

## Asterisk and Nortel Unistim

UNISStim (or Unified Networks **IP Stimulus**) is a protocol developed by Nortel Networks (now acquired by Avaya) for IP Phone terminals and soft phones and IP PBX communications.

Many manufacturers of IP PBX equipment, Avaya, Cisco, etc have followed the same path, developing their own proprietary protocols to lock you into using their proprietary hardware. However, these protocols are being gradually replaced or complemented by standardized protocols, including H.323, and especially SIP.

But Asterisk, being the “Swiss Army Knife” of telecommunications, has come to have a driver module for unistim as well. This is based on reverse engineering, and documented at <https://wiki.asterisk.org/wiki/display/AST/Introduction+to+the+Unistim+channel>

This is in the unistim.conf file under /etc/asterisk and a typical configuration might be as shown below. It does not support 100% of the features Nortel intended but does allow you to use the proprietary phones and have most of the features working.

; chan\_unistim configuration file.

[general]

port=5000 ; UDP port

[NT2004]

device=000ae40d624e

callerid="Your Name" <7108>

context=mycontext

mailbox=7108

linelabel=7108

rtp\_port=10000

rtp\_method=3

status\_method=0

extension=line

maintext0="Your Name"

maintext1="Tech Support"

maintext2="IT Department"

dateformat=1

timeformat=0

contrast=8

country=us

line=7108

line=7108

bookmark=Music@8888

bookmark=Operator@7104

bookmark=VoiceMail@8500@54

;Name of phone, could be anything or MAC address

;Required, MAC address of phone

;Displayed caller ID to other phones

;Context of phone in extensions.conf

;Comedian mail mailbox

;Extension of phone

;Real time streaming port

; value 3 works on newer i2004, 1120E and 1140E

;Text line, by defaults shows “Welcome”

;Text line, by default shows name of device

;Text line, by default shows IP of device

;Contrast of display 0 - 15

; Define line key extensions

; Second line, same as above

;Softkey, labeled Music and dials ext 8888

;Softkey, labeled Operator and dials ext 7104

;Softkey, dials Voicemail and displays an envelope icon

; This would be the extensions.conf entry for the above phone:

```
exten => 7108,1,Dial(USTM/7108@NT2004/r43,10,rt) ; The r43 selects ring and volume
exten => 7108,n,Voicemail(7108,u)
exten => 7108,n,Hangup()
exten => 7108,n,Voicemail(7108,b)
```

And from the Asterisk CLI> **unistim show devices**

Name/username	MAC	Host	Status
NT2004	000ae40d624e	192.168.254.34	OK

And from the Asterisk CLI> **unistim show info**

Dumping internal structures:

```
name=NT2004 id=000ae40d624e ha=(nil) sess=0x7f7504015cf0 device=0x7f7526b3ad20
selected=-1 height=3
->name=7108 fullname=USTM/7108@NT2004 exten= callid="Your Name" <7108>
cap=(ulaw) line=0x7f7526b3b3d0
==> 0. dev= icon=0x20 label=7108    number=    sub=(nil) line=0x7f7526b3b3d0
==> 1. dev= icon=0x20 label=7108    number=    sub=(nil) line=0x7f7526b3b3d0
==> 2. dev= icon=0x32 label=Music    number=8888 sub=(nil) line=(nil)
==> 3. dev= icon=0x32 label=Operator number=7104 sub=(nil) line=(nil)
==> 4. dev= icon=0x36 label=VoiceMail number=8500 sub=(nil) line=(nil)
==> 5. dev= icon=0    label=        number=    sub=(n
```

### **Configuring the phone:**

Power up the phone, preferably using POE. When the “Nortel Networks” text displays, press the four rectangular buttons below the screen one at a time from left to right.

This will get you to the Manual Cfg display.

These are my initial settings to get it to work with an Asterisk server:

Manual Cfg

EAP Enable = 0

LLDP Enable = 0

DHCP = 1

DHCP Partial = 1

S1 = IP of Asterisk Server

S1 Port = 5000

S1 Action = 1

S1 Retry Count = 10

S2 = IP of Asterisk Server

S2 Port = 5000

S2 Action = 1  
S2 Retry Count = 10  
Speed + 0  
Cfg XAS = 0  
Voice 802.1Q = 1  
Voice Vlan = 0  
Ctrl pBits = 8  
Media pBits = 8  
PC Port = 0  
Cached IP = 0  
GARP Ignore = 0  
PSK SRTP = 0