

# Product Bulletin No. 1142 - Confidential

## Cisco IOS Release 12.0(9)SL2 GA Release

### INTRODUCTION

This product bulletin describes new features introduced in Cisco IOS Software Release 12.0(9)SL2. Cisco IOS Software Release 12.0(9)SL2 is a GA release for the C10000 Edge Services Router. The C10000 ESR is a leased line aggregation router purpose-built for today's Internet service provider. It offers dedicated high-density IP services and provides an Internet edge solution ideally suited for deployment of large-scale IP edge services. Release 12.0(9)SL2 runs on the Performance Routing Engine of the C10000 ESR enabling it to be configured and managed using the Cisco IOS command line interface (CLI) features and capabilities and/or through a separate element management system. The C10000 Edge Services Router will only support IP as a layer 3 routing protocol. Specifically, the Cisco IOS Software Release 12.0(9)SL2 on the C10000 Edge Services Router will have support for:

Cisco IOS command line interface (CLI).

SNMP agent and MIB support for managing the platform through an optional element manager software application (Cisco Element Management System.)

Cisco IOS Software Release 12.0(9)SL2 is required to support the C10000 ESR and should only be used for customers who are using the C10000 ESR. The IOS Software Release 12.0(9) SL2 will GA on 7/31.

### Key Provider Edge Features

**OSPF, BGP, IS-IS, EIGRP**

**Turbo ACL**

**MPLS RRR**

**CB-WRED QOS**

**BGP QOS Policy Propagation (QPPB)**

**Committed Access Rate**

**RPF Check**

**MLPPP**

**MPLS Provider Edge, PE**

**Router Processor Redundancy**

**Multicast CEF**

**Sparse/Dense mode PIM**

**Frame Relay PVC**

**Kerberos/Radius authentication**

**AAA support**

**TACACS+**

### Detailed Information

**OSPF, BGP, IS-IS, EIGRP**

Support for routing protocols such as OSPF, BGP, IS-IS and EIGRP.

**Turbo ACL**

Turbo ACL feature allows for a more efficient searching algorithm. The algorithm for access list processing has been to process ACLs one line at a time. The entire list must be scanned one line at a time and the performance is proportional to the matching depth. Turbo ACL, allows the list to be parsed in a more efficient fashion manner. The ACL evaluations are independent of matching depth and they run much faster. Turbo ACL is PFX switched

**MPLS RRR**

The C10000 will support Multi protocol label switching, Routing for Resource Reservation protocol. MPLS RRR,

enhances network efficiency and QOS delivery. MPLS RRR is PXF switched.

### **CB-WRED QOS**

The Class Based Weighted Random Early Detection, CB-WRED, mechanism allows for preferential traffic handling of higher priority packets. CB-WRED detects the beginning of congestion on an output interface, and subsequently assigns a different drop priority to each packet type. With CB-WRED using the IP precedence values to classify packets, users can prioritize premium traffic over all other traffic. CB-WRED is PXF switched.

### **BGP QOS Policy Propagation (QPPB)**

QOS policy propagation through BGP allows packet classification based on BGP Prefix, BGP Community list and BGP Autonomous System paths (AS). After packet classification has been done, business policies are enforced using features such as CB-WFQ, CB-WRED and CAR. QPPB is PXF switched.

### **Committed Access Rate**

Using CAR, users can classify an incoming or outgoing packet into a QOS group, as well as limit the input or the output transmission rate on an interface. CAR is PXF switched.

### **RPF Check**

Reverse Path FIB Lookup to verify that the source address is valid. This feature stops Denial of Service Attacks. This feature is PXF switched. RPF Check is PXF switched.

### **MLPPP**

Multi-Link PPP offers a standard based mechanism to bridge the gap between DS1, at 1.5 Mbit/sec and DS3 at 45 Mbit/sec. The MLPPP feature on the C10000 allows for the maximum of 10 DS1s per bundle with the expectation that an average bundle will consist of 4 DS1s. Configuration of MLPPP is supported on the channelized DS3 and channelized OC-12 interfaces. MLPPP is PXF switched.

### **Product Numbers**

S10C-12.0.9SL2 10000 Series ESR IOS Service Provider  
S10C-12.0.9SL2= 10000 Series ESR IOS Service Provider  
S10K3Z-12.0.9SL2 10000 Series ESR IOS Service Provider/Secure Shell 56  
S10K3Z-12.0.9SL2= 10000 Series ESR IOS Service Provider/Secure Shell 56  
S10K4Z-12.0.9SL2 10000 Series ESR IOS Service Provider /Secure Shell 3DES  
S10K4Z-12.0.9SL2= 10000 Series ESR IOS Service Provider /Secure Shell 3DES

### **Related Documentation on CCO**

- The following C10000 ESR user documentation is available on CCO:
  - Configuration Guide for C10000 ESR
  - Command Reference for C10000 ESR
  - C10000 ESR Hardware Installation and Troubleshooting Guide
  - C10000 ESR Release Notes for Cisco IOS Release 12.0(9)SL2
  - Cisco 10000 ESR Q&A
  - Cisco 10000 ESR data sheets