

# NetVanta 7060/7100 Configuration Checklist

AOS Versions Supported: AOS A1.01.00 and above.

AOS Versions Supporting SIP Trunking and Networking: AOS A2.02.00 and above.

This document is designed to provide guidelines for the main steps involved in configuring the NetVanta 7060/7100 before installation. For more detail on these steps, refer to the Knowledgebase articles under Related Documentation. More documentation can be found in ADTRAN Technical Support's Knowledgebase at <http://kb.adtran.com>.

## Step 1: Data Configuration

Default Operation:

- VLAN 1 is defined with an IP address of 10.10.10.1 255.255.255.0
- VLAN 2 is defined with an IP address of 10.10.20.1 255.255.255.0
- The DHCP Server is enabled by default for both VLAN 1 and VLAN 2
- The default static route is learned via DHCP on Eth 0/0.
- An IP Policy Class named "Private" is assigned to VLAN 1 and 2 (with NAT enabled) and one named "Public" is assigned to Eth 0/0.

Questions to Ask	Steps to Configure
Does the site have an existing IP address scheme that will need to be integrated with the NetVanta 7060/7100 default IP address scheme or will the default fit the needs of the site?	If the site has an existing scheme, the following areas of configuration will need to be modified: 1. VLAN 1 and VLAN 2 IP Addresses 2. SIP Server and Boot Server in IP Phone Configs
Is there an existing DHCP server?	1. If yes, then there are a few options: a. Remove the default DHCP server for VLAN 1 (typically for PCs on the LAN) and leave the default DHCP server for VLAN 2 for the IP Phones b. Remove the config for both DHCP servers and allow the existing DHCP server to service both VLANs  <b>Note:</b> If the NetVanta 7060/7100 DHCP server is not used, then DHCP Options (66 and 157) will need to be configured on the existing DHCP server. Review the default configuration of the DHCP server pools for details and syntax.  2. If no, then the default DHCP server configuration will suffice.
What device will be providing access to the internet or acting as the default gateway?	1. If the site has a DSL, Cable, or other Ethernet connection to the NetVanta 7060/7100 on port Ethernet 0/0 then the default configuration will suffice. If PPPoE configuration is needed, see Related Documentation below. 2. If another device on VLAN 1 or 2 will be acting as the route to the internet or default gateway, then the following will need to be modified: a. Static default route (via the Eth 0/0 interface). b. IP Policy Class NAT statement

<p>Will a SIP Trunk from a service provider be used on this system?</p>	<ol style="list-style-type: none"> <li>1. If yes, then an access list that identifies SIP traffic (source address/domain) from the service provider's SIP softswitch or gateway should be added to the Public policy class.</li> </ol> <p><b><i>If the Public policy class and access lists are not restricted to traffic from only the Service Provider, unauthorized access to the system may be possible. This could result in a DoS attack or unauthorized voice system usage.</i></b></p> <ol style="list-style-type: none"> <li>2. If no, then changes to the Public policy class should not be necessary.</li> </ol>
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Configuration Review:

1. Change VLAN addresses if required.
2. Update DHCP Pools for VLANs.
3. Define proper default gateway interface or address.
4. Determine if a SIP trunk is to be used and adjust firewall settings appropriately for a secure system.

Related Documentation:

- **Changing the IP Address Scheme in the NetVanta 7100 -**  
<http://kb.adtran.com/article.aspx?article=2281&p=2>
- **Configuring Internet Access with the Firewall Wizard in AOS** (video) -  
<http://kb.adtran.com/article.aspx?article=2185&p=2>
- **Understanding the Firewall Menu in the AOS Web Interface -**  
<http://kb.adtran.com/article.aspx?article=1968&p=2>
- **Configuring Ethernet Broadband Internet Access in AOS (PPPoE in Step 3, Option C) -**  
<http://kb.adtran.com/article.aspx?article=1753&p=2>

## Step 2: Voice Configuration – Trunk Accounts and Trunk Groups

Default Operation:

- There are two analog trunks defined:
  - T01 – FXO 0/1 configured for Loop Start.
  - T02 – FXO 0/2 configured for Loop Start.
- There is one Trunk Group defined:
  - ANALOG\_FXO\_TRUNKS – contains trunks T01 and T02.
  - All call types except 900 Calls are permitted.

Questions to Ask	Steps to Configure
<p>What type of trunks are needed?</p>	<p>Analog:</p> <ol style="list-style-type: none"> <li>1. Create Trunk Account and assign port(s)</li> <li>2. Define Signaling Type</li> <li>3. Define Trunk Number (for PBX Mode)</li> <li>4. Create Shared Line Account (for SLA Mode)</li> <li>5. Configure Shared Line Accounts in IP Phone Configs (for SLA Mode)</li> </ol> <p>PRI</p> <ol style="list-style-type: none"> <li>1. Define TDM Group on T1 VIM</li> <li>2. Create Trunk Account and assign port</li> <li>3. Configure T1 VIM as Clock Source</li> </ol> <p>SIP</p> <ol style="list-style-type: none"> <li>1. Confirm outbound interface is configured as a media-gateway (eth 0/0 is by default)</li> <li>2. Create Trunk Account and configure the SIP server and proxy server (if required).</li> </ol>

Will remote site 7100s need to be networked together with SIP Trunks?	<ol style="list-style-type: none"> <li>1. If yes: <ol style="list-style-type: none"> <li>a. Configure a SIP Trunk Account for each remote site with the peer IP address as the SIP Server</li> <li>b. Configure Trunk Groups for each remote site with the remote extension ranges.</li> </ol> </li> </ol>
Will remote IP Business Gateways (Total Access 900 or NetVanta 6355) need to have remote phones register to this NV7100?	<ol style="list-style-type: none"> <li>1. If yes, a SIP Trunk Account is not needed. User Accounts should be configured for those phones and SIP Proxy should be configured on the remote.</li> </ol>
If using analog trunks, do they need any logical separation into Trunk Groups?	<ol style="list-style-type: none"> <li>1. Create Trunk Group</li> <li>2. Assign Trunk Group Members</li> <li>3. Define Trunk Group Permissions/Restrictions.</li> </ol>
If using PRI trunk(s), are there any special features that need to be configured?	<p>Digits Transferred</p> <ol style="list-style-type: none"> <li>1. Define the number of digits to transfer for internal call routing (0, 3, 4, 7, or All)</li> </ol> <p>Dialing Patterns</p> <ol style="list-style-type: none"> <li>1. If the provider requires a "1" to be sent when dialing a long distance or toll-free call, the Prefix and Pattern can be modified under ISDN Number Templates.</li> </ol>

**Configuration Review:**

1. Create Trunk Account(s) and assign ports.
2. Configure Shared Line Accounts in IP Phone Configs (for SLA Mode).
3. Create Trunk Group and assign members.
4. Define permit/restrict templates.
5. Configure custom trunk settings.

**Related Documentation:**

- **NetVanta 7000 Series Trunk Account Configuration Guide -**  
<http://kb.adtran.com/article.aspx?article=1541&p=2>
- **NetVanta 7000 Series Shared Line Account Configuration Guide –**  
<http://kb.adtran.com/article.aspx?article=2132&p=2>
- **NetVanta 7000 Series Trunk Group Configuration Guide -**  
<http://kb.adtran.com/article.aspx?article=1542&p=2>
- **NetVanta 7000 Series SIP Trunking/Networking Configuration Guide –**  
<http://kb.adtran.com/article.aspx?article=2508&p=2>
- **SIP Transparent Proxy Configuration Guide –**  
<http://kb.adtran.com/article.aspx?article=2183&p=2>

### Step 3: Voice Configuration – Call Flow

**Default Operation:**

- Extension 8200 is defined as an example Default Auto Attendant with the following Digit Actions
  - Digit 1 – Dial By Extension
  - Digits 2-9 – Same Action as 1
  - Digit 0 – Transfer to Operator
  - Digits \* and # - Invalid Options
  - Timeout or Invalid Option will use Transfer to Operator
- Trunk Accounts T01 and T02 are configured with a Trunk Number of 8200 (Default Auto Attendant)

Questions to Ask	Steps to Configure
How are incoming calls to be handled (Live or Automated)?	<p>For Live call handling:</p> <ol style="list-style-type: none"> <li>1. Configure a Ring Group or Operator Group to receive the calls.</li> <li>2. Define Coverage for the Ring Group</li> <li>3. Assign Ring Group/Operator Group number as Trunk Number.</li> </ol>

	For Automated call handling: <ol style="list-style-type: none"> <li>1. Define an Auto Attendant</li> <li>2. Configure Digit Actions</li> <li>3. Define Alias for DID (if required)</li> <li>4. Assign Alias as Trunk Number (if required)</li> </ol>
Do any users have DID (Direct Inward Dialing) numbers?	<ol style="list-style-type: none"> <li>1. Define Alias under Auto Attendant.</li> </ol> <p><b>Note:</b> If an Alias is configured, it must be rejected on the Trunk if there is an Accept Template that matches the digits in the Alias.</p>
How are Auto Attendant greetings to be recorded?	<ol style="list-style-type: none"> <li>1. Write/type out the full greeting text and enter this in the Prompt Text field before recording the greeting.</li> <li>2. Record the greetings on the system to be installed, or</li> <li>3. Record the greetings on a demo/staging system and upload them to the AA/Prompts folder on the CFLASH of the unit to be installed</li> </ol>
Is a system directory needed in the Auto Attendant?	<ol style="list-style-type: none"> <li>1. Define a Digit Action to provide the caller access to the Dial by Name Directory.</li> <li>2. Choose the full System Directory or create a custom Directory for public use.</li> <li>3. Choose Match Method             <ul style="list-style-type: none"> <li>• Last Name, then First Name or,</li> <li>• First Name, then Last Name</li> </ul> </li> </ol>
Is remote access to voicemail through the Auto Attendant needed?	<ol style="list-style-type: none"> <li>1. Define a Digit Action as Transfer to a Phone Number</li> <li>2. Configure Transfer Target as the Check Voicemail Extension (default is 8500)</li> </ol>
Is a general mailbox needed? Does the caller need to access it from the Auto Attendant menu?	<ol style="list-style-type: none"> <li>1. Define a Digit Action as Transfer to a Phone Number</li> <li>2. Configure Transfer Target as the desired Voice Mailbox</li> </ol>

Configuration Review:

1. Define Call Handling.
2. Configure Ring Group/Operator Group or Auto Attendant as needed.
3. Configure Trunk Account to route to Ring Group or Auto Attendant.
4. Define and configure Auto Attendant Digit Actions for special features.

Related Documentation:

- **NetVanta 7000 Series Auto Attendant Configuration Guide** – <http://kb.adtran.com/article.aspx?article=1822&p=2>
- **NetVanta 7000 Series Shared Line Account Configuration Guide** – <http://kb.adtran.com/article.aspx?article=2132&p=2>
- **NetVanta 7000 Series Trunk Account Configuration Guide** - <http://kb.adtran.com/article.aspx?article=1541&p=2>

## Step 4: Voice Configuration – User Accounts

Default Operation:

- User Accounts (extensions) are 4-digit by default.
- When a new User Account is created, an IP Phone Config is generated for that User Account if a MAC address is entered for the IP Phone.
- The default Class of Service, “normal\_users”, is applied to the User Account.
- Classes of Service:
  - “normal\_users” : allows all call types except International and 900 Numbers; all actions except Unlock Door and Auto Answer DND
  - “executive\_users” : allows all call types and all actions except Auto Answer DND

- Call Coverage is configured to ring the phone 4 times and then provide a busy signal.
- A Voicemail Class of Service is not assigned to new User Accounts.

Questions to Ask	Steps to Configure
Does the user want 3-digit or other length extensions instead of the default 4-digit extensions?	<ol style="list-style-type: none"> <li>1. Modify System Dial Plan</li> <li>2. Modify Phone Dial Plans</li> </ol>
Do the phone extensions need restricted calling capabilities (long distance, hands-free intercom/Auto Answer, etc) beyond what is described in the Default Operation?	If custom call types or actions are needed, then the default Classes of Service can be modified or up to 6 additional Classes of Service can be defined.
Do all users require voicemail?	<ol style="list-style-type: none"> <li>1. Assign the proper Voicemail Class of Service to the User Account.</li> <li>2. Define Call Coverage for the User Account.</li> </ol>
Do any users have DID (Direct Inward Dialing) numbers?	<ol style="list-style-type: none"> <li>1. Define DID under User Account</li> </ol>
Will any phones need to monitor the status of other phones on the system?	<ol style="list-style-type: none"> <li>1. Define Status Group</li> <li>2. Add Park Zones</li> <li>3. Add Users</li> <li>4. Apply Status Group to IP Phone Config</li> </ol>

#### Configuration Review:

1. Modify Dial Plans as necessary.
2. In the Web GUI, create a User Account for each extension.
3. Confirm the needed Class of Service and apply custom CoS if needed.
4. If voicemail is needed, assign the proper Voicemail Class of Service.
5. Define custom Call Coverage or use global "go\_to\_voicemail" Call Coverage.
6. Configure and apply any required Status Groups

#### Related Documentation:

- **Changing to 3-Digit Voice User Extensions –**  
<http://kb.adtran.com/article.aspx?article=2310&p=2>
- **NetVanta 7000 Series User Account Configuration Guide -**  
<http://kb.adtran.com/article.aspx?article=1896&p=2>
- **NetVanta 7000 Series Class of Service Configuration Guide -**  
<http://kb.adtran.com/article.aspx?article=1537&p=2>
- **NetVanta 7000 Series Personal Phone Manager Configuration Guide –**  
<http://kb.adtran.com/article.aspx?article=2196&p=2>
- **Configuring Status Groups in the NetVanta 7100 -**  
<http://kb.adtran.com/article.aspx?article=2280&p=2>

## Step 5: Voice Configuration – Voicemail

#### Default Operation:

- When a new User Account is created, no Voicemail Class of Service is assigned.
- There are two Voicemail Classes of Service:
  - "normal\_voicemail": allows 3 minutes for greetings/60 seconds max per greeting and 10 minutes for messages/120 seconds max per message.
  - "executive\_voicemail": allows 5 minutes for greetings/120 seconds max per greeting and 30 minutes for messages/600 seconds max per message.
- Default notification of voicemail only includes lighting the Message Waiting Lamp on the phone.

Questions to Ask	Steps to Configure
Does the phone user want to hear the date and time (Envelope) of the voicemail message at the beginning of the message?	<p>Yes</p> <ol style="list-style-type: none"> <li>1. Enable Play Envelopes (default)</li> </ol> <p>No</p> <ol style="list-style-type: none"> <li>1. Disable Play Envelopes</li> </ol>
Does the phone user want to login in order to access voicemail or bypass authentication?	<p>Yes</p> <ol style="list-style-type: none"> <li>1. Choose from Password Only or Extension + Password for Authentication</li> </ol>

	No 1. Choose None for Authentication
Does the User Account need more greeting or message time than available in the default Voicemail Classes of Service?	1. Modify default Voicemail Classes of Service or up to 6 additional Classes of Service can be defined 2. Define time for greetings 3. Define time for messages
How does the phone user wish to be notified of new voicemail messages?	1. If via the Message Waiting lamp only, then no additional configuration is needed 2. If email notification is desired: a. Define an email address for the User Account b. Configure Notification Schedule for User Account c. Configure Email Forwarding (server and authentication)

Configuration Review:

1. Enable/Disable Envelope playback based on user requirements.
2. Enable/Disable Authentication based on user requirements.
3. In the Web GUI under Voicemail Settings, adjust greeting/message time limits as needed.
4. Configure notification type(s) for User Accounts.

Related Documentation:

- **NetVanta 7000 Series Voicemail Quick Configuration Guide -**  
<http://kb.adtran.com/article.aspx?article=2198&p=2>
- **NetVanta 7000 Series Telephone and Voicemail Quick Reference Guide -**  
<http://kb.adtran.com/article.aspx?article=2199&p=2>
- **NetVanta 7000 Series Personal Phone Manager Configuration Guide –**  
<http://kb.adtran.com/article.aspx?article=2196&p=2>

## Step 6: Voice Configuration – System Scheduling

Default Operation:

- By default, there is no schedule defined for System Modes so Mode changes are manual.
- Trunk Accounts have “8200” defined for the Trunk Number in Default Mode, but no Trunk Numbers defined for other System Modes.
- Shared Line Accounts and User Accounts have no defined Call Coverage for Default or other System Modes.
- User Accounts have the “normal\_users” Class of Service assigned for Default Mode and “Same as Default (Mode)” defined for other System Modes.
- The “normal\_users” and “executive\_users” Classes of Service do not allow a user to “Change System Mode” from a phone.

Optional Operation:

- System Modes can be used to change operation of configured Trunk Numbers, Shared Line Account Call Coverage, and User Account Call Coverage based on the active System Mode.
- A schedule can be defined to change the active Mode or it can be changed manually.

Questions to Ask	Steps to Configure
Does the user want to change which extension, Ring Group, or Auto Attendant is rung by Analog Trunks based on time of day?	A Trunk Number can be configured for each System Mode under Trunk Accounts.
Does the user want to change the call flow for a Trunk Account based on the time of day?	For Shared Line Accounts 1. Define a Call Coverage for each System Mode that will be used For PRI and E&M Trunks 1. Define a virtual User Account for the main DID number 2. Define Call Coverage on the virtual User Account for each System Mode

Does the user want to restrict outbound calling activity after business hours?	A restricted Class of Service such as “public_phones” can be applied to all or some User Accounts based on the active System Mode.
How does the user want the active System Mode to be changed/activated?	<ol style="list-style-type: none"> <li>1. If manually from a phone, then no additional configuration is necessary unless a BLF key to monitor the active System Mode is required (see Related Documentation for more details).</li> <li>2. If automatic scheduling changes are desired, then a System Mode schedule can be defined with the option for Override.</li> </ol>

Configuration Review:

1. Define Trunk Numbers for each System Mode.
2. Define Call Coverage for each Trunk Account type.
3. Apply a restricted Class of Service to User Accounts (optional).
4. Define a System Mode Schedule (optional)

Related Documentation:

- **NetVanta 7000 Series System Mode Configuration Guide -**  
<http://kb.adtran.com/article.aspx?article=2313&p=2>
- **NetVanta 7000 Series Classes of Service Configuration Guide –**  
<http://kb.adtran.com/article.aspx?article=2197&p=2>

## Step 7 (optional): Remote Phone Configuration

On occasion, a site may have remote users that have a VPN connection back to the main site and require an IP Phone across this VPN connection. This application requires a difference in IP Phone Configs for the remote phone. If the remote device supports SIP Transparent Proxy, using that feature is recommended. See the Related Documentation for more detail.

Related Documentation:

- **NetVanta 7100 Remote Phone Guide –**  
<http://kb.adtran.com/article.aspx?article=2072&p=2>
- **SIP Transparent Proxy Configuration Guide –**  
<http://kb.adtran.com/article.aspx?article=2183&p=2>

## Step 8: Save Configuration

Once the configuration is complete, it must be saved to persist if the unit is powered down. There are two methods to accomplish this:

- Click the Save Button in the web GUI.  
<need screen cap>
- Enter the command “copy running-config startup-config” in the command line interface.

## Step 9: Test Configuration

Once the configuration is saved, confirming the operation of call flow, trunk access, and call coverage is recommended. This may point out configuration items that need to be adjusted.

## Step 10: Back-up Configuration

Always save a full backup copy of the configuration of the NetVanta 7000 Series and IP Phone Configs. Some IP Phone Configs can be stored on the flash memory or the CFLASH. It is recommended that you copy the entire contents of the both locations as a backup.

There are two methods to perform configuration back-ups:

- ADTRAN n-Command Software (automatic)
- FTP (manual) – see **Performing System Backup via FTP** - <http://kb.adtran.com/article.aspx?article=2283&p=2>

## Other Related Documentation

### Advanced Data Configuration

- **Configuring Port Forwarding in AOS** – <http://kb.adtran.com/article.aspx?article=1297&p=2>
- **Understanding Network Address Translation** – <http://kb.adtran.com/article.aspx?article=1137&p=2>
- **Understanding IPSec Virtual Private Networking (VPN)** - <http://kb.adtran.com/article.aspx?article=1261&p=2>