

# NEC

# DSX

## **nexVortex SIP Trunk Setup**

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Issue 1.01

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Revision History		
Issue	Date	Revisions
1.00	4/11/11	<ul style="list-style-type: none"><li>• Initial release.</li></ul>
1.01	4/23/11	<ul style="list-style-type: none"><li>• Updated required software level, expanded RTP port forwarding range, and added System Administrator screen shots.</li><li>• Removed requirement for 1104-09.</li></ul>

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**1 Overview**

The DSX is compatible with nexVortex SIP Trunking. This setup guide summarizes the account information you will receive from nexVortex and provides step-by-step instructions on how to program that information into the DSX.

You can set up SIP trunks as standard loop start lines or DID lines. All the feature available with other types of loop start and DID lines are also available with nexVortex SIP trunk lines. For details on the features available with loop start and DID lines, refer to the on-line DSX Software Manual at:

[http://www.necdsx.com/docs/dita/dsx\\_v3\\_complete/index.html](http://www.necdsx.com/docs/dita/dsx_v3_complete/index.html)

**2 nexVortex Setup**

To set up your SIP trunking account, contact nexVortex at <http://www.nexvortex.com>. Once your account is set up you need the service information:

**Table 1: nexVortex Account Information**

Option	Description
Server Address	Use px1.nexvortex.com
Username	This is the username that nexVortex uses to authenticate your registration.
Password	This is the password required with your Login.
DID Number(s)	These are the telephone numbers that users will dial to reach you over your nexVortex SIP trunks.

**3 System Router Setup**

**3.1 NAT and SIP**

In the router to which the DSX is connected, enable NAT and disable all special SIP management features (such as SIP ALG).

**3.2 Port Forwarding**

Forward UDP ports 5060 and 1024 through 1215 to the DSX system’s IP address.

**4 DSX Setup**

**4.1 Software Level**

3.31.96 or higher.

4.2 Assign SIP Lines

IP Line Assignment (1231/1232/1233)

Line	Name	Phone Number	Registered	Provider	Fax/Data	Description	Username	Password
1				None	<input type="checkbox"/>			
2				None	<input type="checkbox"/>			
3				None	<input type="checkbox"/>			
4				None	<input type="checkbox"/>			
5				None	<input type="checkbox"/>			
6				None	<input type="checkbox"/>			
7				None	<input type="checkbox"/>			
8				None	<input type="checkbox"/>			

**1231-01: IP Lines** [SYSTEM: PORTS: IP LINES: IP LINE ASSIGNMENT]

The first DSX SIP line is the first line beyond the last assigned line. Each SIP line uses an IP resource (licensed VoIP port) in DSX. The maximum number of VoIP licenses is 8 in DSX-40 and 16 in DSX-80/160.

Example with DSX-40:

- The first SIP line in a DSX-40 without a COIU expansion card is line 5. Available SIP line numbers are 5-12.
- With the COIU expansion card installed, the first SIP line is line 9. Available SIP line numbers are 9-16.
- DSX-40 supports a maximum of 8 VoIP licenses. When the total number of licenses are in use, only Peer-to-Peer calls are available.

Example with DSX-80/160:

- The first SIP line in a DSX-80/160 with a single 8COIU card is line 9. Available SIP lines are 9-17.
- The last line number in DSX-80/160 is 64. In a system with an 8COIU and two T1/PRI cards, this will limit the available number of SIP lines.
- DSX-80/160 supports a maximum of 16 VoIP licenses. When the total number of licenses are in use, only Peer-to-Peer calls are available.

**1232-01: IP Line Provider Number** [SYSTEM: PORTS: IP LINES: IP LINE ASSIGNMENT]

Assign each SIP line in DSX to a provider number (1 or 2). DSX supports up to two providers simultaneously.

Example: If nexVortex is your only SIP trunk provider, assign all the SIP lines designated in 1231-01 to provider 1.

**1232-02: IP Line Username** [SYSTEM: PORTS: IP LINES: IP LINE ASSIGNMENT]

**1232-03: IP Line Password** [SYSTEM: PORTS: IP LINES: IP LINE ASSIGNMENT]

These options are not used with nexVortex SIP trunks.

### 4.3 Select the SIP Trunk Provider Type

Provider 1 IP Service (1831) / IP Line Registration (1832)

Service Provider	Generic Sip	Description	
Server Address		Proxy Address	
Registration Type	None	User	
User		Password	
Profile	4	Name	SIP Trunk
SIP TOS	0	RTP TOS	0

**1831-01: Provider Number** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2)]  
 Select the provider number you want to set up. This selection corresponds to the provider number you assigned to the SIP lines in 1232-01.

Example: If nexVortex is your only SIP trunk provider, and you have chosen provider 1 in 1232-01, select provider 1 for this option also.

**1831-02: Provider Type** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): SERVICE PROVIDER]  
 Dial 14 to choose *nexVortex* as the type for the provider selected in 1831-01.

**1831-03: Provider Name** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): DESCRIPTION]  
 The provider name is an optional 18-character entry that describes the provider. Enter any name you like – the entry does not affect provider setup or registration.

**1831-04: Profile** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): PROFILE]  
 Select the VoIP profile that the system will use when connecting to the SIP trunk provider. The entry you make here corresponds to the profiles set up in programs 1811-1815. **Choose profile 4.**

### 4.4 Set Up the SIP Trunk Registration

**1832-01: Provider IP Registration** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): SERVER ADDRESS]  
 Select the provider number you want to set up (see 1831-01) and enter the Table 1 *Server Address* as it was provided to you by nexVortex (px1.nexvortex.com). This option uses the text entry method.

**1832-02: Registration Type** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): REGISTRATION TYPE]  
 Choose the IP line registration type. DSX IP lines can share the same registration (01: *Common*) or have a unique registration for each line (02: *Per Line*). For nexVortex, choose 01.

**1832-03: Account Username** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): USER]  
 Enter the username for your nexVortex SIP trunk account. This option uses the text entry method and is the *Username* entry in Table 1.

**1832-04: Account Password** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): PASSWORD]  
 This option is the password associated with the Account Username assigned in 1832-03. The password can be up to 24 characters long. This is the *Password* entry in Table 1.

**1832-05: Proxy** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): PROXY ADDRESS]

**1832-06: SIP Type or Service (ToS)** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): SIP TOS]

**1832-07: RTP Type of Service (ToS)** [SYSTEM: VOIP: PROVIDERS: PROVIDER (1 OR 2): RTP TOS]

These options are not used with nexVortex SIP trunks.

### 4.5 Codec Setup

Profile Name (1811)

Codecs (1812)

Priority	Codec	Frame Size	Jitter Minimum	Jitter Standard	Jitter Maximum	Silence Compression
1	G.729	20ms	40	80	160	<input type="checkbox"/>
2	G.711	20ms	40	80	160	<input type="checkbox"/>
3	None		40	80	160	<input type="checkbox"/>
4	None		40	80	160	<input type="checkbox"/>
5	None		60	120	240	<input type="checkbox"/>
6	None		30	60	120	<input type="checkbox"/>

\* Additional Codecs provided for 3rd party SIP phones

Settings (1813)

Jitter Mode  Silence Threshold  Idle Noise  Tx Gain  Rx Gain

Echo Canceller (1814)

Echo Cancel Enable Echo Tail   NLP Enable NLP Noise Mode  Auto Gain Control

Payload Types (1815)

DTMF Type  DTMF Payload  (96 - 127) ILBC Payload  (96 - 127) G.726 Payload  (96 - 127)

**1812: Codecs** [SYSTEM: VOIP: PROFILE 4: CODECS]  
 For nexVortex SIP Trunks, for Profile 4 set:  
 - Codec 1 to G.729, 20mS Frame Size.  
 - Codec 2 to G.711, 20mS Frame Size.

Set all other priorities to *None*.

### 4.6 Assign DID Numbers to your SIP Lines

Type (3101)

Type  Name   DTMF Dialing  PBX Line

Phone Number

**3101-07: Telephone Number** [LINES: CONFIG: SETUP: TYPE: PHONE NUMBER]  
 For each of your SIP lines, enter an 11-digit telephone number that corresponds to one of the *DID Numbers* in Table 1. Each line must have a unique entry. This entry is required for both Loop Start and DID lines.

#### 4.7 Fax Setup

Contact nexVortex for fax solutions.

#### 4.8 Outgoing Caller ID

nexVortex delivers Caller ID to outside callers using the following priority:

1. *2101-01: Outgoing ANI ID* [STATIONS: CONFIG: SETUP: TYPE: ANI ID]
2. *3101-07: Telephone Number* [LINES: CONFIG: SETUP: TYPE: PHONE NUMBER]
3. *1011-02: Telephone Number* [SYSTEM: CONFIG: SETUP: IDENTIFICATION: PHONE NUMBER]