

# Resale Digital Subscriber Line (DSL)

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## Product Guide



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# Resale Digital Subscriber Line (DSL)

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# Resale Digital Subscriber Line (DSL)

## Revisions

The following table provides a summary of versions, dates and descriptions of revisions made to this product guide.

<b>Version Number</b>	<b>Date</b>	<b>Description of Revisions Made</b>
1	7/31/01	➤ Original Release
2	9/04/02	➤ Updated Internet Service Provider section to remove requirement for establishment of an ordering code associated with ISP.
3	08/05/03	➤ Guide format revision. ➤ Updated Product Details section. ➤ Updated IRES Ordering screen prints

# Resale Digital Subscriber Line (DSL)

## Product Overview

Digital Subscriber Line (DSL) is technology that allows data to be transmitted over ordinary copper phone lines that are less than 19,000 cable feet while maintaining data in digital form throughout the transmission process. This contributes to faster speeds and more reliable performance than traditional analog modem technologies. DSL takes advantage of data compression and frequency filtering to provide broadband access up to 3.0 Megabits per Second (Mbps) downstream data transmission and up to 640 Kilobits per Second (kbps) upstream data transmission speeds over existing copper access lines. With DSL, users can make to make regular voice calls while simultaneously using the same line for high-speed Internet or Local Area Network (LAN) access.

Digital Subscriber Line is designed for applications like video on demand, home shopping, remote LAN access, multimedia access and Internet access that demand a high-speed connection to the user, but a low-speed connection back to the network. This service is ideal for business and residential customers because of its asymmetrical design and ability to simultaneously transmit both voice and data traffic.

## Features and Benefits

**Powerful Internet access** - With DSL, customers receive the power, flexibility and convenience to compete in a challenging business climate. In addition, they have fast access to the latest games, news, weather, travel and more.

**Multiple access speeds** - DSL enables data to travel at different speeds depending on whether it is traveling upstream or downstream. Since most users download more data than they upload, DSL reserves most of the bandwidth and speed to downstream transmissions.

**Always-on** - Provides customers with the convenience of an always-on Internet connection that permits immediate notification of new incoming e-mail messages and enables Internet service, such as live news, weather and stock reports. DSL provides the "instant-on" connection with no dialup required.

**Simultaneous voice and data** - There is no need for multiple lines. Customers can talk on the phone while using the same line for high-speed Internet and LAN access. They can also have the same voice features and long-distance service available through regular phone service.

**Dedicated Bandwidth** - The end user has dedicated access to the high-speed network, unlike cable modems, where the bandwidth is shared throughout an entire neighborhood.

**Network connection and security** - Sprint DSL supports standard radius authentication and authorization standards while providing built-in encryption. Because Sprint DSL is not a shared bandwidth, it is more secure than cable. Each end user has dedicated network connectivity.

# Resale Digital Subscriber Line (DSL)

## Product Details

Digital Subscriber Line is a technology that allows data to be transmitted over a digital signal that uses ordinary copper phone lines. DSL technology transmits at much higher speeds than traditional analog technology. DSL technology also can allow a customer to make or receive a telephone call while transmitting data over the same line. Five bandwidth options are available.

**Table 1 – Data Speeds Combinations**

<b>Data Speed Combinations</b>	<b>Download Speed</b>	<b>Upload Speed</b>	<b>Usage Applications</b>
512 kbps/128 kbps	512 kbps	128 kbps	For typical Internet usage
640 kbps/640 kbps	640 kbps	640 kbps	For users needing to both send and receive large files
1.5 Mbps/256 kbps	1.5 Mbps	256 kbps	For average to heavy Internet usage
1.5 Mbps/384 kbps	1.5 Mbps	384 kbps	For average to heavy Internet usage
3.0 Mbps/512 kbps	3.0 Mbps	512 kbps	For heavy Internet usage

Point-to-Point Protocol (PPP) is the Transport Control Protocol/Internet Protocol (TCP/IP) that enables dialup connectivity to the Internet. The CLEC has two leading forms of PPP connectivity for DSL service.

- **PPP over Asynchronous Transfer Mode (PPPoA)** provides for TCP/IP traffic to be carried over an ATM network to a computer without being translated. ATM is a high-speed switching technique used to transmit high volumes of voice, data and video traffic. PPPoA is utilized for LAN access. PPPoA is always provisioned as splittered.
- **PPP over Ethernet (PPPoE)** provides for networking capabilities over Ethernet. PPPoE is a software driver that works with a Network Interface Card (NIC) to create a dial-up session through the NIC to the LAN and out through the DSL bridge or router. This protocol allows multiple PCs to share a single DSL connection and should be utilized for all Internet access.

A splitter separates the lower portion of the frequency spectrum for voice and the higher portion of the frequency spectrum for data. The Maximum Engineered Data Rate (MEDR) is used to determine the strength of the access line that serves the CLEC end user. Depending on the access line strength, the CLEC end user will either have a Splitter or Splitter-less (Filter) installation. The MEDR will be provided to the CLEC during the Access Line Prequalification Process. Sprint will provide for the installation of a splitter at the CLEC end user's location at an additional charge.

The following guidelines apply for installing splitters for both business and residential accounts:

- If the CLEC end user MEDR is 5099 or less, the CLEC end user is required to install a splitter.
- If the CLEC end user MEDR is 5100 or greater, the CLEC end user has the option to have a splitter-less (Filter) or splitter installation.

# Resale Digital Subscriber Line (DSL)

## Product Details (Continued)

The following **exceptions** require a splitter to be installed at the end-user location regardless of the MEDR reading:

- CLEC end-user access line length exceeds 12,000 feet from the central office providing the service, or
- 3.0 Mbps/512 kbps data speed requested.

The CLEC must indicate on the Local Service Request (LSR) for the above exceptions if Sprint to install a splitter at the end user location. If no request is made, the CLEC will assume responsibility for splitter installation.

The splitter-less (Filter) option will require the CLEC to install low pass filters between each inside jack and other analog telephony devices (i.e. telephones, fax machines) at the end-user location. The CLEC must select the appropriate splitter-less (Filter) Point-to-Point ordering code on the Local Service Request (LSR) that a splitter-less (Filter) installation is desired.

Sprint encourages the installation of splitters for CLEC end users with key and Private Branch Exchange (PBX) systems. Splitter installations are also recommended when the CLEC end user has alarm systems, satellite systems or multi-line telephone systems.

The CLEC must submit a LSR when an installation is changed from "splittered" to "splitter-less". A supplemental order must be submitted for pending orders and a change order must be submitted when the installation has already been completed.

The conditions under which splitters are required may be modified as Sprint enhances or modifies its network.

The Sprint Federal Communications Commission (FCC) No. 3 tariff, section 8.5 contains information pertaining to Sprint end offices equipped to provide DSL technology.

## Ordering Process

The ordering process is a two-step process as detailed below.

## Preorder Requirements

The Access Line Prequalification Process for the CLEC end user is an essential step in effectively installing DSL. The CLEC must qualify the end-user access line (both new and existing) prior to submitting a Local Service Request (LSR) for DSL service or the LSR will be rejected. It is very important that the CLEC end user has voice service established prior to the installation of DSL service.

# Resale Digital Subscriber Line (DSL)

## Preorder Requirements (Continued)

The CLEC must submit a list of CLEC end-user Working Telephone Numbers (WTN) and the end-user resident state. A CLEC requesting 10 or more WTN at one time must submit a written request by fax or email. For less than 10 WTN, the request can be called into the National Exchange Access Center (NEAC) or the National Vendor Access Center (NVAC). Contact information is reflected in Table 1.

**Table 1 - Contacts**

Center	Voice	Fax	Email
NEAC	800-578-8169	260-728-2131	<a href="mailto:neacprequal@mail.sprint.com">neacprequal@mail.sprint.com</a>
NVAC	877-398-2036	352-326-1703	<a href="mailto:nvac@mail.sprint.com">nvac@mail.sprint.com</a>

Sprint will provide the CLEC a list of available DSL data speeds, As Is Data Rate (AIDR), and MEDR for each end-user WTN or indicate that DSL technology is not available. The AIDR refers to the transmission speeds that are available before line conditioning and the MEDR refers to the transmission speeds available after line conditioning.

A CLEC may then submit a LSR to order DSL service for a CLEC end user that has voice service.

### Local Service Request Processing

The LSR may be issued via the Sprint Integrated Request Entry System (IRES) or via paper LSR that can be faxed or mailed to the NEAC or NVAC.

A CLEC service request that includes Resale DSL service can not include Sprint Earthlink Internet service. Sprint Earthlink Internet service is not a Telecommunications Service available for resale. The CLEC can not submit a convert "As Is" order for Resale DSL service.

When ordering DSL, two unique ordering codes will be required to identify the Point-to-Point protocol and the DSL speed for each DSL arrangement.

The CLEC must choose for its end user either ATM or Ethernet Point-to-Point Protocol for its connection and not a mixture of both protocols. The CLEC must select the appropriate Point-to-Point ordering code indicating ATM or Ethernet PPP as reflected in Table 2.

**Table 2 - Point-to-Point Ordering Codes**

Code	Description
FHSPPEs	Point-to-Point Protocol over Ethernet Splittered
FHSPPEF	Point-to-Point Protocol over Ethernet Splitterless
FHSPPAS	Point-to-Point Protocol over ATM Splittered
FHSPPAF	Point-to-Point Protocol over ATM Splitterless

Select one DSL speed ordering code per DSL arrangement. The Service and Equipment (S&E) code for Residential (Res) or Business (Bus) end users will identify the data speed and terms of the service as reflected in Tables 3 through 7.

# Resale Digital Subscriber Line (DSL)

## Local Service Request Processing (Continued)

**Table 3 – 512k/128k Ordering Codes**

S&E Code	Suffix	Bus/Res	Description
FHSA512	00C	R	512k/128k High Speed Data - Monthly
FHSA512	10C	R	512k/128k High Speed Data - 1 Year
FHSA512	20C	R	512k/128k High Speed Data - 2 Year
FHSA512	30C	R	512k/128k High Speed Data - 3 Year
FHSA512	40C	R	512k/128k High Speed Data - 4 Year
FHSA512	50C	R	512k/128k High Speed Data - 5 Year
FHSA512	00B	B	512k/128k High Speed Data - Monthly
FHSA512	10B	B	512k/128k High Speed Data - 1 Year
FHSA512	20B	B	512k/128k High Speed Data - 2 Year
FHSA512	30B	B	512k/128k High Speed Data - 3 Year
FHSA512	40B	B	512k/128k High Speed Data - 4 Year
FHSA512	50B	B	512k/128k High Speed Data - 5 Year

**Table 4 – 1.5M/256k Ordering Codes**

S&E Code	Suffix	Bus/Res	Description
FHSA15C	00C	R	1.5M/256k High Speed Data - Monthly
FHSA15C	10C	R	1.5M/256k High Speed Data - 1 Year
FHSA15C	20C	R	1.5M/256k High Speed Data - 2 Year
FHSA15C	30C	R	1.5M/256k High Speed Data - 3 Year
FHSA15C	40C	R	1.5M/256k High Speed Data - 4 Year
FHSA15C	50C	R	1.5M/256k High Speed Data - 5 Year
FHSA15C	00B	B	1.5M/256k High Speed Data - Monthly
FHSA15C	10B	B	1.5M/256k High Speed Data - 1 Year
FHSA15C	20B	B	1.5M/256k High Speed Data - 2 Year
FHSA15C	30B	B	1.5M/256k High Speed Data - 3 Year
FHSA15C	40B	B	1.5M/256k High Speed Data - 4 Year
FHSA15C	50B	B	1.5M/256k High Speed Data - 5 Year

**Table 5 – 1.5M/384k Ordering Codes**

S&E Code	Suffix	Bus/Res	Description
FHSA15M	00C	R	1.5M/384k High Speed Data - Monthly
FHSA15M	10C	R	1.5M/384k High Speed Data - 1 Year
FHSA15M	20C	R	1.5M/384k High Speed Data - 2 Year
FHSA15M	30C	R	1.5M/384k High Speed Data - 3 Year
FHSA15M	40C	R	1.5M/384k High Speed Data - 4 Year
FHSA15M	50C	R	1.5M/384k High Speed Data - 5 Year
FHSA15M	00B	B	1.5M/384k High Speed Data - Monthly
FHSA15M	10B	B	1.5M/384k High Speed Data - 1 Year
FHSA15M	20B	B	1.5M/384k High Speed Data - 2 Year
FHSA15M	30B	B	1.5M/384k High Speed Data - 3 Year
FHSA15M	40B	B	1.5M/384k High Speed Data - 4 Year
FHSA15M	50B	B	1.5M/384k High Speed Data - 5 Year

# Resale Digital Subscriber Line (DSL)

## Local Service Request Processing (Continued)

**Table 6 – 640k/640k Ordering Codes**

S&E Code	Suffix	Bus/Res	Description
FHSS640	00C	R	640k/640k High Speed Data - Monthly
FHSS640	10C	R	640k/640k High Speed Data - 1 Year
FHSS640	20C	R	640k/640k High Speed Data - 2 Year
FHSS640	30C	R	640k/640k High Speed Data - 3 Year
FHSS640	40C	R	640k/640k High Speed Data - 4 Year
FHSS640	50C	R	640k/640k High Speed Data - 5 Year
FHSS640	00B	B	640k/640k High Speed Data - Monthly
FHSS640	10B	B	640k/640k High Speed Data - 1 Year
FHSS640	20B	B	640k/640k High Speed Data - 2 Year
FHSS640	30B	B	640k/640k High Speed Data - 3 Year
FHSS640	40B	B	640k/640k High Speed Data - 4 Year
FHSS640	50B	B	640k/640k High Speed Data - 5 Year

**Table 7 – 3.0M/512k Ordering Codes**

S&E Code	Suffix	Bus/Res	Description
FHSA30M	00C	R	3.0M/512k High Speed Data - Monthly
FHSA30M	10C	R	3.0M/512k High Speed Data - 1 Year
FHSA30M	20C	R	3.0M/512k High Speed Data - 2 Year
FHSA30M	30C	R	3.0M/512k High Speed Data - 3 Year
FHSA30M	40C	R	3.0M/512k High Speed Data - 4 Year
FHSA30M	50C	R	3.0M/512k High Speed Data - 5 Year
FHSA30M	00B	B	3.0M/512k High Speed Data - Monthly
FHSA30M	10B	B	3.0M/512k High Speed Data - 1 Year
FHSA30M	20B	B	3.0M/512k High Speed Data - 2 Year
FHSA30M	30B	B	3.0M/512k High Speed Data - 3 Year
FHSA30M	40B	B	3.0M/512k High Speed Data - 4 Year
FHSA30M	50B	B	3.0M/512k High Speed Data - 5 Year

### IRES Sample Order

The following IRES screen prints are shown for sample purposes only to depict special entry requirements related to ordering Resale DSL. If the CLEC desires to have Sprint install the splitter, the “Remarks to Sprint” section on the CLEC tab should indicate “Sprint is to install splitter”. All other tabs within IRES are completed as required for normal LSR processing.

The Service Tab as shown in Figure 1 should be populated with end-user specific information and the appropriate Type of Service (TOS) must reflect business or residence along with the selection of *D=Advanced Services* to be associated with the TOS

The Line Detail tab as shown in Figure 2 will require selection of the category of High Speed Data (HSD) and the appropriate S&E codes for DSL speed and point-to-point. If these codes are not included on the LSR, the order will be rejected.

# Resale Digital Subscriber Line (DSL)

## IRES Sample Order (Continued)

**Figure 1 – Service Tab Entries**

Login LSR Preorder Messages Tracking Reports Circuits TNA  
 CC 1111 PON 05122003-1 VER 1 Inquire SUP ?  
 Related PON Impcon JOE ANALYST Tel No 913-999-9999  
 DDD 05/27/2003 Project EBD / /  
 REQ TYP E=Resale ACT N=New Install  
 TOS 2=Residence B=Single Line F=Flat Rate --Not Applicable  
 DFDT APPT ? ACTL APOT  
 CHC  Complex  DSPTCH  ONSP NPDI ?  
 NC ? NCI ?  
 SECNCI ? EEL  LoopTag  CTEST   
 Conditioning Opt ? Condition \$ Pre-Qual #  
 Conditioning Remarks  
 Info Confirm CLEC Service End User Ln Dtl Loop NP Billing List Dtl Dir SOE CASS RESP  
 CC 1111 PON Ver < = > Submit Clear Print Preview  
 05/12/2003 03:38:59 PM

**Figure 2 – Line Detail Tab**

Login LSR Preorder Messages Tracking Reports Circuits TNA  
 1 of 1 OTN - - NPI ? TSP  
 Telephone Number Unassigned 1 + Wire? JKQTY 0  
 LTOS 1DF- LNA N=New Install FPIC ? #PATHS #RINGS  
 Categories Block Complex  

Available			Selected			
Category	S&E Code	Description	FA	S&E Code	Description	Retail R
	FHSA15M50B	HS DATA 1...	<input checked="" type="checkbox"/>	HSD	High Spee...	
	FHSA51200B	H S DATA 5...	<input type="checkbox"/>	N	FHSPPEF HSD-DYNA...	0.00
	FHSA51210B	H S DATA 5...	<input type="checkbox"/>	N	FHSA5125... H S DATA 5...	34.99
	FHSA51220B	H S DATA 5...				
	FHSA51230B	H S DATA 5...				
	FHSA51240B	H S DATA 5...				
	FHSPPAF	HSD-ASCE...				

 Total for Line: \$27.64 Apply All  
 Info Confirm CLEC Service End User Ln Dtl Loop NP Billing List Dtl Dir SOE CASS RESP  
 CC 1111 PON Ver < = > Submit Clear Print Preview  
 05/12/2003 04:19:43 PM

# Resale Digital Subscriber Line (DSL)

## Invoicing Elements

The CLEC will incur nonrecurring and monthly recurring charges for both voice and DSL service. The nonrecurring and monthly recurring charges for resale voice service are located in the applicable state tariffs. The nonrecurring and monthly recurring charges for resale DSL service are found in the FCC No. 3 tariff, section 8.5. The terms and conditions in the applicable tariff govern the voice and DSL service. All tariff rates will be discounted based upon the applicable state 'avoided cost' discount as listed in the *Discount Percentage Categories* matrix located in the Invoicing section of Resale Guidelines on [www.sprint.com/localwholesale](http://www.sprint.com/localwholesale)

The CLEC can select a DSL Term Discount Plan (DSL-TDP) for their end user's under the terms set forth in the Sprint No. 3 FCC tariff, section 8.5. The CLEC will receive the standard "avoided cost" discount applicable to the state for the DSL-TDP commitment selected for their end user's.

Pricing is available for month-to-month or TDP with commitments from one to five years. With TDP, the rate decreases as the term commitment increases. The term commitment is binding as set forth in the FCC No. 3 tariff, section 8.5 when the order is placed. The CLEC is responsible for any termination liability as set forth in the above referenced tariff if the term commitment is terminated before the expiration date.

The CLEC may choose to terminate an existing TDP prior to the end of the term period and negotiate a new TDP without liability in accordance with the tariff provided the new TDP meets the following requirements:

- The new TDP must represent a term commitment greater than or equal to the previous TDP, and
- the new TDP must be based upon the rates that are currently in effect and available to all customers.

When the CLEC converts to a greater term commitment, the actual time in service for the original TDP will be applied to the new TDP. However no credits or refunds will apply for the actual time in service for the previous TDP.

The CLEC must provide Sprint notice of intent to renew a TDP no later than 60 days prior to its expiration. The renewal rates will be the rates that are currently in effect and available to all customers. If the CLEC elects not to renew the TDP, or does not notify Sprint of its intent to renew the TDP, the CLEC end user's service will automatically be billed under the month-to-month rates in effect at the time the TDP expires.

## Trouble Resolution

For end-user repair issues, the CLEC will be the initial point of contact. The CLEC will open a trouble ticket to Sprint via existing processes as outlined in the *Resale Guidelines* Trouble Reporting section.

The CLEC Internet Service Provider (ISP) will contact the National Business Operations Center (NBOC) at 800-733-7434 to resolve problems regarding the Sprint data network.

# **Resale Digital Subscriber Line (DSL)**

## **Requirements**

The CLEC must be state certified to provide telecommunications services and the CLEC must have a signed Resale Agreement with Sprint to resell the Sprint DSL service.

The CLEC is responsible for establishing a business relationship with an Internet Service Provider of choice. Additionally, the CLEC is required to establish an ordering and billing process with their ISP of choice. The CLEC is responsible to meet the Customer Premises Equipment (CPE) needs of their ISP of choice.

The ISP is responsible for connecting to the Sprint Asynchronous Transfer Mode (ATM) network. ATM service is available through the Sprint Interstate tariff. The ISP is responsible for acquiring Network Access Equipment that handles PPP termination.

Customer Premises Equipment (CPE) requirements are the responsibility of the CLEC. Sprint will install a splitter at the CLEC end-user location when requested by the CLEC on the LSR. Sprint installs the DSL-capable access line to the CLEC end user's Network Interface Device (NID). CPE is the responsibility of the CLEC.

CPE may be ordered from Sprint North Supply at 800-791-1110 and requesting the CLEC sales representative. Sprint encourages CLEC customers to purchase their CPE from Sprint North Supply to ensure compatibility with the Sprint network. Sprint North Supply sales representatives are available to discuss the CLEC DSL requirements and can provide complete information on Sprint network compatible DSL equipment, ancillary products and fulfillment services. The CLEC will be the point of contact for their end user contacting North Supply. CLEC end-user customers should not contact North Supply.

# Resale Digital Subscriber Line (DSL)

## Frequently Asked Questions

	<b>Question</b>	<b>Answer</b>
1	Is a price sheet available?	Yes, a Resale DSL price sheet with the discounted prices and associated ordering codes will be made available to the CLEC upon request to the local account manager.
2	Does DSL require any qualification prior to ordering?	Yes, working numbers must be submitted to the service center for qualification. The CLEC will receive a list of available DSL data speeds, AIDR/MEDR for each end-user working number or indicate that DSL technology is not available
3	Does Sprint provide CPE?	No, the CLEC is responsible for all CPE requirements.
4	Can the voice line be converted to UNE-P and leave the DSL as resale?	No, resale and UNE-P services for the same end user can not be co-mingled.
5	Is the CLEC notified if there are network or technical difficulties that may delay installation?	Should unforeseen network or technical difficulties arise that may delay or prevent the installation of DSL service, Sprint will notify the CLEC in the event that Sprint is unable to resolve the difficulties.
6	Is working voice service required prior to placing an order for DSL?	Yes, the end user must have voice service established with the CLEC prior to the installation of DSL service.
7	Is temporary suspension of service available?	Yes, temporary suspension of service is available for resale DSL and the voice service will be suspended at the same time.