

# RSRB Overhead Information

Document ID: 5256

---

- Introduction**
- Prerequisites**
  - Requirements
  - Components Used
  - Conventions
- Direct Encapsulation**
- FST Encapsulation**
- TCP Encapsulation**
- Related Information**

---

## Introduction

This document shows Remote Source–Route Bridging (RSRB) overhead information for direct, Fast Sequenced Transport (FST), and TCP encapsulations.

## Prerequisites

### Requirements

Readers of this document should have knowledge of these topics:

- Basic RSRB Configurations and Concepts
- Configuring Remote Source–Route Bridging

### Components Used

This document is not restricted to specific software or hardware versions.

### Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

## Direct Encapsulation

Media Header	RSRB Header	Token Ring Frame
	(Cisco)	
See #1	16 bytes (see #2)	See #3

1. Media header consists of one of these:

- ◆ Serial = 4 bytes
- ◆ Ethernet (802.3) = 22 bytes + padding, if needed

These 22 bytes contain the destination address (DA), source address (SA), length, destination service access point (DSAP), source service access point (SSAP), control, and frame check

sequence (FCS).

- ◆ Ethernet (Type 2) = 18 bytes + padding, if needed

These 18 bytes contain the DA, SA, type, and FCS.

- ◆ Token Ring = maximum 39 bytes:

a. Physical header = 15 bytes

These 15 bytes contain the starting delimiter (SD), access control (AC), frame control (FC), DA, and SA.

b. Routing information = from 2 to 18 bytes

c. Physical trailer = 6 bytes

These 6 bytes contain the FCS, ending delimiter (ED), and frame status (FS).

- ◆ FDDI = 18 bytes

These 18 bytes contain the SD, FC, DA, SA, FCS, ED, FS.

2. RSRB header:

Bytes	Descriptions	Notes
2	rhdr_version	rhdr_version and op must be the same.
2	op	For all RSRB versions
2	trn	Target ring number
2	vrn	Virtual ring number or ring group
2	offset	(As needed) pointer into packet
2	len	Length of this segment or packet
4	param	Miscellaneous parameter

3. The Token Ring frame is the frame that RSRB receives from the Token Ring interface. The whole frame will be encapsulated.

## FST Encapsulation

Media Header	IP Header	RSRB Header	Token Ring Frame
		(Cisco)	
See #1	20 bytes (see #2)	10 bytes (see #3)	See #4

1. Media header = Same as under direct encapsulation.
2. IP header = 20 bytes, with no options.
3. RSRB header:

Bytes	Descriptions	Notes
2	rhdr_version	rhdr_version and op must be the

		same.
2	op	For all RSRB versions
2	trn	Target ring number
2	vrn	Virtual ring number or ring group
2	offset	(As needed) pointer into packet

4. The Token Ring frame is the frame that RSRB receives from the Token Ring interface. The whole frame will be encapsulated.

## TCP Encapsulation

Media Header	IP Header	TCP Header	RSRB Header	Token Ring Frame
			(Cisco)	
See #1	20 bytes (see #2)	20 bytes (see #3)	16 bytes (see #4)	See #5

1. Media header = Same as under direct encapsulation.
2. IP header = 20 bytes, with no options.
3. TCP header = 20 bytes, with no options.
4. RSRB header:

Bytes	Descriptions	Notes
2	rhdr_version	rhdr_version and op must be the same.
2	op	For all RSRB versions
2	trn	Target ring number
2	vrn	Virtual ring number or ring group
2	offset	(As needed) pointer into packet
2	len	Length of this segment or packet
4	param	Miscellaneous parameter

5. The Token Ring frame is the frame that RSRB receives from the Token Ring interface. The frame will be fragmented up to 1450 bytes each if necessary.

---

## Related Information

- [Technology Support](#)
  - [Product Support](#)
  - [Technical Support & Documentation – Cisco Systems](#)
-

