

Mediant 1000 Appliance Installation Guide

AudioCodes Mediant 1000 with OSN Module



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Before You Begin

There are a few things you will need before you get started installing your new NET SatisFAXtion Mediant 1000 appliance.

- Two Ethernet patch cables.
- A 19" rack or other place to mount the appliance. Rails may be needed depending on rack hardware.
- Two static IP addresses on the same subnet.
- Sufficient telephone and/or ISDN PRI cables to connect the telephony modules.
- If using T1 or PRI trunks, you will need the exact configuration specification from the trunk provider (telco).
- A PC connected to the same subnet the appliance will be on. The PC will need a web browser and a Remote Desktop (RDP) client.

In addition, the following are recommended.

- An Uninterruptable Power Supply (UPS) with USB monitor interface.

Connecting the Appliance to the Network

Media Gateway: On the front of the appliance you will see two RJ45 Ethernet connections on the “CPU” module labeled “I” and “II”. Connect “I” to your network using an Ethernet patch cable.

OSN Module: On the back of the appliance you will see one RJ45 Ethernet connection on the “iPMX” module labeled with a network symbol. Connect it to your network using an Ethernet patch cable.

Plug the power cable in, the appliance will power on after a short pause.

On the PC, configure its IP address:

IP Address 10.1.10.200
Subnet Mask 255.255.0.0

You will now be able to access and configure the appliance.

Accessing the Media Gateway via Browser

Media Gateway IP Address 10.1.10.10

Open a web browser, and navigate to <http://10.1.10.10/>

You will see a login prompt. Enter

User Admin
Password Admin

Accessing the NET SatisFAXtion Server via RDP

OSN Module IP Address 10.1.10.12

Run a Remote Desktop (RDP) client. On most versions of Windows, this can be found under Start > All Programs > Accessories > Communications > Remote Desktop Connection.

In the “Computer” field, enter 10.1.10.12 and click “Connect.” When you see a login prompt, enter

User NetSat
Password on_demand

You will then see the NET SatisFAXtion server’s desktop.

Assign Static IP Addresses

The first step is to assign static IP addresses to the two components of the appliance so you can configure them on the regular network.

Media Gateway Component

Connect to the Media Gateway IP (10.1.10.10) via a web browser. Navigate to Network Settings > IP Settings, and enter the IP Address, Subnet Mask and Default Gateway Address as appropriate for your network.

IP Settings	
IP Networking Mode	Single IP Network
Single IP Settings	
IP Address	10.0.1.110
Subnet Mask	255.255.255.0
Default Gateway Address	10.0.1.1

Click “Submit” at the bottom right corner of the page. You can now access the Media Gateway component at its assigned IP address.

NET SatisFAXtion Server Component

Connect to the NET SatisFAXtion server IP (10.1.10.12) via RDP. Go to Start > Control Panel > Network Connections. Right-click “Local Area Connection” and click “Properties.” Double-click “Internet Protocol (TCP/IP).” Enter the IP Address, Subnet Mask, Default Gateway, and DNS servers as appropriate for your network.

Click “OK” on the “Internet Protocol (TCP/IP) Properties” window, and then click “OK” on the “Local Area Connection” window. You can now access the NET SatisFAXtion Server component at its assigned IP address.

Initial Media Gateway Configuration

This document only covers basic configuration. For more information regarding these options, and more advanced configuration, please refer to the AudioCodes Mediant 1000 manual which can be found on the AudioCodes documentation CD.

IMPORTANT: Changes you make will be lost when the device reboots, *unless* you click the Burn button at the top of the page. Once you are done making changes, be sure to click “Burn”.

General Settings

Configuration > Media Settings > Fax/Modem/CID Settings

Fax Transport Mode RelayEnable

Configuration > Protocol Configuration > Protocol Definition > SIP General Parameters

Fax Signaling Method T.38 Relay

Detect Fax on Answer Tone Initiate T.38 on Preamble

SIP Transport Type UDP

Configuration > Protocol Configuration > Protocol Definition > Proxy & Registration

Use Default Proxy No

Configuration > Protocol Configuration > Protocol Definition > Coders

Only one entry should be present:

Coder Name G.711U-law
Packetization Time 20
Rate 64
Silence Suppression Disabled

Trunk Groups

Configuration > Protocol Configuration > Trunk/IP Group > Trunk Group

The following screen shot is an example only, your hardware will need a different configuration. Read below for details. See also “Media Gateway Configuration Examples” for sample configurations.

Group Index	Module	From Trunk	To Trunk	Channels	Phone Number	Trunk Group ID	IP Profile ID
1	Module 1 PRI	1	1	1-23	1000	1	0
2	Module 3 FXO			1-4	3000	1	0
3	Module 2 FXS			1	5550121	2	0
4	Module 2 FXS			2	5550193	2	0
5	Module 2 FXS			3	5550177	2	0
6	Module 2 FXS			4	5550182	2	0

Submit

The configuration instructions that follow will use Trunk Group ID 1 for all “PSTN” ports. That is, all ports capable of calling other numbers. Trunk Group ID 2 is used only for FXS ports that connect directly to fax machines.

Module: Choose one of the modules installed in the Mediant. You will repeat the following configuration for each module installed in the Mediant chassis. Note that each individual port on each FXS device will need its own line as well if the port phone numbers are non-consecutive. See the “Phone Number” entry below for more information.

From Trunk / To Trunk: PRI modules (only) require an additional “From Trunk” and “To Trunk” setting. Set “From Trunk” to 1 and “To Trunk” to the highest number available.

Channels: This indicates the range of channels to include in this group line. For FXO modules, this will be “1-4”, for FXS it can be either “1-4” as well, or it can be each individual channel.

Phone Number: This will be the default caller id when caller id could not be determined. For FXO and PRI modules you can enter “1000” if it is the first module, “2000” for the second module, etc. For FXS ports, you will need to enter either a real phone number that will be associated with that port or assign a simple extension. If you are using real phone numbers and all the ports on the FXS module will be sequential then you can create just one group entry for the entire module, the Mediant will automatically add the port number to the Phone Number specified here.

Trunk Group ID: Assign all modules, trunks, and channels that will be connecting to the PSTN (i.e. FXO ports and PRIs) to Trunk Group ID 1.

Assign all modules, trunks and channels that will be connecting to internal devices (i.e. FXS ports) to Trunk Group ID 2.

IP Profile ID: Profiles are generally not needed. Set all IP Profile IDs to 0.

Click “Submit” when you are done. Click “Burn” at the top of the page.

Configuration > Protocol Configuration > Trunk/IP Group > Trunk Group Settings

	Trunk Group ID	Channel Select Mode	Registration Mode
1	1	Cyclic Ascending	
2	2	By Dest Phone Number	

Create two trunk groups:

Trunk Group ID 1
Channel Select Mode Cyclic Ascending
Registration Mode (blank)

Trunk Group ID 2
Channel Select Mode By Dest Phone Number
Registration Mode (blank)

Click “Submit” when you are done. Click “Burn” at the top of the page.

Routing Table – Tel to IP

Configuration > Protocol Configuration > Routing Tables > Tel to IP Routing

This page allows you to route calls from the telephony interfaces to the IP address of the fax server. The following screen shot is an example only, your hardware will need a different configuration. Read below for details. See also “Media Gateway Configuration Examples” for sample configurations.

	Dest. Phone Prefix	Source Phone Prefix	->	Dest. IP Address	IP Profile ID	Status
1	5550121	*		10.0.1.120	0	n/a
2	5550193	*		10.0.1.120	0	n/a
3	5550177	*		10.0.1.120	0	n/a
4	5550182	*		10.0.1.120	0	n/a
5	*	*		10.0.1.140	0	n/a

If you are using any FXS ports, first we need to route their DIDs to your FMIS server. Create one entry per FXS port:

Dest. Phone Prefix *The port's "Phone Number" that was assigned on the Trunk Group page.*
Source Phone Prefix *
Dest. IP Address *The IP address of the FMIS server*
IP Profile ID 0

After all FXS port entries, create one entry that will route everything else to the fax server:

Dest. Phone Prefix *
Source Phone Prefix *
Dest. IP Address *The IP address of the fax server*
IP Profile ID 0

Click "Submit" when you are done. Click "Burn" at the top of the page.

Routing Table – IP to Trunk Group

Configuration > Protocol Configuration > Routing Tables > IP to Trunk Group Routing

This page allows you to route calls from IP addresses to the telephony interfaces on the device. The following screen shot is an example only, your hardware will need a different configuration. Read below for details.

IP To Trunk Group Routing Table

Advanced Parameter List

Routing Index: 1-12

IP To Tel Routing Mode: Route calls before manipulation

	Dest. Phone Prefix	Source Phone Prefix	Source IP Address	->	Trunk Group ID	IP Profile ID
1	*	*	10.0.1.140		1	0
2	*	*	10.0.1.120		2	0

Submit

Create one entry:

Dest. Phone Prefix *
Source Phone Prefix *
Source IP Address *The IP address of the fax server*
Trunk Group ID 1
IP Profile ID 0

If you are using an FMIS, create another entry:

Dest. Phone Prefix *
Source Phone Prefix *
Source IP Address *The IP address of the FMIS server*
Trunk Group ID 2
IP Profile ID 0

Click "Submit" when you are done. Click "Burn" at the top of the page.

PRI or T1 Configuration

Configuration > PSTN Settings > Trunk Settings

Configure each trunk to match the PRI configuration specified by your service provider. Click “Submit” when you are done. Click “Burn” at the top of the page.

FXO Configuration

Configuration > Protocol Configuration > Endpoint Settings > Automatic Dialing

Gateway Port	Destination Phone Number	Auto Dial Status
Module 2 Port 1 FXS		Enable
Module 2 Port 2 FXS		Enable
Module 2 Port 3 FXS		Enable
Module 2 Port 4 FXS		Enable
Module 3 Port 1 FXO	3000	Hotline
Module 3 Port 2 FXO	3001	Hotline
Module 3 Port 3 FXO	3002	Hotline
Module 3 Port 4 FXO	3003	Hotline

NOTE: Do not configure automatic dialing for FXS ports; this will prevent you from faxing to any number but the “Destination Phone Number.”

If you are receiving DTMF tones from a PBX on the FXO lines, it is not strictly necessary to configure automatic dialing. It is recommended to configure automatic dialing so that the call is not lost if the PBX fails to send DTMF tones. For each FXO port, enter the port’s corresponding phone number in the “Destination Phone Number” field. Set “Auto Dial Status” to “Hotline.”

If you are not receiving DTMF tones, you will need to configure a fixed phone number for each FXO port. Enter the port’s corresponding phone number in the “Destination Phone Number” field. Set “Auto Dial Status” to “Enable.”

Click “Submit” when you are done. Click “Burn” at the top of the page.

Configuration > Advanced Applications > FXO Settings

Dialing Mode One Stage

Configuration > Protocol Configuration > Protocol Definition > DTMF & Dialing

This controls DTMF collection on both FXO (inbound dial) and FXS (outbound dial) ports. If you are *not* using FXS ports, *and* are doing DTMF collection on the FXO ports, then you can decrease the values here to slightly decrease call times.

For example, if you are collecting 4 digits on the FXO ports, try these timings:

Max Digits in Phone Num 4
 Inter Digit Timeout for Overlap Dialing 1
 Hotline Dial Tone Duration 2

Test after making any changes to verify all DTMF digits are still being captured.

Burn Configuration Changes

IMPORTANT: Click the “Burn” button at the top of the page so that the configuration will be permanently saved to flash memory. If you do not click “Burn,” any changes you made will be lost when the device reboots.

Media Gateway Configuration Examples

Only a PRI Module

This example Mediant has only a single PRI module installed.

Trunk Groups

Group Index	Module	From Trunk	To Trunk	Channels	Phone Number	Trunk Group ID
1	Module 1 PRI	1	1	1-23	1000	1

Tel to IP Routing

	Dest Phone Prefix	Source Phone Prefix	->	Dest IP Address
1	*	*		<Fax server’s IP address>

The “Dest IP Address” above is the IP Address of the NET SatisFAXtion Fax Server.

IP to Trunk Group Routing

	Dest Phone Prefix	Source Phone Prefix	Source IP Address	->	Trunk Group ID
1	*	*	*		1

Only FXO Modules

This example Mediant has three FXO modules installed for a total of twelve FXO ports.

Trunk Groups

Group Index	Module	From Trunk	To Trunk	Channels	Phone Number	Trunk Group ID
1	Module 1 FXO			1-4	1000	1
2	Module 2 FXO			1-4	2000	1
3	Module 3 FXO			1-4	3000	1

Tel to IP Routing

	Dest Phone Prefix	Source Phone Prefix	->	Dest IP Address
1	*	*		<Fax server's IP address>

The “Dest IP Address” above is the IP Address of the NET SatisFAXtion Fax Server.

IP to Trunk Group Routing

	Dest Phone Prefix	Source Phone Prefix	Source IP Address	->	Trunk Group ID
1	*	*	*		1

Mixed PRI and FXS Modules

This example Mediant has one PRI module and two FXS modules (8 FXS ports) installed.

Trunk Groups

Group Index	Module	From Trunk	To Trunk	Channels	Phone Number	Trunk Group ID
1	Module 1 PRI	1	1	1-23	1000	1
2	Module 2 FXS			1-4	3605550100	2
3	Module 3 FXS			1	5035550197	2
4	Module 3 FXS			2	5035550154	2
5	Module 3 FXS			3	5035550129	2
6	Module 3 FXS			4	5035550198	2

In the above table, Module 2 FXS is assigned a phone number range of 3605550100 through 3605550103. The ports in Module 3 FXS are each assigned a unique phone number.

Tel to IP Routing

	Dest Phone Prefix	Source Phone Prefix	->	Dest IP Address
1	*	3605550100		<FMIS's IP address>
2	*	3605550101		<FMIS's IP address>
3	*	3605550102		<FMIS's IP address>
4	*	3605550103		<FMIS's IP address>
5	*	5035550197		<FMIS's IP address>
7	*	5035550154		<FMIS's IP address>
8	*	5035550129		<FMIS's IP address>
9	*	5035550198		<FMIS's IP address>
9	*	*		<Fax server's IP address>

Here we see each possible FXS phone number (defined in the trunk group above) routed to the Fax Machine Integration Server (FMIS). All other faxes are routed to the NET SatisFAXtion Fax Server.

IP to Trunk Group Routing

	Dest Phone Prefix	Source Phone Prefix	Source IP Address	->	Trunk Group ID
1	*	*	<Fax server's IP>		1
	*	*	<FMIS's IP>		2

We route all calls from the NET SatisFAXtion Fax Server out the PRI, and all calls from the Fax Machine Integration Server (FMIS) to the FXS ports.

Mixed FXO and FXS Modules

This example Mediant has two FXO modules (8 FXO ports) and two FXS modules (8 FXS ports) installed.

Trunk Groups

Group Index	Module	From Trunk	To Trunk	Channels	Phone Number	Trunk Group ID
1	Module 1 FXO			1-4	1000	1
2	Module 2 FXO			1-4	2000	1
3	Module 3 FXS			1-4	3605550100	2
4	Module 4 FXS			1	5035550197	2
5	Module 4 FXS			2	5035550154	2
6	Module 4 FXS			3	5035550129	2
7	Module 4 FXS			4	5035550198	2

In the above table, Module 2 FXS is assigned a phone number range of 3605550100 through 3605550103. The ports in Module 3 FXS are each assigned a unique phone number.

Tel to IP Routing

	Dest Phone Prefix	Source Phone Prefix	->	Dest IP Address
1	*	3605550100		<FMIS's IP address>
2	*	3605550101		<FMIS's IP address>
3	*	3605550102		<FMIS's IP address>
4	*	3605550103		<FMIS's IP address>
5	*	5035550197		<FMIS's IP address>
7	*	5035550154		<FMIS's IP address>
8	*	5035550129		<FMIS's IP address>
9	*	5035550198		<FMIS's IP address>
9	*	*		<Fax server's IP address>

Here we see each possible FXS phone number (defined in the trunk group above) routed to the Fax Machine Integration Server (FMIS). All other faxes are routed to the NET SatisFAXtion Fax Server.

IP to Trunk Group Routing

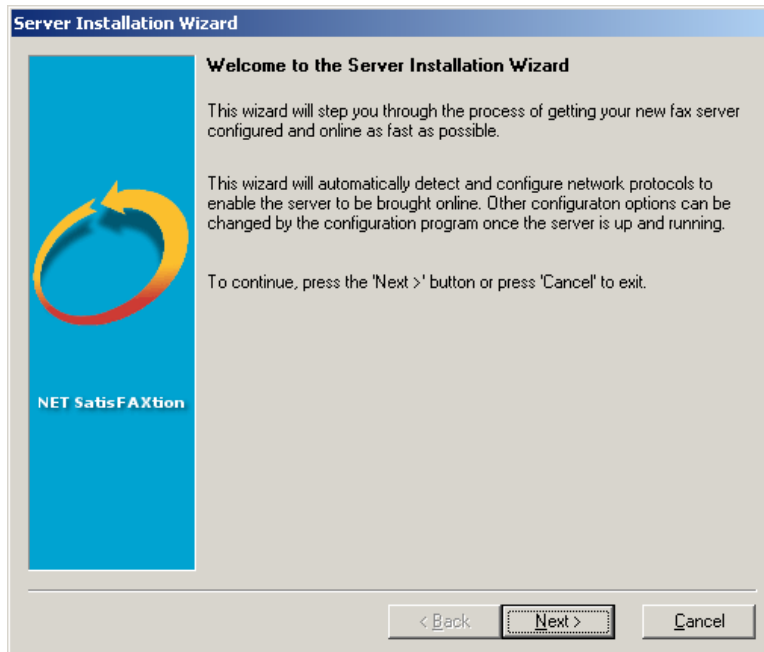
	Dest Phone Prefix	Source Phone Prefix	Source IP Address	->	Trunk Group ID
1	*	*	<Fax server's IP>		1
	*	*	<FMIS's IP>		2

We route all calls from the NET SatisFAXtion Fax Server out the FXO ports, and all calls from the Fax Machine Integration Server (FMIS) to the FXS ports.

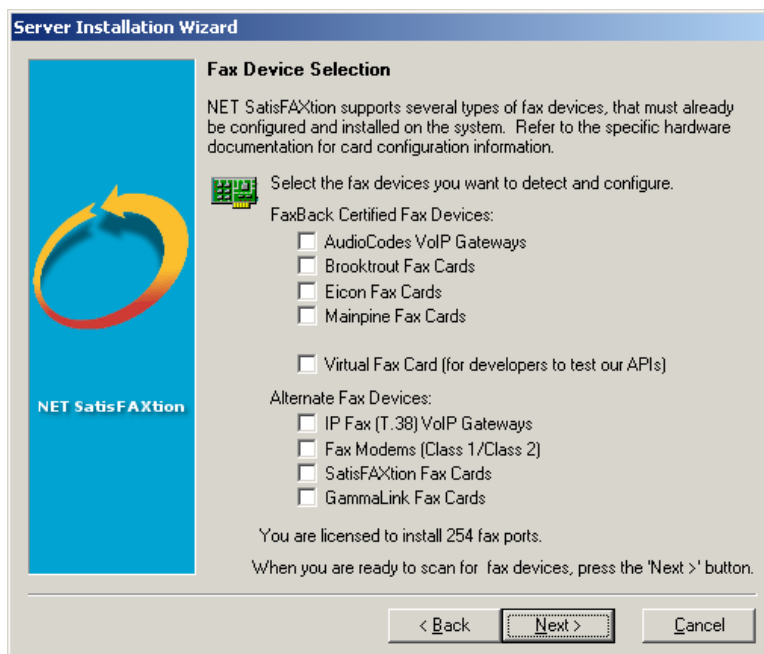
Initial NET SatisFAXtion Configuration

Detecting VoIP Ports

Run the Server Installation Wizard by going to the Start menu under All Programs > NET SatisFAXtion > Re-detect Fax Devices.

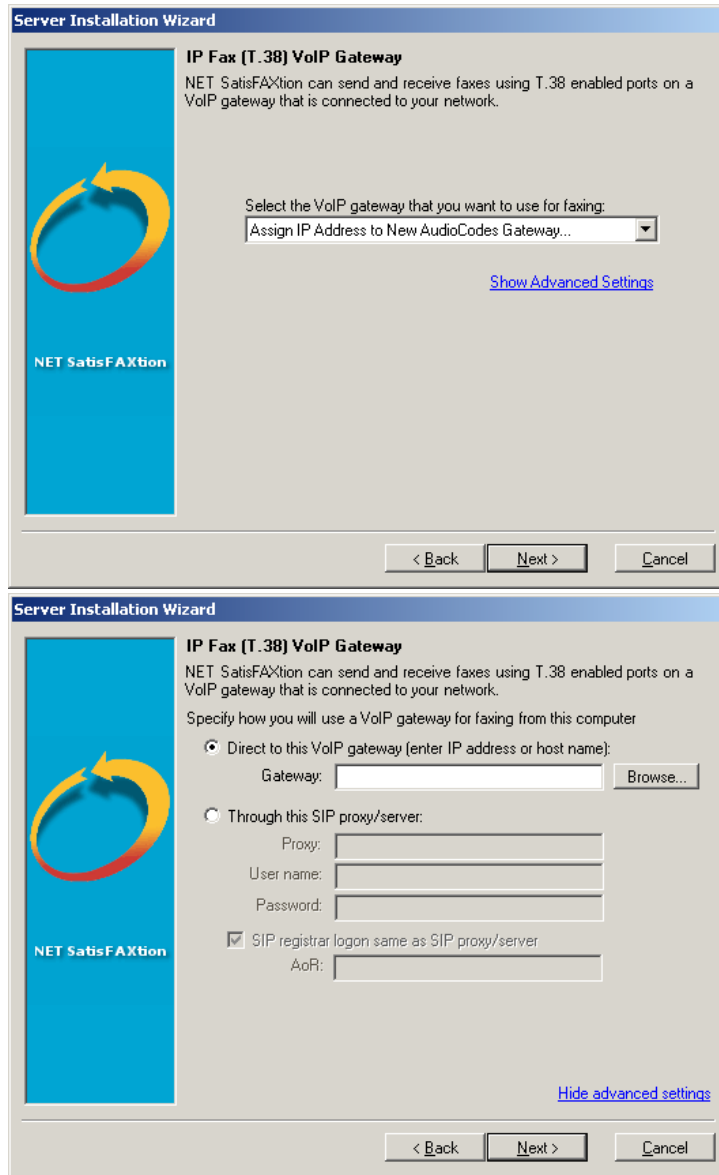


Setup will next need to know what types of fax device you are configuring NET SatisFAXtion to use. Select “AudioCodes” VoIP Gateways.”

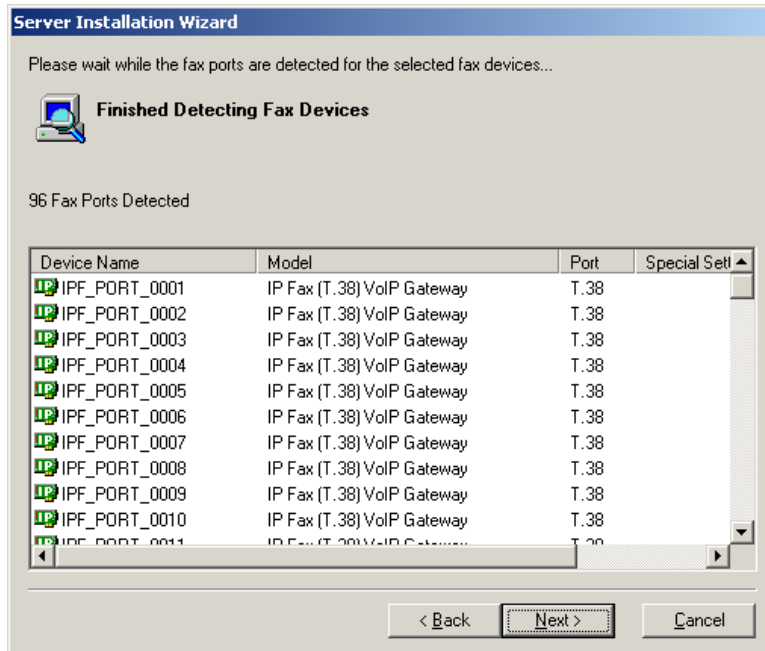


Click Next.

Setup should already have detected the Media Gateway component of the appliance. If not, click “Show Advanced Settings” and enter the IP address, or click “Browse.”



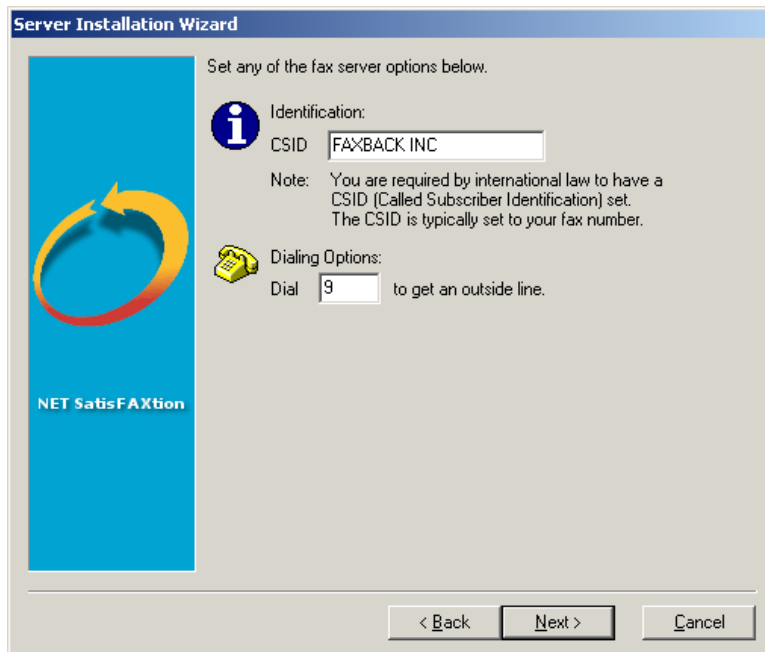
Now Setup will detect all selected fax devices. Please note that detecting certain kinds of modems may take a while.



Click Next when it becomes available.

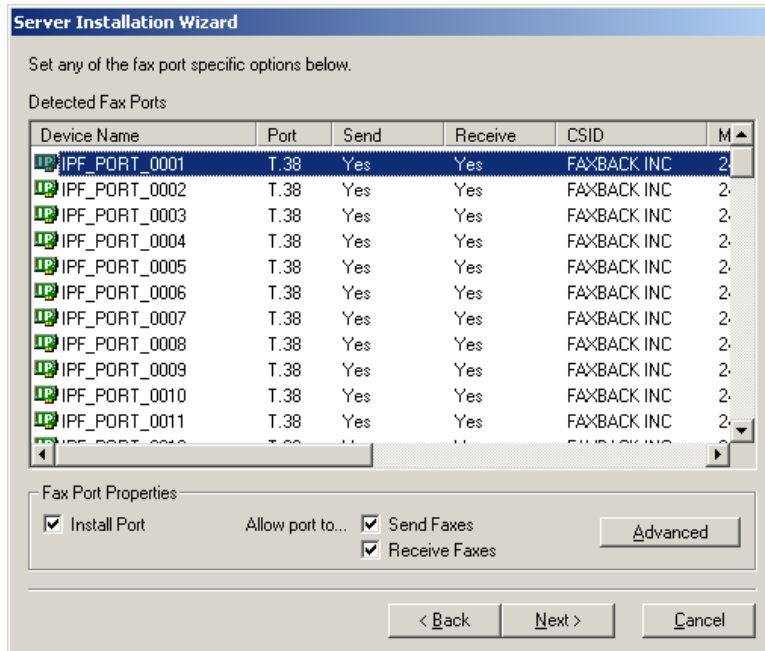
Setup will now ask you for a Called Subscriber Identification (CSID). A CSID is how your fax server will identify itself to other fax devices. It is also typically printed at the very top of all faxes it sends out. It may be set to anything. Most users will set this to their fax number or their company name.

Setup will also give you the option to specify a digit to get an outbound line. For example, if calls go through a PBX phone system that requires a “9” to get an outside line. For more advanced dialing rules, please see the Administration guide about the Validation Editor.



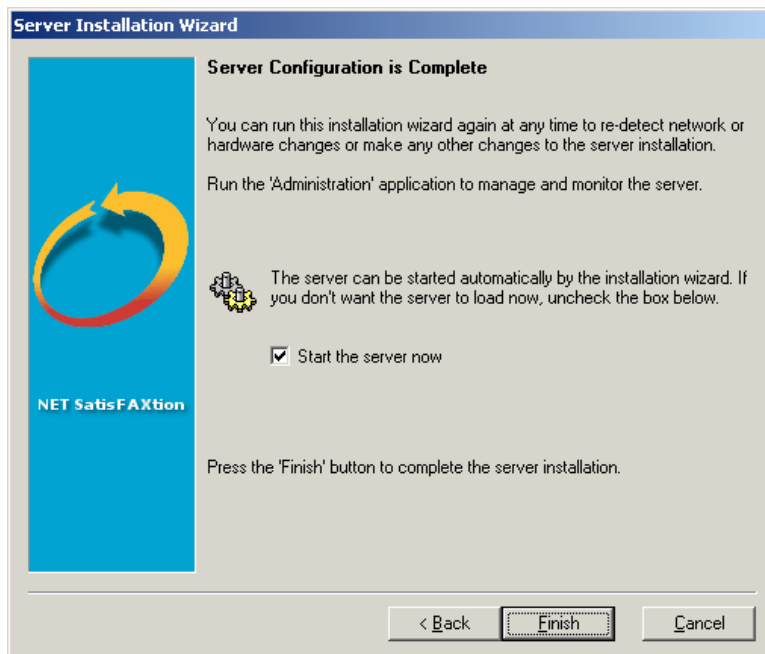
Click Next.

You will now see a list of all detected ports. You will be given the option of configuring certain ports for inbound faxes only or outbound faxes only. It is generally fine to allow all ports to send and receive.



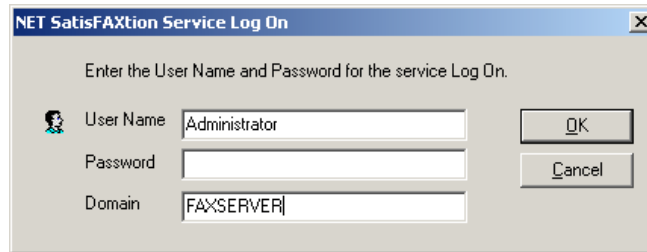
Click Next.

Setup is nearly ready to run NET SatisFAXtion for the first time.



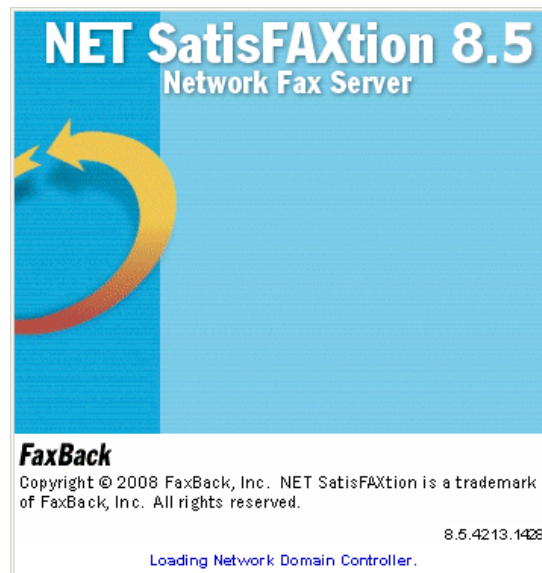
Click Finish.

Setup will now create the NET SatisFAXtion service. The service must be configured to log on as a Windows user account. Use “NetSat” as the user name and “on_demand” as the password.



Click OK.

You will now see a splash screen as the NET SatisFAXtion service loads.



Your installation of NET SatisFAXtion is now complete.

The remainder of the NET SatisFAXtion setup procedure is on the server's LaunchPad web site. Open a web browser and navigate to <http://netsatrackm1k/GatewayInstall.html>

