Solution Overview

This chapter presents the following major topics:

Solution Description and Scope

The Cisco Wireline Video/IPTV Solution, Release 1.1, supports both broadcast video and video on demand (VoD) for the wireline market. This enables operators that use digital subscriber lines (DSL) and fiber to offer not only video but also voice over IP (VoIP) and data (Internet access)—collectively referred to as “triple play”— over their existing infrastructure, now intelligently optimized for video service. (The solution assumes that Internet access is already available.)

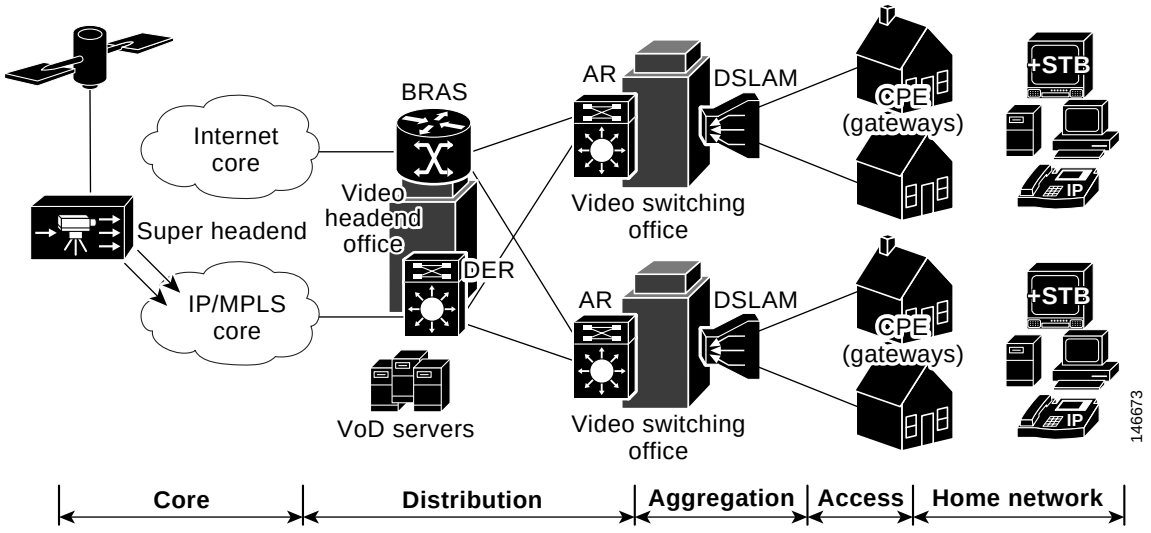
Generic Architecture and Scope

Figure 1-1 on page 1-2 presents a generic view of the Cisco GOVoBB Solution transport architecture. The shaded area shows the scope of solution testing and documentation. The solution uses a Gigabit-Ethernet (GE) transport network consisting of the following:

- A super headend (SHE), where live feeds for the broadcast video service are located
- A video headend office (VHO), where the video server complex resides
- A video switching office (VSO), where aggregation routers (ARs) that aggregate local or remotely attached GE DSLAMs are located

The regional access network, or RAN, consists of distribution, aggregation, and access layers. There is one SHE per region or network, and one VHE per metropolitan area. A distribution edge router (DER) provides transport for video traffic between the IP/MPLS core network and the VHO. The real-time encoder encodes and compresses analog signals. The VHO, in turn, is connected to the VSOs through one or more ARs. The customer premises equipment consists of residential gateways, or RGs. (RGs are also referred to as home access gateways, or HAGs.)

Figure 1-1 Cisco Wireline Video/IPTV Solution Transport Architecture: Generic View



Note For a detailed discussion of the transport architecture, see Chapter 2, "Video Application Components and Architecture."

In Scope

The scope of the solution comprises fully tested and supported Cisco components, as well as third-party components tested by Cisco. The following aspects of the solution are fully tested and supported:

- Ethernet switching and routing at VHO and VSO interfaces

Note Management is provided through the Cisco IOS command line interface (CLI) only. See also Operational Support Systems, page 1-4.]

- Multiservice fully converged backbone based on a ring or hub-and-spoke transport architecture

Table 1-1 summarizes the correspondence between site types and their transport network types.

Table 1-1 Site Types and Their Transport Network Types

Site Type	Super Headend	Video Headend Office	Video Switching Office	Residence
Transport Network Type	Core	Distribution	Aggregation	Home network

Out of Scope

Not included in the scope of the solution, but still required to support triple play, are items such as subscriber device authentication for one or more of the other nonvideo services. In addition, the architecture of this release places minimal requirements on the DSLAM. This allows the solution to work with as many third-party DSLAMs as possible.

Solution Components

Cisco Equipment

Release 1.1 consists of core Cisco components that are tested, documented, and fully supported by Cisco. Also, third-party equipment, although not fully supported by Cisco, has been selected and tested in conjunction with the core components, to increase the number of test cases and improve the overall quality of the solution in practical networks. The following Cisco equipment has been tested in the context of the solution:

- Cisco 7606 and 7609
- Cisco Catalyst 6509

Note For the details of solution components, see Solution Components, page 3-3.

Third-Party Equipment

For this release of the solution, Table 1-2 on page 1-3 lists the third-party vendors and the basic functionality they provide. (For detailed descriptions of video functions, see Video Application Components, page 2-1.)

Table 1-2 Component Partners and Basic Functionality

Vendor	Basic Functionality	Product Name/Model
Kasenna www.kasenna.com	VoD server	GigaBase
	Middleware	VForge foundation + Living Room application
Amino www.aminocom.com	Set-top box	STB 110
Ericsson www.ericsson.com	DSLAM, residential gateway	ECN320 Ethernet Controller Node, EDN312xp DSLAM, HM340d Home Access Gateway[1]
UTStarcom www.utstar.com		AN-2000 B820B IP DSLAM

1. Throughout this document, residential gateway (RG) is used to refer to the home access gateway (HAG).

Miscellaneous Solution Support

This section clarifies the degree to which other aspects of the solution and its implementation are supported in this first release.

Operational Support Systems

Release 1.1 does not certify element management systems (EMSs) or network management systems (NMSs) operated within the context of the Cisco Wireline Video/IPTV Solution architecture. Customers continue to provide such capabilities as applicable to their particular environments. All the management information base (MIB) components for the Cisco equipment are available from Cisco, and can be incorporated into the customer's current EMS.

Billing

Billing is outside the scope of this first release of the solution.

EMC

Release 1.1, with all its platforms, accessories, and components, complies with applicable electromagnetic compliance (EMC) standards.

Safety

Release 1.1, with all its platforms, accessories, and components, complies with applicable safety standards.