



Overview

Cisco Building Broadband Service Manager (BBSM) is a software-based service creation platform that enables service providers or property owners to create, market, and operate broadband access services, such as high-speed Internet access. BBSM provides plug-and-play end-user connections, tiered service levels, and custom user session management. With BBSM, customers can provide their own services, which reduces support requirements and increases usage.

BBSM supports multiple authentication and billing options, including credit card, property management system (PMS), and access codes. The comprehensive software developer's kit (SDK) enables customers to customize interfaces. BBSM is available as a preloaded server appliance.

Deployment Options

BBSM manages both the delivery of broadband services and the attached network elements used to deliver these services. A centrally located BBSM server on a switched network provides Dynamic Host Configuration Protocol (DHCP) and static (plug-and-play) support. If the network is routed, only DHCP is supported because BBSM never sees the client MAC address.

The BBSM platform enables property owners and service providers to create tiered service levels in order to deliver targeted customer offerings. For instance, a hotel can set up daily network access for a series of meetings, which provides a variety of bandwidth/pricing options to capture meeting room revenue opportunities. [Table 1-1](#) shows different ways to deploy BBSM.

Table 1-1 BBSM Deployment Options

Deployment	Description
Long-Reach Ethernet	<p>The Cisco long-reach Ethernet (LRE) networking solution is the industry's first end-to-end product line for delivering 5- to 15-Mbps performance over existing Category 1/2/3 wiring.</p> <p>Cisco LRE is an ideal technology for multi-unit building (MxU) and enterprise campus environments. MxU buildings include hotels, residential multidwelling units (MDUs), and commercial multitenant units (MTUs). Enterprise campuses include manufacturing, educational campuses, and hospitals.</p>
Wireless LAN	<p>The Cisco Aironet 350 series of wireless LAN (WLAN) products leads the industry in performance, security, and reliability with cost-effective solutions for multi-unit buildings and public spaces.</p>
10/100/1000 Ethernet	<p>Cisco's full-range of 10/100/1000 Ethernet switches spans multiple product lines that address building requirements and future application needs. The product families include the following:</p> <ul style="list-style-type: none"> • Cisco Catalyst 3550-12T Switch • Cisco Catalyst 3500 Series XL • Cisco Catalyst 2950 Series • Cisco Catalyst 4000 family • Cisco Catalyst 6500 Series
Cable	<p>Cisco uBR7xxx cable modem termination system enables cost-effective, high-speed Internet access in the hotels, apartments, and office buildings by using the existing coaxial cable already in a building.</p>

Linking Network Elements to BBSM

The BBSM system supports the following types of networks:

- Bridged networks
- Fully routed networks
- Mixed (bridged and routed) networks

The BBSM server, which is the “router” that all traffic must pass through before reaching the Internet, is assigned router number 0. This number is predefined and always has an IP address of 127.0.0.1. It is a loopback address that the BBSM server uses to communicate with itself.

Bridged Networks

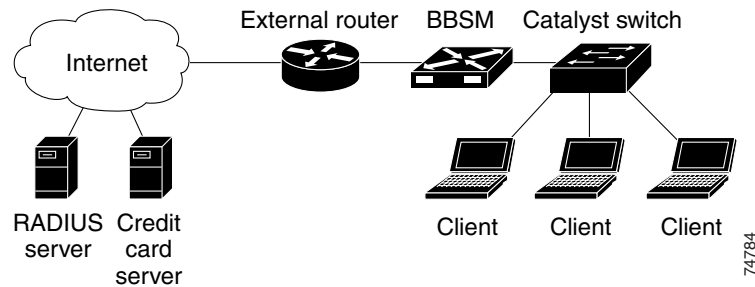
In a bridged network a packet does not pass through a router from the client to the BBSM server. BBSM is the “router” that connects the bridged network to the Internet. Broadcast packets reach all computers on the bridged network. (See [Figure 1-1](#).)

Bridged networks are supported by associating all switches with router number 0, which is the BBSM server. All switches are on the BBSM server internal network.

**Caution**

For some plug-and-play features to work, BBSM must use a bridged network.

Figure 1-1 Basic Bridged BBSM Network



Routed Network

In a routed network a packet passes through one or more routers from the client to the BBSM server. BBSM does not have access to broadcast packets and does not support plug-and-play for these networks. (See [Figure 1-2](#).)

Fully routed networks are supported by associating all switches with routers other than router number 0. All switches are on networks attached to routers that are reachable through gateways on the BBSM server internal network.

For routed networks, you must enter information about the routers within the BBSM internal network. Use the Routers web page to configure routes to the switches and routes to the client computers (end users) attached to the switches.

Figure 1-2 Basic Routed BBSM Network

Combined Routed and Bridged Network

Mixed networks include a bridged network and one or more routed networks. Some switches are on the BBSM server internal network and others can be reached through gateways on the internal network.

User Groups and Permissions

In addition to the default Windows 2000 user group called Administrators, the BBSM server comes with two user groups already created: Operators and Reports. These three user groups provide security and control access of users to run web applications or open, edit, and view the reports. When the BBSM Web Printing feature is enabled, a fourth user group called Printers is created.

These three user groups are reflected on the BBSM Dashboard (Dashboard) by the following sections:

- Administration
- Operations
- Reports

(See [Figure 1-3 on page 1-7.](#))

If additional Operator users need to be added, they must be added to these two groups:

- BBSM Operator
- BBSM Operator for Site x , where x is the site number

If additional Report users need to be added, they must be added to these two groups:

- BBSM Reports
- BBSM Reports for Site x , where x is the site number

**Note**

To create additional Operator or Reports users, refer to your Windows documentation for detailed instructions.

Administrators

The Administrators user group has full system permission and rights. Administrators can alter any BBSM configuration setting and have access to all Dashboard options.

For example, this group has access to the web applications and can view all reports, add and delete access codes, and edit room mapping.

Operators

The Operators user group can view all reports and web applications and all the options located in the Dashboard under the Operations heading:

- Port Control
- Map Rooms
- Subscription Port Control
- Access Code Management

Reports

The Reports user group has access only to the Reporting Pages option on the Dashboard. This group can open a Room Mapping Report and verify room and port, but cannot edit room mapping. This group cannot add, update, or delete access codes.

Printers

When BBSM Web Printing is enabled, a group called Printers is created for each site that is part of the Administrators group. This group is only used for installing printers.

BBSM Configuration Interfaces

Most of the BBSM configuration and operation is handled through two graphical user interfaces (GUIs):

- Dashboard
- WEBconfig

Dashboard

BBSM can be accessed locally at the BBSM console and remotely over the Internet using Internet Explorer. The BBSM home page and starting point is the Dashboard. (See [Figure 1-3](#).) For convenience, an icon is located on the BBSM desktop. For more detail on the Dashboard, see [Appendix B, “Using the BBSM Interfaces.”](#)

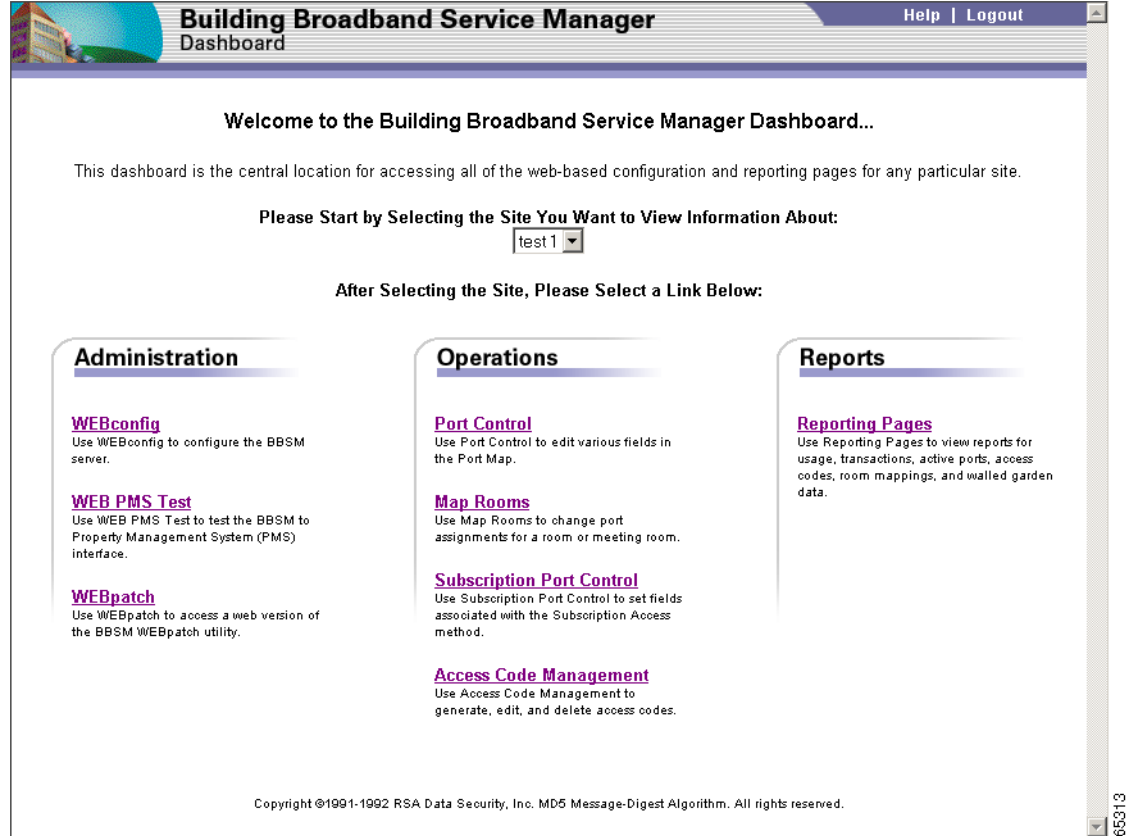


Note

You can access BBSM server web pages on port 9488 instead of the default web server port 80. Add “:9488” after the BBSM server IP address or host name in the http request (for example, <http://10.10.10.50:9488/www>).

If you are on the inside BBSM network, such as in a room connected to a BBSM port, you must activate a session and connect to the Internet to access to these pages.

Figure 1-3 BBSM Dashboard



WEBconfig

WEBconfig is a web-based GUI used to configure the BBSM software to reflect your actual operating environment. It is the primary component used in the configuration of BBSM and provides access from its button bar to the various web pages used in that configuration.

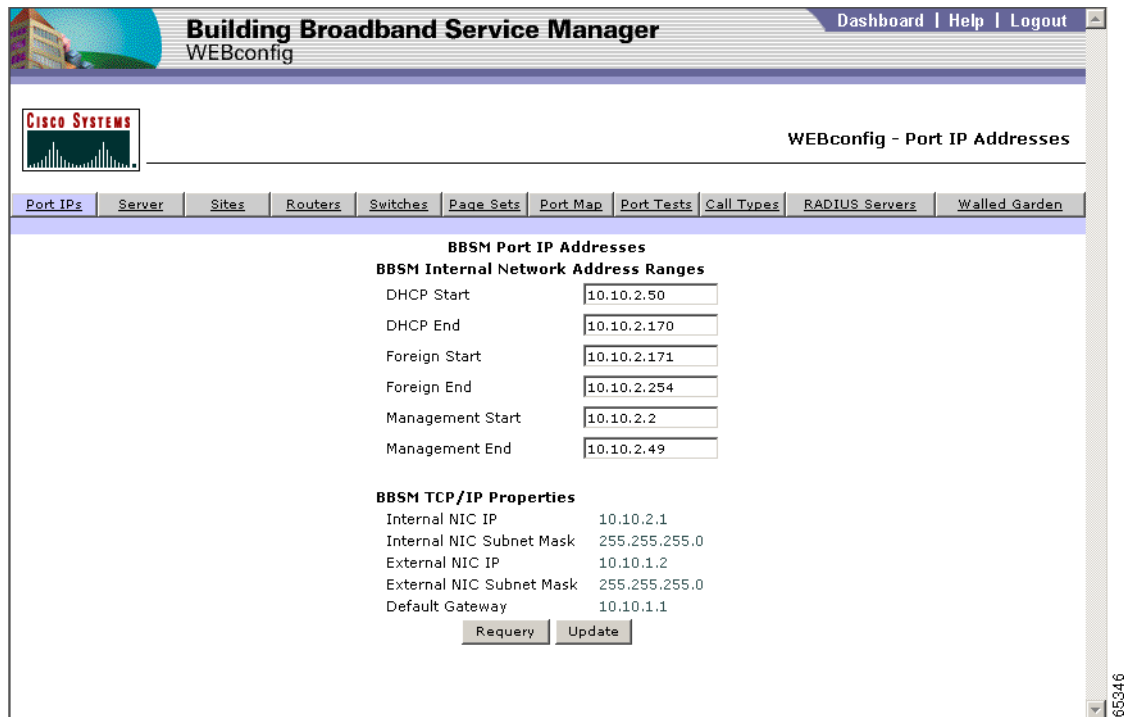
When WEBconfig is first launched, a splash screen appears. (See [Figure 1-4](#).)

Figure 1-4 WEBconfig Splash Screen



The WEBconfig interface automatically appears after a few seconds or when you click the splash screen. The initial web page displayed is always the Port IP Addresses web page. (See Figure 1-5.)

Figure 1-5 Port IP Address Web Page



Pricing and Page Sets

A page set is a set of active server page (ASP) files that defines the access and accounting policies used for an end-user session. Defining the policy in a server-side web page is a more powerful way to customize the session and allows other technologies to be integrated into the Internet service.

Page Set Design

Page sets are written in Microsoft JScript, JavaScript, VBScript, and HTML. They are executed on the BBSM server when the end user requests them from the web browser. With page sets, you can define the end-user experience from first impression through disconnect. A typical group of ASP files can contain the following:

- A connect page
- A connected page
- An authorization fail page
- A welcome back page

Through the page set, you associate an access policy with a specific port. The page set may also include an accounting policy to determine billing parameters. Different policies contain different sets of pages depending on the BBSM features for each port. When configuring ports, you can use one of the default page sets that comes with BBSM, use one of the sample page sets from the BBSM Software Developer's Kit (SDK), or have your web developer create a custom set of pages.

Your web developer can use the default policies as templates to create a policy to meet your specific needs. The default web pages use a standard naming convention that uses the access or accounting policy name for the page set name.

When customizing a page set, use the Page Sets web page to assign the new page set to the system.

As part of the configuration process, use Windows Notepad to customize BBSM pricing, bandwidth, or session information. This information is located in ASP files in the c:\atcom\ekgnkm folder.



Note

For greater detail on page set construction and design, see the *Cisco BBSM SDK Developer Guide*.

Access Policies

An access policy defines the connection process that the end user experiences when connecting to the Internet through BBSM. Every port is associated with a particular access policy.

BBSM includes default, built-in access policies as shown in the list that follows. Your web developer can add new access policies to the system using the BBSM SDK.

The administrator can assign any of the following access policies to any port:

- Access Code
- Block
- Daily
- Minute
- RADIUS

- Subscription

Accounting Policies

Through an accounting policy or method, you can determine how end users are to be billed for BBSM Internet services. An accounting policy is included in most, but not all, page sets, along with the page set's access policy. Accounting policies are usually available in one of two forms:

- Standard form that uses SSL security to transmit data
- Clear form that transmits the data in the clear

When using the standard secure form, you must buy and install a SSL certificate. See [Appendix C, “Installing an SSL Certificate”](#) for complete details on installing the certificate.

The following default accounting policies come with BBSM:

- ICS Credit Card
- Cruise Line
- Hotel Billing
- RADIUS Accounting

You can edit these policies or create new accounting policies to the system using the BBSM SDK.

Using the SDK

The BBSM SDK is available for download from Cisco Connection Online. The *Cisco BBSM SDK Developer Guide* is also downloadable and details all the steps needed to produce page sets for BBSM.