

Grandstream Networks, Inc.

XML Phonebook Guide



INTRODUCTION

Grandstream IP phones support an XML-based downloadable phonebook that allows users to share, synchronize, and manage contacts remotely in a centralized and flexible manner.

For efficient deployment and management, the XML phonebook file can be stored on a web server for phones to download automatically or on demand. This is especially useful in environments that require centralized directory access, such as enterprises, hospitality systems, or call centers, where all phones can periodically synchronize with a single server.

This document describes the Grandstream XML-based downloadable phonebook configuration, structure, and provisioning options. An example XML file is provided at the end of this guide to help administrators build, modify, or export compatible phonebooks.

Note:

The XML phonebook feature is supported across multiple Grandstream product lines, including **GXP**, **GRP**, **GHP** (*GHP63x/W models only*), **GXV**, **WP**, and **DP series**. While menu layouts, LCD options, and Web UI terminology may differ between models, the XML phonebook format, provisioning parameters, and synchronization behavior are consistent across all supported devices.

What is XML?

XML (eXtensible Markup Language) is a markup language* for documents and applications containing structured information. This information contains both content (text, pictures, input box, etc.) and an indication of what role that content plays (e.g. contents in a section header are different from contents in a footnote). Almost all documents are structured.

*A markup language is a mechanism to identify structures in a document. The XML specification defines a standard way to add markup to documents.

Why XML?

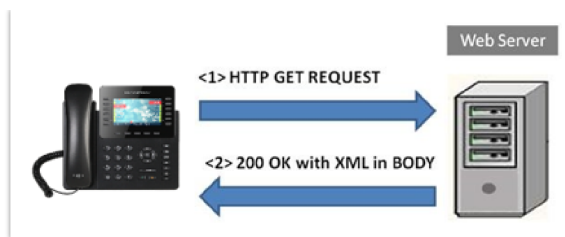
XML provides a flexible and platform-independent method for communication between SIP endpoints and external systems. It allows Grandstream phones to act as intelligent clients that can retrieve, interpret, and display data.

For phonebook applications, XML enables administrators to manage and update contacts centrally, ensuring all devices display synchronized and up-to-date contact information without manual editing on each phone.

XML API architecture

The XML-based phonebook download mechanism uses standard transport protocols such as **HTTP**, **HTTPS**, or **TFTP**, depending on device support.

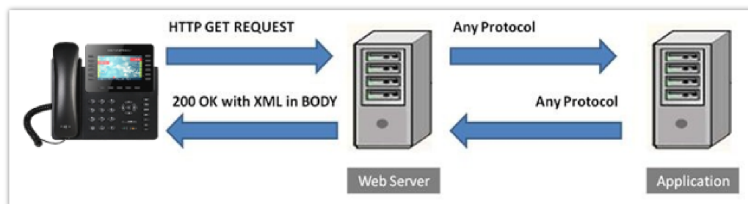
The Grandstream phone initiates an HTTP GET request to the server hosting the XML file and waits for a response. Once received, the phone parses and displays the XML content as a structured contact directory.



API via HTTP

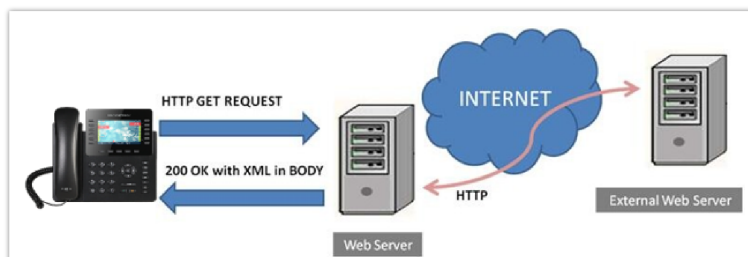
Two typical deployment models are supported:

1. **Local Network (LAN):** Phones request XML phonebook data from the web server via HTTP or TFTP. The web server processes the request, retrieves the necessary information from the application server, and returns the XML content.



XML API Structure 1

2. **Internet-based or Cloud Deployment:** Phones retrieve the XML file from a public or cloud-hosted web server. This approach allows for real-time updates from remote management systems.



XML API Structure 2

In both cases, the phone acts as a client that requests and displays the XML document, while all logic and data management occur on the server side. The XML file structure, defined later in this guide, determines how the phonebook entries are displayed and organized on the device.

XML PHONEBOOK CONFIGURATION

Firmware

Before using the XML phonebook feature, please make sure the firmware on the phone is upgraded to the latest version. Please refer to the following link for firmware upgrading information: <https://www.grandstream.com/support/firmware>

Web Configuration

Users can configure XML phonebook settings through the supported device's web interface. Although all Grandstream models support the same basic functionality, the menu paths and setting names vary slightly between series.

The following sections summarize where to find these options and how the labels differ across devices.

Accessing the XML Phonebook Settings

To configure the XML phonebook, first log into the device's web interface using its IP address. The exact menu location for XML phonebook options varies by model series. Use the paths in the table below to locate the setting appropriate for your device.

Model Series	Web UI Path
GXP Series	Phonebook → Phonebook Management
GRP Series, GHP63x/W Series, WP8x6 Series	Application → Contacts → Phonebook Management
GXV Series, WP856, WP20	Application → Contacts → Download Contacts
WP810, WP822, WP825	Directory → Phonebook Management
DP7xx Series	Phonebook → Global Phonebook XML Settings

This screenshots below illustrate how the XML phonebook configuration page appears on several Grandstream phone series.

The screenshot shows the 'Phonebook Management' configuration page for GRP series devices. The left sidebar has 'Contacts' selected. The main panel includes the following settings:

- Enable Phonebook XML Download: Disabled
- HTTP/HTTPS Username: [Empty field]
- HTTP/HTTPS Password: [Empty field]
- Phonebook XML Server Path: [Empty field]
- Phonebook Download Interval: 0
- Remove Manually-edited Entries on Download: ☒
- Import Group Method: Replace
- Sort Phonebook by: Auto
- Download XML Phonebook: Download
- Upload XML Phonebook: Upload
- Default Search Mode: Full Fuzzy Match

Buttons at the bottom: Save, Save and Apply, Reset.

GRP Series Phonebook Management Page

The screenshot shows the 'Download Contacts' configuration page for GXV series devices. The left sidebar has 'Contacts' selected. The main panel includes the following settings:

- Clear the Old List: ☐
- Clear Old History Mode: ☒ Clear all ☐ Keep local contacts
- Replace Duplicate Items: ☒
- Replace Duplicate Entries Mode: ☒ Replace by name ☐ Replace by number
- Download Mode: ☒ Off ☐ TFTP ☐ HTTP ☐ HTTPS
- Keep Associated Account: ☒
- File Encoding: UTF-8
- Download Server: [Empty field]
- HTTP/HTTPS Username: [Empty field]
- HTTP/HTTPS Password: [Empty field]
- Automatic Download Interval: Disabled
- Download Now: Download

GXV Series Download Contacts Page

Web UI Configuration Parameters

The XML phonebook settings allow administrators to define how the phone retrieves and manages contact data from a remote server.

All supported Grandstream models include equivalent parameters, though their exact field names and menu positions may vary. In general, the web interface provides options to:

- **Enable or disable** XML phonebook synchronization over supported protocols (HTTP, HTTPS, or TFTP).
- Specify the **server address or URL** where the XML phonebook file is hosted.
- Define how often the device should **check for and download updates** from the server.
- Choose whether downloaded entries should **replace or merge** with existing contacts.
- Control how the device handles **manually edited or locally stored** contacts during synchronization.
- Optionally provide **authentication credentials** for secured servers.
- Set the **display or sorting order** of contacts in the phone's directory.

The following example illustrates how XML phonebook settings can be configured on a GXP series phone through the web interface. This serves as a reference for administrators when setting up XML phonebook synchronization.

The screenshot shows the 'Phonebook Management' web interface. It contains the following fields and controls:

- Enable Phonebook XML Download:** A dropdown menu set to 'Enabled, use HTTP'.
- HTTP/HTTPS Username:** A text input field.
- HTTP/HTTPS Password:** A text input field.
- Phonebook XML Server Path:** A text input field containing '192.168.40.10/XMLphone'.
- Phonebook Download Interval:** A text input field containing '0'.
- Remove Manually-edited Entries on Download:** Radio buttons for 'No' and 'Yes' (selected).
- Import Group Method:** Radio buttons for 'Replace' (selected) and 'Append'.
- Sort Phonebook by:** Radio buttons for 'Last Name' (selected) and 'First Name'.
- Download XML Phonebook:** A blue 'Download' button.
- Upload XML Phonebook:** A blue 'Upload' button.
- Phonebook Key Function:** A dropdown menu set to 'Default'.
- Default Search Mode:** Radio buttons for 'Quick match' (selected) and 'Exact match'.
- Buttons:** 'Save', 'Save and Apply', and 'Reset' buttons at the bottom.

GXP Series Phonebook Management Page

- 1. Enable Phonebook XML Download:** Set this option to Enabled, use HTTP. This allows the phone to automatically download the XML phonebook from a configured HTTP server.
- 2. HTTP/HTTPS Username and Password:** Leave these fields blank if the server does not require authentication. If your server requires credentials, enter the appropriate username and password.
- 3. XML Server Path:** Enter the full path to the XML phonebook file (for example: *http://192.168.1.10/XML/phonebook.xml*)

Notes:

- Accepted formats include IP_address[:port]/dir or Hostname[:port]/dir.
Examples: *192.168.40.10/XMLphonebookdir*,
service.mycompany.com/XML/phonebook
- If "[:port]" is not specified, port 80 will be used as the default for HTTP and Port 69 will be used as the default for TFTP.

- The device will always look for the phonebook file phonebook.xml for downloading if no file name is specified in the server path.

- Phonebook Download Interval:** Set to 0 to disable automatic downloads, or choose a value between 5 and 720 minutes for recurring updates.
- Remove Manually-edited Entries on Download:** Set to Yes to delete any manually edited contacts whenever a new XML phonebook is downloaded.
- Import Group Method:** Set to Replace to completely overwrite existing groups, or Append to add new entries without removing current contacts.
- Sort Phonebook By:** Set to Last Name or First Name to control the default sorting order of contacts in the phonebook.
- Download XML Phonebook:** Click the Download button to retrieve the XML file to a local PC. If the phonebook is empty, the downloaded XML will contain a minimal structure:

```
<?xml version="1.0" encoding="UTF-8"?>
<AddressBook>
<version>1</version>
</AddressBook>
```

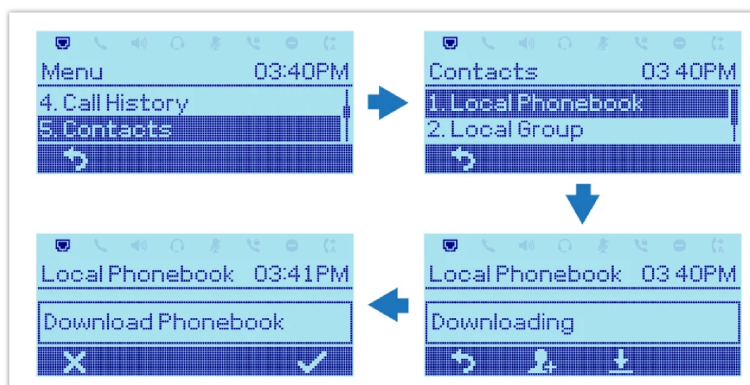
- Upload XML Phonebook:** Click the Upload button to send a local XML file to the phone.
- Phonebook Key Function:** Set to Default. This controls the behavior of the Phonebook key on the device, which can be configured to access LDAP search, Local Phonebook, Local Group, or Broadsoft Phonebook.
- Default Search Mode:** Set to Quick Match. The alternative option is Exact Match, which restricts searches to exact entries.

LCD configuration

Certain Grandstream phones provide the ability to trigger XML phonebook downloads directly from the device LCD. On most devices, such as GXP, GRP, and WP, the phone retrieves the XML file from a server that has already been configured via the Web UI or provisioning. Users can only trigger the download or refresh manually, and cannot change the server path or credentials from the LCD.

The example below illustrates how to download the latest phonebook XML file using the GRP260x IP phone series:

- Navigate to **Menu → Contacts → Local Phonebook**.
- Press the **Download** soft key. The phone fetches the XML file from the pre-configured server.
- Confirm the download if prompted. The phone merges or replaces contacts according to the import method defined in the Web UI.



XML Phonebook Download from the GRP260x LCD

Provisioning

Grandstream IP phones support XML phonebook configuration via provisioning files, Web UI, or remote management tools, allowing administrators to centrally define the server path, download interval, import method, and authentication credentials.

- The XML phonebook is always downloaded from a **server defined in the configuration file, Web UI, or pushed via GDMS/Zero Config**.
- Different series (GXP, GRP, GXV, WP, DP, GHP63x) may use **different parameter names or P-values**, which can change between firmware releases.
- Some models, such as **GRP series**, support **direct uploading of configuration files via the Web UI**. This is a simpler alternative, but it must be done **individually per device**.

Grandstream provides a single ZIP file containing templates for all supported models, which ensures administrators always have the latest parameter values. To find the configuration template for each model, please refer to the instructions below:

1. Visit the Grandstream tools page:
<https://www.grandstream.com/support/tools>
2. Download the **Configuration Template file**, which includes configuration files for all models.
3. Use the template corresponding to your device to define XML phonebook parameters.
4. Deploy the configuration:
 - **Web UI upload:** device-by-device.
 - **GDMS / Zero Config:** push settings to multiple devices simultaneously.

Notes:

- To manage multiple devices remotely, the **GDMS provisioning guide** shows how to create templates and schedule updates for supported models.
- For provisioning parameters per device series or using a local server, refer to the **General Provisioning Guide**.

XML PHONEBOOK SYNTAX

Header

The XML document should begin with a standard XML declaration. This defines the XML version and encoding. All supported Grandstream models use **UTF-8** encoding (some legacy models also support GBK).

```
<?xml version="1.0" encoding="UTF-8"?>
```

Note:

UTF-8 is recommended for maximum compatibility across all models.

Phonebook XML structure

The main structure of the XML phonebook is consistent across all supported Grandstream devices. It contains a root `<AddressBook>` element, optional groups (`<pbgroup>`), and individual contact entries (`<Contact>`).



```
<AddressBook>
<version>Enter version number here. Usually 1</version>
<pbgroup>
<id>Enter group id here</id>
<name>Enter group name here</name>
</pbgroup>
<pbgroup>
<!-- Enter another group information here, same format as
above -->
</pbgroup>
<Contact>
<FirstName>Enter first name here</FirstName>
<LastName>Enter last name here</LastName>
<Frequent>Favorite contact or not</Frequent>
<Phone type="Specify phone type here">
<onenumber>Enter phone number here</onenumber>
<accountindex>Enter account index here</accountindex>
</Phone>
<Department>Enter department name here</Department>
<Group>Enter group ID here</Group>
</Contact>
<Contact>
<!-- Enter another contact information here, same format as
above -->
</Contact>
</AddressBook>
```

Phonebook XML element

This section describes details of the XML elements used in an XML phonebook file. Please note that the element name is case-sensitive when being used in an XML document.

Root element `<AddressBook>`

The `<AddressBook>` element is the root of the XML phonebook and contains all groups and contacts. It is mandatory in every XML phonebook file.

```
<AddressBook>
<!-- Enter phonebook information here -->
</AddressBook>
```

Object	Position	Type	Values	Comments
AddressBook	Root element	Mandatory	–	Root element of the XML document
version	Child element	Optional	Number	XML format version number. Usually 1.
pbgroup	Child element	Optional	–	Define groups.
Contact	Child element	Mandatory	–	Each contact is a phonebook entry.

Element <pbgroup>

Each <pbgroup> defines a contact group. Groups can be used to categorize contacts, such as Work, Friend, or Blacklist.

```
<pbgroup>
<id>Enter group id here</id>
<name>Enter group name here</name>
</pbgroup>
```

Object	Position	Type	Values	Comments
pbgroup	Element	Optional	–	Each pbgroup is a group. More than 1 group can be defined
id	Child element	Optional	Number	To specify group ID.
name	Child element	Mandatory	String	Group name.

Element <Contact>

Each <Contact> element represents an individual phonebook entry. Contacts include names, phone numbers, departments, and optional fields like job title or company.

```
<Contact>
<id>Enter-contact-Id-here</id>
<FirstName>Enter first name here</FirstName>
<LastName>Enter last name here</LastName>
<Frequent>Favorite contact or not</Frequent>
<Phone type="Specify phone type here">
<phonenumber>Enter phone number here</phonenumber>
<accountindex>Enter account index here</accountindex>
</Phone>
<Primary>Enter-value-here</Primary>
<Department>Enter department name here</ Department >
<Group>Enter group ID here</Group>
<Job>Enter-job-here</Job>
<Company>Enter-company-here</Company>
</Contact>
```

Object	Position	Type	Values	Comments
Contact	Element	Mandatory	–	Each contact is an entry
Id	Child element	Optional	Number	Specify the contact id

FirstName	Child element	Optional	String	Specify first name and last name. At least one of them has to be specified.
LastName	Child element	Optional	String	
Job Title	Child element	Optional	String	Specify the job title of the contact
Frequent	Child element	Optional	Number	0: Default 1: Mark this contact as frequent/favorite
Phone	Child element	Optional	–	Phone number information
Primary	Child element	Optional	Number	Specify If the number is primary
Department	Child element	Optional	String	Specify Department name.
Group	Child element	Optional	number	Specify group ID for this contact.
Job	Child element	Optional	String	Specify the job of the contact
Company	Child element	Optional	String	Specify the company of the contact

Element <Phone>

The <Phone> element contains a phone number and its type (Work, Home, Mobile, Fax, or Other) for a given contact. Each phone number must also specify which account it belongs to.

```
<Phone type="Specify phone type here">
  <phonenumber>Enter phone number here</phonenumber>
  <accountindex>Enter account index here</accountindex>
</Phone>
```

Note

The possible values for type are “Work”, “Home” and “Mobile”.

Object	Position	Type	Values	Comments
Phone	Element	Mandatory	–	It has attribute “type”. type: Work/Home/Mobile/Fax/Other
phonenumber	Child element	Mandatory	Number	Phone number
accountindex	Child element	Mandatory	Number	From 0 to 5 for account 1 to account 6

XML PHONEBOOK EXAMPLE

Below is an example of an XML phonebook file:

```
<?xml version="1.0" encoding="UTF-8"?>
<AddressBook>
  <version>1</version>
  <pbgroup>
    <id>1</id>
    <name>Blacklist</name>
  </pbgroup>
  <pbgroup>
    <id>2</id>
    <name>Work</name>
  </pbgroup>
  <pbgroup>
    <id>3</id>
    <name>Friend</name>
  </pbgroup>
  <Contact>
    <FirstName>John</FirstName>
    <LastName>Doe</LastName>
    <Frequent>0</Frequent>
    <Phone type="Work">
      <phonenumber>8001</phonenumber>
      <accountindex>1</accountindex>
    </Phone>
    <Phone type="Home">
      <phonenumber>3000001</phonenumber>
      <accountindex>0</accountindex>
    </Phone>
    <Phone type="Mobile">
      <phonenumber>1234567890</phonenumber>
      <accountindex>0</accountindex>
    </Phone>
    <Department>Marketing</Department>
    <Group>1</Group>
  </Contact>
  <Contact>
    <FirstName>Michael</FirstName>
    <LastName>Tsai</LastName>
    <Frequent>0</Frequent>
    <Phone type="Work">
      <phonenumber>8002</phonenumber>
      <accountindex>1</accountindex>
    </Phone>
    <Phone type="Home">
      <phonenumber>3000002</phonenumber>
      <accountindex>0</accountindex>
    </Phone>
    <Phone type="Mobile">
      <phonenumber>1234567889</phonenumber>
      <accountindex>0</accountindex>
    </Phone>
    <Department>Sales</Department>
    <Group>2</Group>
  </Contact>
  <Contact>
    <FirstName>Alex</FirstName>
    <LastName>Smith</LastName>
    <Frequent>1</Frequent>
    <Phone type="Work">
      <phonenumber>8003</phonenumber>
      <accountindex>0</accountindex>
    </Phone>
    <Phone type="Home">
      <phonenumber>3000002</phonenumber>
      <accountindex>0</accountindex>
    </Phone>
    <Phone type="Mobile">
      <phonenumber>2345678888</phonenumber>
      <accountindex>0</accountindex>
    </Phone>
    <Department/>
    <Group>3</Group>
  </Contact>
</AddressBook>
```

SUPPORTED DEVICES

The table below lists Grandstream devices that support XML phonebook functionality and the maximum number of contacts each model can store.

Device Model	Maximum Contacts
GRP260x Series	up to 2000
GRP2610(P), GRP2611G, GRP2612(P/W/G), GRP2613(W)	up to 1000
GRP2614, GRP2615, GRP2616, GRP2624, GRP2634, GRP2636, GRP2650, GRP2670	up to 2000
GXP1610(P), GXP1615, GXP1620, GXP1625, GXP1628, GXP1630	up to 1000
GXP2130 v2, GXP2135, GXP2140, GXP2160, GXP2170	up to 2000
GHP630(W), GHP631(W)	up to 1000
DP75x Series	up to 3000
WP810, WP822, WP825	up to 500
WP816, WP820, WP826, WP836, WP856	up to 1000
GXV3350, GXV3370, GXV3450, GXV3470	up to 1000
GXV3380, GXV3480	up to 2000