Management

Cisco IP Solution Center (ISC) is a family of intelligent element management applications that help reduce overall administration and management costs by providing automated resource management and rapid profile-based provisioning capabilities. ISC enables fast deployment and time to market of Multiprotocol Label Switching (MPLS) and Metro Ethernet technologies. Cisco ISC 4.0 contains three applications that can operate alone or as a suite in an MPLS Management Solution.

The Cisco ISC MPLS VPN Management (ISC:MPLS) application helps enterprises offering MPLS VPN services by providing the provisioning, planning, and troubleshooting features essential to manage the entire life cycle of MPLS VPN services. MPLS management features include policy-based VPN, management VPN, QoS provisioning, and MPLS VPN routing audit. These features help to guarantee accurate service deployment and to reduce the cost of deploying MPLS VPN services.

Cisco ISC contains the following competitive advantages:

- Tracking of Layer 3 and Layer 2 resources—Automation of resource management reduces cost of manual and time-consuming tasks and helps ensure accuracy.
- Rapid profile-based provisioning—Helps control operational costs by providing rapid deployment of services.
- Recognizing incorrect service configuration—Reduces the time it takes to troubleshoot network outages because of incorrect service configuration.
- Investment protection from Cisco IOS Software and line card changes—Reduces time to market of new services and lowers the cost of upgrading customer OSS systems because of upgrades in platforms, software versions, and line cards.
- Bandwidth protection planning—Provides a cost-effective alternative to lower-layer protection. Highly efficient use of bandwidth allows more traffic to be supported on the network without compromising protection requirements.
- Resource management—Management of resources such as autonomous system, regions, IP address pools, and provider administrative domains.
- Wide range of supported protocols—Download and activation of the Layer 3 VPN service design, including activation of various MPLS VPN topologies and wide support for routing protocol configuration on attachment circuits for export of customer routes: Open Shortest Path First (OSPF), static, Enhanced Interior Gateway Routing Protocol (EIGRP), Intermediate System-to-Intermediate System (IS-IS), and so on.
- Pre-deployment design verification—Pre-provisioning checks for validity of service design, including uploading of the current configuration and validation of service design against the existing network configuration.
- Post-deployment verification—Post-provisioning validation of the service design to determine whether the Layer 3 VPN is active and functional.
Continuing verification—Smart configuration and routing audits and VPN routing and forwarding (VRF) pings to validate VPN configuration and on-demand and scheduled audits for configuration troubleshooting.

Figure 5-1 shows the various components of the management system.

**Figure 5-1 Management Flowchart**

- MPLS Provisioning Flow
  - Define Policies
    - Create, Provision, and Audit Service Requests
      - Create and Describe Network Elements
        - This is where routers are entered into the system and roles are defined. Additional devices can be entered at any time but devices must be entered before provisioning
        - Policies are where all of the options for a deployment are configured. Once a good policy is created and tested, many PE-CE links can be quickly provisioned
        - A Service Request is how ISC provisions devices. A PE-CE link with all of its options is a single SR and can be deployed, removed, or modified as a single entity

**Related Documents**