



## DHCP Option 66 Auto Provisioning Guide

### Overview

UniFi VoIP Phones can be configured using a *Configuration File* through TFTP or HTTP/HTTPS download.

When a UniFi VoIP Phone boots up or reboots, it attempts to get the provisioning server URL from DHCP option 66 and fetch the configuration file named **uvpMAC.xml** from the provisioning server (*MAC* is the MAC address of the UniFi VoIP Phone and should be in uppercase, for example **uvp24A43C065D85.xml**).

The provisioning process outlined in this document is compatible with UniFi VoIP Phone platform/Phone app version 4.7.0 or later.

### Setup DHCP Option 66

DHCP option 66 (TFTP Server Name) needs to be configured on the DHCP server to provide the provisioning server URL in the DHCP offer packet.

Provisioning Server Type/Protocol	DHCP Option 66 URI Example
TFTP	192.168.100.1
HTTP	http://192.168.100.1/provisioning
HTTPS (without verification certificate)	https://192.168.100.1/provisioning

Put the Configuration File on the Provisioning server.

### Configuration File Filename Format

uvp{UVP\_MAC\_UPPER\_CASE}.xml

Example: **uvp24A43C065D85.xml**

### Configuration File Content Format

The configuration file is in XML format with the declaration:

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

Each configuration item maps to an XML tag with a U-prefixed string as its tag name, which is the configuration key. The enclosed tag value is the configuration value.

The U parameter key values from U00000 to U09999 are for global settings; the U values from U10000 to U89999 are for account 1 to account 8. The first digit represents the account ID.

All of the U-prefixed tags are the children of the root tag **<provision version="1" />** and are on the same level. The root tag *provision* needs an attribute named *version* with a value assigned to it.

Supported configuration items are as listed in the following sections.



## Device and Phone Global Parameters

U Value Parameters	Description	Type/Range	Default Value	Notes	Supported Since
U00003	Settings > Ethernet Configuration > Connection Type	0, 1	0	0: DHCP mode 1: Static IP mode  Note: U00004, U00005, U00006, U00007, U00008 will be provisionable only when the U00003 value is set to 1 (static IP mode).  If U00003 value is 0 (DHCP mode), the U00004, U00005, U00006, U00007, U00008 values will all be ignored.	5.0.4.610
U00004	Settings > Ethernet Configuration > IP Address	String			5.0.4.610
U00005	Settings > Ethernet Configuration > Network prefix length	Integer (0-32)			5.0.4.610
U00006	Settings > Ethernet Configuration > DNS address 1	String			5.0.4.610
U00007	Settings > Ethernet Configuration > DNS address 2	String			5.0.4.610
U00008	Settings > Ethernet Configuration > Gateway address	String			5.0.4.610
U00009	Codec list and priority	String	9,0,8	PCMU-0 PCMA-8 G722-9 G726-111 Opus-108 GSM-3 iLBC-104 Speex 32K-99 Speex 8K-97 Speex 16K-98	
U00010	Log level	Integer (0-6)	4	0: Turn off pjsip log 1: Error 2: Warning 3: Info 4: Debug 5: Verbose 6: Very detailed events	
U00011	Software EC enable	Boolean	1		
U00012	DNS SRV	Boolean	0		
U00013	STUN servers	String	stun.l.google.com:19302		
U00014	Show phone app dialpad when handset is being lifted	Boolean	1		5.0.4.610
U00015	App to be launched when handset is lifted	String	com.ubnt.uvp/com.ubnt.unifi.phone.MainActivity	Format: <i>package_name/Activity_name</i>  Possible values (case sensitive): <ul style="list-style-type: none"><li>• UniFi Phone: com.ubnt.uvp/com.ubnt.unifi.phone.MainActivity</li><li>• Google Chrome browser: com.android.chrome/com.google.android.apps.chrome.Main</li></ul>	5.0.4.610
U00016	Select SIP account when making a call	Boolean	0	Default disabled	5.0.4.610
U00017	DTMF type	Integer	1	0: Inband 1: RFC2833 2: SIP INFO	5.0.4.610



U Value Parameters	Description	Type/Range	Default Value	Notes	Supported Since
U00018	Immersive full-screen mode	Boolean	0		
U00019	Provisioning server URL manual entry	String		http/https URL or tftp	5.0.4.610
U00020	Provisioning server http/https username	String			5.0.4.610
U00021	Provisioning server http/https password	String			5.0.4.610
U00022	Allow DHCP option 66 to override manual provision server	Boolean			5.0.4.610
U00023	Contact download server / vcf file URL	String		http/https URL for the vcf file	5.0.4.610
U00024	Contact download URL http/https username	String			5.0.4.610
U00025	Contact download URL http/https password	String			5.0.4.610
U00026	Language	String		Format examples: en, en_US, zh_TW	5.0.4.610
U00027	Time zone	String		Format examples: GMT+08:00, GMT-04:30, Asia/Taipei	5.0.4.610
U00028	Show IP address of PBX at incoming calls	Boolean			5.0.4.610



## SIP Account Parameters

The following table shows an example of Account 1 (the first digit represents the account ID).

U Value	Description	Type/Range	Default Value	Notes
U10000	Account enable	Boolean	1	
U10001	Lock account	Boolean	0	
U10002	SIP ServerL	String	Empty String	
U10004	IP-based	Boolean	0	
U10005	Username	String	Empty String	
U10006	Password	String	Empty String	
U10007	Authentication Name	String	Empty String	
U10008	Display Name	String	Empty String	
U10009	Display Extension	String	Empty String	
U10010	Voicemail Number	String	Empty String	
U10011	Outbound Proxy	String	Empty String	
U10014	Registration Expiry	Integer	3600	Minimum is 30
U10015	DSCP for RTP	Integer	46	
U10016	SIP over TCP	Boolean	0	
U10017	RTP Start Port	Integer	4000	
U10018	RTP Port Range	Integer	0	
U10021	Enable STUN	Boolean	0	
U10022	Enable ICE	Boolean	0	
U10023	Enable TURN	Boolean	0	
U10024	TURN Conn Type	Integer	0	0: UDP 1: TCP 2: TLS
U10025	TURN Servers	String	Empty String	
U10026	TURN Username	String	Empty String	
U10027	TURN Password	String	Empty String	

If URI is empty, the actual SIP URI will be:

**sip:UserName@Domain**

where UserName is the username given for AuthUserName.



## Configuration File Content Examples

The following is an example of the configuration file. In most cases, the phone administrator can work out a template based on this to extend and provision a group of phones.

### Version 2 Parameters Supporting App Versions 5.0.4.610

```
<?xml version="1.0" encoding="UTF-8" ?>
<provision version="10000">

  <!-- U00003 value: 0: DHCP mode(default), 1: Static-IP mode. U00004, U00005, U00006, U00007, U00008 values will be all
  ignored if in DHCP mode. -->
  <U00003> 0 </U00003>
  <U00004> 10.2.0.200</U00004>
  <U00005> 24 </U00005>
  <U00006> 168.95.192.1 </U00006>
  <U00007> 8.8.8.8 </U00007>
  <U00008> 10.2.0.254 </U00008>

  <!--# Codec list priority sequence-->
  <U00009>111, 9,0, 8</U00009>
  <!--# Log level: 0 ~ 6: Default: 4 -->
  <U00010>6</U00010>
  <!--# Software EC -->
  <U00011>1</U00011>
  <!--# DNS SRV -->
  <U00012>1</U00012>
  <!--# Stun servers -->
  <U00013>stun.server</U00013>

  <!--# DTMF type -->
  <U00017> 1 </U00017>

  <!--# Immersive mode -->
  <U00018>0</U00018>

  <U00026> en_US </U00026>
  <U00027>GMT+8</U00027>

  <!--# Account 1-->
  <!--# Account Active. 0 - No, 1 - Yes. Default value is 0-->
  <U10000>1</U10000>
  <!--# SIP Server-->
  <U10002> 10.2.0.35 </U10002>
  <!--# SIP User ID-->
  <U10005>989 </U10005>
  <!--# SIP password-->
  <U10006>ubnt</U10006>
  <!--# SIP auth id-->
  <U10007></U10007>
  <!--# SIP display name-->
  <!--<U10008></U10008> -->
  <!--# SIP display extension-->
  <!--<U10009></U10009> -->
  <!--# SIP voicemail number-->
  <!--<U10010></U10010> -->
```



```
<!--# SIP Outbound Proxy-->
  <U10011></U10011>
<!--# SIP Registration Expiry -->
  <U10014> 600 </U10014>

<!--# Enable STUN -->
  <U10021>1</U10021>
<!--# Enable ICE -->
  <U10022>0</U10022>
<!--# Enable TURN -->
  <U10023>0</U10023>
<!--# TURN Conn Type -->
  <U10024>1</U10024>
<!--# TURN Servers -->
  <U10025>turn.server</U10025>
<!--# TURN username -->
  <U10026>turn-test@ubnt.com</U10026>
<!--# TURN password -->
  <U10027>ubntubnt</U10027>
<!--# end of Account 1 -->

</provision>
```

## Version 1 Parameters Supporting App Version 4.7.0.507

```
<?xml version="1.0" encoding="UTF-8" ?>
<provision version="1">
  <!-- per device global settings -->
  <!--# Codec list priority sequence-->
  <U00009>111,9,0,8</U00009>
  <!--# Log level: 0 ~ 6 -->
  <U00010>5</U00010>
  <!--# Software EC -->
  <U00011>1</U00011>
  <!--# DNS SRV -->
  <U00012>1</U00012>
  <!--# Stun servers -->
  <U00013>stun1.l.google.com:19302</U00013>
  <!--# DTMF type -->
  <U00017>0</U00017>
  <!--# Immersive mode -->
  <U00018>0</U00018>

<!--# Account 1-->
  <!--# Account Active. 0 - No, 1 - Yes. Default value is 1-->
  <U10000>1</U10000>
  <!--# SIP Server-->
  <U10002>pbx.server.com</U10002>
<!--# SIP User ID-->
  <U10005>user_id</U10005>
<!--# SIP password-->
  <U10006>sip_password</U10006>
<!--# SIP auth id-->
  <U10007>auth_id</U10007>
<!--# SIP display name-->
  <U10008></U10008>
<!--# SIP display extension-->
  <U10009></U10009>
```



```
<!--# SIP voicemail number-->
  <U10010></U10010>
<!--# SIP Outbound Proxy-->
  <U10011></U10011>
<!--# SIP Registration Expiry -->
  <U10014>360</U10014>
<!--# end of Account 1 -->

</provision>
```

## Version 1 Parameters Supporting App Version 4.7.0.507 with NAT STUN

```
<?xml version="1.0" encoding="UTF-8" ?>
<provision version="1">
  <!-- per device global settings -->
  <!--# Codec list priority sequence-->
  <U00009>111, 9, 0, 8 </U00009>
  <!--# Log level: 0 ~ 6: Default: 4 -->
  <U00010>5</U00010>
  <!--# Software EC Default: 1 -->
  <U00011>1</U00011>
  <!--# DNS SRV -->
  <U00012>1</U00012>
  <!--# Stun servers -->
  <U00013>stun.server</U00013>
  <!--# DTMF type -->
  <U00017>0</U00017>
  <!--# Immersive mode -->
  <U00018>0</U00018>
<!--# Account 1-->
  <!--# Account Active. 0 - No, 1 - Yes. Default value is 1 -->
  <U10000>1</U10000>
  <!--# SIP Server-->
  <U10002>pbx.server.com</U10002>
<!--# SIP User ID-->
  <U10005>user_id</U10005>
<!--# SIP password-->
  <U10006>sip_password</U10006>
<!--# SIP auth id-->
  <U10007>auth_id</U10007>
<!--# SIP display name-->
  <U10008></U10008>
<!--# SIP display extension-->
  <U10009></U10009>
<!--# SIP voicemail number-->
  <U10010></U10010>
<!--# SIP Outbound Proxy-->
  <U10011>proxy.server.com</U10011>
<!--# SIP Registration Expiry -->
  <U10014>3600</U10014>
<!--# Enable STUN -->
  <U10021>1</U10021>
<!--# Enable ICE -->
  <U10022>0</U10022>
<!--# Enable TURN -->
  <U10023>0</U10023>
<!--# TURN Conn Type -->
  <U10024>1</U10024>
<!--# TURN Servers -->
```



```
<U10025>turn.server</U10025>
<!--# TURN username -->
<U10026>stun@ubnt.com</U10026>
<!--# TURN password -->
<U10027>ubnt</U10027>
<!--# end of Account 1 -->
</provision>
```