Router	Both	Switch
sh ip route (ospf) **eigrp** **static** **dynamic**	**sh cdp entry** **neighbors** **neighbors detail** **sh lldp neighbors** **neighbors (int.)** **neighbors detail**	**sh spanning-tree (bridge)** **inconsistentports** **interface** **root** **vlan** **summary** **active**
sh ip ospf (neighbor) **interface (brief)** **database**	**sh run**	**sh etherchannel (summary)** **port** **port-channel** **detail** **load-balance** **sh {pagp | lacp} neighbor** **sh lacp sys-id**
sh ip eigrp neighbors **interfaces (detail)** **topology (all-links)**	**sh interfaces (description)**	**sh vlan** **brief** **id (int.)**
sh ip protocols	**sh ip interfaces**	**sh interface (int.) 4L3** **4L2 (int.) switchport** **4SVI vlan (#)**
sh protocols	**sh ip int brief**	**sh interfaces status**
sh frame-relay (map, lmi, pvc)	**sh flash**	**sh interfaces trunk** **(int.) trunk**
sh glbp (brief)	**sh logging**	**sh vtp status**
sh standby (brief)	**sh version**	**sh mac address-table**
sh interfaces tunnel		**sh port-security (interface)**
sh ip access-lists		**sh dtp** **dtp interface (int.)**
sh ip flow export **interface**	**sh license (udi)** **feature**	**sh udld (int.)** **udld reset**
		sh ip cef **(int. / vlan (#)) (detail)** **(prefix/mask) (longer-prefixes) (detail)**
		sh adjacency (int. / vlan (#)) **(summary / detail)**

sh ip nat statistics		sh cef not-cef-switched p.286
sh ip nat translations	sh users	
sh ntp status	sh ssh	sh monitor [session {(#) | all | local | range (range-list) | remote}] [detail]
sh ntp associations	sh sessions	
sh dhcp lease		sh dot1x [all] [interface (int.#)]
sh ip dhcp conflict	clear ipv6 dhcp binding	
sh controllers	sh ipv6 dhcp pool	sh storm-control [int.-id] [broadcast | multicast | unicast]
	sh ipv6 dhcp binding	
		sh ip arp inspection
	sh ip sla configuration [operation #]	sh ip dhcp snooping [binding]
	sh ip sla statistics [operation #] [aggregated] [detail]	sh ip source binding [ipadd] [mac-add] [dhcp-snooping | static] [int (type#etc.)] [vlan (#)]
		sh ip verify source [int (type#etc)]

```
sh ip ospf neighbor

Neighbor ID     Pri   State           Dead Time   Address         Interface
2.2.2.2           0   FULL/  -        00:00:34    4.3.2.2         Serial0/0/1
```

```
sh ip ospf database

OSPF Router with ID (1.1.1.1) (Process ID 1)

                Router Link States (Area 0)

Link ID         ADV Router      Age         Seq#       Checksum Link count
1.1.1.1         1.1.1.1         42          0x8000000f 0x00354d 4
2.2.2.2         2.2.2.2         43          0x80000011 0x00e5bc 3
```

```
sh ip protocols

Routing Protocol is "ospf 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 1.1.1.1
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    192.168.10.0 0.0.0.255 area 0
    192.168.20.0 0.0.0.255 area 0
    4.3.2.0 0.0.0.255 area 0
  Routing Information Sources:
    Gateway         Distance      Last Update
    1.1.1.1              110       00:01:25
    2.2.2.2              110       00:01:26
  Distance: (default is 110)
```

```
sh protocols

Global values:
  Internet Protocol routing is enabled
GigabitEthernet0/0 is administratively down, line protocol is down
GigabitEthernet0/1 is administratively down, line protocol is down
GigabitEthernet0/2 is up, line protocol is up
GigabitEthernet0/2.10 is up, line protocol is up
  Internet address is 192.168.10.1/24
GigabitEthernet0/2.20 is up, line protocol is up
  Internet address is 192.168.20.1/24
Serial0/0/0 is up, line protocol is up
Serial0/0/1 is up, line protocol is up
```

```
      Internet address is 4.3.2.1/24
Vlan1 is administratively down, line protocol is down
```

```
sh ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

      4.0.0.0/8 is variably subnetted, 3 subnets, 2 masks
C        4.3.2.0/24 is directly connected, Serial0/0/1
L        4.3.2.1/32 is directly connected, Serial0/0/1
C        4.3.2.2/32 is directly connected, Serial0/0/1
      172.16.0.0/24 is subnetted, 1 subnets
O        172.16.30.0/24 [110/65] via 4.3.2.2, 00:46:40, Serial0/0/1
      192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.10.0/24 is directly connected, GigabitEthernet0/2.10
L        192.168.10.1/32 is directly connected, GigabitEthernet0/2.10
      192.168.20.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.20.0/24 is directly connected, GigabitEthernet0/2.20
L        192.168.20.1/32 is directly connected, GigabitEthernet0/2.20
```

```
sh ip ospf interface

GigabitEthernet0/2.10 is up, line protocol is up
  Internet address is 192.168.10.1/24, Area 0
  Process ID 1, Router ID 1.1.1.1, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 1.1.1.1, Interface address 192.168.10.1
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:06
  Index 1/1, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 1
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 0, Adjacent neighbor count is 0
  Suppress hello for 0 neighbor(s)


Serial0/0/1 is up, line protocol is up
  Internet address is 4.3.2.1/24, Area 0
  Process ID 1, Router ID 1.1.1.1, Network Type POINT-TO-POINT, Cost: 64
  Transmit Delay is 1 sec, State POINT-TO-POINT, Priority 0
  No designated router on this network
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:07
  Index 3/3, flood queue length 0
  Next 0x0(0)/0x0(0)
```

```
   Last flood scan length is 1, maximum is 1
   Last flood scan time is 0 msec, maximum is 0 msec
   Neighbor Count is 1 , Adjacent neighbor count is 1
      Adjacent with neighbor 2.2.2.2
   Suppress hello for 0 neighbor(s)
```

sh controllers

```
Interface Serial0/0/1
Hardware is PowerQUICC MPC860
DCE V.35, clock rate 128000
idb at 0x81081AC4, driver data structure at 0x81084AC0
SCC Registers:
General [GSMR]=0x2:0x00000000, Protocol-specific [PSMR]=0x8
Events [SCCE]=0x0000, Mask [SCCM]=0x0000, Status [SCCS]=0x00
Transmit on Demand [TODR]=0x0, Data Sync [DSR]=0x7E7E
Interrupt Registers:
Config [CICR]=0x00367F80, Pending [CIPR]=0x0000C000
Mask   [CIMR]=0x00200000, In-srv  [CISR]=0x00000000
Command register [CR]=0x580
Port A [PADIR]=0x1030, [PAPAR]=0xFFFF
       [PAODR]=0x0010, [PADAT]=0xCBFF
Port B [PBDIR]=0x09C0F, [PBPAR]=0x0800E
       [PBODR]=0x00000, [PBDAT]=0x3FFFD
Port C [PCDIR]=0x00C, [PCPAR]=0x200
       [PCSO]=0xC20,  [PCDAT]=0xDF2, [PCINT]=0x00F
Receive Ring
       rmd(68012830): status 9000 length 60C address 3B6DAC4
       rmd(68012838): status B000 length 60C address 3B6D444
Transmit Ring
       tmd(680128B0): status 0 length 0 address 0
       tmd(680128B8): status 0 length 0 address 0
       tmd(680128C0): status 0 length 0 address 0
       tmd(680128C8): status 0 length 0 address 0
       tmd(680128D0): status 0 length 0 address 0
       tmd(680128D8): status 0 length 0 address 0
       tmd(680128E0): status 0 length 0 address 0
       tmd(680128E8): status 0 length 0 address 0
       tmd(680128F0): status 0 length 0 address 0
       tmd(680128F8): status 0 length 0 address 0
       tmd(68012900): status 0 length 0 address 0
       tmd(68012908): status 0 length 0 address 0
       tmd(68012910): status 0 length 0 address 0
       tmd(68012918): status 0 length 0 address 0
       tmd(68012920): status 0 length 0 address 0
       tmd(68012928): status 2000 length 0 address 0

tx_limited=1(2)

SCC GENERAL PARAMETER RAM (at 0x68013C00)
Rx BD Base [RBASE]=0x2830, Fn Code [RFCR]=0x18
Tx BD Base [TBASE]=0x28B0, Fn Code [TFCR]=0x18
Max Rx Buff Len [MRBLR]=1548
Rx State [RSTATE]=0x0, BD Ptr [RBPTR]=0x2830
Tx State [TSTATE]=0x4000, BD Ptr [TBPTR]=0x28B0

SCC HDLC PARAMETER RAM (at 0x68013C38)
CRC Preset [C_PRES]=0xFFFF, Mask [C_MASK]=0xF0B8
```

```
Errors: CRC [CRCEC]=0, Aborts [ABTSC]=0, Discards [DISFC]=0
Nonmatch Addr Cntr [NMARC]=0
Retry Count [RETRC]=0
Max Frame Length [MFLR]=1608
Rx Int Threshold [RFTHR]=0, Frame Cnt [RFCNT]=0
User-defined Address 0000/0000/0000/0000
User-defined Address Mask 0x0000


buffer size 1524

PowerQUICC SCC specific errors:
0 input aborts on receiving flag sequence
0 throttles, 0 enables
0 overruns
0 transmitter underruns
0 transmitter CTS losts
0 aborted short frames
```

sh cdp neighbors

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone

Device ID     Local Intrfce   Holdtme    Capability   Platform    Port ID
IPV6router    Ser 0/0/0       157            R        C2900       Ser 0/0/0
R2            Ser 0/0/1       147            R        C2900       Ser 0/0/1
```

sh cdp entry R2

```
Device ID: R2
Entry address(es):
   IP address : 4.3.2.2
Platform: cisco C2900, Capabilities: Router
Interface: Serial0/0/1, Port ID (outgoing port): Serial0/0/1
Holdtime: 176

Version :
Cisco IOS Software, C2900 Software (C2900-UNIVERSALK9-M), Version 15.1(4)M4, RELEASE
SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2012 by Cisco Systems, Inc.
Compiled Thurs 5-Jan-12 15:41 by pt_team

advertisement version: 2
Duplex: full
---------------------------
```

sh interfaces

```
GigabitEthernet0/2.10 is up, line protocol is up (connected)
  Hardware is PQUICC_FEC, address is 0060.2f18.8d03 (bia 0060.2f18.8d03)
  Internet address is 192.168.10.1/24
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation 802.1Q Virtual LAN, Vlan ID 10
```

```
    ARP type: ARPA, ARP Timeout 04:00:00,
    Last clearing of "show interface" counters never

Serial0/0/1 is up, line protocol is up (connected)
  Hardware is HD64570
  Internet address is 4.3.2.1/24
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
      reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation PPP, loopback not set, keepalive set (10 sec)
  LCP Open
  Open: IPCP, CDPCP
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
      Conversations  0/0/256 (active/max active/max total)
      Reserved Conversations 0/0 (allocated/max allocated)
      Available Bandwidth 1158 kilobits/sec
  5 minute input rate 327 bits/sec, 1 packets/sec
  5 minute output rate 318 bits/sec, 1 packets/sec
      626 packets input, 47192 bytes, 0 no buffer
      Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
      0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
      652 packets output, 48377 bytes, 0 underruns
      0 output errors, 0 collisions, 1 interface resets
      0 output buffer failures, 0 output buffers swapped out
      0 carrier transitions
      DCD=up  DSR=up  DTR=up  RTS=up  CTS=up
```

```
sh ip interface
```

```
GigabitEthernet0/0 is administratively down, line protocol is down (disabled)
  Internet protocol processing disabled

GigabitEthernet0/2 is up, line protocol is up (connected)
  Internet protocol processing disabled

GigabitEthernet0/2.10 is up, line protocol is up (connected)
  Internet address is 192.168.10.1/24
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500 bytes
  Helper address is 172.16.30.5
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  Security level is default
 ...

Serial0/0/1 is up, line protocol is up (connected)
  Internet address is 4.3.2.1/24
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500
  Helper address is not set
  Directed broadcast forwarding is disabled
```

```
   Outgoing access list is not set
   Inbound  access list is not set
   Proxy ARP is enabled
 ...
```

sh int switchport

```
Name: Fa0/1
Switchport: Enabled
Administrative Mode: static access
Operational Mode: static access
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: native
Negotiation of Trunking: Off
Access Mode VLAN: 10 (YELLOW_VLAN)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: All
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Appliance trust: none

Name: Gig1/1
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 200
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: 10,20
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Appliance trust: none
```

```
sh int trunk

Port         Mode           Encapsulation  Status         Native vlan
Gig1/1       on             802.1q         trunking       200
Gig1/2       on             802.1q         trunking       200


Port         Vlans allowed on trunk
Gig1/1       10,20
Gig1/2       10,20


Port         Vlans allowed and active in management domain
Gig1/1       10,20
Gig1/2       10,20


Port         Vlans in spanning tree forwarding state and not pruned
Gig1/1       10,20
Gig1/2       10,20
```

```
sh mac address-table

        Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----

  10    0060.2f18.8d03    DYNAMIC     Gig1/2
  10    0060.4706.09cc    STATIC      Fa0/1
  20    0009.7c74.0779    STATIC      Fa0/2
  20    0060.2f18.8d03    DYNAMIC     Gig1/2
```

```
sh port-security

Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security Action
            (Count)       (Count)     (Count)
-----------------------------------------------------------------------
      Fa0/1       1            1               0         Shutdown
      Fa0/2       1            1               0         Shutdown
-----------------------------------------------------------------------
```

```
sh vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active
10   YELLOW_VLAN                      active    Fa0/1
20   GREEN_VLAN                       active    Fa0/2
100  UNUSED_VLAN                      active    Fa0/3, Fa0/4, Fa0/5, Fa0/6
                                                Fa0/7, Fa0/8, Fa0/9, Fa0/10
                                                Fa0/11, Fa0/12, Fa0/13, Fa0/14
                                                Fa0/15, Fa0/16, Fa0/17, Fa0/18
                                                Fa0/19, Fa0/20, Fa0/21, Fa0/22
                                                Fa0/23, Fa0/24

200  NEW_NATIVE                       active
1002 fddi-default                     active
```

```
1003 token-ring-default            active
1004 fddinet-default              active
1005 trnet-default                active
```

sh vtp status

```
VTP Version                 : 2
Configuration Revision      : 0
Maximum VLANs supported locally : 255
Number of existing VLANs    : 9
VTP Operating Mode          : Server
VTP Domain Name             : snow.com
VTP Pruning Mode            : Disabled
VTP V2 Mode                 : Disabled
VTP Traps Generation        : Disabled
MD5 digest                  : 0x3F 0xF1 0x07 0x1E 0x31 0x35 0x3C 0x29
Configuration last modified by 0.0.0.0 at 3-1-93 00:48:54
Local updater ID is 192.168.10.10 on interface Vl10 (lowest numbered VLAN interface found)
```

Router Show Commands

sh ip ospf neighbor	**Nice table showing** : neighbor router ID neighbor IP address neighbor interface

sh ip protocols	routing protocol
	router ID
	# of areas the router connects to
	Routing for networks:
	  network address,
	  WC mask,
	  area
	routing info sources (other routers w/ their OSPF router ID)

sh protocols	router interface/s status (i.e. "up/up") IP address/mask
sh ip route	routing table: type of routes/mask and how they were learned

sh ip ospf database	**Nice table showing:**
	  router ID
	  process #
	  area #
	  neighbor router ID's

sh ip ospf interface brief	**Nice table of:**
	  interface
	  process ID
	  area #
	  IP address/mask
	  cost
	  state (default route, ptp)

sh ip ospf interface	interface #
	   status
	   IP address/mask
	   cost
	   network type (broadcast, Point to Point)
	   area #
	router ID
	designated router ID
	timers (hello, dead, wait, retransmit)
	neighbor ID for serial interfaces

sh controllers	interface
	   type (DCE/DTE)
	   clock rate (if DCE)

Router & Switch Show Commands

sh cdp neighbors	**nice table showing neighbor:**
	   name
	   local int connected to
	   hold time
	   type of device (R, S)
	   Platform (i.e. C2900)
	   neighbor device port

sh cdp entry <name>	neighbor device:
	   IP address
	   platform (i.e. C2900)
	   type of device... router
	   IOS version #
	   duplex

sh interfaces	Interface:
	   #
	   status
	   IP address/mask
	   BW
	   encapsulation
	   VLAN ID

sh ip interface brief	**nice table showing:**
	   int
	   IP address
	   status

sh ip interface	Ip address/mask line status helper address any inbound/outbound ACL's

sh cdp	Global CDP information:
	   Sending CDP packets every 60 seconds
	   Sending a holdtime value of 180 seconds
	   Sending CDPv2 advertisements is enabled

sh cdp interface	same as above but per interface also shows interface status (up/up)
sh cdp traffic	

Switch Show Commands

sh interface switchport	name of port (fa0/1) enabled/disabled mode: access/trunk encapsulation negotiation of trunking: on/off VLAN ID & name VLAN's allowed on trunk

sh interface status	**nice table showing:**
	   port
	   name
	   status (connected / not connected)
	   VLAN ID
	   duplex
	   speed
	   type (10/100BaseTX) or (10/100/1000BaseTX)

sh interface trunk	**nice table showing:**
	   port
	   mode
	   encapsulation
	   status (trunking)
	   native VLAN
	   VLAN's allowed on trunk

sh mac address-table	**nice table showing:**
	   VLAN
	   Mac address
	   type (dynamic/static)
	   ports

sh port-security	**nice table showing:**
	   secure
	   port
	   max secure addresses (count)
	   current addresses (count)
	   security violation (count)
	   security action

sh vlan brief	list of VLAN's and their ports minus all the crap at the bottom when ports are made trunks, they are removed from the int list.
sh vtp status	vtp version # of existing VLAN's VTP operating mode: (server/client) VTP domain name: (snow.com) last modified by (IP address & date/time) local updater IP address and int