# The MSR3610-X1 device cannot communicate with the Cisco device over frame relay

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## Network Topology

NULL

## Problem Description

The MSR3610-X1 device cannot communicate with the Cisco device over frame relay. When checking the connectivity, the physical layer of serial port and the protocol layer were up, but the two devices could not communicate with each other.

## Process Analysis

**1. First, check the interface state. The physical layer and protocol layer states of Serial1/1 port are up**

```
[route-Serial1/1]dis ip int br
*down: administratively down
(s): spoofing  (l): loopback
Interface              Physical Protocol IP Address      Description
GE0/0                  up       up       198.xxx.xx.31    --
GE0/1                  *down    down     9.xx.xxx.210     --
GE0/2                  down     down     --               --
.......
Ser1/0                 down     down     --               --
Ser1/1                 up       up       144.xx.xxx.10    --
```

**2、Secondly, check the interface configuration and the configuration is correct:**

```
[route-Serial1/1]dis cur int se 1/1
#
interface Serial1/1
 description yinlian
 link-protocol fr
 fr lmi type ansi
 fr map ip 144.xx.xxx.9 101
 #
 fr dlci 101
  broadcast
 ip address 144.xx.xxx.10 255.255.255.252
#
return
```

**Unable to Ping the address of the peer device**

```
[tc_wt-Serial1/1]ping 144.xx.xxx.9
Ping  144.xx.xxx.9  ( 144.xx.xxx.9 ): 56 data bytes, press CTRL_C to break
Request time out
Request time out
......
```

**3、For the problem that the frame relay Link-layer protocol is up but cannot ping each other, we should confirm whether the address mapping configuration of the devices on both ends is correct or whether the route is reachable.**

**The device configuration is normal and the routing is normal, so these two issues are excluded.**

**4、Check the interface information and find a large number of error packets and increase in the input direction of interface.**

```
Serial1/1
Current state: UP
Line protocol state: UP
Link layer protocol is FR IETF
  LMI DLCI is 0, LMI type is ANSI, frame relay DTE
  LMI status enquiry sent 3, LMI status received 3
  LMI status timeout 0, LMI message discarded 0
Physical layer: synchronous, Virtual baudrate: 64000 bps
......
```

Interface: DTE
Cable type: V35
Clock mode: DTECLK1
Last 300 seconds input rate: 0.00 bytes/sec, 0 bits/sec, 0.00 packets/sec
Last 300 seconds output rate: 0.00 bytes/sec, 0 bits/sec, 0.00 packets/sec
Input:
3 packets, 52 bytes
0 broadcasts, 0 multicasts
5270 errors, 0 runts, 0 giants
0 CRC, 0 align errors, 0 overruns
5270 aborts, 0 no buffers, 0 frame errors
Output:
3 packets, 42 bytes
0 errors, 0 underruns, 0 collisions
0 deferred

**In general, if there are many error packets in the input direction, it may be due to a clock problem.**
**Invert receive-clock: To eliminate the delay of half clock cycle on the circuit, invert the received clock signal of the serial port synchronously on the DTE side.**
**After this command is configured on all interfaces, it can be up normally and ping each other with the opposite end.**

## Solution

The problem is resolved after configuration invert receive-clock under the interface.