System Diagram

Internet

Dallas Colo

IP Switch

LB1D
DNS
Heartbeat
IPVS
Ldirectord
Monitor Daemon

WS1D
Apache
Tomcat
Coda client
Coda server

DBD
MySQL
SSH Tunnel to DBH
  for MySQL
  replication
Monitor for MySQL
  replication status
Coda SCM

LB2D
DNS
Heartbeat
IPVS
Ldirectord
Monitor Daemon

WS2D
Apache
Tomcat
Coda client
Coda server

WS3D
Apache
Tomcat
Coda client
Coda server

Dallas Colo

Houston Colo

IP Switch

LB1H
DNS
Heartbeat
IPVS
Ldirectord
Monitor Daemon

WS1H
Apache
Tomcat
Coda client
Coda server

DBH
MySQL
SSH Tunnel to DBD
  for MySQL
  replication
Monitor for MySQL
  replication status

LB2H
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WS2H
Apache
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Coda client
Coda server
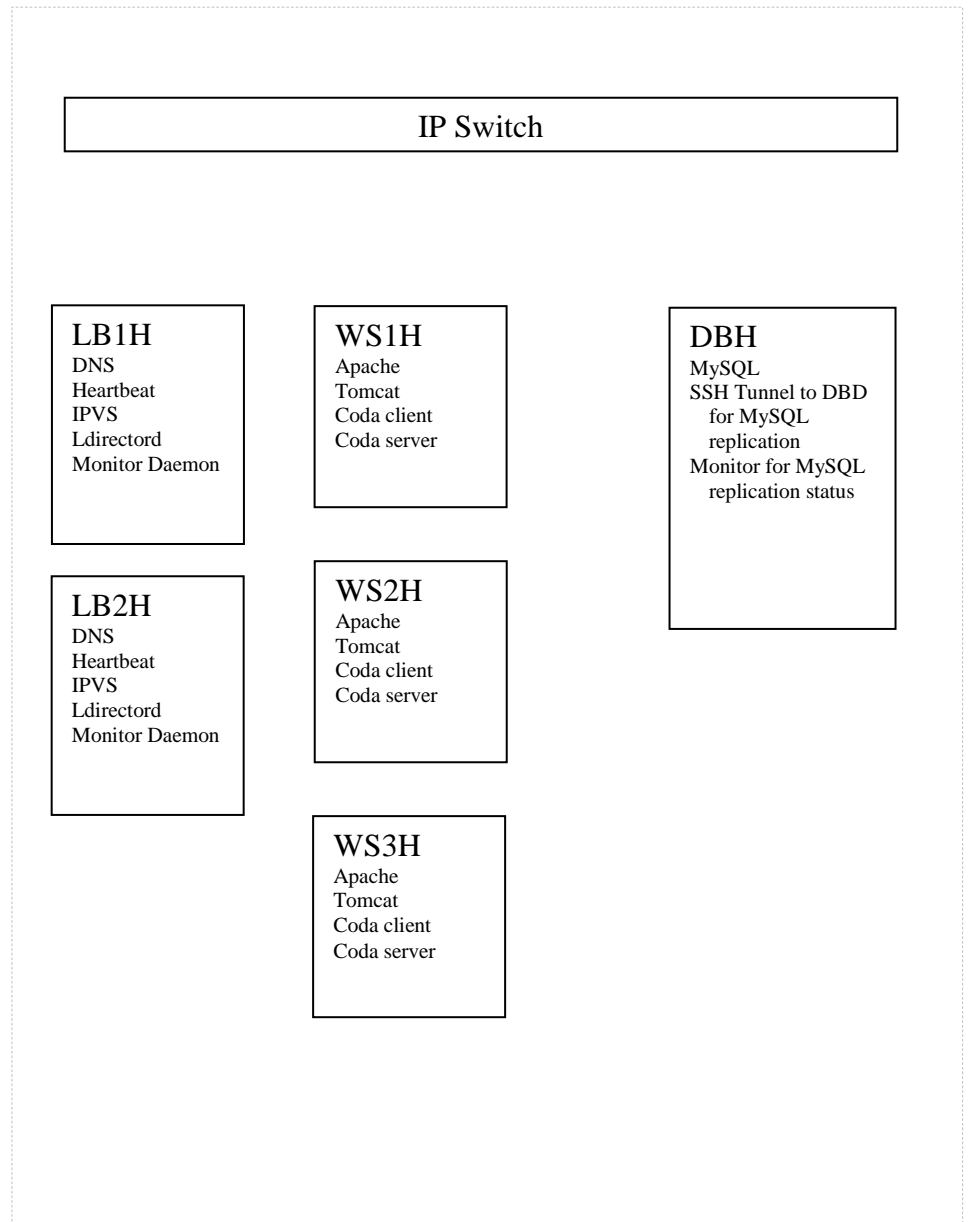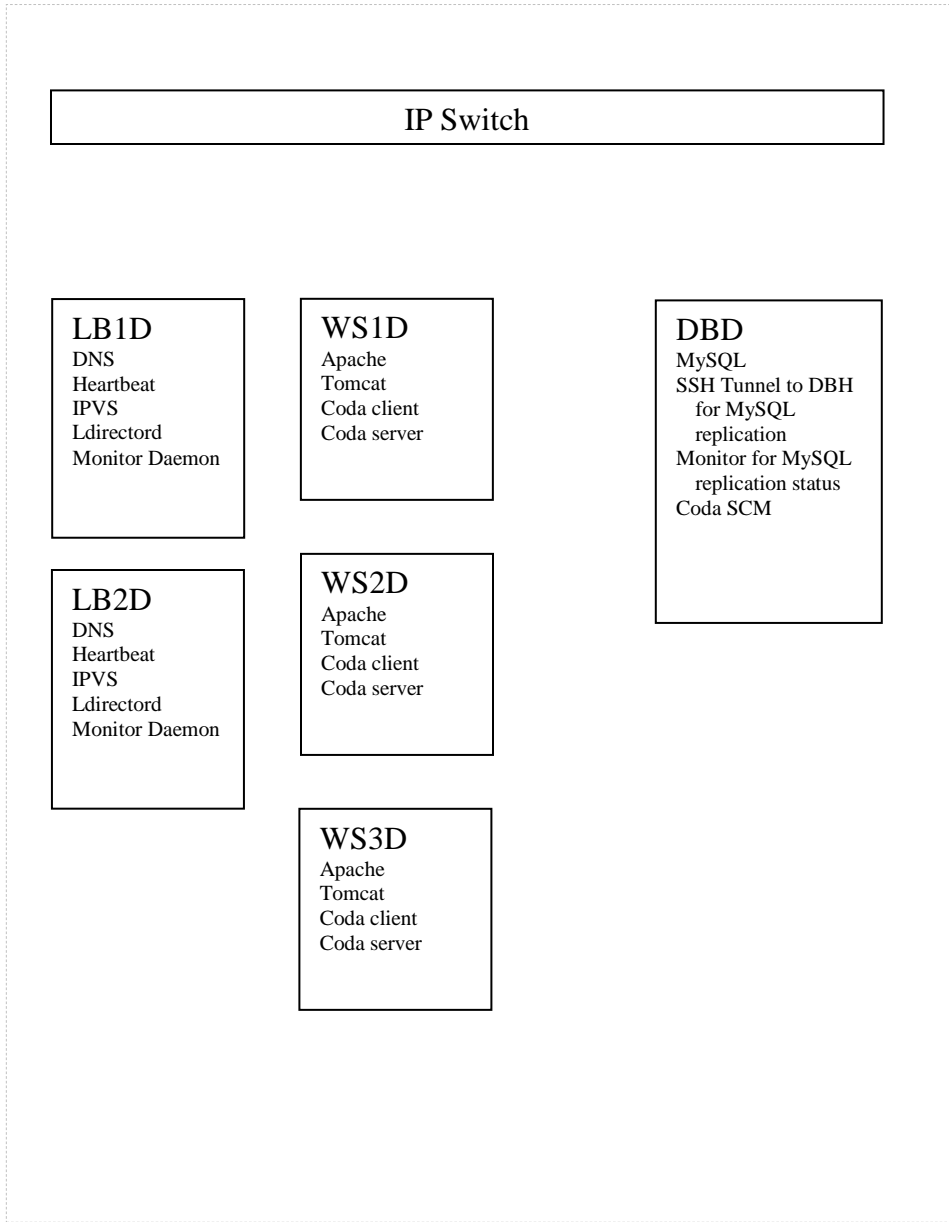
WS3H
Apache
Tomcat
Coda client
Coda server

Houston Colo

1   System Notes

There will be one virtual IP address per colo center.
The domain will list two name servers, one for each virtual IP address.

1.1   Load Balancers (LB*)

Heartbeat will direct the secondary to take over the virtual IP access if the primary becomes non-responsive.
Each load balancer runs a DNS server. The DNS zone will list only the virtual IP address associated with that load balancer.
IPVS will use dynamic feedback scheduling via data gathered by the Monitor Daemon.
IPVS will use the direct routing dispatching technique to efficiently distribute requests across the web servers.
Need to ensure the load balancers implement connection affinity (A user's requests need to go to the same web server until that server fails).

1.2   Web Servers (WS*)

We need to disable ARP resolution for the virtual IP address.
Each web server will run a Coda client and server process to access static web files via the /coda shared file system.

1.3   Database Servers (DB*)

The DB servers will run MySQL master-master replication to keep themselves in sync.

1.3.1   Dallas Database Server (DBD)

This server will run the Coda SCM. If this machine fails, a system administrator will have to manually set up an SCM on the DBH server.