<http://lxdenvmap422.qintra.com:50000/wholesale/pcat/resalesst.html>

**Resale - Synchronous Service Transport (SST) - V21.0**



**Product Description**

CenturyLink™'s retail telecommunication service, Synchronous Service Transport (SST) is available for resale by Competitive Local Exchange Carriers (CLECs) for their end-users. Additional information about resale of CenturyLink's retail services can be found in the [Resale General](https://www.centurylink.com/wholesale/pcat/resalegeneral.html) Product Catalog (PCAT).

SST is a two-point, broadband, shared Private Line that uses fiber optics and Synchronous Optical NETwork (SONET) technology for transmission. The service allows CenturyLink to provision and deliver large volumes of information via broadband transport services at line rates in excess of Digital Service Level 3 (DS3).

The SST system is physically built on an intraLATA basis. It is provisioned on single fiber and can be configured between:

* An end-user's premises and a Central Office (CO) node
* An end-user's premises and a CO node and its associated Remote Node placed at a Remote wire center.
* Two Remote Nodes located in different CenturyLink wire centers.
* A Remote Node located in a CO connected to a port on GeoMax.

A customer may request an SST system which will provide Channelized Optical Service. Channelized Optical Service allows a customer to channelize the SST as needed and CenturyLink equipment will sense the channelization and provide the service accordingly. CenturyLink accomplishes this by using a feature called auto-concatenation. Auto-concatenation is limited to OC12 and OC48 systems and may be requested by using appropriate NC codes delineated in [CenturyLink Tech Pub 77346](http://centurylink.com/techpub/77346/77346.pdf). Auto-concatenation is limited to services supported by specific existing network equipment and is not available for all requests.

In order to qualify for the resale discount, Resale SST can only be ordered as an end-to-end finished service.

SST is ordered by bandwidth. Bandwidth ranges from Optical Carrier 3 (OC3) and up. Certain interface (located at your end-user's premises) types can correspond only to specific bandwidth capacities. The interface types start at the DS1 level and can range to the OC level. Refer to [Technical Publication 77346](http://centurylink.com/techpub/77346/77346.pdf) for a list of all the interface possibilities on specific transport capacity.

SST components include:

* System Bandwidth
* CO node - Electronics within the CenturyLink wire center that provides the SST bandwidth capacities. Offered with/without channelization. Without channelization, SST provides direct pass through for connectivity from one CO node to another CO node at the same bandwidth.
* Remote node - Provisioned by your end-user or CenturyLink. This provides the remote equipment necessary to deliver bandwidth capacity and/or applicable CO ports from the CO node to the end-user's SST remote node location, or deliver applicable ports from one Remote Node to a different Remote Node. The Remote Node can be placed at an end-used or remote wire center.
* Transport channel mileage - Provides for the transmission facilities between:
	+ Your end-user's serving wire center and a different CenturyLink wire center
	+ Two Remote Nodes nodes located in different CenturyLink wire centers
	+ Two CO ports on different CO nodes located in different CenturyLink wire centers.

Interface

* CO ports - Applicable in conjunction with a channelized CO node or OC3 CO multiplexer. Concatenation is an option.
* Remote ports - Applies in conjunction with an SST remote node. This provides the equipment necessary to deliver the specified CO node bandwidth capacity and applicable CO ports to the remote node on CenturyLink equipment.
* Ethernet port - 10-, 100- or 1,000-Megabit Ethernet ports which can be placed on a Remote node or a CO node.
* Optional Feature - Options that can be added to improve the quality of the circuit or permit specific communication requirements to be met. Additional details can be found under [Optional Features](https://www.centurylink.com/wholesale/pcat/resalesst.html#optional) of this PCAT.
* Other components include:
	+ Central Office Connecting Channel (COCC) - Provides for the connection within the same wire center between an SST CO port and its connecting service or between an SST CO node and associated transport channel mileage and a RCO node (with the same bandwidth) in a different CO.

Concatenated signaling is available.

**Availability**

Resale SST is available only in certain states within [CenturyLink QC.](https://www.centurylink.com/wholesale/pcat/territory.html) Refer to the state specific [Tariffs/Catalogs/Price Lists](https://www.centurylink.com/aboutus/legal/tariff-library.html) to check for availability.

This product will be provisioned with the use of existing facilities. Where suitable facilities are not available, Special Construction of the facilities may be necessary and will be charged for as specified in the state specific [Tariffs/Catalogs/Price Lists](https://www.centurylink.com/aboutus/legal/tariff-library.html). Additional information regarding Special Construction can be found in the [Resale General](https://www.centurylink.com/wholesale/pcat/resalegeneral.html) PCAT.

**Terms and Conditions**

SST will always be provisioned with Route Protection on the local loop, unless it is a Remote Node in a CO connected to a port on a GeoMax system. Self-Healing Alternate Route Protection (SHARP) protects the local loop by providing physically separated working and protecting fiber paths. Special Construction charges may apply if the Alternate Route Protection is to be built. SHARP is not available when a Remote Node is connected to a GeoMax port or GeoMax NAC.

There must be at least one CenturyLink CO node utilized for each SST bandwidth capacity except when the SST is comprised only of two Remote Nodes located in different CenturyLink wire centers or when the Remote Node is connected to a GeoMax port or GeoMax NAC.

SST is available for resale as an end-to-end finished service:

* For intrastate/intraLATA use only
* As long as it is not combined with retail
* A Design Layout Report (DLR) will not be provided, as CenturyLink will maintain the circuit.

**Technical Publications**

Technical requirements, including Network Channel/Network Channel Interface (NC/NCI) codes are specified in CenturyLink's Synchronous Service Transport (Synchronous Optical Transport) [Technical Publication 77346](http://centurylink.com/techpub/77346/77346.pdf).

**Pricing**

**Rate Structure**

CenturyLink retail rates, rate elements, rate plans, and how they apply to SST can be found in the CenturyLink™ Rates and Services Schedule No.1 (QCRSS No.1) or the state specific [Tariffs/Catalogs/Price Lists](https://www.centurylink.com/aboutus/legal/tariff-library.html).

Additional general resale rate structure information is located in the [Resale General](https://www.centurylink.com/wholesale/pcat/resalegeneral.html) PCAT.

SST is billed on a month-to-month basis or on a fixed-period service rate plan. Resale SST may qualify for the rate plan. Contact your [CenturyLink Sales Executive](https://www.centurylink.com/wholesale/clecs/accountmanagers.html) for additional billing arrangement information.

**Rates**

Retail rates can be found in the QCRSS No.1 or the state specific [Tariffs/Catalogs/Price Lists](https://www.centurylink.com/aboutus/legal/tariff-library.html).

CenturyLink's retail rates for SST, less any applicable resale discount, apply to resold SST. Rates and/or discounts can be found in Exhibit A or the specific rate sheet in your Interconnection or Resale Agreement.

Recurring rates are dependent on the type of fixed period service rate plan that is selected by your end-user and may apply to the following rate elements:

* CO node
* Remote node
* CO port
* Remote port
* Ethernet port
* Transport Mileage, in mileage bands on a fixed and per mile basis
* COCC
* Multiplexing
* Ethernet Bandwidth

Nonrecurring charges will be assessed on new installation, conversion, miscellaneous, and change requests and may not apply to all rate elements. Refer to the QCRSS No.1 or the state specific [Tariffs/Catalogs/Price Lists](https://www.centurylink.com/aboutus/legal/tariff-library.html) to determine its applicability.

**Tariffs, Regulations and Policy**

Information is available in the QCRSS No.1 or the state specific [Tariffs/Catalogs/Price Lists](https://www.centurylink.com/aboutus/legal/tariff-library.html).

Additional information can be found in your Interconnection Agreement or Resale Agreement.

**Optional Features**

Optional features and functions available for SST include:

* CO Multiplexing - Provides a CenturyLink multiplexer which converts a 44.736 Mbps DS3 channel to twenty-eight 1.544 Mbps DS1 channels utilizing time division multiplexing or converts a 1.544 Mbps DS1 channel to twenty-four DS0 channels.
* OC3 CO Multiplexing -Provides eighty-four 1.544 Mbps channels or may be configured to provide three 44.736 Mbps channels. A COCC and a CO port 1.544 Mbps or CO port 44.736 Mbps is required per channel.
* Transmux, also know as Ring MUX Ports - Allows your end-user the ability to have high bandwidth interfaces at some locations connecting to multiple lower bandwidth interfaces in other locations. Traditional designs dictated that the circuits entered and departed a facility at the same bandwidth. This option allows multiple circuits to be aggregated into a single larger channel.
* Ethernet circuits can ride SST via the use of Ethernet interfaces. CenturyLink supports 10 Megabit Ethernet, 100 Megabit Ethernet and 1,000 Megabit Ethernet interfaces. Ethernet Bandwidth speeds of 10M, 50M, 100M, 150M, 300M, 450M, 600M and 1Gig are available using the Ethernet Ports. Typically, an Ethernet circuit will have Ethernet interfaces at both ends of the circuit. However, CenturyLink can support circuits that have an Ethernet interface at one end and a SONET interface at the other end.

**Features/Benefits**

Benefits of SST include:

* Multiple capacities and interfaces allow for greater flexibility
* Increase reliability as SONET has built in redundancy making your end-user down time almost null
* State of the art technology used to provide high-speed data transmission efficiently.

**Applications**

Any large business or wholesale customer with the need to transport large volumes of information will find SST appealing.

**Implementation**

**Product Prerequisites**

If you are a new CLEC and are ready to enter the Interconnection business with CenturyLink, please view the [Getting Started as a Facility-Based CLEC](https://www.centurylink.com/wholesale/clecs/clec_index.html) or the [Getting Started as a Reseller](https://www.centurylink.com/wholesale/clecs/reseller_index.html) PCAT.

If you are an existing CLEC wishing to amend your Interconnection Agreement or your New Customer Questionnaire, you can find additional information in the [Interconnection Agreement](https://www.centurylink.com/wholesale/clecs/negotiations.html).

For term pricing plans, please work with your [CenturyLink Sales Executive](https://www.centurylink.com/wholesale/clecs/accountmanagers.html) to establish the contract and also obtain a contract identification number. The contract identification number must be noted in the Variable Term Agreement (VTA) field of the Local Service Request (LSR) form.

**Pre-Ordering**

General pre-ordering information is located in the [Pre-Ordering Overview](https://www.centurylink.com/wholesale/clecs/preordering.html).

Requirements for pre-ordering are described in [Local Service Ordering Guidelines (LSOG)](https://www.centurylink.com/wholesale/clecs/lsog.html) PreOrder.

The following functions may need to be performed by you in preparation for the issuance of the local service request:

* Validate Address
* Check Facility Availability
* Review Customer Service Record (CSR)

**Ordering**

It is important to understand the [Resale General](https://www.centurylink.com/wholesale/pcat/resalegeneral.html) procedures before ordering Resale SST.

General ordering activities are identified in the [Ordering Overview](https://www.centurylink.com/wholesale/clecs/ordering.html).

Service interval guidelines are found in the [Service Interval Guide (SIG)](https://www.centurylink.com/wholesale/guides/sig/index.html).

Two requests are required to establish SST:

* the bandwidth fiber transport and
* the interface to connect to the transport

The bandwidth request must be completed prior to the interface requests. When disconnecting Resale SST, all interface orders must be disconnected prior to the bandwidth fiber ring being disconnected.

Resale SST orders are submitted using the LSOG forms. The forms used for your request will include:

* Local Service Request (LSR)
* Resale Private Line (RPL)

Field entry requirements are described in the [LSOG](https://www.centurylink.com/wholesale/clecs/lsog.html). Required fields include:

* Appropriate SST NC and NCI codes noted on the LSR form. The codes identify the service type and some of the related optional features/functions being requested. NC/NCI codes are available in [Technical Publication 77332](http://centurylink.com/techpub/77332/77332.pdf).
* Fixed-period rate plan contract number in the VTA field on the LSR form (the bandwidth request can be on a different rate plan than the interface request)
* For the Transmux option, use the Remarks field on the LSR form to indicate the desired location and interface level.

Orders should be placed using the [EASE-LSR Graphical User Interface (EASE-LSR GUI)](https://ease-lsr.lumen.com/) or [EASE-LSR Extensible Markup Language (XML)](https://ease.lumen.com/).

Use of Universal Service Order Codes (USOCs) and Field Identifiers (FIDs) are described in the [USOCs and FIDs Overview](https://www.centurylink.com/wholesale/pcat/usocfid.html). Use of the USOC/FID Finder will assist you in identifying USOCs and FIDs.

Ethernet over SONET (EoS)

CenturyLink requires that all order requests for Ethernet over SONET (EoS) and Channelized Optical Service go through the Automatic Quote and Contract Billing (AQCB) pre-order process before you submit your service request. The AQCB inquiry is reviewed to ensure that the equipment deployed for your SONET system supports EoS or can automatically reconfigure Channelized Optical Service, and to determine any additional requirements that might be necessary to provide the service. In the event a facility build is required, additional information regarding the equipment and space requirements at the customer premise are found in the [Customer Premise Site Visit Requirements for Fiber Based Services](https://www.centurylink.com/wholesale/downloads/2012/120113/DNLD_Cust_Prem_Site_Visit_Requirements_01_13_12.doc).

Contact your CenturyLink account team to initiate the pre-order request; they will provide you with the AQCB inquiry number to include on your service request.

If an AQCB ID number has been provided to you, that information must be populated into the VTA field after the contract term period: i.e. "36 AQCBID#".

**Provisioning and Installation**

General Provisioning and Installation activities are described in the [Provisioning and Installation Overview](https://www.centurylink.com/wholesale/clecs/provisioning.html).

Firm Order Confirmation (FOC) intervals are found in the [SIG](https://www.centurylink.com/wholesale/guides/sig/index.html).

A jeopardy occurs on an LSR if a condition exists that threatens timely completion. Jeopardy notification information is described in the [Provisioning and Installation Overview](https://www.centurylink.com/wholesale/clecs/provisioning.html).

**Maintenance and Repair**

When placing trouble reports, the account telephone number and/or the appropriate circuit identification must be provided.

General maintenance and repair activities are described in the [Maintenance and Repair Overview](https://www.centurylink.com/wholesale/clecs/maintenance.html).

**Billing**

On a monthly basis, CenturyLink will provide you with billing information that will provide summary account information as well as end-user account information.

~~Customer Records and Information System (CRIS) billing is described in~~[~~Billing Information - Customer Records and Information System (CRIS)~~](https://www.centurylink.com/wholesale/clecs/cris.html)~~.~~ Ensemble is the new billing system for customers. For questions about the bill, please follow the instructions on the reverse side of each billing statement.

The Ensemble bill is described in [Billing Information – Ensemble](https://www.centurylink.com/wholesale/clecs/ensemble.html).

**Training**

View CenturyLink courses in the ~~Course~~ [Training Catalog](https://www.centurylink.com/wholesale/training/coursecatalog.html).

**Contacts**

CenturyLink contact information is located in [Wholesale Customer Contacts](https://www.centurylink.com/wholesale/clecs/customercontacts.html).

**Frequently Asked Questions (FAQs)**

**1. Because SST comes with a protect path, when must the CLEC pay for SHARP?**

* The SHARP option is a service that includes a diversely routed protect path and Service Guarantees that are in addition to the underlying service (SST, DS3, DS1). SHARP can also be provided without a guarantee.
* To obtain the SHARP guarantees, CenturyLink will bill for the SHARP service and a Remote Node.
* Optical SHARP provides the same alternate route, but a Remote Node is not required.
* When separated facilities are not available (must be built), CenturyLink will charge for diversely routed protection.
* CenturyLink may provision SSTs protect path over a separate route if facilities are available or due to other network issues (this would be reviewed on a case-by-case basis and many factors would be involved in the decision). In that instance, CenturyLink would not charge for SHARP, however, SHARP service, the guarantee of diverse routing, or the additional SHARP service guarantee would not be provided. Contact your [CenturyLink Service Manager](https://www.centurylink.com/wholesale/clecs/accountmanagers.html) for additional information.

**What is EoS and Channelized Optical Service?**

* Ethernet over Synchronous Optical Network (SONET), (EoS) provides an Ethernet protocol interface for managed optical transport of data signals of various speeds over CenturyLink provided Synchronous Service Transport (SST) and Self-Healing Network Service (SHNS). EoS allows for point-to-point transmission on SST and SHNS ports of 10 Mbps, 100 Mbps or 1 Gbps. Channelized Optical Service allows a customer to channelize the SST as needed. Ethernet Bandwidth speeds of 10M, 50M, 100M, 150M, 300M, 450M, 600M and 1Gig are available using the Ethernet Ports.

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