CISCO SYSTEMS

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Cisco Broadband Aggregation Portfolio

INTRODUCTION

The Cisco® Broadband Aggregation portfolio provides a varied set of software licenses and Cisco IOS® Software images. The portfolio is designed to allow customers to select the most cost-effective options for their deployments, whether they use Point-to-Point Protocol (PPP), IP sessions, Layer 2 Tunneling Protocol (L2TP) for wholesale, or a Point-to-Point Termination and Aggregation (PTA) architecture. Cisco Systems® provides Cisco IOS Software support and licensing options that support access technologies such as DSL, cable access, wireless access, and fiber-to-the-home (FTTH).

Cisco requires the purchase of a Broadband Aggregation feature license for all deployments that exceed 1000 subscribers for the Cisco 7200 Series or Cisco 7301 router; or that exceed 8000 subscribers on the Cisco 10000 Series. If a deployment is less than 1000 subscribers on a Cisco 7200 Series or a Cisco 7301; or less than 8000 subscribers on the Cisco 10000 Series router, a license is not needed.

The purpose of this document is to outline the various Broadband Aggregation feature licenses available, and help customers determine which license is the correct one for their deployment. Table 1 provides information about the features supported on each platform:

Table 1. Cisco Broadband Portfolio Software Features Available in the Broadband Licenses and Cisco IOS Images

Cisco 7200 Series and Cisco 7301	Cisco 10000 Series
PPPoA/PPPoE (Point-to-Point Termination and Aggregation (PTA) or Local Access Concentrator (LAC))	PPPoA/PPPoE (PTA or LAC)
PPPoE over VLAN (PTA or LAC)	PPPoE over VLAN
Routed bridge encapsulation (RBE)	RBE
Layer 2 Tunneling Protocol (L2TP) Network Server (LNS)	LNS
Layer 2 Tunneling Protocol Tunnel Switching (L2TP TS)	L2TP TS
VLAN scalability	VLAN scalability
IP over VLAN/Q-in-Q	IP over VLAN/Q-in-Q

CISCO BROADBAND AGGREGATION FEATURE LICENSES

Customers using any of the features mentioned in Table 1 for the Cisco 7200 Series or Cisco 7301 routers are required to purchase a Broadband Aggregation license for each router in use. Licenses are based on the number of subscribers supported and apply to each Router individually. A subscriber is defined as an active virtual circuit or active VLAN used in broadband aggregation. Table 2 lists the Cisco Broadband Aggregation feature licenses for Cisco 7200 Series and Cisco 7301 routers supporting 1000 or more subscribers.

Table 2. Cisco Broadband Aggregation Feature Licenses

Subscriber's Platform	Part Number
Cisco 7200 Series	FR-BUS-72 or FR-BUS-72=
Cisco 7301	CISCO7301-BB-8K

CISCO IOS IMAGES FOR BROADBAND AGGREGATION

To have full broadband support on the Cisco 10000 Series, customers are required to order a Cisco IOS Broadband image for each router in use. Table 3 explains which image a customer should order to obtain maximum subscriber scalability.

Table 3.   Cisco Broadband Aggregation Feature Licenses for Cisco 10000 Series

Subscribers	Description	Part Number
0 to 8000 subscribers	Cisco 10000 Series IOS ROUTER LL and 8K BB	Included in 12.3(7)XI or 12.2SB base BB image
8001 to 16,000 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 8K–16K	FL-ESR-BUS-8-16
8001 to 32,000 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 8K–32K	FL-ESR-BUS-8-32
8001 to 48,000 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 8K–48K	FL-ESR-BUS-8-48
8001 to 61,500 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 8K–61.5K	FL-ESR-BUS-8-62
16,001 to 32,000 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 16K–32K	FL-ESR-BUS-16-32
16,001 to 48,000 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 16K–48K	FL-ESR-BUS-16-48
16,001 to 61,500 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 16K–61.5K	FL-ESR-BUS-16-62
32,001 to 48,000 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 32K–48K	FL-ESR-BUS-32-48
32,001 to 61,500 subscriber upgrade	Cisco 10000 Series BB USER SERVICES UPGRADE 32K–61.5K	FL-ESR-BUS-32-62

ISG FEATURE SETS

The Cisco Intelligent Services Gateway (ISG) is the Cisco IOS Software feature module for IP Next-Generation Network (IP NGN) policy and subscriber management. ISG provides dynamic session awareness to create value-added services for broadband, triple-play, and wired-wireline convergence. ISG features include RADIUS standard Change of Authorization (CoA) for dynamic policy push. ISG integrates with Virtual Route Forwarding (VRF) to allow dynamic mapping of subscribers to Multiprotocol Label Switching (MPLS). ISG licenses (Table 4) are required in addition to a "base" broadband feature license.

Table 4.   Cisco IOS Image for ISG

Part Number	Description
FR-ISG72	ISG Feature License for Cisco 7200 Series
FR-ISG72=	ISG Feature License for Cisco 7200 Series
FR-ISG73	ISG Feature License for Cisco 7301
FR-ISG73=	ISG Feature License for Cisco 7301
FL-ESR-ISG	ISG Feature License for Cisco 10000 Series
FL-ESR-ISG=	ISG Feature License for Cisco 10000 Series

SSG FEATURE SETS

The Cisco Service Selection Gateway (SSG) is a Cisco IOS Software feature module that helps enable service providers to generate new revenue by offering usage-based services. Value-added services such as videoconferencing, streaming video, personalized Internet, business-grade Internet, shopping, and gaming create new, higher-margin revenue streams and also help attract and retain subscribers. SSG licenses are an addition to base software.

Table 5.   Cisco IOS Image for SSG on the Cisco 7200 Series

Part Number	Description
S72AS-1221T	Cisco 7200 Series IOS Enterprise SSG
S72AS-1221T=	Cisco 7200 Series IOS Enterprise SSG

Table 6.   Cisco IOS Image for SSG on the Cisco 7301

Part Number	Description
S73AS-12215B	Cisco 7301 IOS Enterprise SSG
S73AS-12215B=	Cisco 7301 IOS Enterprise SSG

ADDITIONAL INFORMATION

For more information, please e-mail the broadband team at: ask-bb-edge@cisco.com.

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