .....   | 8  |
| 3.2   | Applications.....  | 9  |
| 3.2.1 | Adding an Application to the Store .....                           | 9  |
| 3.2.2 | Setting a Thumbnail .....  | 11 |
| 3.2.3 | Blocking of Applications .....                                     | 11 |
| 3.3   | Hidden Applications .....  | 12 |
| 3.4   | IP Filters.....  | 13 |
| 3.5   | Design Customization (TVLauncher) .....                            | 14 |
| 3.6   | Services .....   | 15 |
| 3.7   | Customizing Display of My Account.....                             | 15 |
| 3.8   | Setting the System and Applications via a Config File .....        | 16 |
| 3.9   | Connecting an STB to the Application Store .....                   | 17 |
|       | APPENDIX A. STORE CONFIGURATION FILE FOR AVAILIABLE SETTINGS ..... | 18 |
|       | APPENDIX B. FIRMWARE UPDATE PROCEDURE .....                        | 20 |
|       | APPENDIX C. WEATHER FORECAST SERVICE.....                          | 23 |

## 1 ABSTRACT

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The Manual describes installation and operation of an application store on an HTTP server for NV-310 and NV-501-Wac devices.

## 2 INSTALLING THE APPLICATION STORE

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### 2.1 Description

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**The installation requires: UbuntuServer 14.04 or Debian 8.3 (8.5).**



The installation requires root privileges that are indicated by # (hash) symbol before entering the commands in the console command line. Hereinafter # is used to indicate that a command should be entered with root privileges. To get root privileges, execute *sudo -s* (you will need to enter the password of the current user) or *su* (requires the root password).

### 2.2 Installing the Application Store from a Deb Package

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1. Upload a deb package into a folder on your server:  
[ftp://ftp.eltex.org/AppStore/appstore ELTEX/appstore\\_4.53b-4\\_all.deb](ftp://ftp.eltex.org/AppStore/appstore%20ELTEX/appstore_4.53b-4_all.deb)  
 User: **stbguest**  
 Password: **GuestSTB15@**
2. Execute the commands:

```
# apt-get update
# dpkg -i appstore_4.53b-4_all.deb1
# apt-get install -yf
```

During the installation, you will be asked to create a user ("root" by default), email (optional), and a password that will be further used to log into the store's web portal.

### 2.3 Installation Verification

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In case the functionality of the store is restricted for some reasons, check the following:

1. The following files are available:
  - `/etc/nginx/site-available/appstore;`**
  - `/etc/supervisor/conf.d/appstore.conf.`**
2. The **`/var/appstore`** directory should contain files and folders. **`www-data`** should be specified as the directory owner. To change the owner, use the command:

```
# chown -R www-data:www-data /var/appstore
```

3. Check the services for operation by executing the following commands:

---

<sup>1</sup>The commands result in a message about dependent packages. Using the "apt-get install -yf" command solves this problem and resumes the installation.

```
# service nginx restart
# supervisorctl update
# supervisorctl restart appstore
```

4. If the commands result in errors, check the following log files:

```
# /var/log/nginx/appstore.access.log
# /var/log/nginx/appstore.error.log
# /var/log/supervisor/appstore.uwsgi.log
# /var/log/supervisor/supervisord.log
```

## 2.4 Updating the Application Store

---

To update the store from a package, use the following command:

```
# dpkg -i appstore_<VERSION>_all.deb
```

When the package is installed, the store automatically migrates from the current configuration to the installed one.



**Warning! Make sure to create a backup of the current version before an update. To do this, copy the /var/appstore directory.**

## 2.5 Installing or Updating the Store from an Archive

---

Follow the procedure to install or update the application store from an archive:

1. Unpack the application store from the archive to replace the current version.
2. Activate *virtualenv* if used ( /var/appstore/virtualenv/bin/activate).
3. Go to the store directory and run

```
./manage.py collectstatic -l --noinput
```

4. Execute the command

```
./manage.py migrate
```

5. Execute the command

```
# chown -R www-data:www-data *
```

6. Restart the services:

```
# sudo services nginx restart
# sudo supervisorctl update
# sudo services supervisor restart
```

See log files for information on errors:

```
# /var/log/supervisor/appstore.uwsgi.log
# /var/log/supervisor/supervisord.log
```

## 2.6 Setting Access Ports

---

When you have the application store installed, open port 80 for access to the web portal and communication between STB and the store.

Example of the command for Linux:

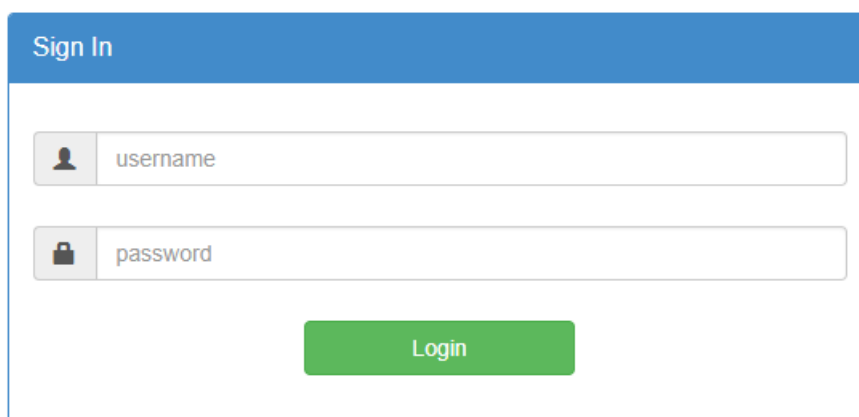
```
iptables -A INPUT -i eth0 -p tcp --dport 80 -j ACCEPT
```

## 2.7 Connecting the Application Store Web Portal

Open a web browser (hypertext document viewer) such as Firefox, Opera, or Chrome. In the address bar, enter the URL address of the server where the application store is installed. The format:

```
http://<HOST-ADDRESS>/
```

If the application store has been successfully installed, the username and password request page will be shown in the browser window:



1. Enter a username and a password.



**Enter the credentials you used during the installation.**

**If you need to change the password for some reasons, run the “change-appstore-password” command, enter the user index, and enter new password.**

**If for some reasons no users have been created, you can create one manually by executing the command: `/var/appstore/manage.pycreatesuperuser`.**

Important! If the command results in an error like:

```
Traceback (most recent call last):
  File "/var/appstore/manage.py", line 8, in <module>
    from django.core.management import execute_from_command_line
ImportError: No module named django.core.management
```

Execute the command:

```
./var/appstore/virtualenv/bin/activate
```

After that, repeat the command you used to create the user and/or to change the password.

2. Click “**Log In**”.

### 3 NAVIGATION IN THE APPLICATION STORE PORTAL

We implemented a firmware customization function for providers to allow them to create provider-specific settings.

This section describes customization methods, which allow providers to choose the firmware features: add/delete system applications, change the design of settings menu, and hide/show applications.

#### 3.1 Firmware

You can download a firmware at:

**ftp://ftp.eltex.org/**

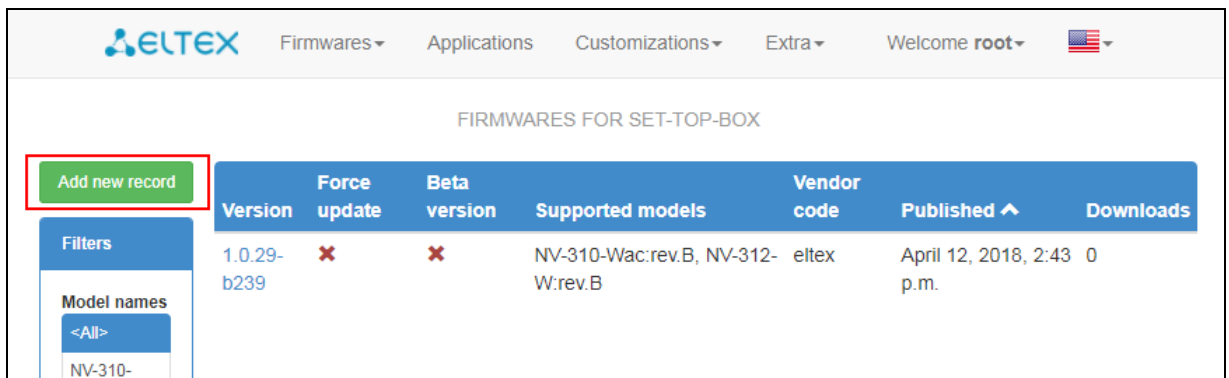
User: **stbguest**

Password: **GuestSTB15@**

Choose a directory, which corresponds to the model of your STB.

To add a firmware:

1. Select **Firmwares / For Set-Top-Box** in the main menu.
2. Click **Add a new record**.



3. Fill in the form:



- **Firmware image**—firmware file; click “Browse” (“Выберите файл” button) and select the required firmware file.
- **Force update**—if you select checkbox, STB firmware will be automatically updated without user confirmation.
- **Beta version**—if you select checkbox, the firmware will be available when the “Receive Latest Updates” checkbox is selected in the application store in STB settings.
- **IP Filters**—predefined filtration rules based on IP ranges.
- **Description**—the firmware description; this field is available after the firmware is added.

When you add a firmware, the “Version”, “Supported Models”, and “Provider Code” fields become available; these fields are automatically filled.

4. Click **Save**.

## 3.2 Applications

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All applications added to the store will be available for installation on STBs. To add an application, go to the **Applications** tab.

You can download the basic set of applications at:

**ftp://ftp.eltex.org/AppStore**

User: **stbguest**

Password: **GuestSTB15@**



**Before you add an application, create one or more categories. This will allow the store to display your application in the corresponding category when a user opens the store from their STB.**

To create a category, go to **Advanced/Application Categories**.

### 3.2.1 Adding an Application to the Store

To add an application:

1. Open the **Applications** tab.
2. Click **Add a new record** and select the following settings:

APPLICATION

**.apk file \***  Файл не выбран

**Icon**  Файл не выбран

**Title \***

**Disabled**

**Beta version**

**Required**

**Categories**   
453  
APP  
йцк

WARNING! Select a category to display this application on STB. Hold down "Control", or "Command" on a Mac, to select more than one.

**Supported models**   
NV-310-Wac:rev.B  
NV-312-W  
NV-312-W:rev.B  
NV-501

Hold down "Control", or "Command" on a Mac, to select more than one.

**Filters**   
CONF  
FIRMWARE  
SERVICE  
SETTINGS

Hold down "Control", or "Command" on a Mac, to select more than one.

**Package**   
Detected automatically

**Version**   
Detected automatically

**Version name**   
Detected automatically

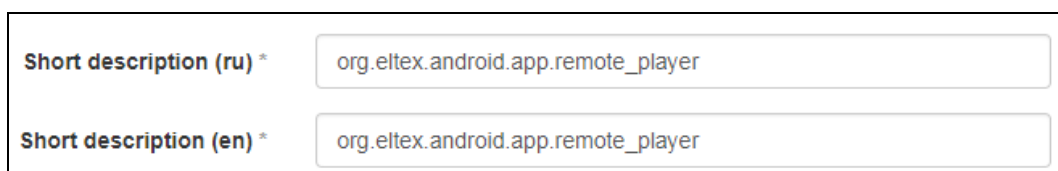
- **.apk File**—click “Browse” (“Выберите файл” button) and choose the **\*.apk** file of the application.
- **Tag**—click “Browse” (“Выберите файл” button) and choose the tag, which will be shown for the application in the store.
- **Title**—name of the application that will be displayed under the tag in the store.
- **Disabled**—if the option is selected, the application will not be available to users.
- **Beta version**—if the option is selected, the application will be available only to the users, which have “Beta Tester” checkbox selected in their settings.

- **Required**—the application will be installed on STB without user confirmation.
- **Categories**—chooses the categories the application will be displayed in.
- **Supported models**—the application will be available only for the specified models.
- **Brief Description**—this description will be displayed under the application title; this field becomes available when you click “Save”.
- **Filters**—the application will be available only for the specified IP ranges.

The fields *Packet*, *Version*, and *Version Name* will be automatically filled upon retrieving the data from the application file.

2. Click **Add**.

Two additional required fields become available—“Brief Description” and “Description”.

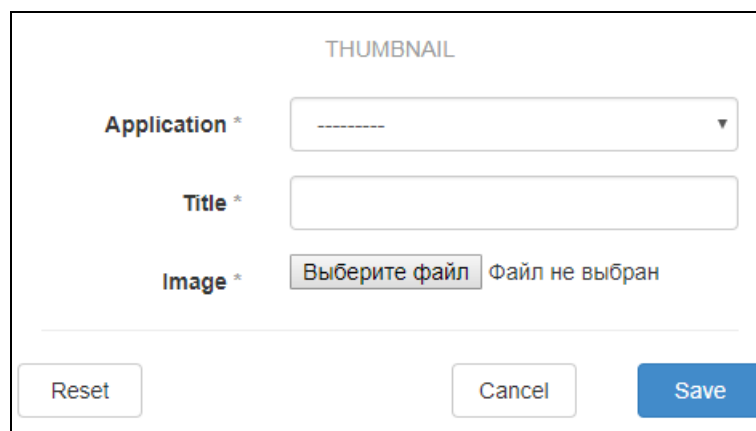


A screenshot of a form with two text input fields. The first field is labeled "Short description (ru) \*" and contains the text "org.eltex.android.app.remote\_player". The second field is labeled "Short description (en) \*" and also contains the text "org.eltex.android.app.remote\_player".

To delete an application, open it for edit and click “Delete”.

### 3.2.2 Setting a Thumbnail

To set a thumbnail for an application, go to **Advanced/Thumbnails**. The thumbnail will be shown below the application’s text description when a user opens the store from their STB.



A screenshot of a form titled "THUMBNAIL". It contains three fields: "Application \*" with a dropdown menu showing "-----", "Title \*" with an empty text input, and "Image \*" with a file selection button labeled "Выберите файл" and the text "Файл не выбран". At the bottom of the form are three buttons: "Reset", "Cancel", and "Save".

- **Application**—chooses one from the list of available applications.
- **Title**—title of the thumbnail.
- **Image**—the image to be displayed for the thumbnail.

### 3.2.3 Blocking of Applications

Applications, which should be deleted from STB, should be added to **Extra /Blocked Applications**.

To block an application:

1. Click **Add a new record**.
2. Fill in the **Package** field (title).

3. Specify a package in the format: **org.eltex.android.app.APP's**. To see the correct name of the application, go to **Applications**.
4. Choose supported models.
5. Enter a brief description.
6. Click **Save**.

### 3.3 Hidden Applications

Operators can use this feature to hide applications from users in order to prevent users from removing/updating/installing the applications. You can hide an application in **Extra/Hidden applications**.

To add an application to the list of hidden applications:

1. Click **Add a new record** and fill the following fields:

HIDDEN APPLICATION

**Package \***

**Annotation**

**Supported models**

NV-310-Wac

NV-310-Wac:rev.B

NV-312-W

NV-312-W:rev.B

NV-501

Hold down "Control", or "Command" on a Mac, to select more than one.

**Filters**

APP

CONF

FIRMWARE

SERVICE

SETTINGS

Hold down "Control", or "Command" on a Mac, to select more than one.

Reset

Cancel

Save

- **Package**—package name.
- **Annotation**—additional comments.
- **Supported models**—the application will be hidden only for the specified models.
- **Filters**—the application can be hidden only for the specified IP ranges.

2. Click **Save**.

**Example:**

To hide system applications, you need to add a hidden application and specify the following in the *Package* field:

|                             |                |
|-----------------------------|----------------|
| com.android.browser         | Browser        |
| com.android.deskclock       | Clock          |
| com.android.vending         | GooglePlay     |
| com.example.RTKMiracastSink | Miracast       |
| com.synergy                 | Remote Control |

### 3.4 IP Filters

This function allows you to specify IP ranges and apply rules to certain sections based on the ranges. The function is available in **Extra/IP Filters**.

To add a new rule, click **Add a new record** and select the following settings:

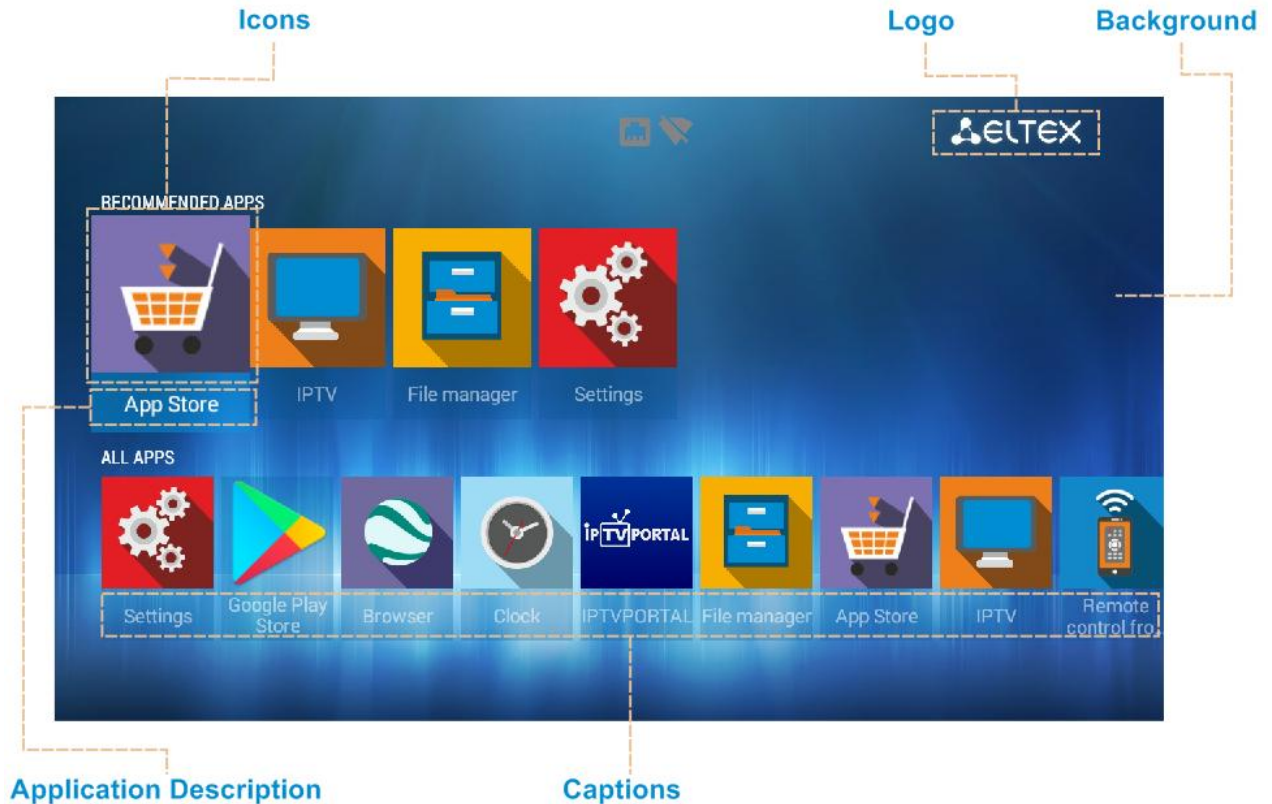
- **Title**—meaningful name (rule) which will be further used for rules in corresponding sections.
- **Rule**—fill according to the following formats:
  - Network/subnetwork:
    - 192.168.0.0/24
    - 192.168.0.0/24[1,2,3-5]
    - 192.168.0.0/16[0.1,1.2,2.10-3.15]
  - Single host IP address:
    - 192.168.0.0/24[1]
    - 192.168.0.1/32
    - 192.168.0.1

Filtration rules:

- If an element is added without any filters, it will be available to all IP ranges.
- You **cannot** add an additional element without an IP filter or with an IP filter, which is already used for the same models, into the following sections: firmware for STB, services and general settings, configuration files.

### 3.5 Design Customization (TVLauncher)

This function allows you to customize menu design on user's STB. You can change background, logo, tags, captions, and descriptions of applications.



In the application store, go to **Design/General Settings** and fill in the following fields:

- **Logo**—operator's logo (recommended size: 50x50, 200x60).
- **Background**—background image of the home screen (recommended size: 1280x720, 1920x1080).
- **Background in Parental Control Mode**—background image of the home screen when the Parental Control function is activated. Have the same requirements as the basic background.
- **Font**—font on the home screen in the otf/ttf format.
- **Font Colour**—colour in Hex format (as for HTML). See the following resources for colours and their hex codes:
  - [http://www.w3schools.com/colors/colors\\_names.asp](http://www.w3schools.com/colors/colors_names.asp);
  - <http://html-color-codes.info>;
- **Colour of a Selected / Not Selected Tag**—colour in Hex format (as for HTML). See the following resources for colours and their hex codes:
  - [http://www.w3schools.com/colors/colors\\_names.asp](http://www.w3schools.com/colors/colors_names.asp);
  - <http://html-color-codes.info>;
- **Client Page**—not used.
- **Weather Forecast URL**—URL where STB can download a file with the latest weather forecast. The file should have the format specified in the application.

- **Hide “All Applications” Category**—does not display the “All Applications” category on the home screen.
- **Disable Category Creation**—disables the menu button, which can be used for category creation on the home menu in STB interface.
- **Hide “Search” Button**—hide the search tag on the home screen.
- **Admin Password**—set a password, which is required to enable categories creation on the home screen.
- **Filters**—IP filters.

Click **Save** when you fill all the fields.

### 3.6 Services

---

You can create elements of the home screen in **Design / Services**.

To create a service, fill in the following fields:

- **Name**—name of the service.
- **Tag**—tag, which is displayed when the service is not active (recommended size: 210x210).
- **Active Tag**—tag, which is displayed when the service is active.

The tag transparency can also be customized in either of the modes. To customize transparency, add an additional value between # and the beginning of the colour code: 00—transparent, FF—not transparent. For example: #66ff9464.

- **Title Background**—hex code of the colour, which will be used for caption of the element (e. g, #ef7fla).
- **Order**—number of the element in the arrangement sequence starting from the first one (0, 1, 2, 3, etc.).
- **Package**—package name for the service to be added from the list.
- **Content Service**—additional service for any application (optional).
- **Startup Options**—application startup options. Every application will have its own parameters.
- **Supported Models**—choose the corresponding models.

When you fill all the fields, you will be asked to enter the service name and description in certain languages.



**Fields marked with an asterisk (\*) are mandatory fields.**

### 3.7 Customizing Display of My Account

---

The Services tab also allows you to customize the “My Account” page.

1. Download a package from ftp: [ftp.eltex.org/AppStore/Apps/browserlauncher](ftp://ftp.eltex.org/AppStore/Apps/browserlauncher)
2. Add the application into the store and hide it.
3. Create a new service.
4. Specify **org.eltex.android.app.browserlauncher** in the *Package* field.

5. Specify the required URL for application connection upon startup in *Startup Options*.
6. Save the service.

### 3.8 Setting the System and Applications via a Config File

---

The application store allows you to customize certain applications and to modify system settings of STB. You can find a configuration file in **Extra/Config files**.

By default, the **default** configuration is used with basic settings of the system and applications, which support configuration. An example of available settings is provided in **APPENDIX A**.

To configure application parameters:

1. Open the **default** configuration and click **appcast/eltex-default.xml**.
2. Make the required changes in the file.
3. Go to **Extra/Config files** again.
4. Click **Add a new record**.
5. Fill in the fields in the dialog:
  - **Name**—meaningful name of the configuration.
  - **Version**—automated increment counter (currently not used).
  - **Filters**—IP filters.
  - **Supported Models**.
6. Click **Save**.

The configuration is applied either after restart (in about 15–20 seconds) or after synchronisation in case of an operating STB (STB launches synchronisation every hour).

#### Example of IPTVPortal startup configuration:

```
<App name="org.eltex.android.app.auto_launcher">
<Parameter name="package_name">org.eltex_iptvportal.jsapi_launcher</Parameter>
<Parameter name="need_network">>true</Parameter>
<Parameter name="restart_timeout" force="true">2</Parameter>
</App>
```

#### Example of changing the URL address of IPTVPortal:

```
<App name="org.eltex_iptvportal.jsapi_launcher">
<Parameter name="url">http://go.iptvportal.ru</Parameter>
</App>
```

#### Example of time zone configuration:

Add the following parameter into `<App name="system.settings">`:

```
<Parameter name="timezone" force="false">Asia/Novosibirsk</Parameter>
```

#### Example of NTP server configuration:

Add the following parameter into `<App name="system.settings">`:

```
<Parameter name="ntp_server" force="false">ntp</Parameter>
```

You can view the list of all available settings by requesting the tree of settings from the Eltex.ACS auto configuration server. See the “Eltex.ACS Operation Manual” for detailed information.



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### 3.9 Connecting an STB to the Application Store

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If the firmware set to factory settings, STB connects to **android-market.eltex.local** upon startup and/or when user opens the application store. Check and add this entry to DNS of the network, to which the STB is connected. Associate the entry with the corresponding IP address of the server where the application store is located.

To change the connection address:

1. Open **Application Store** on the STB.
2. **(Even if it shows a connection error)** press and hold «F» on the remote control until a dialog is displayed requesting you to enter a PIN code.
3. In the dialog window, enter **0000** (four zeros by default) and click **OK**. The PIN code may differ depending on firmware version and provider's customization.
4. In the dialog window, choose the required address or enter it manually (supplied by your provider) according to the format of two addresses above or according to the format of IP address.

## APPENDIX A. STORE CONFIGURATION FILE FOR AVAILIABLE SETTINGS

You can find this file at `firmware/package5/system/etc/default_app_settings.xml`

```
<?xml version='1.0' encoding='utf-8'?>
  <AppCast>

  <Version>1</Version>

  <App name="system.settings">
    <Parameter name="ethernet_on" force="false">1</Parameter>
    <Parameter name="hotspot_on" force="false">0</Parameter>
    <Parameter name="ntp_server" force="false">ntp</Parameter>
    <Parameter name="start_hls_bitrate" force="false">high</Parameter>
    <Parameter name="timezone" force="false">Asia/Novosibirsk</Parameter>
    <Parameter name="stay_on_while_plugged_in" force="false">1</Parameter>
    <Parameter name="screen_off_timeout" force="false">60000</Parameter>
    <Parameter name="screensaver_enabled" force="false">1</Parameter>
    <Parameter name="screensaver"
      force="false">com.android.deskclock/com.android.deskclock.Screensaver</Parameter>
    <Parameter name="input_method"
      force="false">com.android.inputmethod.latin/.LatinIME</Parameter>
    <Parameter name="show_all_settings_password" force="false">0000</Parameter>
    <Parameter name="allow_install_external_applications" force="false">1</Parameter>
  </App>

  <App name="org.eltex.p2ptv">
    <Parameter name="xmlapi_tags">http://eltex.local/films/xml/tags/</Parameter>
    <Parameter name="xmlapi_list">http://eltex.local/films/xml/list/</Parameter>
    <Parameter name="xmlapi_search">http://eltex.local/films/xml/search/</Parameter>
    <Parameter name="xmlapi_geo">http://eltex.local/films/xml/geo/</Parameter>
    <Parameter name="xmlapi_hub">eltex.local:411</Parameter>
    # color_scheme: bright/dark
    <Parameter name="color_scheme">bright</Parameter>
    <Parameter name="main_background_url">http://eltex.local/background.png</Parameter>
  </App>

  <App name="org.eltex.android.app.iptvplayer">
    <Parameter name="playlist_url">http://eltex.local/iptv/playlist.xspf</Parameter>
    <Parameter name="playlist_file">file://mnt/playlist.xspf</Parameter>
    <Parameter name="playlist_source">url</Parameter>
    <Parameter name="schedule_url">http://eltex.local/iptv/jtv.zip</Parameter>
    <Parameter name="schedule_enabled">1</Parameter>
    <Parameter name="categories_enabled_tag">1</Parameter>
    <Parameter name="category_state">collapsed</Parameter>
    <Parameter name="zoom_state">full</Parameter>
    <Parameter name="content_provider">default</Parameter>
    <Parameter name="url_editable">1</Parameter>
    <Parameter name="api_server">""</Parameter>
    <Parameter name="primary_channel"></Parameter>
    <Parameter name="playlist_update_period">0</Parameter>
    <Parameter name="reset_personal_zoom_state"></Parameter>
  </App>

  <App name="org.eltex.qms">
    <Parameter name="Period">6000</Parameter>
    <Parameter name="DebugPackage">>false</Parameter>
    <Parameter name="ApplicationsFilter">"org.eltex.AppStore,
      org.eltex.android.app.mediaplayer", "com.android.settings",
      "org.eltex.android.app.iptvplayer", "org.eltex.android.app.exlauncher",
      "org.eltex.android.app.filemanager", "net.megogo.application.tagbit",
      "com.google.android.youtube.googletv", "org.eltex.android.app.shoutcast",
      "org.eltex.android.app.youtubeclient", "ru.cn.tv"</Parameter>
    <Parameter name="ServerAddress">http://qms.local:8080/qms/qms</Parameter>
    <Parameter name="StatisticsServerPort">42000</Parameter>
    <Parameter name="Debug">>false</Parameter>
    <Parameter name="ApplicationsDelay">1000</Parameter>
  </App>
</xml>
```

```

<Parameter name="Delay">0</Parameter>
<Parameter name="MaxURLLength">100</Parameter>
<Parameter
  name="AllowedURLPatterns">"^(http)://[^\]{1,}/[u,U][d,D][p,P]/(\d{1,3}\.\d{1,3}
)\.\d{1,3}\.\d{1,3}):(\d{1,5})$", "(?:http https)://.*?/play/[A-Z0-
9]{39}/1276303360/.*$"</Parameter>
<Parameter name="ApplicationsPeriod">1000</Parameter>
<Parameter name="AllowedPortsRanges">"33000-33000"</Parameter>
<Parameter name="CheckCountMax">10</Parameter>
<Parameter name="StatisticsServerOOBPort">42001</Parameter>
</App>

<App name="org.eltex.tr69">
  <Parameter name="ServerAddress">http://acs-eltex.local:9595</Parameter>
  <Parameter name="ACSUsername">acs</Parameter>
  <Parameter name="ACSPassword">acsacs</Parameter>
  <Parameter name="Username">admin</Parameter>
  <Parameter name="Password">admin</Parameter>
  <Parameter name="STUNEnable">>true</Parameter>
  <Parameter name="STUNMinimumKeepAlivePeriodSec">60</Parameter>
  <Parameter name="TimeToRevertSec">120</Parameter>
</App>

<App name="org.eltex.android.app.shoutcast">
  <Parameter name="playlist_url">http://eltex.local/shoutcast/radio.xspf</Parameter>
</App>

<App name="org.eltex.android.app.auto_launcher">
  <Parameter name="package_name">org.eltex.android.app.ipvtvplayer</Parameter>
  <!-- Wait for retrieval of network settings -->
  <Parameter name="need_network">>true</Parameter>
  <!-- Start the application every time in launcher after the specified interval (in
seconds) -->

  <Parameter name="restart_timeout" force="true">2</Parameter>
</App>

<App name="org.eltex_ipvtvportal.jsapi_launcher">
  <Parameter name="url">http://go.ipvtvportal.ru</Parameter>
</App>

<!-- Send serial number when user opens the store on STB -->
<App name="org.eltex.appservice">
  <Parameter name="is_send_mac_and_serial_number_enable">>true</Parameter>
  <Parameter name="appstore_urls">androidmarket.eltex.local</Parameter>
  <Parameter name="request_period_sec">10</Parameter>
</App>

</AppCast>

```

## APPENDIX B. FIRMWARE UPDATE PROCEDURE

(Additional comments on this Application Store Installation and Operation Manual)

### **Firmware Update Procedure**

Structure of firmware name:

*revA-eltex-1.0.23-b78* where:

*revA*—revision, for which the firmware is designed;

*eltex*—provider code (hereinafter—package);

*1.0.23*—release number;

*b78*—build number.

### **1 Firmware Verification Against Package (Provider Code)**

There are no restrictions for updating a firmware from package = eltex to any other packages. Firmware package code on STB should correspond to the firmware package code in the store.

*Example 1.* The firmware package = eltex on the STB; therefore, you can update it to any other packages. In this example, package = provider.



*Example 2.* The firmware package = eltex in the store, but package ≠ eltex in the STB; therefore, you cannot perform this update.



*Example 3.* Firmware package on the STB corresponds to the firmware package in the store. The firmware will be successfully updated. In this example, package = provider.



*Example 4.* Firmware Package1 on the STB **does not correspond** to package2 in the store. The firmware will not be updated. In this example, package1 = provider, package2 = test.



## 2 Firmware Verification Criteria

Firmware update is detected according to “not equal to” principle. It does not matter if the STB firmware version is older or newer than the one published in the store.

Example STB may have a newer version (revA-provider-**1.0.23-b78**) than the store (revA-provider-**1.0.22-b80**). The firmware update will be started and successfully completed. This is implemented to enable a downgrade in case of some unexpected issues.

If the firmware version in the store is identical to the version on STB (package, release, build), the update will not start.

## 3 Description of Parameters and New Firmware

### 3.1 Forced Update

3.1.1. If you select checkbox:

- When an STB sends a request to the store (every 2 hours), an unconditional firmware update is started.
- After a cold start / exit from the standby mode, an unconditional firmware update is immediately started.

3.1.2. If you do not select the checkbox:

- When an STB sends a request to the store (every 2 hours), a dialog is shown allowing user to choose one of the options: “Update Now / Update Later / Update at Next Startup”.

*Update Now*—starts firmware update.

*Update Later*—postpone the update until the next request to the store (every 2 hours). Then the dialog is shown again allowing user to choose one of the options: “Update Now / Update Later / Update at Next Startup”.

*Update at Next Startup*—firmware update starts after the next cold start of the STB.

- When the STB exits the standby mode, a dialog is shown allowing user to choose one of the options: “Update Now / Update Later / Update at Next Startup”.
- Upon the STB startup (cold start), the firmware is unconditionally updated.

*Comments.* In this case, implementation of the automated and unconditional update is determined by provider-oriented operation of STBs. First, the firmware is considered as recommended and mandatory for installation on users’ devices; second, it makes introduction of new devices easier and cuts down the provider’s expenses on equipment installation.

### 3.2 Beta Version

- 3.2.1. If you select checkbox, the firmware will not be visible for an STB unless user checks the checkbox “Receive Latest Updates (steady operation is not guaranteed)” in the store on their STB. That means user can choose whether to install the firmware being tested or not.
- 3.2.2. If the checkbox is not selected, the firmware will be updated as usually provided the requirements of paragraph 1 are met.

### 3.3 IP Filters

IP filters are used to provide certain devices or a group of devices with access to firmware based on IP ranges.

See section 3.4 “IP Filters” for information on IP filters.

### 3.4 Provider Code (Package)

This parameter is automatically determined when a firmware is added. Operation and meaning of various provider codes (packages) are described on the first page of Appendix B (Additional comments on this Application Store Installation and Operation Manual).

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## APPENDIX C. WEATHER FORECAST SERVICE

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To use the weather forecast service, you need to register on its external portal:

<http://openweathermap.org/appid>

After the registration, you will receive a **key (appid)**—a 32-digits hex number.

Go to the application store server, open the `/var/appstore/appstore/settings.py` file, go to **WEATHER\_CONFIG**, and enter the received key in the **APPID** parameter. For example:

```
WEATHER_CONFIG = {
    'APPID': '00112233445566778899aabbccddeeff', # www.openweathermap.org token (32 hex
digits)
    'DEF_CITY': '', # Default city (if not provided by GET parameter)
    'EXPIRE': 600, # Valid cache time, sec
}
```

Comments on optional parameters:

\* DEF\_CITY—default city, which is used for STB when no city is specified in the request.

\* EXPIRE—time when the stored weather cache, which was received from [openweathermap](http://openweathermap.org), expires.

Restart supervisor:

```
sudo service supervisor restart
```

To check whether `api.openweathermap.org` external weather forecast service is available for the store and the store's requests are processed, send, for example, the following query:

```
http://api.openweathermap.org/data/2.5/weather?q=Novosibirsk,ru&appid=00112233445566778
899aabbccddeeff&units=metric
```

To check that STBs can receive weather data from the store, send, for example, the following query (for Novosibirsk):

```
http://android-market.eltex.local/api/weather?city=Novosibirsk
```

Please note that STB determines the city with the help of `http://ip-api.com/xml` service and uses this value in its query to the store. That means the city is determined by external IP address, which is visible for STB in the Internet.