



## Grandstream Networks, Inc.

GXV3140/3175 IP Multimedia Phone

XML GUI Customization Guide



## TABLE OF CONTENTS

<b>1</b>	<b>OVERVIEW .....</b>	<b>1</b>
<b>2</b>	<b>STRUCTURAL IMPLEMENTATION .....</b>	<b>1</b>
2.1	ELEMENT DESCRIPTION .....	2
<b>3</b>	<b>EXAMPLE CONTROL FILE (MENU.XML).....</b>	<b>4</b>
<b>4</b>	<b>XML CONFIG-FILE ELEMENTS .....</b>	<b>8</b>
4.1	ACCOUNT CONFIGURATION (ACCT.XML).....	8
4.2	MAINTENANCE SETTINGS CONFIGURATION (MAINTENANCE.XML).....	10
4.3	SCREEN LAYOUT CONFIGURATION (SCREEN_LAYOUT.XML) .....	10
4.4	SCREEN DISPLAY CONFIGURATION (SCREEN_DISPLAY.XML) .....	13
4.5	PHONEBOOK CONFIGURATION (PHONEBOOK_CONFIG.XML) .....	14
4.6	LANGUAGE CONFIGURATION (LANGUAGE_CONFIG.XML).....	15
<b>5</b>	<b>CONFIGURE THE GUI CUSTOMIZATION ON THE GXV31XX .....</b>	<b>16</b>
<b>6</b>	<b>REFERENCES.....</b>	<b>19</b>

## TABLE OF FIGURES

<b>Figure 1: Configuration File Implementation Flow.....</b>	<b>2</b>
<b>Figure 2: Flow diagram of example demo file.....</b>	<b>8</b>

## 1 OVERVIEW

Grandstream GXV3140/3175 IP Multimedia Phone allows users to customize the GUI desktop layout as well as GUI configurations on the phone, offering users with flexibility and control. The XML GUI configuration includes display/hide certain applications, configure parameters on the phone with specific configuration files, control the display appearance and enable/disable some applications and much more.

This application guide gives a detailed description on how to configure the GUI on the phone using the XML document. The first part will describe the 1) Structural implementation and the hierarchy of the XML document, 2) XML syntax and example XML file for the main control file, 3) XML syntax and an example XML file for configuring the config-file elements and 4) Provide a guide on generating the configuration file for the GXV3140/3175 using the Grandstream XML GUI Config Tool and downloading it to the phone.

## 2 STRUCTURAL IMPLEMENTATION

All GUI configurations on the GXV3140/3175 are implemented and controlled by the XML file, which controls the hierarchy, display and implementation on the phone.

- Control File (menu.xml): GUI configuration document used to modify/control the GUI interface on the GXV3140/3175. It is able to implement the following functions:
  - Modify the display hierarchy of the menu.
  - Disable/Enable specific application features.
  - Modify the display of applications on the menu of GUI. This includes modifying the display icon/text or display the application with default settings.
  - Specify configuration files and configure the settings for particular applications. These configurations includes:
    - ◆ Parameter configurations.
    - ◆ Function configuration: Display/Hide/Lock specific functions.
    - ◆ Advanced configuration: Specify configuration files and other resource files so that the advanced settings on the phone can be configured using this information.
  - Other Configurations (reserved for future modifications).

Refer to the diagram below for the basic control flow.

**Note:** Some of the configurations in the basic control flow diagram below are for demo purposes only. It may change in the actual implementations.

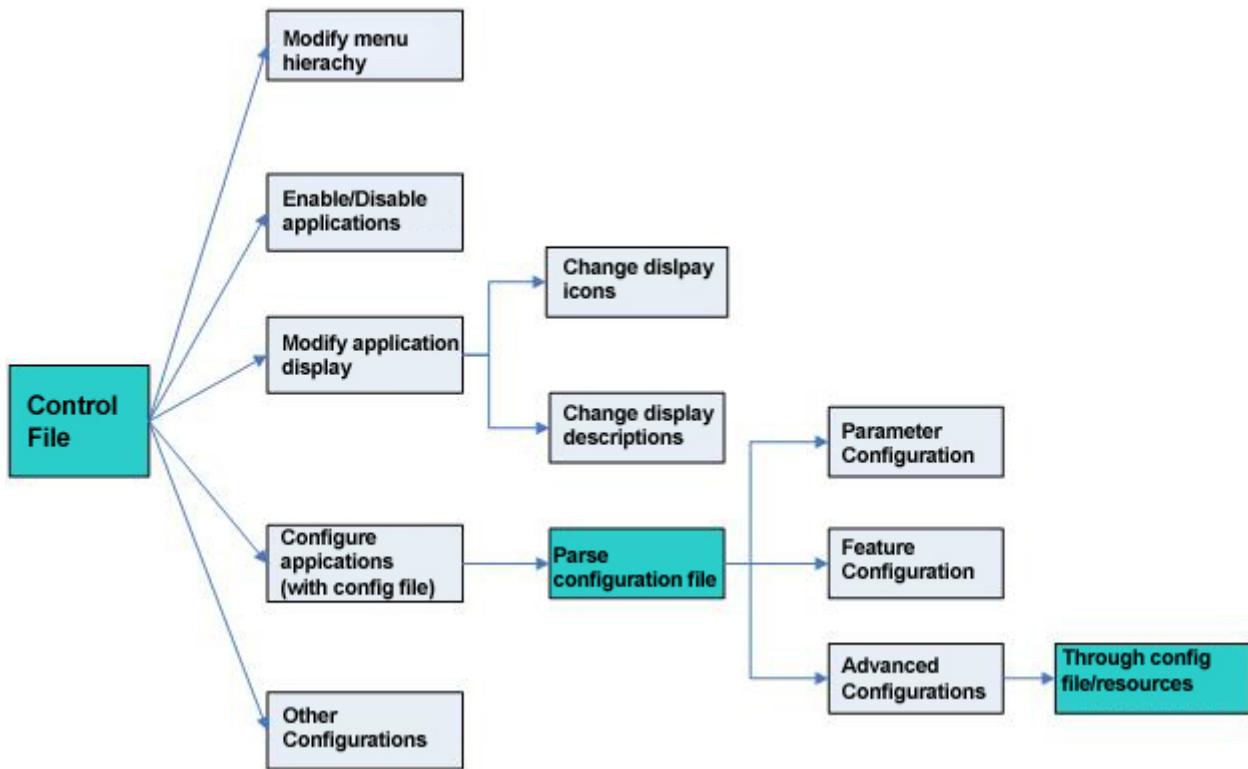


Figure 3: Configuration File Implementation Flow

## 2.1 ELEMENT DESCRIPTION

The control file supports the following elements:

- **<menu>** element: Root element of the configuration file.
- **<submenu>** element: Sub-element used to implement the categorization and the hierarchy of the GUI menu. It can have **<submenu>**, **<item>** or **<link>** as its sub-element.
- **<item>** element: Application element that corresponds to a specific application on the phone. It could have a separate configuration file to configure the parameters and features for that particular application.
- **<link>** element: URL element used to implement the link to specific web URL. The GXV3140/3175 will link to and display the URL using the built-in web browser.
- **<config-file> element:** This element specifies the configuration file used for the application, which will apply to the application in the **<item>** element. It can only be used as a sub-element of **<item>** element. Currently, it will work with these 4 applications: Account, Maintenance, Screen Layout, and Screen Display. For more detailed description, please refer to the sections below. (This element is optional)
- **<link-url>** element: This element specifies the URL address of the website to link to. It can only be used as a sub-element of **<link>** element.

Shared attributes for elements **<submenu>**, **<item>** and **<link>**:

- **Icon:** The menu displays static icons when it is not selected. If nothing is specified, the phone will use the default menu icon. (This element is optional)

- **dynamic-icon:** The menu displays dynamic icons when it is selected. If nothing is specified, the phone will use the default menu icon. (This element is optional)
- **display-name:** The display name for the icons in the menu. If nothing is specified, the phone will use the default menu text. If this parameter is specified, it will overwrite the default menu text. (This element is optional)
- **hide:** Show/hide the menu items. 1- Hide/Disable the menu items, 0- Show/Enable the menu items. By default, it is set to 1. (This element is optional)

**Unique attributes for elements <submenu> and <item> :**

- **func-name:** Menu item ID that is used to identify a specific menu item uniquely. By default, there are pre-defined settings for the default menu items which include dynamic-icon, icon and display-name. For the <item> element, this is required attribute. For <submenu> element, this is an optional attribute and it can be configured via icon, dynamic-icon and display-name attribute.

**Unique attributes for elements <link> :**

- **type:** link type ID that is used to indicate the link functions. The possible value could be “normal” (for normal link element) and “gmiapp” (for GMI application). When “gmiapp” is used, it will link the GMI application (web implemented) which will control and redraw the GUI via the related GMI interfaces internally. This attribute is optional. When nothing is specified, the default value is “normal”.

**Note:**

- By default, we have certain pre-defined menu items with func-name. These menu items has default static icon, dynamic icon and display text. The display text will be changed when the phone loads the language file based on the language setting on the GUI interface. Users can also overwrite the default display-text by configuring the display-name attribute. For pre-defined func-name and the corresponding menu item, please refer to the table below.
- For all self-defined submenu elements and link elements, it is required to configure the icon, dynamic-icon and display-name attribute so that it can be displayed properly on the phone. If these are not configured properly, it may have incorrect display in the menu.
- For config-file element, currently it will work with these 6 applications: Account, Maintenance, Phonebook, Screen Layout, language and Screen Display.
- All the configuration files (including the control file and the specific application configuration file) use its current directory as the root directory.

func-name	Menu Item	Element Type	Support for config-file element
callhistory	Call History	item	No
messages	Messages	item	No
callfeature	Call Features	item	No
webbrowser	Web Browser	item	No
status	Info	item	No
calendar	Calendar	item	No
alarmclock	Alarm Clock	item	No
calculator	Calculator	item	No
weather	Weather	item	No
rssnews	RSS News	item	No
ipcall	Direct IP Call	item	No
gstris	Gstris	item	No
softkey_def	Softkey	item	No
display	Display	item	No

time	Time	item	No
connection	Network	item	No
gphoto	Photo Viewer	item	No
webalbum	Photo Album	item	No
IM	IM	item	No
filemanager	File Manager	item	No
player	Media Player	item	No
internetradio	Internet Radio	item	No
stock	Stock	item	No
currencies	Currencies	item	No
myprofile	My Profile	item	No
onlinemusic	Online Music	item	No
camera	Camera	item	No
tones	Tones	item	No
photobucket	Photobucket Application	item	No
phanfare	Phanfare Application	item	No
onlinevideo	Online Video	item	No
fxo	FXO Settings	item	No
horoscope	Horoscope	item	No
panoramio	World Photos	item	No
slide_show	Slide Show	item	No
video	Video Settings	item	No
ip2location	IP2Location	item	No
twitter	Twitter Application	item	No
facebook	Facebook Application	item	No
today	Today Application	item	No
mulnews	Multimedia News	item	No
googlevoice	Google Voice	item	No
gmiapp	GMI Application	item	No
skype	Skype	item	No
account	Accounts	item	Yes
maintenance	Maintenance	item	Yes
screen_layout	Screen Layout	item	Yes
screen_display	Screen Saver	item	Yes
phonebook	Phonebook	item	Yes
language	Language	item	Yes
application	Applications	submenu	No
multimedia	Multimedia	submenu	No
Settings	Settings	submenu	No
personalize	Personalize	submenu	No
socialnetwork	Social Networks	submenu	No

**Note:**

- Please refer to menu\_default.xml for the default menu settings in GXV3140/3175. It has all the available applications supported on GXV3140/3175.

### 3 EXAMPLE CONTROL FILE (MENU.XML)

See the demo file (menu.xml) below:

For more details or examples, please download the following XML example file package from our website:  
<http://www.grandstream.com/index.php/products/ip-video-telephony/gxv3175> or  
<http://www.grandstream.com/index.php/products/ip-video-telephony/gxv3140>

```
<?xml version="1.0" encoding="UTF-8"?>
<menu>
    <submenu icon="icon/2.png" dynamic-icon="icon/3.png" display-name="Communication">
        <item func-name="phonebook"/>
        <config-file>phonebook_config.xml</config-file>
    </item>
        <item func-name="callhistory"/>
        <item icon="icon/slideshow.png" dynamic-icon="icon/slideshow.gif" func-name="messages"/>
    </submenu>
    <submenu func-name="socialnetwork" hide="1">
        <item func-name="IM"/>
        <item func-name="twitter"/>
        <item func-name="facebook"/>
    </submenu>
        <item func-name="skype"/>
    <submenu icon="icon/webbrowser.png" dynamic-icon="icon/webbrowser.gif" display-name="Internet">
        <item func-name="webbrowser"/>
        <link icon="icon/Grandstream.png" dynamic-icon="icon/Grandstream.gif" display-
name="Grandstream Network">
            <link-url>http://www.grandstream.com</link-url>
        </link>
        <link icon="icon/Grandstream.png" dynamic-icon="icon/Grandstream.gif" display-name="GMI"
type="gmiapp">
            <link-url>http://www.grandstream.com</link-url>
        </link>
    </submenu>
    <submenu func-name="multimedia" display-name="Media APP">
        <item func-name="internetradio" display-name="My Radio"/>
        <item func-name="player"/>
        <item func-name="gphoto"/>
        <item func-name="webalbum"/>
        <item func-name="gstris"/>
        <item func-name="onlinemusic" hide="1"/>
        <item func-name="onlinevideo"/>
        <item func-name="panoramio"/>
        <item func-name="slide_show"/>
    </submenu>
    <submenu func-name="application">
        <item func-name="calendar"/>
        <item func-name="alarmclock"/>
        <item func-name="calculator"/>
        <item func-name="ipcall"/>
        <item func-name="filemanager"/>
        <item func-name="stock"/>
        <item func-name="currencies"/>
        <item func-name="ip2location"/>
        <item func-name="today"/>
    </submenu>
    <submenu func-name="settings">
        <item func-name="account">
            <config-file>acct.xml</config-file>
```

```

</item>
<item func-name="connection"/>
<item func-name="time"/>
<item func-name="display"/>
<item func-name="maintenance">
  <config-file>maintenance.xml</config-file>
</item>
<item func-name="camera"/>
<item func-name="callfeature"/>
<item func-name="video"/>
<item func-name="fxo"/>
</submenu>
<submenu func-name="personalize">
  <item func-name="screen_layout" hide="1">
    <config-file>screen_layout.xml</config-file>
  </item>
  <item func-name="softkey_def"/>
  <item func-name="screen_display">
    <config-file>screen_display.xml</config-file>
  </item>
  <item func-name="language"/>
    <config-file>language_config.xml</config-file>
  <item func-name="myprofile"/>
  <item func-name="tones"/>
  <item func-name="weather"/>
  <item func-name="rssnews"/>
  <item func-name="horoscope"/>
</submenu>
<item func-name="status"/>
</menu>

```

Refer to the description below for detailed explanation on the demo file:

1.

```

<submenu icon="icon/2.png" dynamic-icon="icon/3.png" display-name="Communication">
  <item func-name="phonebook"/>
    <config-file>phonebook_config.xml</config-file>
  </item>
  <item func-name="callhistory" hide="1"/>
  <item icon="icon/slideshow.png" dynamic-icon="icon/slideshow.gif" func-name="messages"/>
</submenu>

```

A sub-menu with the display text “Communication” and the icons “icon/2.png” and “icon/3.png” is defined here. This sub-menu includes three items/applications: Phonebook, Call History and Message. The application/item phonebook specifies the configuration file phonebook\_config.xml.

2.

```

<submenu icon="icon/2.png" dynamic-icon="icon/3.png" display-name="Communication">
  <item func-name="phonebook"/>
  <item func-name="callhistory" hide="1"/>
  <item icon="icon/slideshow.png" dynamic-icon="icon/slideshow.gif" func-name="messages"/>
</submenu>

```

For the Message application, the default icon is replaced with self-defined icons (slide-show.png and slideshow.gif)

3.

```
<item func-name="onlinemusic" hide="1"/>
```

Disable (hide) the Online Music application.

4.

```
<submenu icon="icon/webbrowser.png" dynamic-icon="icon/webbrowser.gif" display-name="Internet">
  <item func-name="webbrowser"/>
  <link icon="icon/Grandstream.png" dynamic-icon="icon/Grandstream.gif" display-name="Grandstream
Network">
    <link-url>http://www.grandstream.com</link-url>
  </link>
</submenu>
```

Define an icon in GUI menu that links to Grandstream Website.

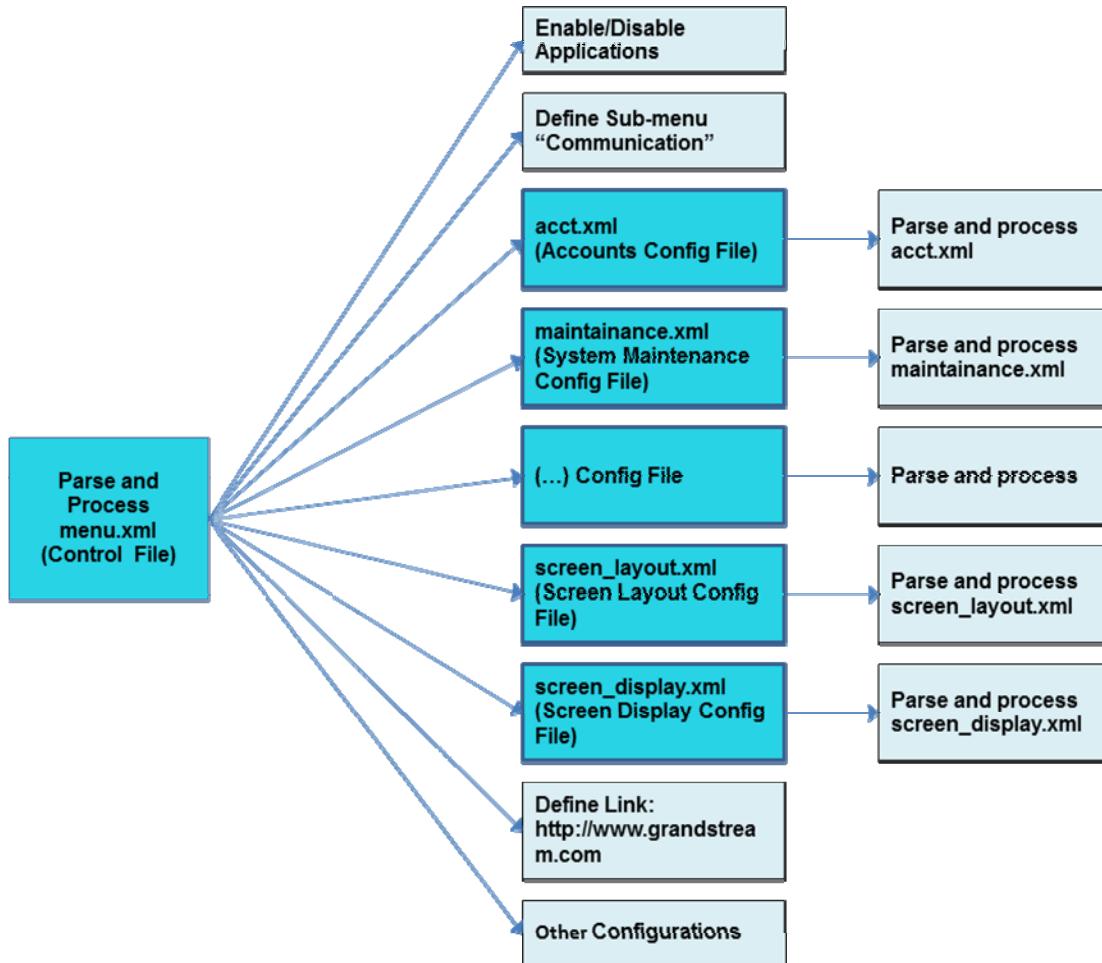
```
<link icon="icon/Grandstream.png" dynamic-icon="icon/Grandstream.gif" display-name="GMI"
type="gmiapp">
  <link-url>http://www.google.com</link-url>
</link>
```

Define an interface for the GMI implementation which will get the page from [www.google.com](http://www.google.com) and display it in the phone's GUI. Users will then be able to use the page on the phone. Please refer to GMI application documents for more detailed information.

5.

```
<submenu func-name="settings">
  <item func-name="account">
    <config-file>acct.xml</config-file>
  </item>
  <item func-name="connection"/>
  <item func-name="time"/>
  <item func-name="display"/>
  <item func-name="maintenance">
    <config-file>maintenance.xml</config-file>
  </item>
  <item func-name="camera"/>
  <item func-name="callfeature"/>
  <item func-name="video"/>
  <item func-name="fxo"/>
</submenu>
```

The application/item Account specifies the configuration file acct.xml and the application/item Maintenance specifies the configuration file maintenance.xml. Refer to the sections below for more details on how these XML file works.



**Figure 4: Flow diagram of example demo file**

**Note:** All the configuration files are parsed through the XML parser, therefore it is essential to follow the standard XML schema format and refer to the example configuration files at the end of this document for more descriptions and details. Since configuration file validations are checked against XML Schema, please make sure that all elements and attributes follow the standards to avoid any parsing failure/error.

## 4 XML CONFIG-FILE ELEMENTS

Users may configure other configurations on the phone using the XML configuration file specified in the main control file menu.xml.

### 4.1 ACCOUNT CONFIGURATION (ACCT.XML)

```

<item func-name="account">
  <config-file>acct.xml</config-file>
</item>
  
```

These three lines in menu.xml allow users to configure Accounts using the specified configuration file (e.g. acct.xml). This includes configuring the following: Account SIP server, SIP user ID, Authenticate ID, Authenticate password and etc. It also defines settings such as whether the account is active, locking the account or reordering the accounts.

Refer to the account configuration file (acc.xml) below:

```

<acct-config>
  <account lock="1">
    <index>1</index>
    <active>1</active>
    <pos>1</pos>
    <name>Account 2</name>
    <server>192.168.1.20</server>
    <outbound-proxy></outbound-proxy>
    <auth-id>9090</auth-id>
    <auth-pwd>9090</auth-pwd>
    <user-id>9090</user-id>
    <display-name>9090</display-name>
  </account>
  <account lock="1">
    <index>2</index>
    <active>1</active>
    <pos>2</pos>
    <name>Account 1</name>
    <server>192.168.1.20</server>
    <outbound-proxy></outbound-proxy>
    <auth-id>8080</auth-id>
    <auth-pwd>8080</auth-pwd>
    <user-id>8080</user-id>
    <display-name>8080</display-name>
  </account>
  <account lock="1">
    <index>3</index>
    <active>1</active>
    <pos>3</pos>
    <name>Account 3</name>
    <server>192.168.1.20</server>
    <outbound-proxy></outbound-proxy>
    <auth-id>7070</auth-id>
    <auth-pwd>7070</auth-pwd>
    <user-id>7070</user-id>
    <display-name>7070</display-name>
  </account>
</acct-config>

```

The elements and attributes are described below:

- <acct-config>: Account configuration element
- <account>: Account element. It has lock attribute.
  - ◆ lock: Valid values are 0 or 1. 1- Account settings are locked and cannot be changed by the user, 0- Account settings are not locked and can be changed by the user. Default value is 0.
- <index>: Actual account index, where the accounts has not been re-ordered. Valid values are from 1 to 3.
- <active>: Specifies whether the configuration is active or not. Valid values are 0 or 1. 1- Active, 0- Inactive.
- <pos>: Account position index. Allows the reordering of accounts, such as moving Account 1 to Account 3. Valid values are from 1 to 3.

- <name>: Account Name. (Type - String)
- <server>: SIP server URL. (Type - String)
- <outbound-proxy>: Outbound proxy server URL. (Type - String)
- <auth\_id>: SIP Account Authenticate ID. (Type - String)
- <auth\_pwd>: SIP Account Authenticate Password. (Type - String)
- <user-id>: SIP User ID. (Type - String)
- <display-name>: Display Name. (Type - String)

## 4.2 MAINTENANCE SETTINGS CONFIGURATION (MAINTENANCE.XML)

```
<item func-name="maintenance">
  <config-file>maintenance.xml</config-file>
</item>
```

These three lines in menu.xml are used to configure settings related to firmware upgrade and configuration file upgrade.

Refer to the maintenance settings configuration file (maintenance.xml) below:

```
<maintenance>
  <factory-reset lock="0" hide="1"/>
  <firmware-config lock="1" hide="0"/>
</maintenance>
```

The elements and attributes are described below:

- <maintenance>, Configuration file root element
  - <factory-reset>: Restore to factory default settings. It has the following attributes:
    - ◆ lock: Valid values are 0 or 1. 1 - Factory reset option is locked (Users can see it but cannot configure); 0 - Factory reset option is not locked (Users can configure)
    - ◆ hide: Valid values are 0 or 1. 1 - Factory reset option is hidden; 0 - Factory reset option is shown.
  - Note: Hide attribute has high priority to lock attribute.
- <firmware-config>: Configurations for upgrade mode, firmware server path, config server path. It has the following attributes:
  - ◆ lock: Valid values are 0 or 1. 1 - Configuration settings are locked and cannot be changed by the user; 0 - Configuration settings are not locked and can be changed by the user.
  - ◆ hide: Valid values are 0 or 1. 1 - Hide the configurations; 0 - Show the configurations.
- Note: Hide attribute has high priority to lock attribute.

## 4.3 SCREEN LAYOUT CONFIGURATION (SCREEN\_LAYOUT.XML)

```
<item func-name="screen_layout" hide="1">
  <config-file>screen_layout.xml</config-file>
</item>
```

These three lines in menu.xml for the screen layout configuration is used to control the desktop screen layout, enable/disable certain desktop applications and determine whether or not to use custom layout.

Refer to the screen layout configuration file (screen\_layout.xml) below:

```
<?xml version="1.0" encoding="UTF-8"?>
<screen-layout>
  <version>2</version>
```

```

<layout-type>1</layout-type>
<small-layout>
  <desktop1>
    <item position="left_top">RSS News</item>
    <item position="right_top">Digital Clock</item>
    <item position="right_bottom">Information</item>
    <softkey key="F1">Menu</softkey>
    <softkey key="F2">Switch Screen</softkey>
  </desktop1>
  <desktop2>
    <item position="left_top">Weather</item>
    <item position="right_top">Calendar</item>
    <softkey key="F1">Menu</softkey>
    <softkey key="F2">Switch Screen</softkey>
  </desktop2>
  <desktop3>
    <softkey key="F1">Menu</softkey>
    <softkey key="F2">Switch Screen</softkey>
  </desktop3>
  <desktop4>
    <softkey key="F1">Menu</softkey>
    <softkey key="F2">Switch Screen</softkey>
  </desktop4>
</small-layout>
<large-layout>
  <desktop1>
    <item position="left">Information</item>
    <item position="right">Analog Clock</item>
    <softkey key="F1">Menu</softkey>
    <softkey key="F2">Switch Screen</softkey>
    <softkey key="F3">DND</softkey>
    <softkey key="F4">Demo</softkey>
  </desktop1>
  <desktop2>
    <item position="left">Multimedia News</item>
    <softkey key="F1">Menu</softkey>
    <softkey key="F2">Switch Screen</softkey>
    <softkey key="F3">News Detail</softkey>
    <softkey key="F4">News next</softkey>
  </desktop2>
  <desktop3>
    <item position="left">Stock</item>
    <item position="right">Weather</item>
    <softkey key="F1">Menu</softkey>
    <softkey key="F2">Switch Screen</softkey>
    <softkey key="F3">Volume Up</softkey>
    <softkey key="F4">Volume Down</softkey>
  </desktop3>
  <desktop4>
    <item position="left">Horoscope</item>
    <item position="right">Today</item>
    <softkey key="F1">Menu</softkey>
    <softkey key="F2">Switch Screen</softkey>
    <softkey key="F3">DND</softkey>
    <softkey key="F4">Demo</softkey>
  </desktop4>

```

```
</large-layout>
<custom-layout>
  <file>gxv31xx_layout.xml</file>
</custom-layout>
</screen-layout>
```

The elements and attributes are described below:

- <screen-layout>: Configuration file root element
- <version>: configuration file version. This will increment if there are changes in the configuration file element to identify the different configuration file version
- <layout-type>: Valid values are as follows:
  - 0: Small Layout. Configure the two desktops and the desktop applications will be shown according to the configuration specified in <small-layout>.
  - 1: Large Layout. Configure the four desktops and the desktop applications will be shown according to the configuration specified in <large-layout>.
  - 2: Customized Layout. Use the custom layout configuration file specified in <custom-layout> to configure the custom layout for desktop.
- <small-layout>: Small-layout configuration element
  - <desktopX>: Configure the layout for Desktop X, where X could be 1 or 2. Every desktop has four windows (top left window, top right window, bottom left window, bottom right window) for the display of desktop applications.
    - ◆ <item>: Specify the application on the desktop (Type: String). Valid values are as follows:
      - RSS News: RSS News desktop application
      - Weather: Weather desktop application
      - Analog Clock: Analog Clock desktop application
      - Digital Clock: Digital Clock desktop application
      - Information: System Information desktop application
      - Calendar: Calendar desktop application
      - Stock: Stock desktop application
      - Horoscope: Horoscope desktop application
      - Today: Today desktop application
      - Multimedia News: Multimedia news application
      - GMI APPLET: GMI desktop application
      - Skype: Skype quick launch button
    - ◆ <item> element has “position” attributes (Type: String), valid values are:
      - left\_top: top left part of the window
      - right\_top: top right part the window
      - left\_bottom: bottom left part of the window
      - right\_bottom: bottom right part of the window
    - ◆ <softkey> element configures the softkeys on each desktop. This is an optional element. There are up to 4 softkeys that can be configured on each desktop. If not specified, the phone system will specify it. The valid values are:
      - None (or not specify): no softkey function is configured
      - DND: do not disturb
      - Call History: call history
      - Menu: main menu
      - Switch Screen: switch between the four desktops
      - Phone Book: phonebook
      - Volume Up: turn up the volume
      - Volume Down: turn down the volume
      - More News: go to the next page of the RSS News. It is linked to the RSS News application on the desktop
      - Headset: turn on/off the headset

- Demo: open the demo video
- Video Off: turn on/off the video
- IPCall: make SIP/IP call
- TV\_LCD: switch TV/LCD
- News Detail: open news details in Multimedia News. It is linked to the Multimedia News application on the desktop
- News next: go to the next page of the Multimedia News. It is linked to the Multimedia News application on the desktop
- Horo Next: go to the next page of Horoscope. It is linked to the Horoscope application on the desktop
- GMI F1: GMI F1 key. It is linked to the GMI application on the desktop
- GMI F2: GMI F2 key. It is linked to the GMI application on the desktop
- Skype: Skype: Skype quick launch button
- ◆ <softkey> element has “key”, “display”, “action” and “data” attributes.
- <key>: mandatory attribute. It identifies which softkey is configured. Valid values are F1, F2, F3, and F3
- <display>: optional attribute. It specifies the name to be displayed for the softkey. If not specified, phone system will define it according to the softkey’ s function
- <action>: optional attribute. It is not used and reserved for other functions
- <data>: optional attribute. It provides parameters for the softkey function. Currently, it is only used for IPCall which uses the IP address as the parameter to make call
- <large-layout>: Large-layout configuration element
  - <desktopX> Configure the layout for Desktop X, where X is a value from 1 to 4. Every desktop has two windows (left window, right window) for the display of desktop applications.
    - ◆ <item>: Desktop application element (Type: String). The valid values are the same as the <item> element in <small-layout>
    - ◆ <item> element has “position” attributes (Type: String), valid values are:
      - left : left window
      - right : right window
    - ◆ <softkey> element has the same valid values and attributes as <softkey> element in <small-layout>
- <custom-layout> Custom layout element
  - <file>: Specify the custom layout configuration file name. The phone will parse the custom layout configuration file and configure the screen layout accordingly. All the required resources should be located in the same directory as the custom layout configuration file to avoid any parsing error. For more details and the syntax for configuring the XML based customizable screen, please refer to Appendix: GXV31xx\_XML\_Based\_Customizable\_Screen.

#### 4.4 SCREEN DISPLAY CONFIGURATION (SCREEN\_DISPLAY.XML)

```
<item func-name="screen_display" hide="1">
  <config-file>screen_display.xml</config-file>
</item>
```

These three lines in menu.xml are used to control the configurations related to screen display, for example, screensaver, screensaver refresh time, background picture and etc.

Refer to the screen display configuration file (screen\_display.xml) below:

```
<?xml version="1.0" encoding="UTF-8"?>
<screen-display>
  <version>1</version>
  <screensaver>
```

```

<type>0</type>
<time>5</time>
<lcdoff>15</lcdoff>
<folder>icon</folder>
<interval>10</interval>
<http/>
</screensaver>
<background>
  <type>0</type>
  <picture>4.png</picture>
  <image-pos>0</image-pos>
</background>
</screen-display>
  
```

The elements and attributes are described below:

- <screen-display>: Configuration file root element
- <version>: configuration file version. This will increment if there are changes in the configuration file element to identify the different configuration file version.
- <screensaver>
  - <type>: screensaver type, valid values are:
    - ◆ 0: use pictures from Default Folder
    - ◆ 1: use pictures from Customized Folder
    - ◆ 2: use pictures specified in HTTP URL
    - ◆ 3: use pictures from Panoramio
    - ◆ 4: use pictures from Flickr
    - ◆ 5: use pictures from Photobucket
    - ◆ 6: use pictures from Phanfare
  - <time>: Screensaver timeout period (in minutes). Valid values are integers from 0 to 9999, where 0 is used to turn off the screensaver functions. The default value is 5.
  - <lcdoff>: LCD Auto Power Off Time (in minutes). Valid values are integers from 0 to 9999, where 0 is used to turn this function off. The default value is 15.
  - <folder>: The path to the customized folder that includes the picture files used for the screensaver. The configuration file should be placed under the same folder as the picture, so that the phone is able to locate and parse the file.
  - <interval>: Screensaver picture refresh interval (in sec). Valid values are integers from 10 to 999. The default value is 10.
  - <http>: HTTP photo URL
- <background>: background configuration element
  - <type>: Desktop background type. Valid values are the following:
    - ◆ 0: Default Background
    - ◆ 1: Pattern 1
    - ◆ 2: Pattern 2
    - ◆ 3: Pattern 3
    - ◆ 4: Customized picture
  - <picture>: Contain the custom image file name in relative path.
  - <image-pos>: Specify the image position. Valid values are as follows:
    - ◆ 0: Stretch
    - ◆ 1: Whole Tile
    - ◆ 2: Scale Tile

## 4.5 PHONEBOOK CONFIGURATION (PHONEBOOK\_CONFIG.XML)

```
<item func-name="phonebook">
  <config-file>phonebook_config.xml</config-file>
</item>
```

These three lines are used to control the configurations related to phonebook especially for the settings of phonebook downloading from a center server. By enabling phonebook configuration, users could set the phonebook downloading mode, downloading server, updating interval using the customization files without other phonebook provisioning in the end user side.

Refer to the phonebook configuration file (phonebook\_config.xml) below:

```
<?xml version="1.0" encoding="UTF-8"?>
<phonebook-config>
  <download-mode>2</download-mode>
  <download-url>fw.ipvideotalk.com/gs</download-url>
  <rm-redup>1</rm-redup>
  <clear-old>1</clear-old>
  <update-interval>1</update-interval>
</phonebook-config>
```

The elements and attributes are described below:

- <phonebook-config>: Configuration file root element
- <download-mode>: Phonebook download mode. The following are the valid values:
  - ◆ 0: Off
  - ◆ 1: via TFTP
  - ◆ 2: via HTTP
- <download-url>: Phonebook download server URL. A downloadable phonebook.xml should be placed in this server specified by the url.
- <rm-redup>: Replicate duplicate items. If set to “On”, the duplicate items in the phonebook will be replicated after downloading the new phonebook. The following are the valid values:
  - ◆ 0: Off
  - ◆ 1: On
- <clear-old>: Clear the old list. If set to “On”, the old contacts will be removed after downloading the new phonebook. The following are the valid values:
  - ◆ 0: Off
  - ◆ 1: On
- <update-interval>: Phonebook download interval (in minute). The phone will check for phonebook updates and download new phonebook automatically based on the interval set in this field. The valid value is integer. If set to 0, the automatic update is turned off.

**Note:**

For successful downloading the phonebook file to GXV3140/3175, users will need to use Grandstream downloadable *phonebook.xml*. Please refer to the link below for the format of phonebook.xml:

[http://www.grandstream.com/products/gxv\\_series/gxv3140/documents/gxv3140\\_wp\\_xml\\_phonebook.pdf](http://www.grandstream.com/products/gxv_series/gxv3140/documents/gxv3140_wp_xml_phonebook.pdf)

## 4.6 LANGUAGE CONFIGURATION (LANGUAGE\_CONFIG.XML)

```
<item func-name="language">
  <config-file>language_config.xml</config-file>
</item>
```

These three lines are used to control the language configurations including language display, language downloading mode, downloading server and etc.

Refer to the language configuration file (language\_config.xml) below:

```
<language-config>
  <language-code>language</language-code>
  <download-mode>2</download-mode>
  <download-url>http://test.firmware.com</download-url>
  <update-interval>30</update-interval>
</language-config>
```

The elements and attributes are described below:

- <language-config>: Configuration file root element
- <language-code>: language code for each language. The following are the valid values:
  - ◆ cs: Czech
  - ◆ de: German
  - ◆ dk: Danish
  - ◆ en: English
  - ◆ es: Spanish
  - ◆ fr: French
  - ◆ it: Italian
  - ◆ jp: Japanese
  - ◆ kr: Korean
  - ◆ nl: Dutch
  - ◆ pt: Portuguese
  - ◆ ru: Russian
  - ◆ zh-tw: Traditional Chinese
  - ◆ zh: Simplified Chinese
  - ◆ language: Self-defined language.

**Note:** If users would like to use self-defined language, the defined language file language.txt must exist in the same folder as the configuration file.

- <download-mode>: language download mode. The valid values are:
  - ◆ 0: Off
  - ◆ 1: via TFTP
  - ◆ 2: via HTTP
- <update-interval>: Language file download interval (in minute). The phone will check for language updates and download new language automatically based on the interval set in this field. The valid value is integer. If set to 0, the automatic update is turned off.

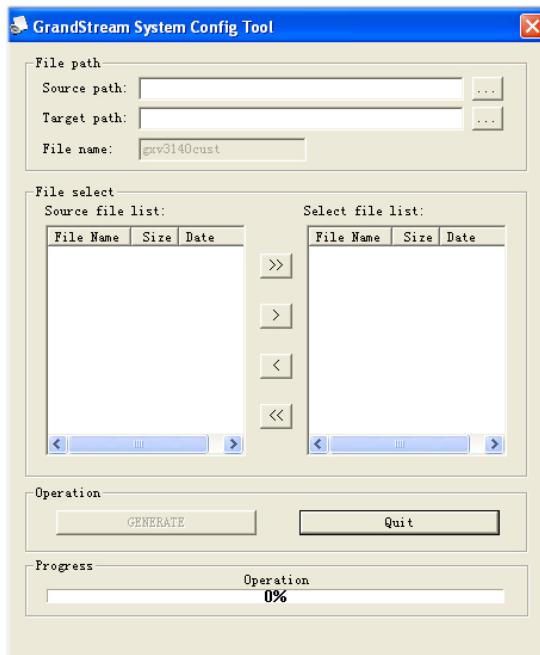
## 5 CONFIGURE THE GUI CUSTOMIZATION ON THE GXV31XX

Grandstream has developed a Configuration Generator Tool for the GUI customization purposes on GXV3140/3175. This Configuration Generator Tool can be downloaded at:

GXV3140: <http://www.grandstream.com/index.php/products/ip-video-telephony/gxv3140>  
GXV3175: <http://www.grandstream.com/index.php/products/ip-video-telephony/gxv3175>

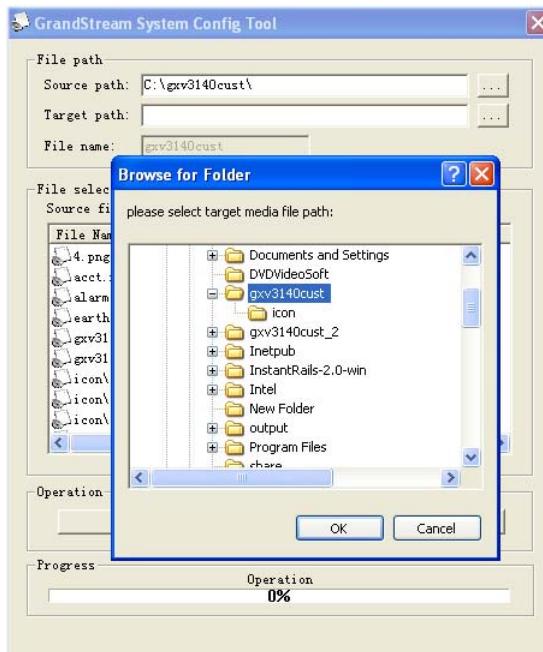
Please follow the steps below to generate the customization file from the configuration files for GXV3140 as an example. The same steps apply to GXV3175 as well.

**Step 1:** Launch the Grandstream System Config Tool on your PC by executing the ConfigTool.exe file.



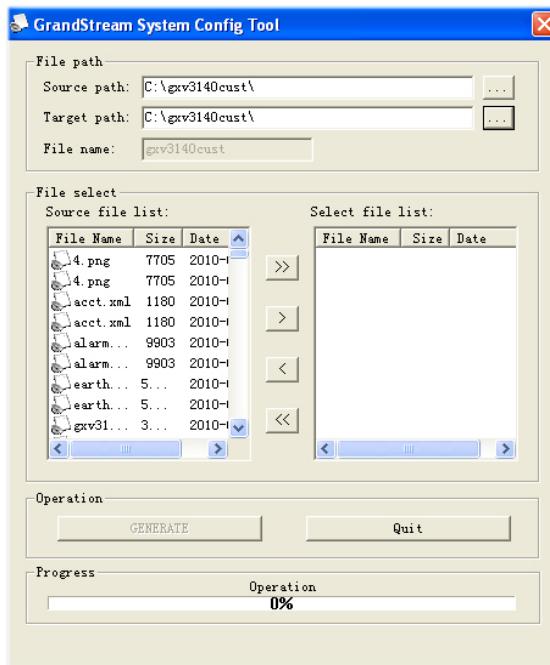
**Figure 3: GUI Customization Tool: Step 1**

**Step 2:** Specify the Source and Target Path.



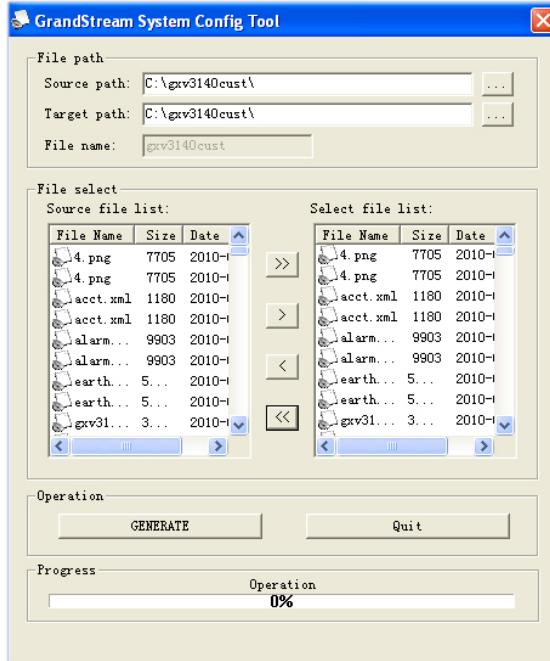
**Figure 4: GUI Customization Tool: Step 2**

**Step 3:** Move the source files over to the "Select File List".



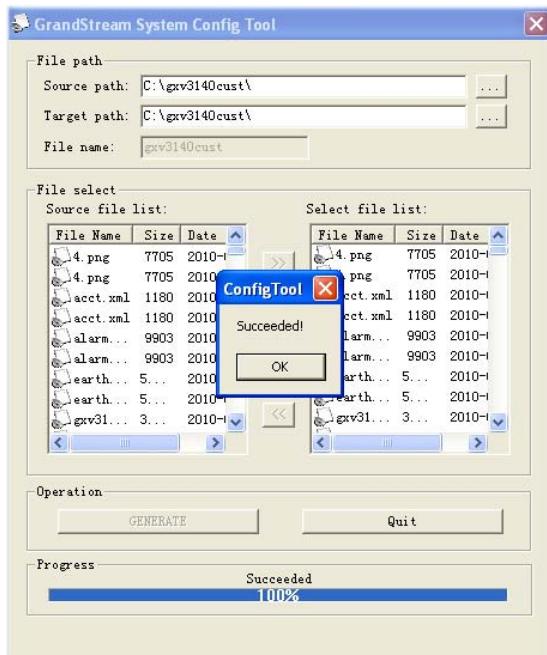
**Figure 5: GUI Customization Tool: Step 3**

**Step4:** Press the “Generate Button”



**Figure 6: GUI Customization Tool: Step 4**

If the user is using GXV3140, the System Config Tool will start parsing the files and will generate the **gxv3140cust** file when it has succeeded. This file should be available in the target path specified.



**Figure 7: GUI Customization Tool: Step 5**

Place the **gxv3140cust** file in the local TFTP/HTTP server root directory and change the firmware server path on the GXV3140 to point to this server. Reboot the phone. By default, the GXV3140 will send out the request to download the gxv3140cust file every time at phone boot-up. Once the GXV3140 has successfully downloaded and parsed the file, the settings will take place and the user will see the customized GUI menus.

## 6 REFERENCES

- [1] Appendix: GXV31XX XML Based Customizable Screen
- [2] GXV3140 XML GUI Configuration Tool and Examples:  
<http://www.grandstream.com/index.php/products/ip-video-telephony/gxv3140>
- [3] GXV3175 XML Configuration Tool and Examples:  
<http://www.grandstream.com/index.php/products/ip-video-telephony/gxv3175>