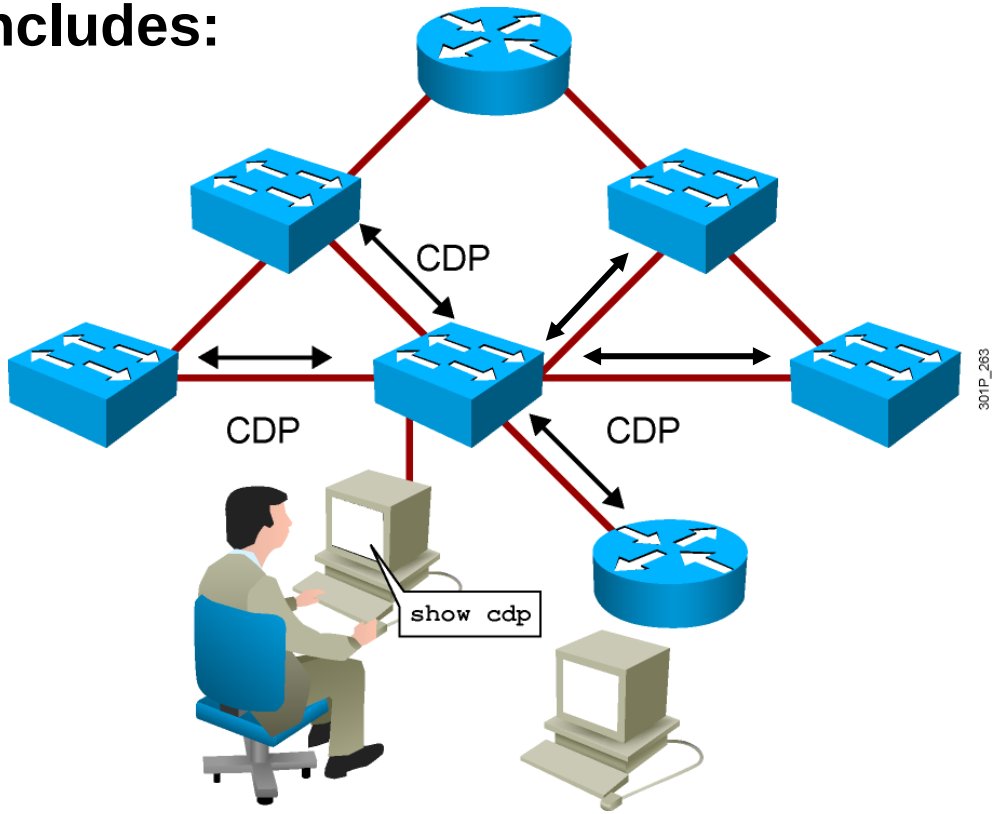
Network Environment Management

CDP - LLDP

Telnet

Discovering Neighbors with Cisco Discovery Protocol

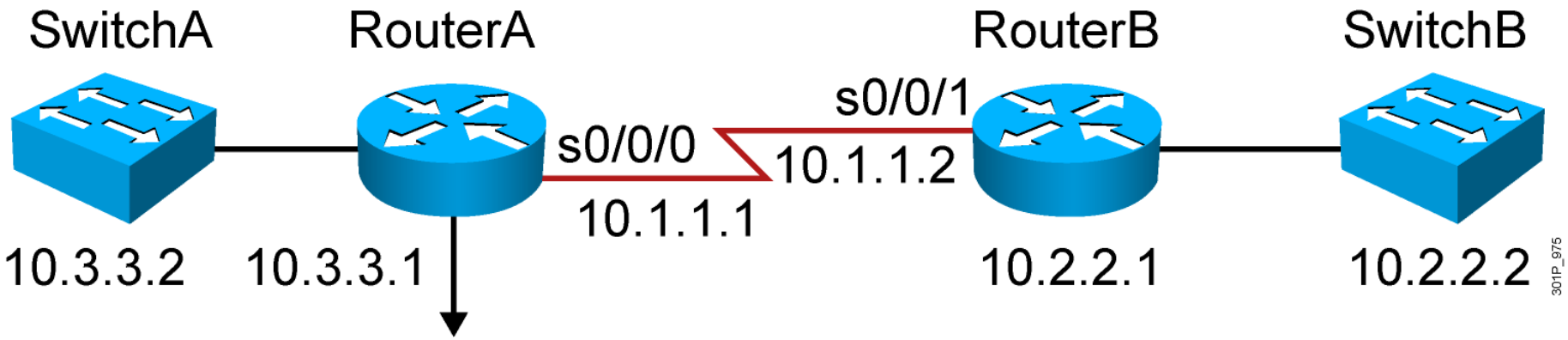
- **Cisco Discovery Protocol (CDP) runs on Cisco IOS devices.**
- **Summary information includes:**
  - Device identifiers
  - Address list
  - Port identifier
  - Capabilities list
  - Platform



Neighbor Discovery Protocols

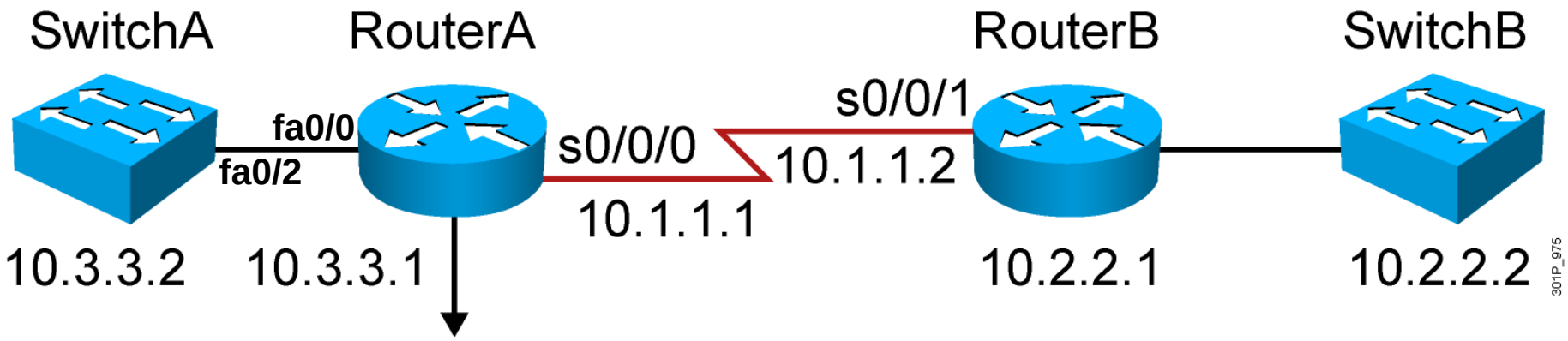
- **Cisco Discovery Protocol**
  - Cisco Layer 2 protocol
  - Has additional capabilities (VLAN or PoE negotiation)
  - Enabled by default
- **LLDP (Link Layer Discovery Protocol)**
  - Standard-based Layer 2 protocol
  - Disabled by default
- Provides a summary of directly connected switches, routers, and other Cisco devices
- Discovers neighbor devices regardless of which protocol suite they are running

Using Cisco Discovery Protocol




```
RouterA#show cdp ?
  entry       Information for specific neighbor entry
  interface   CDP interface status and configuration
  neighbors   CDP neighbor entries
  traffic     CDP statistics
  …
RouterA(config)#no cdp run
! Disable CDP Globally
RouterA(config)#interface serial0/0/0
RouterA(config-if)#no cdp enable
! Disable CDP on just this interface
```

Using the show cdp neighbors Command



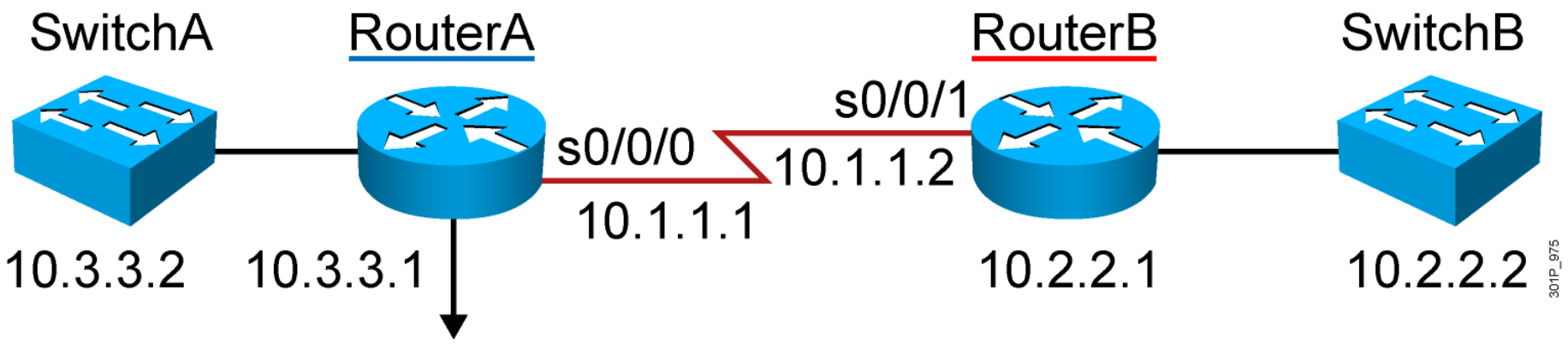

```
RouterA#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater

Device ID    Local Intrfce    Holdtme    Capability  Platform  Port ID
SwitchA          fa0/0          122          S I       WS-C2960- fa0/2
RouterB          s0/0/0         177        R S I       2811      s0/0/1
```

(Default: 180 seconds, ↓)

cdp timer: 60 seconds (default)

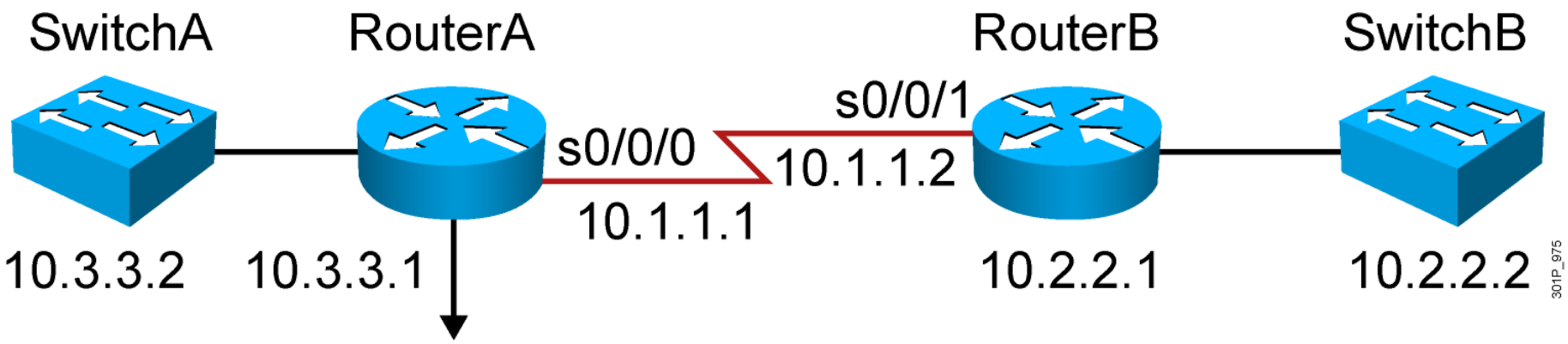
Using the show cdp entry Command




```
RouterA#show cdp entry *  ------------>  ~ show cdp neighbors detail
Device ID: RouterB
Entry address(es):
  IP address: 10.1.1.2
Platform: Cisco 2811,  Capabilities: Router Switch IGMP
Interface: Serial0/0/0,  Port ID (outgoing port): Serial0/0/1
Holdtime : 155 sec

Version :
Cisco IOS Software, 2800 Software (C2800NM-ADVIPSERVICESK9-M), Version
12.4(12), RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2006 by Cisco Systems, Inc.
Compiled Fri 17-Nov-06 12:02 by prod_rel_team
```

Additional Cisco Discovery Protocol Commands




```
RouterA#show cdp traffic
CDP counters :
        Total packets output: 8680, Input: 8678
        Hdr syntax: 0, Chksum error: 0, Encaps failed: 5
        No memory: 0, Invalid packet: 0, Fragmented: 0
        CDP version 1 advertisements output: 0, Input: 0
        CDP version 2 advertisements output: 8680, Input: 8678

RouterA#show cdp interface s0/0/0
Serial0/0/0 is up, line protocol is up
  Encapsulation PPP
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
```

LLDP Configuration

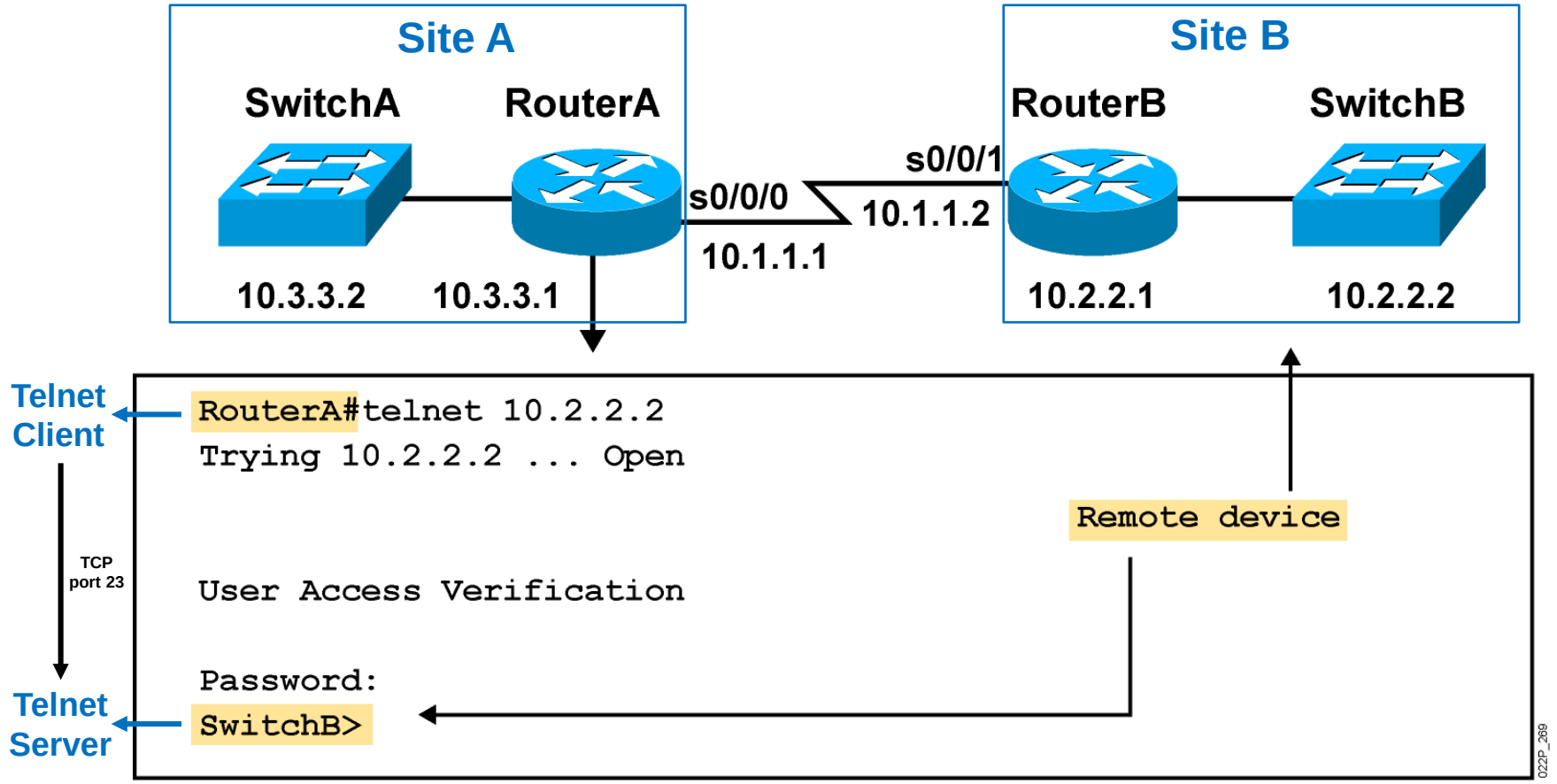
```
switch(config)# [no] lldp run
switch(config-if)# [no] lldp enable
switch# show lldp neighbor [detail]
```

```
switch# show lldp neighbor
Capability codes:
    (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
    (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
Device ID           Local Intf     Hold-time  Capability      Port
ID
c2960-8             Fa0/8          120        B               Fa0/8
Total entries displayed: 1
```

Accessing Remote Devices

Telnet

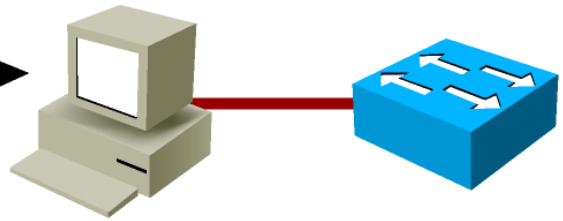
Using Telnet to Connect to Remote Devices



Configuring Telnet on Telnet Server

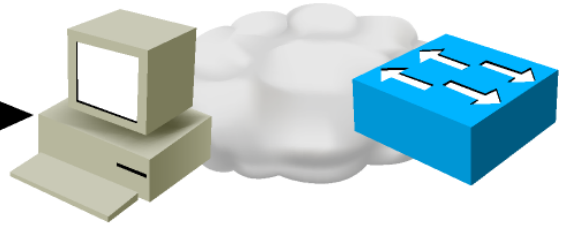
Console Password

```
SwitchX(config)#line console 0
SwitchX(config-line)#password cisco
SwitchX(config-line)#login
```



Virtual Terminal Password

```
SwitchX(config)#line vty 0 4
SwitchX(config-line)#password sanjose
SwitchX(config-line)#login
```



Enable Password

```
SwitchX(config)#enable password cisco
```

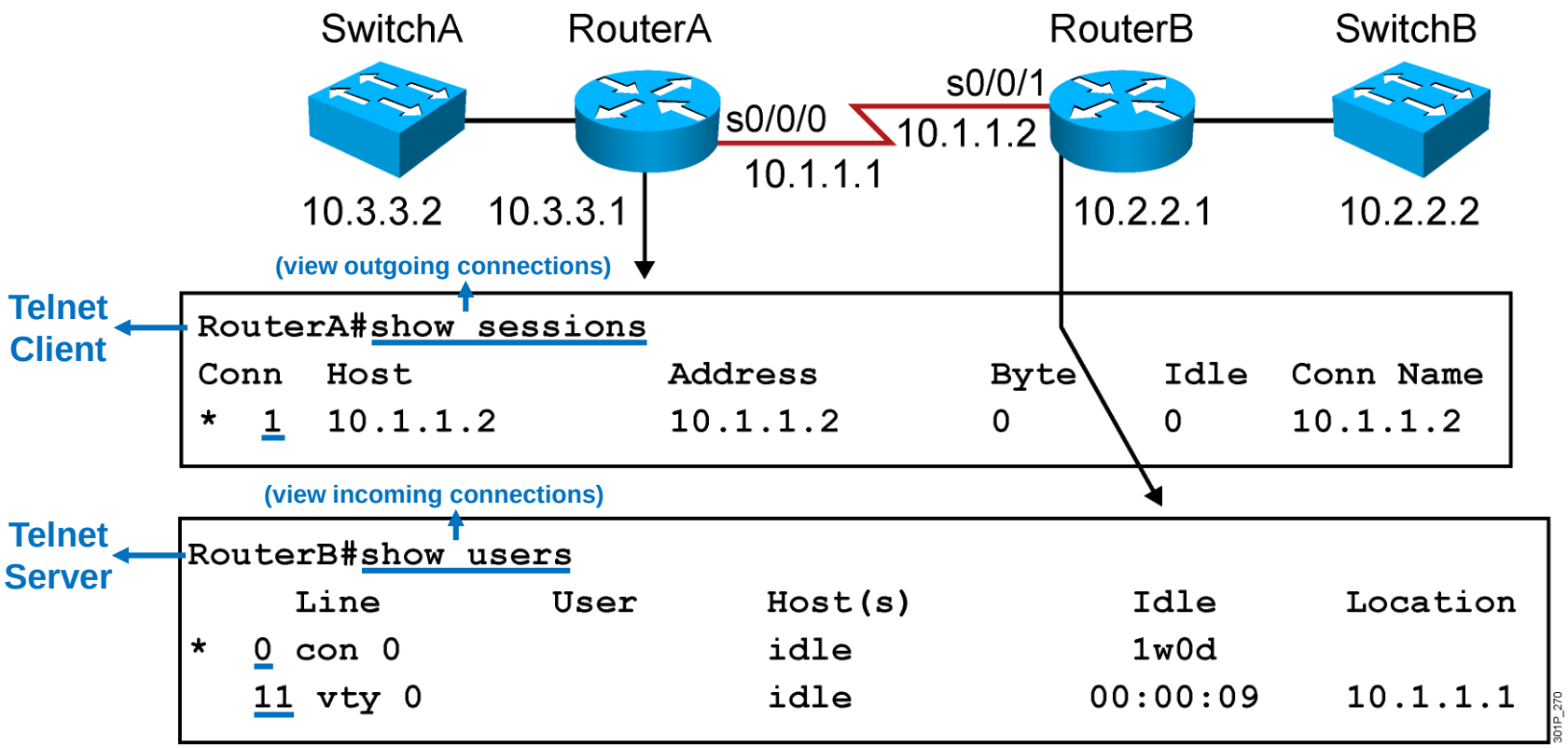
Secret Password

```
SwitchX(config)#enable secret sanfran
```

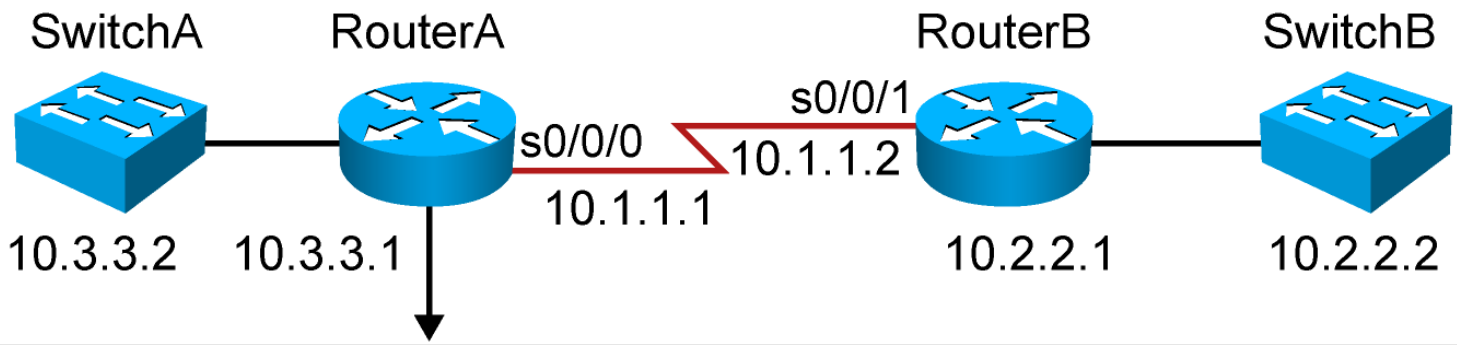
Service Password-Encryption Commands

```
SwitchX(config)#service password-encryption
SwitchX(config)#no service password-encryption
```

Viewing Telnet Connections



Suspending and Resuming a Telnet Session




```
RouterB#<Ctrl-Shift-6>x
RouterA#show sessions
Conn Host                    Address                 Byte   Idle Conn Name
*   1 10.1.1.2               10.1.1.2                   0      1 10.1.1.2
RouterA#resume 1
RouterB#
```

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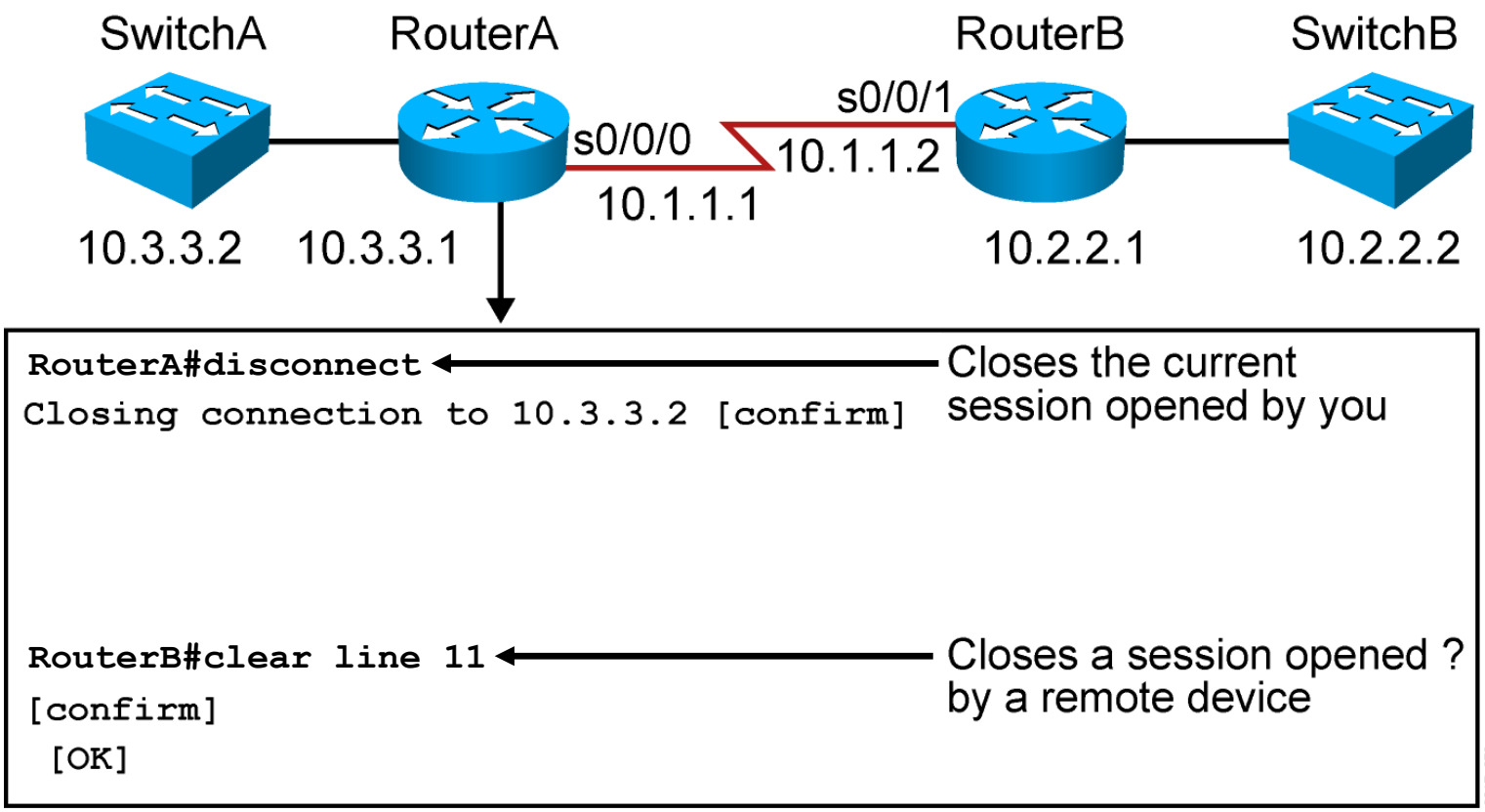
Closing a Telnet Session




CISCO