



Design and Implementation Guide for Avaya Aura™ Communication Manager Branch

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Chapter 1: Introduction

This chapter provides information about this book and an overview of the Avaya Aura™ Communication Manager Branch offering and its benefits.

About this book

Purpose

This Guide describes the benefits of a Communication Manager Branch solution and outlines the considerations and processes for designing and implementing the solution. The purpose is to provide a high-level description of the required activities that lead to a Communication Manager Branch solution.

Audience

The primary audience for this document is sales and design engineers and provisioning specialists for telecommunications products. These people include employees of Avaya and Avaya BusinessPartners. Secondary audiences include sales and services personnel for Avaya and Avaya BusinessPartners.

Communication Manager Branch overview

As enterprises evaluate replacements for traditional Key-Hybrid telephone systems at the branch, they must carefully consider investments that reduce total cost of ownership, lower operational expenses, and enable better interaction with customers.

Distributed Office provides large and medium multi-site enterprises an elegant migration from branch-office Key-Hybrid systems to an IP-based solution. Communication Manager Branch is a distributed and scalable Session Initiation Protocol (SIP) solution that delivers local telephony and communications applications to multiple locations. This feature enables setting up a trunk group over the company's private IP line. Employing the company's IP network, instead of placing calls over traditional Public Switched Telephone Network (PSTN), will help businesses reduce their operating expenses. For the user, there is no difference in the services provided. Communication Manager Branch's Feature Access Code (FAC) enables accessing the SP SIP trunk in the same manner as you would access traditional PSTN trunks.

In cases where the SIP trunk is unavailable, the PSTN trunks serves as a backup.

Target markets include financial services outlets, retail stores, transportation depots, and regional offices for government and other industries. Distributed Office supports centralized administration and can be rapidly deployed as either individual branch locations or as a network of branch locations. Communication Manager Branch is based on open standards using SIP and Web-Services for maximum investment protection.

This highly available solution does not depend on WAN health for local branch operation because call processing is distributed to each branch location. Yet customers can still link branches together, routing voice, presence, and instant messaging, and also leverage connections to corporate headquarters to provide enhanced customer service.

Avaya Aura Communication Manager Branch contains integrated features, applications, and much more. At branch locations, Communication Manager Branch is implemented in a range of platforms:

- Avaya Aura Communication Manager Branch i40
- Avaya Aura Communication Manager Branch i120-A
- Avaya Aura Communication Manager Branch G450

Please see [Overview of Avaya Aura Communication Manager Branch, 03-602024](#), for more information about the software, applications, platforms, and management.

Solution Configurations

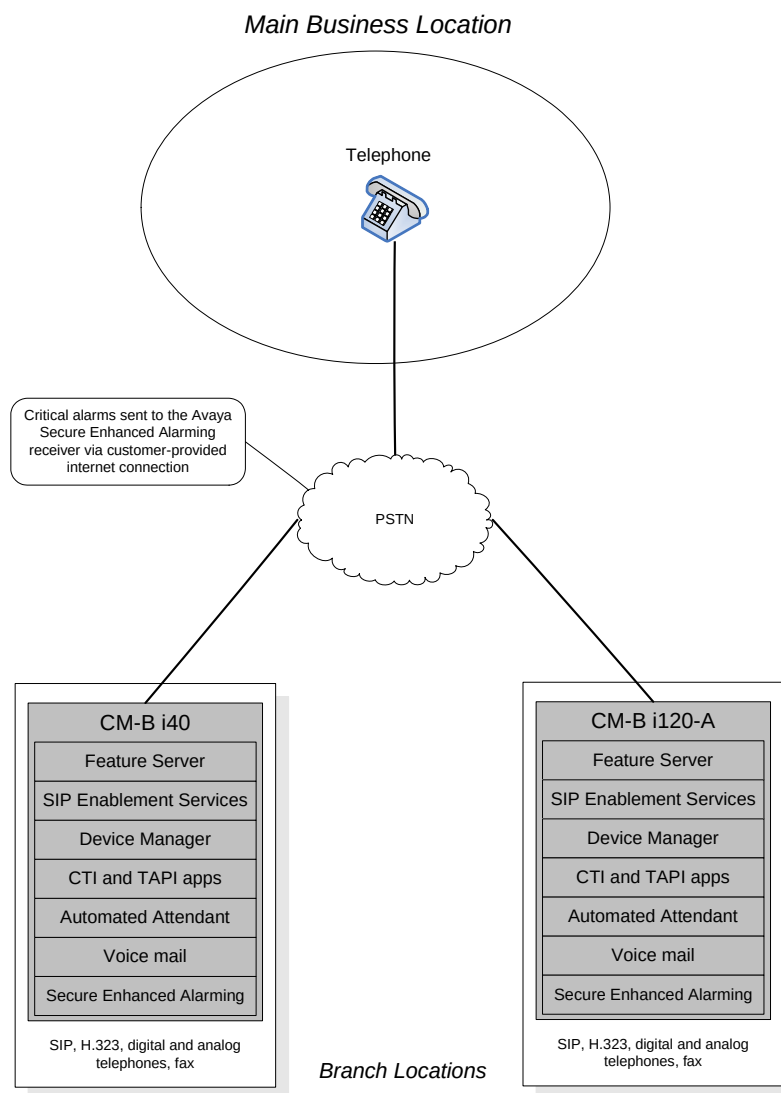
The following diagrams show three configurations that are available for a Communication Manager Branch solution. The [Individual branch location](#) configuration is an individual branch Communication Manager Branch solution with minimal interactions between the branch locations and between the branch locations and the central business location. In the [Individual branch locations with centralized management](#) configuration, the branch locations are monitored and managed from a central location with the Branch Central Manager application of Avaya Integrated Management for Communication Manager Branch. In this configuration, the branch locations can communicate with the main location and with each other by Time-Division Multiplexing (TDM) calls over the Public Switched Telephone Network (PSTN) only. For the [Networked branch location solutions](#) configuration, in addition to centralized management, the branch locations are connected over the enterprise Wide Area Network (WAN) through an SES edge proxy and use SIP calls to communicate with the main location and with each other.

Individual branch location

[Figure 1](#) shows a Communication Manager Branch solution with individual branch locations. In this configuration:

- Inter-branch calls and calls from a branch location to the main location can be made over the PSTN only.
- No SIP calls between the branch locations and the main location can be made over the private WAN or public Internet.

Figure 1: Individual remote sites

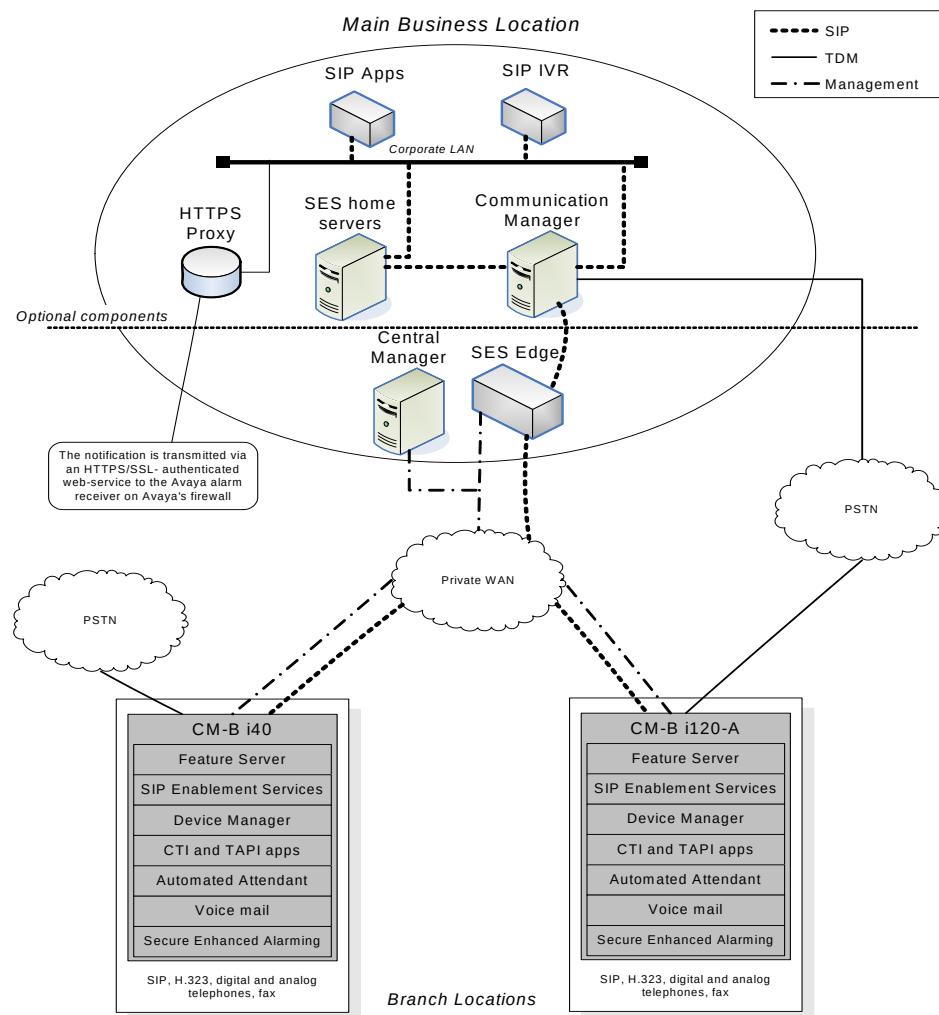


Individual branch locations with centralized management

[Figure 2](#) shows a Communication Manager Branch solution with individual branch locations connected to the Integrated Management for Communication Manager Branch. In this configuration:

- Inter-branch calls and calls from a branch location to the main business location can be made over the PSTN only.
- No SIP calls between the branch locations and the main location can be made over the private WAN or public Internet.
- Integrated Management for Communication Manager Branch at the main location provides centralized management to the branch locations.

Figure 2: Individual remote sites with centralized management

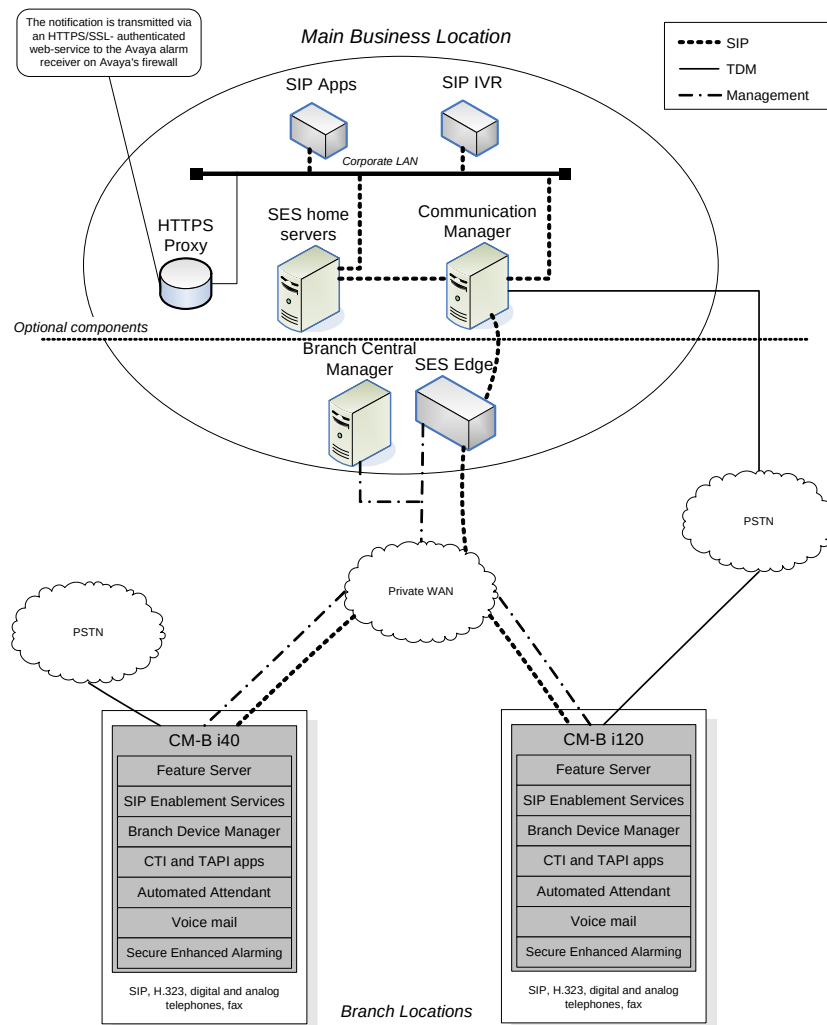


Networked branch location solutions

[Figure 3](#) is a diagram of a Communication Manager Branch solution with networked branch locations. This configuration supports:

- SIP calls between the branch and main locations over the private WAN or public Internet.
- Inter-branch SIP calls through an SIP Enablement Services (SES) edge proxy at the main location.
- Integrated Management for Communication Manager Branch at the main location provides centralized management to the branch locations.
- Optional connection to Communication Manager server through the SES home proxy.

Figure 3: Networked remote sites



Benefits of Communication Manager Branch

This section describes the benefits of a Communication Manager Branch solution.

Table 1: Summary of Communication Manager Branch benefits

Benefit or characteristic	Description
Productivity Enhancements	Use Key System and PBX interfaces for familiar end-user experience, powerful native applications, customized applications, and mobility features ensuring staff availability.
Centralized Management	Use advanced Avaya Integrated Management tools to provision, update, monitor, and maintain multiple branches from a central location. Branch Device Manager functionality complements and synchronizes with Branch Central Manager.
Evolution and Growth	Start with a simple configuration and add more complex functionality in increments over time. Communication Manager Branch is scalable — add components as needed to accommodate growth, without needing to migrate to a larger system by replacing earlier investments.
Advanced Functionality	Connect and enable applications to extend the native feature set and provide functionality that is customized to your business.
Streamlined Ordering and Installation	Pick a provisioning profile that matches your requirements. Replicate a design for multiple similar branches. Administer only the site-specific parameters at installation.
Low Cost	Reduce costs with streamlined deployment and scalability to accommodate growth with investment protection.

Table 2: Communication Manager Branch benefits detail

Benefit	Feature or Functionality	Description
Productivity Enhancements	Key System or PBX Interfaces	The system can be designed to mimic Key System, PBX, or Hybrid interfaces to enable a familiar end-user experience and thus minimize training and workflow disruption.
	Customize your Business	● Use powerful applications from Avaya and DevConnect member based on open standards. ● Desktop application integration with SIP and TAPI/TSAPI.
	Streamlined Communications with Customers and between Employees	● Voice Mail and Auto Attendant. ● One-number access for fast intra-branch communication. ● Unified dial plan across branches for fast inter-branch communications. ● Enterprise-wide Presence, Instant Messaging, and click-to-conference for enhanced collaboration. ● Native SIP and SIP networking simplifies communications.
	Mobility and Availability ensures that staff is always available to each other and to customers.	● Wireless and Avaya One-X Mobile Edition (EC500) extension to cellular. ● Synchronize desk and wireless phones with a single number. ● Softphone: — IP Softphone R6 with Microsoft Office Communicator integration. — Road Warrior, Telecommuter and Shared Control Modes.
	State-of-the-art Endpoints	● Avaya one-X Desktop Edition 9600-series for SIP and PBX features. ● Avaya DCP 9600-series for H.323 features. ● Avaya one-X Value Edition 1600-series for H.323, PBX, and Key features. ● Avaya 4600-series for H.323 and PBX features. ● 3rd party SIP devices. ● Wireless: IP DECT.
		1 of 5

Table 2: Communication Manager Branch benefits detail (continued)

Benefit	Feature or Functionality	Description
Centralized Management and Control	Centralized Management Combined with Local Management Capabilities	● Centralized branch administration, configuration, updates/upgrades, monitoring. ● Multiple administrators with roles. ● Optimize branch network to execute business strategies. ● Deliver critical features to all branches. ● Unified dial plan across branches.
	Bulk and Template Based Configuration Management	● Change once and propagate to all or a group of branches with template-based bulk configuration in Branch Central Manager. For example: – Speed dial & abbreviated dialing. – button changes. – announcements. – auto-attendants. – voice mail. – profile updates. ● Software Update Manager: – list inventory of devices. – check with Avaya web site for new firmware. – download new firmware to “library” and schedule downloads to branches. – branch endpoints load new firmware from local Communication Manager Branch platform.
	Branch Device Manager	● Complete local management of the Branch: – User administration: User identification and telephone extensions, voice mail, automated attendant, announcements. – Feature configurations: SIP private routing/trunking, feature access codes, dial plan, coverage path, daylight savings. ● Tools for Quick Deployment: – Unifies provisioning for all elements. – Modeler function allows designers to create Installation Assistant based on templates. – Installation Assistants guide new-to-Avaya installers step-by-step. ● Synchronizes with Integrated Management at the central location.
	Private Networking Management	Centrally generate and propagate private networking information to the SES edge and all related branches.
		2 of 5

Table 2: Communication Manager Branch benefits detail (continued)

Benefit	Feature or Functionality	Description
Evolution and Growth	A Communication Manager Branch Solution is Evolutionary	Start with a simple individual branch office configuration and evolve to a fully networked system over time: ● Install an individual branch Communication Manager Branch platform in one or a few branches. ● add branches as needed. ● Add users, lines, and trunks per branch as needed. ● Add centralized management functionality, over the PSTN or the enterprise WAN. ● Add inter-branch networking over the enterprise WAN. ● Add central-location functionality as needed. ● Add sharing of the central-location resources with the branches. ● Take advantage of new functionality provided by Avaya in future releases.
	A Communication Manager Branch Solution is Highly Scalable	● Protect your investment by adding rather than replacing components for growth. ● Grow from one branch to 2000 branches all managed centrally. ● Grow from a few users per branch to 100 or more users per branch.
Advanced Functionality	Platform Features	● Feature server including both PBX and Key-System features. ● SIP Enablement Services. ● Voice Mail. ● Announcements. ● Auto attendant. ● Call Detail Recording. ● Secure Enhanced Alarming.
	Application Enablement Services — Platform for Development of Modular Building Blocks for Advanced Communication Services	● Extend Avaya's rich features in an IP environment to get the most from your current investment. ● Integrate communications & business applications to leverage existing infrastructure and maximize efficiency. ● Support some third-party application integration to provide mission-critical support for key business processes. ● Computer-telephony integration services.
		3 of 5

Table 2: Communication Manager Branch benefits detail (continued)

Benefit	Feature or Functionality	Description
Streamlined ordering and installation	Integrate Ordering, Pre-installation Configuration, Production & Product Delivery in one Seamless Process	● The Communication Manager Branch solution provides a set of standard hardware configurations or <i>constructs</i>. Choose the construct that best satisfies the hardware requirements for a group of locations. ● System provisioning can be loaded on the platform, or stored on a USB portable storage device, before shipment to the site. ● Final installation time is minimized: — simple hardware installation. — provisioning limited to just the parameters not completed before shipment.
	Communication Manager Branch Onsite Installer Process	When the system is received at the branch location: ● Install hardware per installation poster. ● Adjust a limited set of site-specific parameters using an embedded intuitive Web GUI — user names, IP addresses, branch prefix, etc. ● If the branch platforms are in a networked configuration via an SES edge proxy, a technician at the datacenter can push additional networking configuration using Integrated Management for Communication Manager Branch. ● Perform test calls.
	Deployment Options	Provisioning data is uploaded to system via profiles: ● Stock order — Ship from distribution point with default profile. All provisioning data is entered on site with built-in Initial Setup Assistant.
		4 of 5

Table 2: Communication Manager Branch benefits detail (continued)

Benefit	Feature or Functionality	Description
Low Cost	Feature Set	● Extensive Key System and PBX feature set provided at a single, low price -- use as needed. ● Single license per user includes all features.
	Rapid Rollout	● Efficient rollout by replication of existing branch design to multiple similar branches. ● Cost savings through replication of design, installation, configuration, and management for a large number of similar branches — do once, apply to many.
	Reduced Installation Costs	● Deliver pre-configured systems ● Reduce on-site effort and skill-level ● Provide a library of <i>profiles</i> to help customers pick a pre-configured solution that fits their needs
	Controlled Growth Costs	SIP-based migration path from basic individual branch locations to multi-site distributed network with maximum investment protection. Future proof with SIP.
	Other Cost-Cutting Features	● As-needed communication choices ● Boost staff productivity with SIP-enabled features, mobility ● Quick end-user training ● SIP-enabled applications platform for customized applications ● Low equipment capital expenditure ● Quick order process
		5 of 5

Chapter 2: Communication Manager Branch solution design

This chapter describes the process of designing an Communication Manager Branch solution using the requirements data obtained from the customer and the Avaya Solution Designer (ASD).

Overview of the design and implementation process

The sequence of major activities in the design process is:

Planning

1. Consult with the customer to determine needs and review options. See [Customer Requirements](#).
2. Determine whether the solution will be individual branches or networked using SIP. Refer to [Chapter 1: Introduction](#).

Design in ASD

1. For quotes with multiple locations, group the branch locations by similar communications requirements such that the same configuration template can be used for all locations in each group.
2. Choose a construct for each branch group.
3. In ASD, create a configuration template for each branch group.
For each template, select:
 - A construct.
 - Additional hardware including telephones, telephone accessories, power options, DECT wireless telephones, music on hold equipment, loudspeaker paging equipment.
4. Export the design report, which lists summary and detail views of the Communication Manager Branch components for each branch location and branch group.
5. Review report with customer and revise the design per customer request — repeat until customer approves the design and the price quote and signs a contract.
6. Run the Split-Design procedure and export the split-design report so that each branch location can be sold as soon as the customer is ready to implement.

7. Submit the order into SAP to create a sales order (SO) for each branch location.

Prepare for Provisioning

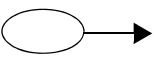
For Made-to-Stock systems, the Communication Manager Branch components are shipped separately from a stock distribution point with a default profile.

Process flowchart

The flowchart in [Figure 4: Communication Manager Branch design process flow](#) on page 20 outlines the process of designing and implementing a Communication Manager Branch system based on the telecommunications requirements obtained from the customer.

[Table 3](#) provides a description for the abbreviations and symbols used in the flowchart.

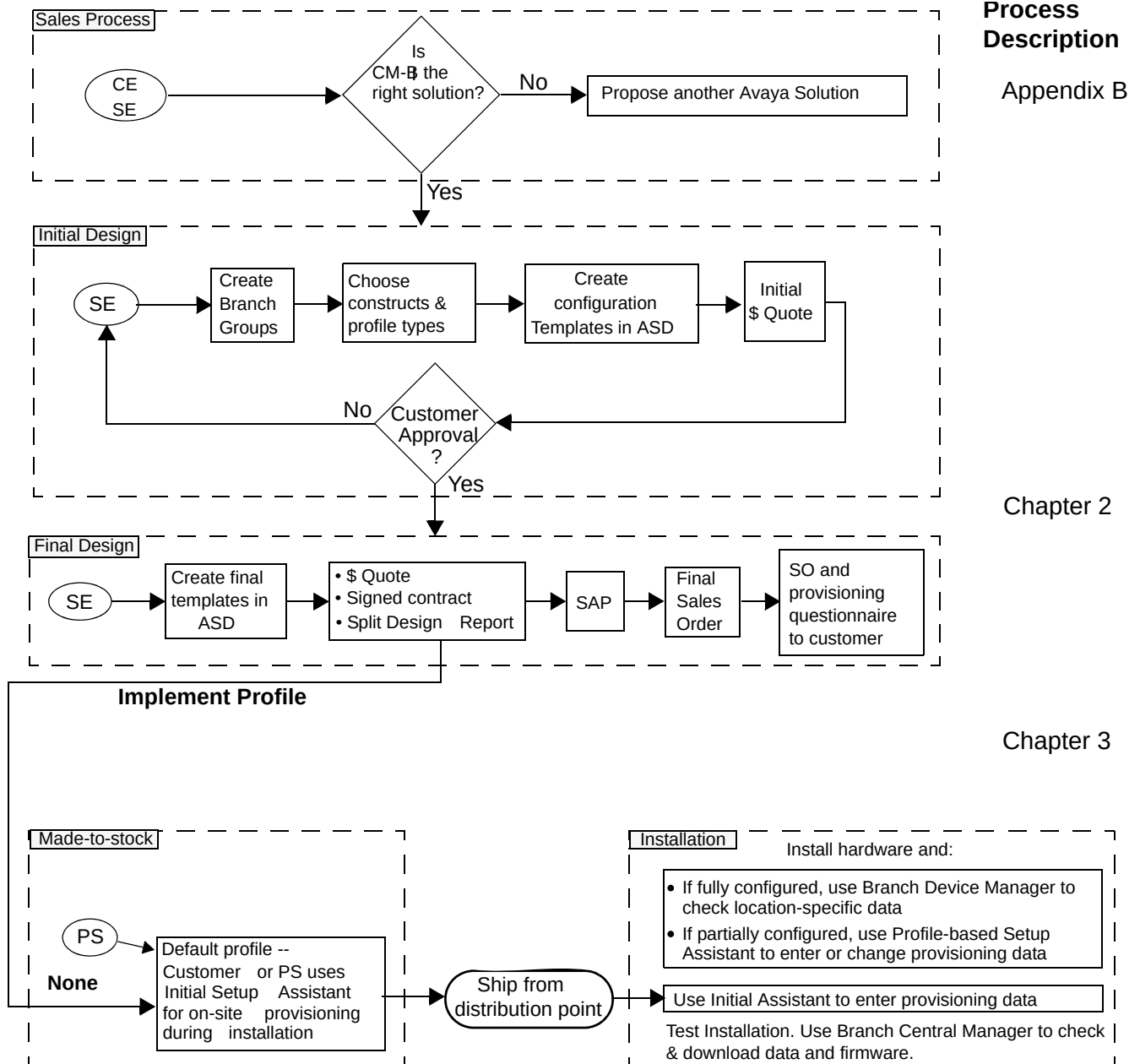
Table 3: Legend for [Figure 4](#)

Abbreviation or symbol	Description
ASD	Avaya Solution Designer. Part of the Avaya Configurator software that creates the inputs to the SAP ordering system to create a customer order.
CE	Sales Client Executive.
PM	Profile Manager. A Web-based tool containing a database of profiles. It allows provisioning specialists to download profiles.
PO	Purchase order. Sent by Avaya to the Communication Manager Branch equipment manufacturer to prepare an order, usually for multiple systems shipped to multiple locations.
PS	Provisioning specialist. Obtains provisioning data from the customer and creates profiles and profile assistants.
SE	Sales Engineer. Works with the Account Executive to inform the customer about Communication Manager Branch and designs a Communication Manager Branch solution based on the customer requirements.
SO	Sales order. The itemized bill of goods sold, sent to the customer when the Communication Manager Branch design is complete.
	The oval indicates an interview with the customer to obtain design and order information. The arrow points to where the information is used. The abbreviation inside the oval (CE, SE, PS) indicates who is talking to the customer.

Note:

There is an alternative order scenario that is not shown on in the flowchart. The hardware construct could be shipped from the made-to-stock distribution point with a default profile.

Figure 4: Communication Manager Branch design process flow



Using ASD

The Avaya Solution Designer is organized to start with system-wide options followed by template options. The system-wide options apply to all branch locations. The template options apply to a group of branches whose members will all use the same ASD configuration template.

System-wide options

The system-wide options are:

- Total number of Communication Manager Branch locations (all templates)
- SES edge options for networked solutions
- Call Accounting solutions

The customer can create a network of up to 2000 Communication Manager Branch systems with shared dial plans and feature transparency. A Communication Manager Branch network requires an SES edge server and Integrated Management for Communication Manager Branch. If the SES edge options is selected in ASD, all components necessary for the edge server are automatically included in the order.

Note:

Any design for more than one Communication Manager Branch system automatically includes Integrated Management for Communication Manager Branch. This suite of branch management applications includes Branch Central Manager, which the customer can use to manage the network of Communication Manager Branch systems.

The customer must use Integrated Management for Communication Manager Branch to administer the SIP Domain and instant messaging, as well as manage the Communication Manager Branch systems. If redundancy is required, a second backup SES edge server can be included in the order.

If the number of locations in the network is large (for example, more than 400 locations), conduct a traffic analysis before submitting the order to SAP. A Communication Manager Branch traffic analysis tool is available on the Communication Manager Branch Product page on the Enterprise Portal. Contact the ATAC for assistance.

Two methods can be used to connect the Communication Manager solution to the Communication Manager Branch branch network over a SIP trunk:

- Using an SES home proxy server. By employing a server, a single Communication Manager trunk group can connect to the entire SES edge. Access the Communication Manager configurator in ASD to configure the appropriate options for Communication Manager and the SES home proxy. Avaya recommends using an SES server.

- Directly connect Communication Manager to the Communication Manager Branch branch network. This method creating a dedicated SIP trunk-group in Communication Manager for every Communication Manager Branch branch.

Creating templates for groups of branch locations

The Avaya Solution Designer lets you create a hardware configuration template that applies to a group of branch locations. To take advantage of this capability, you need to specify the branch groups. Templates are common configurations that apply to a group of branch locations. The template specifies all of the hardware, software, and services options for the branch locations in the group.

- Platform and options
 - Number of locations that will use this template
 - Hardware configuration construct
 - Number of user licenses needed per location (including expected growth)
 - Maintenance option
 - Wallfield hardware options
 - Disk on Key options
- Software Profile
 - Order type: Made-to-stock
- Software support options
 - Level of software support and upgrades
 - Billing frequency
- Telephone options
 - Numbers of each type: analog, IP, SIP, DCP
 - Telephone accessories
- Mobile endpoints
 - Number of Software licenses needed for IP Softphone and EC500
- IP DECT wireless telephones
 - Number of handsets and base stations of each type
 - Number of licenses
 - IP DECT accessories
- Adjunct equipment
 - Telephone power options

- Loudspeaker paging
- Music on hold

To specify the branch groups, first list the following information *for each branch location*:

- Geographical region: NA, EMEA, APAC, CALA
- Type of telephone features needed: Key system, PBX, Hybrid
- Number of users in the branch
- Number and type of lines and trunks needed: analog, DS1, BRI

Note:

For the DS1 interface in CAS mode to work for the CALA non major countries (Chile, Colombia, Bolivia, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela), select country code 8 (rather than country code 1)

This information is sufficient to create an initial grouping of the branch locations.

The goal is to have a smallest number of groups, each with a large number of members, resulting in the fewest templates. Usually, every branch location covered by a template will have exactly the same set of specifications listed in [Using ASD](#) on page 21.

After the preliminary groups are specified, look at other requirements to see if any editing of the groups is necessary. For example, if some locations in a group need loudspeaker paging and others don't, this group may need to be divided into two groups.

Selecting a construct

Note:

See [Table 16: Hardware requirements](#) on page 65 for information about the customer requirements needed to choose a construct.

When you use the Avaya Solution Designer to create a configuration template for a group of branch locations, the choice of a construct is the most important parameter. The choice of construct determines the number of lines and trunks of each type. The goal is to choose the smallest construct that accommodates the maximum requirements assuming growth.

The first consideration when choosing a construct is the Communication Manager Branch model, i40, i120-A or G450. A construct that uses the G450 model can provide a larger number of lines and trunks than the i40 or i120-A, as well as higher capacities for several other parameters such as the number of voice mail boxes, the number of DSPs, and the busy hour call completion rate.

An i40 might provide an adequate number of lines and trunks for the current business requirements but not for increased requirements in over time based on growth assumptions. Or, an i40 might provide enough lines and trunks for the next several years but another parameter, such as the number of DSPs to handle large fax volumes might not be sufficient. In either case, one of the i120-A constructs would be a better choice. Those businesses requiring even greater capacities should consider the G450.

[Table 4: i40 constructs](#) on page 25, [i120A construct](#) on page 25, and [G450 Ports](#) on page 27 provide the information needed to choose a construct or build a configuration.

Note:

The list of available constructs might change over time. Check on the Avaya web site for the latest set of available constructs.

i40 constructs

Each i40 construct contains the following ports:

- One Console port



CAUTION:

Do not use the Console port. Any work on the platform should be done using the Ethernet services port.

- One USB port (located on the chassis where you connect the Disk on Key)
- One Contact Closure Adjunct (CCA) port
- One Ethernet WAN port (not used with Communication Manager Branch)
- Eight Ethernet LAN Power over Ethernet (PoE) ports
- One Ethernet services port
- Two analog line ports (the 140-A14 has six analog line ports)

In addition to these ports, the i40 contains additional ports based on its construct. [Table 4](#) shows the three i40 constructs, and a description of what additional ports are available for each.

Table 4: i40 constructs

Construct	Analog trunk ports	Analog trunk line	ISDN BRI trunk ports	T1/E1 interface port ¹
i40 - A14 ²	8	6		
i40 - BRI	1	2	2	
i40 - DS1 ³	1	2		1

1. The T1/E1 interface port can be configured for ISDN PRI, Robbed Bit, or CAS signaling.

2. Eight trunk ports and six single line station ports

3. The i40 - DS1 construct also contains three pairs of test jacks that are used by service personnel only.

See [Table 6: DSP Capacities](#) on page 28 for additional information on the i40's DSP capacities.

i120A construct

The i120A construct contains the following ports:

- One Console port



CAUTION:

Do not use the Console port. Any work on the platform should be done using the Ethernet services port.

- One USB port (located on the chassis for use with a USB modem and Disk on Key)
- One Contact Closure Adjunct (CCA) port
- One Ethernet WAN port (not used with Communication Manager Branch)
- One Ethernet LAN PoE port
- One Ethernet services port
- One analog trunk port
- Eight analog ports for lines or trunks
- Two analog line ports

Note:

If you need additional ports, additional Media Modules are available for the i120-A platform constructs. See your Avaya representative for details.

Chapter 2: Communication Manager Branch solution design

See [Table 6: DSP Capacities](#) on page 28 for additional information on the i120-A's DSP capacities.

See [Communication Manager Branch Constructs](#) on page 51 for additional information about Communication Manager Branch constructs.

See [Table 11: Supported media modules for the i120-A](#) on page 53 for additional information about the media modules.

G450 Ports

Note:

The G450 does not feature constructs.

Each G450 contains the following ports:

- One Console port

**CAUTION:**

Do not use the console port. Any work on the platform should be done using the Ethernet services port. One analog trunk port

- Two USB ports (located on the chassis for use with a USB modem and Disk on Key)
- One Contact Closure Adjunct (CCA) port
- Two Ethernet WAN ports (not used)
- Two Ethernet LAN ports
- Two analog line ports
- One Ethernet services port
- One Emergency Transfer Relay port

Note:

The G450 platform supports up to four MP20/MP80 VoIP DSP Modules. These media processors are used to support systems requiring greater VoIP capacity. Refer to [Table 6: DSP Capacities](#) on page 28 for more details.

Selecting a profile

Note:

See [Table 17: Provisioning requirements](#) on page 66 for information about the customer requirements needed to choose a profile.

Profiles are the key to a quick deployment. A profile is a set of files containing provisioning data for a Communication Manager Branch solution. The provisioning data can include "translations," such as telephone extensions, dial-plan strategy, and voice-mail announcements. Provisioning data can also include system software and telephone firmware files.

When creating a configuration template in the Avaya Solution Designer (ASD), you must choose None (Default). This profile type is described in [Table 5](#).

Table 5: Profile types

Profile Options	Description
Default profile	If you specify <i>None</i> for the Profile Type in ASD, the system is shipped with a default profile from a made-to-stock distribution center. A default profile is associated with each of the Communication Manager Branch constructs. The default profiles contain the minimum provisioning data that is needed for their associated constructs. The default profiles also contain the "Profile-based Setup Assistant," which prompts for missing or changeable data during installation.

Made-to-Stock order

A stock platform with a default profile is shipped and the customer can configure the platform according to their requirements.

DSP Capacities

[Table 6](#) details the i40, i120-A and G450 DSP capacities.

Table 6: DSP Capacities

Component / Capability	i40 BRI	i40 DSI	i120-A	G450	Notes
G.711 channels	10	16	32	80-240	VoCoder = G.729/G.726
VoCoder channels	10	16	16	80-240	Secure call = SRTP + AES-128 + SHA-1-80bit + SRTCP
Secure G.711 channels	10	16	20	80-240	

Component / Capability	i40 BRI	i40 DSI	i120-A	G450	Notes
Secure VoCoder channels	10	10	12	80-240	
T.38 fax receive channels	2	4	8	80-240	

Note:

In the G450 platform, additional DSP modules can be installed to provide extra resiliency.

Creating a Communication Manager Branch design in ASD

The Avaya Solution Designer (ASD) allows you to complete a design template for an order of one or more identically-configured systems. An order can contain multiple templates, each template corresponding to a different configuration for a group of identically configured systems.

To design a complete Communication Manager Branch solution in the Avaya Solution Designer, you need to create a separate configuration template for each branch group that you have identified.

In ASD, complete the following web pages for each template.

1. Select **Request > Create**.
2. Double-click **Communication Manager Branch** in the list of available systems.
3. Select **Communication Manager Branch** from the list of current systems, and click the **Configurator!** button.
4. Complete the **System > SystemWide Options** screen. Note the following aspects of this screen:
 - **Total Locs:** This number is the total of *all* branch locations being quoted for this customer that will have a Communication Manager Branch platform. This is not the number of branch locations for just this template, but the sum of the numbers of locations for all the templates in the solution.
NOTE: The maximum number that can be entered in this field is 2000.
 - **SES Edge:** The entry is yes if the customer wants to create a Communication Manager Branch network. The SIP Enablement Services (SES) edge server is assigned to the configuration of the first location of the first template in the order. Thus, when you generate the design report *by location* to submit to SAP, the first system in

the report has the edge server as part of the configuration. The address of the customer's central location must be assigned to this first location within SAP.

- **Call Accounting System options:** The eCAS solution for Communication Manager Branch is capable of collecting call data and providing advanced reporting for Call Detail Records sent securely from thousands of branch locations.
- **Reports Output:** This field allows the following three options for reports:

by template	The by template report summarizes, for each template, the total quantity and cost by component. This option allows the customer to quickly see and understand the total cost for each branch group.
by summary	The by summary report summarizes, for all templates combined, the total quantity and cost by component. This option allows the customer to quickly see and understand the total cost for each Communication Manager Branch hardware component.
by location	The by location report lists the configuration of each system in the order. This option allows the customer to see and understand the total cost for each branch location.

- When you select **Next**, ASD displays the New Template window. In this window, you can choose to create a new template or edit an existing template.
5. Complete the Hardware/Software screen. Note the following aspects of this screen:
 - **Locations:** This is the number of branch locations that will use this template.
 - **Configuration:** Select the construct for this branch group (see [Selecting a construct](#) on page 23).
 - **Software profile:** Select the profile type for this template (see [Selecting a profile](#) on page 27).
 6. Complete the Software Support screen according to customer requirements.
 7. Complete the Terminals screen according to customer requirements. See [Appendix A: Reference information](#) for additional details or consult the terminals user guides. Note: if the customer desires Key-System or Hybrid features, the one-X Value Edition 1600-series telephones are required.

Note:

The options you can select are disabled if they are not available for the country you selected after you logged into the ASD.

8. Complete the Accessories and Power screen according to customer requirements.
9. Complete the IP DECT screen according to customer requirements.



Important:

A site survey for wireless deployments must be conducted prior to submitting this order into SAP. See [Preparing for wireless telephones](#) on page 32.

10. Complete the Adjunct Equipment screen according to customer requirements. Note the following aspects of this screen:
 - **MOH Custom:** This field applies to all systems in the design, not just the template you are completing. Do not select an option for this field on more than one template.
 - **MOH Custom Loc:** This field applies only to the systems to be included in this template. It determines whether the MOH option in the previous field applies to this template's systems. You must complete this field in any other templates to enable the MOH custom option for the systems included in those templates.
11. You are finished with the first template. Click the **System** link at the top of the page to return to the first page of the design and start the next template.
12. To start the next template, click **Template** or **Next**.
 ASD displays the New Template window defaulted to go to a new template, for example Template 2.
13. Click **OK** to create a template for the next branch group. Repeat steps 5 through 12 for the next template.
14. When you have created all the templates required for the design, click the **Design** button in the toolbar.
15. When the ASD has created the design, use the Save as option to save the design.
16. Run the Split Design procedure. See the [ASD Split Design](#) job aid.
17. Depending on the option you selected at the beginning of the design, you can run a pricing report by template or a summarized pricing report. You can also run a report by location, which is necessary when you submit the order into SAP or get a quote.

If the customer has purchased implementation or maintenance services, run the CIMS or Maintenance Services configurators:

1. Select **Request > Create**.
2. Double-click **CIMS** (or **Maintenance Services**) in the list of available systems.
3. Select **CIMS** (or **Maintenance Services**) from the list of current systems, and click the **Configurator!** button.
4. Fill in the fields for the requested services and save.

Preparing for wireless telephones

If the customer requires wireless telephones, you must order a site survey to ensure proper coverage of the location and to synchronize the base stations. This survey must be done prior to submitting the final order in SAP.

Modifying ASD reports

Change the design as necessary after the customer has reviewed the design reports. To change the type of pricing report, you must open the design in ASD and change the report option — by template, summarized, or by location.

Getting a quote and submitting an order

When you get a quote or submit a final order in SAP, use the normal procedures as with other products.

Handing off to Avaya Services

If Avaya Implementation Services was included in the order, send the following information to the Implementation Services Manager (ISM) or project manager in the Avaya Consulting and Systems Integration (CSI) organization.

- SAP quote and order information.
- Completed Communication Manager Branch Planning worksheet for each matching profile (filled out by the customer).

Technicians will be assigned to the project to implement the order.

Chapter 3: Implementation Overview

This chapter provides an overview of the implementation process for an Avaya Communication Manager Branch system.

Streamlined Deployment

A major goal of the Communication Manager Branch offering is to minimize the time to deploy the Communication Manager Branch systems at the branch locations. The total deployment time includes:

- Unpacking, assembling, and cabling the hardware
- Enter site-specific and other dynamic data
- Acceptance testing

The first and third deployment items require a fixed amount of time for each construct. The time required for the second item, completing the provisioning data, varies according to the amount of data that needs to be added or changed in the profile that was loaded onto the system or onto a USB portable storage device, or USB flask disk.

The design activities described previously determine the type and the number of the Communication Manager Branch hardware components for each branch location. The implementation process then uses data files called *profiles* to load the translations and other parameter values onto the i40 or i120-A Communication Manager Branch platform before it is shipped to the customer site.

Made-to-stock deployment is the only option available. For a made-to-stock deployment, no customer-specific provisioning data is associated with the Communication Manager Branch system before it is shipped to the customer site. The system components are shipped separately from one or more distribution points. The made-to-stock platform contains a default profile that provides a minimal amount of provisioning data that is needed for the hardware construct.

Provisioning status

The provisioning status of a Communication Manager Branch system when it is shipped to the customer location is one of the following:

Fully configured. Minimum additions or changes to the provisioning data. Use Branch Device Manager to check the data.

Partially configured. Some additions or changes to the provisioning data. Use the Profile-based Setup Assistant to add or change the dynamic portion of the provisioning data.

Configure from scratch. All provisioning data must be entered. Use the Initial Setup Assistant to make the system operable. Then use Branch Device Manager to enter the provisioning data.

Fully configured systems

For a fully configured system, all of the provisioning data, including location-specific data, has been obtained from the customer and loaded onto the i40 or i120-A Communication Manager Branch module before shipment to the branch location. At installation, only the hardware assembly and acceptance testing is required.

Typically, there will be some minor additions or adjustments to the provisioning data. This can be done either locally, using the Branch Device Manager application, or remotely, using the Communication Manager Branch Central Manager.

Partially configured systems

For a partially configured system, a Standard profile is selected or a Custom profile is created that contains some of the provisioning data. The profile contains a section for dynamic data, which is either missing and needs to be added or is temporary and needs to be confirmed or changed. The partially configured profile is either loaded onto the i40 or i120-A Communication Manager Branch module or copied to a USB portable storage device before shipment to the branch location.

A Profile-based Setup Assistant is created as part of the profile. At installation, the Assistant prompts the installer to add or change the dynamic data.

From-scratch configuration

If none of the profiles, including the default profile, is appropriate, the system can be reset to its initial configuration by executing the **os (nvram init)** command. In this case the Initial Setup Assistant is used to enter the minimum provisioning data to make the system operable. Then the remaining provisioning data is entered using Branch Device Manager.

Communication Management Branch application enablement

Communication Management Branch application enablement provides computer telephony integration (CTI) for basic telephony at an Communication Manager Branch location.

Communication Manager Branch supports:

- A subset of Microsoft Telephony Application Programming Interface (TAPI) services and events.
- A complete Avaya implementation of the Telephony Services Application Programming Interface (TSAPI) specification.

Communication Manager Branch enables CTI capabilities such as click-to-dial, call logging, and basic call control (transfer, conference, hold/unhold) used in common CTI-enabled, TAPI-enabled desktop applications. This CTI support does not depend on any other facilities outside the Communication Manager Branch location.

Communication Management Branch application enablement supports configurations in which an application on a application computer can control and/or monitor any or all of the telephone extensions in a branch, including "CTI Extensions". These are extension numbers without any associated physical telephone hardware.

The core software for Communication Management Branch application enablement is already installed on the Communication Manager Branch platform. You install and configure additional CTI software (the Avaya Application Enablement Services TAPI Telephony Service Provider - Avaya TSP - and/or TSAPI) on each CTI application computer.

Please see the [*Installation, Configuration, Troubleshooting, and Programmer's Reference for Avaya Aura™ Communication Manager Branch application enablement \(CTI\), 03-60230*](#), for more information about application enablement.

Implementation Procedure

[Table](#) summarizes the implementation procedures for each of the three possible choices for the provisioning profile.

The following abbreviations are used in the table:

- ASD — Avaya Solution Designer
- SE — Sales Engineer
- PS — Provisioning Specialist
- PO — Purchase Order

Call Detail Recording

Call Detail Recording (CDR) records are sent unformatted. Station to station CRDs are not supported.

For further information on the CDR feature, see [*Feature Description and Implementation for Avaya Communication Manager, 555-245-205*](#).

Summary of implementation procedures (continued)

The order is sent to the Made-to-Stock distribution point.

The Communication Manager Branch components are shipped separately from one or more distribution points, loaded with a default profile.

Appendix A: Reference information

This Appendix provides information about the following topics:

- Additional documentation
- Communication Manager Branch terminology
- Licensing for Avaya Communication Manager Branch components
- Security considerations for Avaya Communication Manager Branch
- Communication Manager Branch constructs
- Additional components for a Communication Manager Branch solution

Additional documentation

The following documents provide additional or supplemental information about the design of a Communication Manager Branch solution:

- [Overview of Avaya Communication Manager Branch, 03-602024](#)
- [Avaya Communication Manager Branch i120 Installation Quick Start, 03-602289](#)
- [Avaya Communication Manager Branch i40 Installation Quick Start, 03-602288](#)
- [Avaya Communication Manager Branch G450 Installation Quick Start, 03-602053](#)
- [Feature Description for Avaya Communication Manager Branch, 03-602027](#)
- [Avaya Application Solutions: IP Telephony Deployment Guide, 555-245-600](#)
- *White Paper: Cost Effective Deployment of IP Communications Systems in the Highly Distributed Enterprise*

Terminology

The Communication Manager Branch product offering introduces some unique terminology that is used in this Guide. The following table provides a description of the special terms used in this document for the Communication Manager Branch products and processes.

Table 7: Communication Manager Branch terminology

Abbreviation or symbol	Description
Branch	A location at which a Communication Manager Branch platform is, or will be, installed. The term <i>branch</i> is used in this document as a generic reference to any Communication Manager Branch location. The customer may use a different term such as branch office, retail store, or outlet.
Branch group	The branches of a Communication Manager Branch customer can usually be categorized into a groups, the members of which have similar telecommunications requirements. The Sales Engineer creates a configuration template in ASD that specifies a construct and other common hardware for each group. The same configuration template can then be deployed for all members of the branch group.
Branch Central Manager	Branch Central Manager is a component of the Integrated Management for Communication Manager Branch software suite for managing Communication Manager Branch systems. The Branch Central Manager application runs on a Windows-based PC at the main or central business location and can connect to the branch location Communication Manager Branch platforms to perform various management functions such as monitoring, reporting, administration, upgrades, and maintenance.
Construct	One of several predefined Communication Manager Branch hardware configurations that specifies an i40 or i120-A model pus line and trunk capacities.
Branch Device Manager	Branch Device Manager is a component of the Integrated Management for Communication Manager Branch software suite for managing Communication Manager Branch systems. The Branch Device Manager application runs on the i40, i120-A or G450 platform at the branch location to perform administration tasks.
Dynamic data	Provisioning data that is not included in a profile. A profile assistant prompts for input of the dynamic data during installation of the Communication Manager Branch system.
1 of 2	

Table 7: Communication Manager Branch terminology (continued)

Abbreviation or symbol	Description
Profile	A set of files containing provisioning data for a Communication Manager Branch solution. The provisioning data can include "translations," such as telephone extensions, dial-plan strategy, and voice-mail announcements. Provisioning data can also include system software and telephone firmware files. • <i>Default profile</i>: The profile associated with a construct. The default profiles contain only the basic provisioning data that is needed for the construct. A different default profile is associated with each construct. The default profiles contain the "Profile-Based Setup Assistant," which prompts for missing or changeable provisioning data during installation. • <i>Profile Sections</i>. Each profile contains the following three sections: - <i>Static Section</i> – The pre-defined image and configuration attributes of the profile that cannot be change except by a user with provisioning credentials. Changing the static section requires creating a new profile with the option to use an existing Standard profile as the starting point. - <i>Dynamic Section</i> – the profile section that a provisioning specialist can administer using an assistant wizard. - <i>Supplement Section</i> – additional files in the profile required to fully describes the user setup, such as announcements, auto attendant, phone images, phone setup.
Profile assistant	A profile assistant is a data-input wizard used to complete the provisioning of a new Communication Manager Branch system during initial installation. The profile assistant prompts for the provisioning data that is not already included in the profile that is loaded on the i40, i120-A or G450 platform. A "Profile-based Setup Assistant" is a profile assistant created for one of the profiles; an "Initial Setup Assistant" is a profile assistant created for one of the default profiles.
SAC	Secure Access and Control. Enhanced security associated with remote access to a customer's converged network by Avaya Services or automated Expert Systems.
Setup Assistant (Profile-based)	A profile assistant created for one of the default profiles and used for a partially configured system.
Setup Assistant (Initial)	A profile assistant used for a "install from scratch" system.
2 of 2	

Licensing

Communication Manager Branch

A per user license or right-to-use must be purchased for every IP, SIP, DCP, and analog station on the system. All services on the Communication Manager Branch are made available, including the following services:

- SIP Enablement Services (SES)
- Avaya Communication Manager Branch application enablement
- Feature server (all PBX and Key-System features)
- Voice mail
- Auto Attendant
- Integrated Management
- Two EC500 licenses for i40, four EC500 licenses for i120-A and G450. Additional EC500 licenses can be ordered.

Note:

Both voice mail and Auto Attendant support TTY devices for the hearing and speaking impaired.

However, a license file does not have to be generated from RFA or loaded onto Communication Manager Branch.

The customer must not administer more than the purchased licenses once operational Communication Manager Branch is operational.

SIP Enablement Services

For each SIP Enablement Services (SES) edge server in the main location, you need a single license file from RFA that contains all appropriate licenses. The SAP order, along with RFA, generate the appropriate license files that can contain the following license information:

Table 8: License Terminology

Administration Web Interface	Web LM screen
Edge Proxy	Edge Proxy License (EDGE_proxy)
Basic Proxy	Home Proxy License (BASIC_proxy)
Home Seats	Home Seat Licenses (HOME_seats)

An SES edge server for a multiple-office network requires installation of the Edge Proxy license downloaded from RFA.

Integrated Management for Communication Manager Branch

Integrated Management for Communication Manager Branch does not require a license. However, Voice Monitoring Manager (VMON) is purchased and licensed separately.

License availability in RFA

Use Remote Feature Activation (RFA) to generate the licenses for SES edge server. RFA users must register for access in RFA to create an SES license. For more information, see *Getting Started with RFA for SES* at <http://rfa.avaya.com>.

Authentication file

An authentication file is installed on each Avaya Communication Manager Branch i40, i120-A or G450 at the Avaya factory. When you log in with an Avaya Services login, the login screen displays a challenge and a product ID number. You must enter the challenge number into one of the available response-generation tools to get an 8-digit response number. Enter the response number on the login screen to complete the login.

For Business Partners, the Administrator login is used at installation. The Administrator login does not generate a challenge-response sequence.

Registration

You must register your products prior to accessing GSD for installation or maintenance support. The GSD will request the customer's F/L (Functional Location number) on each product for which support is needed. If the product has not been registered, and, therefore, the F/L cannot be provided, the BusinessPartner will be denied support.

The Avaya technician or BusinessPartners must contact the Business Partner Care Center (BPCC) to pre-register products. Once the BPCC confirms the pre-registration process, the technician or BP can complete the registration process, as described below.

To register the system, an Avaya technician or Business Partner employs the Automatic Registration Tool (ART). If this tool can not be used (for example, if the technician lacks all of the needed information or tools), then registration must be done via the Business Partner Care Center or the database registration. Registering via these two methods is slower and limits your ability to receive service.



Important:

Avaya strongly recommends using the ART.

Before beginning the registration process, you should have the following available:

- "Customer F/L Number.
- "Authentication File ID (AFID) (Obtained as described below).
- "Modem dialup number (must be connected during the registration process for Full Registration to occur). Alternatively prepare an SIP address (if the system is behind an Secure Services Gateway or part of a Secure Access & Control offer).



Important:

The data and examples shown below are meant for illustrative purposes only. Please do not use this information for an actual product registration.

To register your product:

1. In Communication Manager Branch - Device Manger, select **Maintenance & Monitoring > Security > Server Certificate**.

Figure 5: AFID Number

The screenshot shows the Avaya Distributed Office Local Manager web interface. The left sidebar contains a 'Managed Objects' tree with categories like CTI, Phone Messages Files, Media Services, Platform, Data Services, USB Devices, and Security. The main content area is titled 'Authentication File Management (Avaya Global Services)'. It displays a table of authentication files and options to download one.

Filename	File Size (Bytes)	TimeStamp	Release	AFID	Gen Date	Gen Time
AF-7000053318-070129-161432.xml	1246	R-2007-04-23,16:56:54	1.x	7000053318	2007/01/29	16:14:32 GMT

Status Authentication File:

Download Authentication File:

Download method:

Last Download Status: Idle

Remote filename (full path)

Username

2. Write down the AFID number.
3. Go to <https://enterpriseportal.avaya.com/ptlWeb/internal/tools>. The ART User Menu appears ([Figure 6](#)).

Figure 6: ART User Menu



4. From the User Menu, click the **Administer ADO, Gateway, CTI, SES/EMMC, or Others Administer RAS IP address and/or install script** link. The Start of Install Script and IP Address Admin window appears ([Figure 7](#)).

Figure 7: Start of Install Script & IP Address Admin

AVAYA

Enterprise Portal

Automatic Registration Tool -- powered by SSDP

Start of Install script & IP Address Admin

Press **Start Install script & IP Address Admin** to start the install script & IP address admin process, or press **Reset Form Entries** at any time to clear your entries.

NOTE: ART generates IP address administration and/or install script for CCS/EMMC, CTI, IP Office, PG230, and ASG Guard II product types.

ART session ID: 1024142247

FL Number: 0003438969 **Help**

Session Type:

- ☐ INSTALL SCRIPT ADMINISTRATION
- ☐ INSTALL SCRIPT & UPDATE SE CODE
- ☒ FULL REGISTRATION **Help**
- ☐ IP ADDRESS RELEASE

NOTE: Please select a Session Type. Product types for the selected session type will be populated in the Product Type selection box below.

Product Type: DISTRIBUTED OFFICE **Help**

Start Install script & IP Address Admin Reset Form Entries

[Return to the ART User Menu page.](#)

ART Home Contact Us Version: 5.12 Exit

5. In the FL Number field, type the F/L Number.
6. Select the **FULL REGISTRATION** Session Type radio button.
7. Select the **DISTRIBUTED OFFICE** Product Type.
8. Click **Start Install script & IP Address Admin**. The Customer Verification window appears ([Figure 8](#)).

Figure 8: Customer Verification

AVAYA Enterprise Portal

Automatic Registration Tool -- powered by SSDP

Customer Verification

Enter the requested information for FL 0003438969 in the following form.
Press **Continue Full Registration** to continue the full registration process,
or press **Reset Form Entry** at any time to clear your entry.

ART session ID: 1016093146

Session Type	FULL REGISTRATION
FL Number	0003438969
Customer Name	AVAYA INC
Customer Address	8744 LUCENT BLVD, HIGHLANDS RANCH, CO US 801292371

Customer Type:

☐ BUSINESS PARTNER
☐ RL SA ADVANCED CUSTOMER
☐ RL SA CUSTOMIZED CUSTOMER
☒ OTHER CUSTOMERS

Help

NOTE: Click on **Help** button for more information about Customer Type selection.

To abort your ART full registration session,
press **Abort Full Registration Session**.
DO NOT EXIT YOUR BROWSER to abort your session.
WARNING: Aborting your session may result in an incomplete full registration.

9. Select the **BUSINESS PARTNER** or **OTHER CUSTOMERS** radio button.
10. Click **Continue Full Registration**. The Distributed Office Product Records Creation window appears ([Figure 9](#)).

Figure 9: Distributed Office Product Records Creation



Enterprise Portal

Automatic Registration Tool -- powered by SSDP

DISTRIBUTED OFFICE Product Records Creation

Enter the requested information in the following form.

Press **Continue to Create DISTRIBUTED OFFICE Product Records** to create records in the database for the indicated DISTRIBUTED OFFICE product type and continue the full registration process, or press **Reset Form Entries** at any time to clear your entries.

ART session ID: **1016093146**

Session Type	FULL REGISTRATION
FL Number	0003438969
Customer Name	AVAYA INC
Customer Address	8744 LUCENT BLVD, HIGHLANDS RANCH, CO US 801292371

Product Description: [Help](#)

INADS Number: [Help](#)

NOTE: The INADS Number must be associated with a permanent, dedicated telephone line to the product.

- OR -

S.IP Address: [Help](#)

NOTE: Please enter SSG Services IP (S.IP) address which is used to correlate tickets with customer equipment. Please click on 'Help' for more information.

Parent Linkage Information: (optional) [Help](#)

NOTE: Please enter SSG parent linkage information of this product if applicable. Please click on 'Help' for more information.

Authentication File ID : [Help](#)

NOTE: You may leave it blank if AF ID is not applicable.

Product Nickname: (optional) [Help](#)

To abort your ART full registration session,
press **Abort Full Registration Session**.

DO NOT EXIT YOUR BROWSER to abort your session.

WARNING: Aborting your session may result in an incomplete full registration.

ART Home

Contact Us

Version: 5.12

Exit

11. In Product Description, select the product number from this page if it exists for the provided F/L. The Office Product Records Creation window ([Figure 10](#)) appears

Note:

If the product number is not listed, click **Continue to Create Distributed Office Product Record**. The Distributed Office Domestic Full Registration Data window ([Figure 11](#)) appears. Fill out all required and any necessary optional information on this page.

Figure 10: Product Records Creation

AVAYA Enterprise Portal

Automatic Registration Tool -- powered by SSDP

DISTRIBUTED OFFICE Product Record Creation

ART has created DISTRIBUTED OFFICE product record (000)644-4936 for product code DOI40 of IL/FL 0003438969.
Please wait while ART continues the full registration process.

ART session ID: 1120125435

To abort your ART full registration session,
press **Abort Full Registration Session**.
DO NOT EXIT YOUR BROWSER to abort your session.
WARNING: Aborting your session may result in an incomplete full registration.

Abort Full Registration Session

ART Home Contact Us Version: 5.13 Exit

Figure 11: Domestic Full Registration Data

AVAYA		Enterprise Portal	
Automatic Registration Tool -- powered by SSDP			
DISTRIBUTED OFFICE Domestic Full Registration Data			
Enter the requested information for domestic DISTRIBUTED OFFICE product (000)643-2958 of FL 0003438969 in the following form.			
Press Continue Full Registration to continue the full registration process, or press Reset Form Entry at any time to clear your entry.			
ART session ID:		1016093146	
Session Type	FULL REGISTRATION		
FL Number	0003438969		
Customer Name	AVAYA INC		
Customer Address	8744 LUCENT BLVD, HIGHLANDS RANCH, CO US 801292371		

Product Description	SE Code	SE ID	Product (Nick)Name	Product Alarm ID	INADS Number	Serial Number	IP Address
DO Linux i120 Platform	DO1120	(000)643-2958	ADO100	N/A	7204441968	N/A	N/A

IP Address Pool: ☒ PRIMARY [Help](#)
☐ SECONDARY

Release Number: ☒ ADO R1.1 [Help](#)

Product Name: [Help](#)

Alarm Origination: ☒ YES [Help](#)
☐ NO

NOTE: Click on [Help](#) button for more information about Alarm Origination.

Alarm Destination: (optional for SAC/SSG server) [Help](#)
NOTE: Please enter the IP address of Alarm Receiver.

INADS Number: [Help](#)
NOTE: The INADS Number must be associated with a permanent, dedicated telephone line to the product.
- OR -

S.IP Address: [Help](#)
NOTE: Please enter SSG Services IP (S.IP) address which is used to correlate tickets with customer equipment. Please click on 'Help' for more information.

Parent Linkage Information: [Help](#)
NOTE: Please enter SSG parent linkage information of this product if applicable. Please click on 'Help' for more information.

Authentication File ID : [Help](#)

Order Number: (optional) [Help](#)

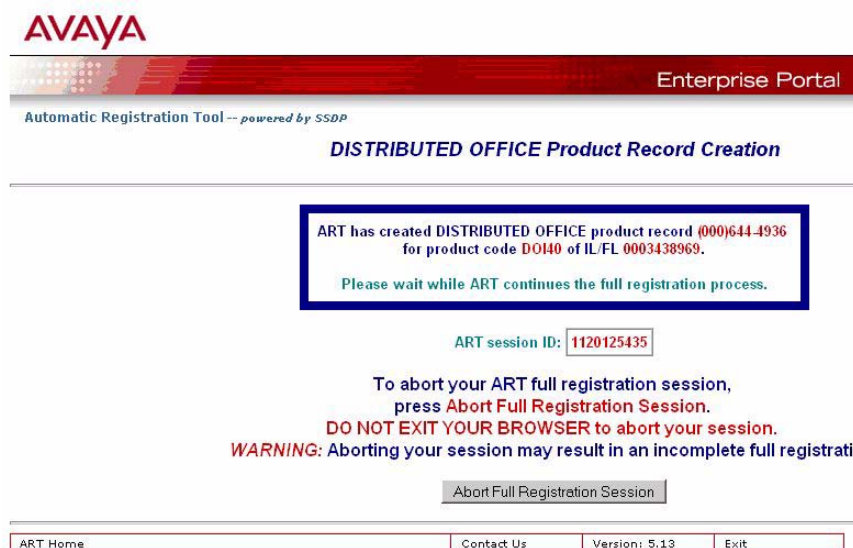
Check if a replacement : ☐ [Help](#)
NOTE: Please check the checkbox if the system registered is a replacement or upgrade for an existing system. Click 'Help' button for more information.

**To abort your ART full registration session,
press Abort Full Registration Session.
DO NOT EXIT YOUR BROWSER to abort your session.
WARNING: Aborting your session may result in an incomplete full registration.**

12. Click **Continue Full Registration**.

- If all fields have been completed correctly, ART will attempt to connect to the system and load the install script automatically. This process takes several minutes to complete.
- If the connection attempt fails for any reason, you will be taken to a page where you can download the install script manually or have it sent by email. Please note that the install script will be deleted from the download area within ART immediately after a download request has been completed. A successful connection and registration will return a window advising that the connection was completed ([Figure 12](#)).

Figure 12: Registration Completed



Security considerations

You must consider the following security issues when you design an Avaya Communication Manager Branch Solution:

- Security policy
- Entity Authentication
 - SIP User authentication
 - SIP Component authentication (proxies, user agent)
 - Administrators in support of centralized management
 - ASG authentication for Avaya Services
- Platform security
- Secure management
- Signaling security/TLS
- Media encryption — SRTP, AEA, AES
- Firewall, NAT traversal
- Use of VLANs
- Use of 802.1x

Note:

The G450 does not feature 802.1x authentication functionality

Communication Manager Branch Constructs

The Communication Manager Branch constructs are hardware configurations based on the i40, i120-A, or G450 Communication Manager Branch platform. To provide various forms of LAN, WAN, and voice connectivity, the i40 models have fixed ports and the i120-A and G450 models have fixed ports plus various combinations of media modules that provide additional analog, Ethernet, and ISDN ports.

Base hardware for the Communication Manager Branch i40, i120-A, and G450

The i40, i120-A, and G450 platforms include telephony features, voice mail, automated attendant, SIP, and TAP.

The models also have the following hardware features:

Table 9: Summary of Hardware Features

	i40	i120-A	G450
Console Ports	1	1	2
USB Ports	1	1	2
Contact Closure Adjunct Port (CCA)	1	1	1
Ethernet services/WAN Port	1	1	N/A
Ethernet WAN Ports	N/A	N/A	2
Ethernet LAN Ports	N/A	1	2
ETR Port	1	1	1



CAUTION:

Do not use the Console port. Any work on the platform should be done using the Ethernet services port.

Construct definitions

[Table 10](#) describes the endpoint and trunk combinations for each construct.

Note:

In [Table 10](#), the term "analog lines (FXS)" refers to ports that support analog endpoints and can also be configured as a DID trunks. Two of these are provided as fixed ports on the i40 and i120-A chassis. The i40 - A14 contains an additional four ports, while 24 additional ports are provided with each MM716 media module on the i120-A.

The term "analog ports (FXS/FXO)" refers to universal ports that support analog endpoints and can also be configured as DID trunks, (two-way) CO trunks, or CAMA (911) trunks. Eight of these ports are provided with each MM711 media module on the i120-A. For systems configured with Key System features, the "analog ports (FXS/FXO)" can be configured as "Outside Lines," which are similar to CO trunks in a system configured with PBX features.

Table 10: Communication Manager Branch constructs

Endpoint and trunk combinations	Construct name	Media modules ¹ See Table 11 for details about media modules
• 6 fixed analog lines (FXS) • 8 fixed analog trunks (FXO) • 8 10/100 Ethernet PoE ports	i40 - A14	No media modules. All ports are fixed
• 2 fixed analog lines (FXS) • 1 fixed analog trunk (FXO) • 2 BRI trunks • 8 10/100 Ethernet PoE ports	i40 - BRI	No media modules. All ports are fixed.
• 2 fixed analog lines (FXS) • 1 fixed analog trunk (FXO) • 1 DS1 trunk • 8 10/100 Ethernet PoE ports	i40 - DS1	No media modules. All ports are fixed.
• 2 fixed analog lines (FXS)² • 1 fixed analog trunk (FXO) • 8 analog ports (FXS/FXO)	i120-A	1 x MM711

1. The MM710B, MM711, MM716, and MM720 can be placed in any of the four slots, V2, V3, V4, or V5. The MM316 must be placed in slot V6.

2. These ports can be administered as DID trunks.

Media Modules for Communication Manager Branch i120-A

The Communication Manager Branch i120-A constructs use various combinations of media modules to provide endpoint capacity, trunk capacity, and additional connectivity. [Table 11](#) describes the supported media modules.

Table 11: Supported media modules for the i120-A

Module	Description	Permitted slots
MM710B Provides two T1/E1 ISDN PRI trunk port	- Both A-law for E1 and Mu-law for T1 - Line Coding: AMI, ZCS, B8ZS for T1 and HDB3 for E1 - Stratum 3 Clock compatibility - Trunk signaling to support U.S. and International CO trunks, DID trunks, and other trunks as currently in existence - Supports ISDN PRI - Supports the universal DS1 that conforms to 1.544 Mbps T1 standard and 2.048 Mbps E1 standard - The T1 mode supports one framing bit followed by 24 eight-bit time slots. Each time slot carries a 64 Kbps DS0 channel. The twenty-fourth channel acts as the signaling channel - The E1 mode supports 32 eight-bit time slots in which the first time slot is used for framing and maintenance and the sixteenth time slot is used for signaling. The i120-A supports up to 32 G.711 single-channel calls or 16 G.729A calls. The i120-A does not currently support fractional T1/E1. Note: When you order a T1/E1 Media Module, ensure that you include the 700A loop back plug, Comcode 107988867. With this plug, you can loop back the T1, including the inside wiring, without a dispatch.	V1, V2, V3, V4, V5
MM711 Provides 8 universal analog ports (FXS/FXO)	- You can configure each of the eight ports as either a trunk interface or a line interface. The following trunks are supported: - Analog DID, analog two-way CO, Outside Line - Loop start or ground start (U.S. only) 2-wire analog outgoing CAMA E911 - Supported lines are analog tip/ring devices such as single-line telephones, modems, and Group 3 fax machines.	V1, V2, V3, V4, V5
MM712 Provides 8 DCP ports	The ports support two-wire DCP telephones.	V1, V2, V3, V4, V5
1 of 2		

Table 11: Supported media modules for the i120-A (continued)

Module	Description	Permitted slots
MM716 Provides 24 analog line ports (FXS)	● 24 analog line ports that support telephones, modem, and fax. ● Ports are provided by a 25-pair RJ21X Amphenol connector, which can be connected by an Amphenol cable to a breakout box or a punch-down block. ● Ports can be configured as DID trunks (not two-way CO trunks or Outside Lines) with either wink start or immediate start. Note: Wink start and immediate start DID trunks are supported in Canada, Hong Kong, Israel, Philippines, Singapore, Taiwan and the United States. Loop start or ground start trunks are not supported.	V1, V2, V3, V4, V5
MM720 Provides 8 ISDN BRI trunk or endpoint telephone or data ports	● 8 ports with RJ-45 jacks that support BRI trunks or endpoints. Note: The two B-channels cannot be combined to form a 128-kbps channel. Note: If the MM720 BRI Media Module is administered to support BRI endpoints, it cannot be used as a clock synchronization source. ● Ports have an A-law or a Mu-law option for voice operation. The circuit-switched connections operate as 64-kbps clear channels in the data mode.	V1, V2, V3, V4, V5
MM316 Provides 40 10/100 Ethernet ports with PoE	● 40 Ethernet 10/100 BASE-T Ethernet ports with inline Power over Ethernet (PoE). ● One 1-Gbps GBIC Ethernet slot. ● Supports 48 VDC inline power provided over standard category-5 UTP cables (up to 100 meter range) on each PoE port. Ports can be used to provide power to IP telephones, wireless access points, and other endpoint devices without the need for additional power cabling.	V6
2 of 2		

Media Modules for Communication Manager Branch G450

The Communication Manager Branch G450 use various combinations of media modules to provide endpoint capacity, trunk capacity, and additional connectivity. [Table 12](#) describes the supported media modules.

Table 12: Supported media modules for the i120-A and G450

Module	Description	Permitted slots i120-A	Permitted slots G450
MM710B Provides one T1/E1 ISDN PRI trunk port	- Both A-law for E1 and Mu-law for T1 - Line Coding: AMI, ZCS, B8ZS for T1 and HDB3 for E1 - Stratum 3 Clock compatibility - Trunk signaling to support U.S. and International CO trunks, DID trunks, and other trunks as currently in existence - Supports ISDN PRI - Supports the universal DS1 that conforms to 1.544 Mbps T1 standard and 2.048 Mbps E1 standard - The T1 mode supports one framing bit followed by 24 eight-bit time slots. Each time slot carries a 64 Kbps DS0 channel. The twenty-fourth channel acts as the signaling channel - The E1 mode supports 32 eight-bit time slots in which the first time slot is used for framing and maintenance and the sixteenth time slot is used for signaling. - The i120-A supports up to 32 G.711 single-channel calls or 16 G.729A calls. The i120-A does not currently support fractional T1/E1. Note: When you order a T1/E1 Media Module, ensure that you include the 700A loop back plug, Comcode 107988867. With this plug, you can loop back the T1, including the inside wiring, without a dispatch.		V1, V2, V3, V4, V5, V6, V7, V8
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Table 12: Supported media modules for the i120-A and G450

Module	Description	Permitted slots i120-A	Permitted slots G450
MM711 Provides 8 universal analog ports (FXS/FXO)	- You can configure each of the eight ports as either a trunk interface or a line interface. The following trunks are supported: - Analog DID, analog two-way CO, Outside Line - Loop start or ground start (U.S. only) 2-wire analog outgoing CAMA E911 - Supported lines are analog tip/ring devices such as single-line telephones, modems, and Group 3 fax machines.		V1, V2, V3, V4, V5, V6, V7, V8
MM712 Provides 8 DCP ports	The ports support two-wire DCP telephones.		V1, V2, V3, V4, V5, V6, V7, V8
MM714 Provides 4 analog telephone ports and 4 analog trunk ports	The MM714 provides you with the capability to configure any of the four telephone ports as: - A wink-start or an immediate-start DID trunk - Analog tip/ring devices such as single-line telephones with or without LED message waiting indication MM714 also supports - Three ringer loads, which is the ringer equivalency number for up to 2,000 feet (610 meters) for all eight ports - Up to four simultaneously-ringing ports - Type 1 caller ID and Type 2 caller ID - Ring voltage generation for a variety of international frequencies and cadences		V1, V2, V3, V4, V5, V6, V7, V8
MM714B Provides 4 analog telephone ports and 4 analog trunk ports	The MM714B provides you with the capability to configure any of the four telephone ports as: - A wink-start or an immediate-start DID trunk - Analog tip/ring devices such as single-line telephones with or without LED message waiting indication MM714B also supports - Three ringer loads, which is the ringer equivalency number for up to 2,000 feet (610 meters) for all eight ports - Up to four simultaneously-ringing ports - Type 1 caller ID and Type 2 caller ID - Ring voltage generation for a variety of international frequencies and cadences - ETR on two ports		V1, V2, V3, V4, V5, V6, V7, V8
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Table 12: Supported media modules for the i120-A and G450

Module	Description	Permitted slots i120-A	Permitted slots G450
MM716 Provides 24 analog line ports (FXS)	24 analog line ports that support telephones, modem, and fax. - Ports are provided by a 25-pair RJ21X Amphenol connector, which can be connected by an Amphenol cable to a breakout box or a punch-down block. - Ports can be configured as DID trunks (not two-way CO trunks or Outside Lines) with either wink start or immediate start. Note: Wink start and immediate start DID trunks are supported in Canada, Hong Kong, Israel, Philippines, Singapore, Taiwan and the United States. Loop start or ground start trunks are not supported.		V1, V2, V3, V4, V5, V6, V7, V8
MM717 24 DCP telephone ports	24 DCP ports of two-wire DCP functionality exposed as a single 25-pair amphenol connector. - DCP ports are exposed by connecting the module via a standard amphenol cable to a punch-down block with RJ-11 jacks. - Enables using one of the smaller media module slots for a large number of DCP telephones.		V1, V2, V3, V4, V5, V6, V7, V8
MM720 Provides 8 ISDN BRI trunk or endpoint telephone or data ports	8 ports with RJ-45 jacks that support BRI trunks or endpoints. Note: The two B-channels cannot be combined to form a 128-kbps channel. Note: If the MM720 BRI Media Module is administered to support BRI endpoints, it cannot be used as a clock synchronization source. - Ports have an A-law or a Mu-law option for voice operation. The circuit-switched connections operate as 64-kbps clear channels in the data mode.		V1, V2, V3, V4, V5, V6, V7, V8
MM722 2 ISDN BRI trunk ports	Provides two 4 wire S/T ISDN BRI 2B+D access ports with RJ-45 jacks. Each port interfaces to the central office at the ISDN T reference point.		V1, V2, V3, V4, V5, V6, V7, V8
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Integrated Management for Communication Manager Branch Specifications

Integrated Management for Communication Manager Branch is *required* for a Communication Manager Branch network and optional for centralized management of stand-alone Communication Manager Branch locations. The Avaya Solution Designer automatically includes material codes for Integrated Management for Communication Manager Branch if an SES edge is included in the order.

This version of Integrated Management provides, among other applications, the following:

- Branch Central Manager, which provides:
 - Central administration and management capabilities of all Communication Manager Branch locations in the network
 - Specific administration capabilities of the SES edge to support Communication Manager Branch

For more information about the services of Integrated Management for Communication Manager Branch, see [Integrated Management for Communication Manager Branch](#) on page 41.

- Customers using Distributed Office1.x should install Integrated Management for Communication Manager Branch 5.0, along with the latest service pack.

Customers using Communication Manager Branch 2.x should install Integrated Management for Communication Manager Branch 5.2, along with the latest service pack.

Table 13: Integrated Management for Communication Manager Branch Server Specifications

Component	Specification	Notes
Supported Operating Systems	● Windows Vista Business Edition with SP1 (32-Bit and 64-Bit) ● Windows Vista Enterprise Edition with SP1 (32-Bit and 64-Bit) ● Windows XP Professional with SP3 ● Windows 2000 Server with SP4 ● Windows 2003 Server (Standard) with SP2 ● Windows 2003 Server (Enterprise) with SP2 ● Windows Server 2008	Only English operating systems are supported.
Processor	3.0 GHz Pentium® 4 or Equivalent AMD Processor	A maximum of two processors is supported.
Hard Drive	40 GB	
Memory	2.0 GB RAM	
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Component	Specification	Notes
Network Connectivity	TCP/IP 100 Mbit Network Card	Only one network interface is supported. Dual network interface cards (NICs) or additional software network interfaces, such as a VPN interface, are not supported.
Modem	56K modem for remote access	Optional.
CD-ROM Drive		Required for installation.
Monitor	SVGA 1024 X 768 display	
SNMP Agent	The Simple Network Management Protocol (SNMP) Agent is the Windows Service that runs on your computer. It is provided with the Windows operating system CD.	
Web Browser	Internet Explorer 6.0 with Service Pack 1 or Service Pack 2, Internet Explorer 7.0 with Service Pack 1 or Mozilla Firefox 3.0.	Required for access to the Integrated Management Launch Page and web-based clients.
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Additional components for a Communication Manager Branch solution

The following components are also available with a Communication Manager Branch system:

Table 14: Additional Communication Manager Branch components

Component	Description
Avaya IP DECT Solutions	Avaya Solution Designer offers the option for IP DECT (Digital Enhanced Cordless Telecommunications) components. Avaya IP DECT Solutions is available in many U.S. and non-U.S. locations. Avaya IP DECT Solutions is required to provide the connectivity and management of Avaya 3701 and 3711 wireless telephones within a Communication Manager Branch. Avaya IP DECT Solutions consists of the following components: • Multiple RFP 32 indoor radio base stations, which support up to eight voice channels. • Multiple RFP 34 outdoor radio base stations, which support up to eight voice channels. • DECT Mobility Manager software, which can be loaded onto one of the radio base stations or on a separate Linux server. • Various mounts, outdoor antennae, power adapters, and power adapter chargers. The radio base stations or a supporting Linux server connect to the Communication Manager Branch location over the LAN. You must conduct a site survey to ensure proper coverage of the location and to synchronize the base stations.
Backup device	The customer must provide a way to back up data for the Communication Manager Branch locations. The backup device can be one of the following: • An SFTP-enabled or an FTP-enabled backup server on the customer LAN. • Extra USB portable storage device. • Integrated Management for Communication Manager Branch, which can provide central data backup capability.
PoE switches for IP or SIP telephones	The Communication Manager Branch i40 provides eight PoE ports and the i120-A provides up to 40 PoE ports for IP or SIP telephone connections. Additional IP or SIP telephones can be connected to a separate PoE Ethernet switch that communicates with the Communication Manager Branch over the LAN. The customer should provide their own standards-based PoE switch to power the telephones.
Other power options for IP telephones	Instead of PoE switches, you can connect IP or SIP telephones to any versions of the following midspan power supplies and then to Ethernet switches without PoE. Other power options include wall-mounted local power and in-line local power modules.
1 of 2	

Table 14: Additional Communication Manager Branch components

Component	Description
Music on hold equipment	Basic music on hold functionality is provided with each Communication Manager Branch construct. For any enhancements, the customer must provide the music-on-hold equipment. If the customer-provided equipment is unregistered, the customer needs one of the following lists of accessories: ● A KS-23395-L3 coupler with an RJ-45 cable and an RCA cable ● A KS-23395-L4 coupler with two 8-pair modular cords, a 909A/B universal coupler, and an RJ-45 cable If the equipment is registered, the customer needs a KS-23395-L3 coupler with an RJ-45 cable and an RCA cable
Magic-on-Hold announcement equipment	The Magic-on-Hold option provides pre-recorded announcement files. A custom production is typically 4 minutes in duration and contains 5 different messages highlighting important information about the customer products, service, company history, company benefits, and more. Customer may choose one of the available male or female voice talents, as well as selections from the extensive music library. Custom products may be ordered as a single production or where messages change 4 times a year, 6 times a year or 12 times a year.
Loudspeaker paging equipment	Avaya Audio Paging Systems include a variety of optional equipment for loudspeaker paging. This equipment includes amplifiers, speakers, and other equipment. In limited circumstances, an alternative connection to a paging system can be made by connecting the UPAM unit to a station port. This configuration can be used when: (a) there are no CO trunk ports available on the system, such as with an analog i40 where four CO trunks are needed, or (b) a paging group is not required and only one port is needed for paging connectivity. If new overhead loudspeakers are needed, a customer site survey and design must be performed by Bogen Communications personnel prior to including loudspeaker paging in the Communication Manager Branch order. Note: For Communication Manager Branch, a Paging over IP Gateway is not necessary. Note: Avaya Wireless Paging is not supported by Communication Manager Branch.
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Appendix B: Customer Requirements

This appendix provides checklists for the information that you need to obtain from the customer to design a Communication Manager Branch solution. This information enables you to make the following decisions:

- Decide whether Communication Manager Branch is the right solution choice for the customer.
- Decide which pre-configured hardware constructs best fit the customer's lines, trunks, and capacities requirements.

The requirements information is itemized in checklist tables for each of these decision categories.

[Choosing the solution](#)

These general business requirements enable you to decide whether the Communication Manager Branch offering is the best solution for the customer or whether another Avaya offering might be a better solution.

[Choosing a construct](#)

The requirements for lines, trunks, and capacities in the branch locations enable you to choose one of the pre-configured hardware constructs for each branch. A single construct might be appropriate for all of the customer's branch locations or the branches might be categorized into a small number of groups with a different construct for each group.

[Choosing a profile](#)

Each of the pre-defined hardware constructs is associated with a *default* profile, which specifies the basic set of provisioning values that are likely to be used with the construct.

Choosing the solution

The Avaya Aura Communication Manager Branch offering is a complete communications solution designed for an enterprise with the following characteristics:

- Has a large number of distributed branch offices or retail outlets
- Has from a few to 360 or more users of communications services in each branch
- Considers centralized management of the distributed locations important

A Communication Manager Branch system is probably the best solution for any enterprise with these characteristics. This proposition can be tested by reviewing, with the customer, the specific characteristics and benefits of the Communication Manager Branch offering.

Obtain the following information to help determine whether a Communication Manager Branch system is the right solution for the customer.

Table 15: General business requirements

✓	Checklist Item	Description
	The size and the nature of the business	• The type of business, its products and services, its customers. • The total number of employees. • The distribution of employees — centralized or distributed. • The nature of branch locations — are they retail stores versus business offices. • The need for and use of communications services.
	The number of branches, their locations, and their commonality	• The total number of branches and their locations. • Specify whether the branches have similar characteristics of size, number of users, type of business transacted, use of telephony features, or have dissimilar characteristics
	The number of telephones, trunks, and voice mail boxes per branch	• The minimum and maximum number of users per branch • The maximum number of trunks per branch • The maximum number of voice mail boxes per branch
	Centralized Management	Determine whether the customer wants to be able to monitor branch activities and administer, maintain, and update the communications software and firmware from a central location.
	Budget considerations	Identify any cost or budget constraints that can affect the type and size of the Communication Manager Branch solution.

Ensure that the general business requirements can be satisfied by a Communication Manager Branch solution.

Choosing a construct

If you are ordering an i40 or i120-A platform, obtain the following information for each branch location. Typically, all branch locations or groups of branch locations have the same line and trunk requirements.

Table 16: Hardware requirements

✓	Checklist Item	Description
	The number and type of Avaya telephones	● IP (H.323) telephones: ● SIP telephones: ● Analog telephones: ● Wireless telephones:
	The number and type of trunks	● Analog ● BRI ● DS1
	FAX machines?	Number needed
	Non-Avaya telephones?	Number and type
	Voice mail boxes?	Number of VM boxes needed
	Loudspeaker paging?	trunk-side, station-side, no paging profiles
	Music on Hold?	Y/N

Choosing a profile

Obtain the following information for each branch group to determine whether one of the standard provisioning profiles can be used. Download the Communication Manager Branch Profile Guide from the Communication Manager Branch Product page on the Enterprise Portal. Consult with your customer using the Profile Guide to gather the provisioning data.

Table 17: Provisioning requirements

✓	Checklist Item	Description
	Type of user interface features	● Key system ● PBX ● Hybrid
	Dial Plan	● Extension length ● Leading digit ● Extension configuration ● Inter-branch extension configuration
	Coverage paths	For example: ● Station-to-station call coverage ● Station-to-station hunt groups ● Outside-to-station call coverage
	Public Networking	● Long distance restrictions ● Allowed/Denied numbers ● Incoming call handling
	Telephones	● Number of each type ● SIP ● Power
	Trunk requirements	● Number of each trunk type ● Expected BHCC rates
	Voice mail boxes needed?	● Number of VM boxes
	Auto Attendant?	● Y/N
	Loudspeaker paging?	trunk-side, station-side, no paging profiles
	Music on Hold?	Y/N
	CTI applications?	If yes, what applications.
	Language requirements	List languages to be supported

[Table 18](#) list the available profiles for the i40 and i120-A platforms. There are no profiles for the G450.

Table 18: List of Available i40 and i120-A Profiles

Profile Name	Relevant Media Module or Construct	Description
i120A	8 Port Analog MM711	PBX Profile ● 4 digit dialplan ● Europe (United Kingdom) ● 1 BRI trunk with 16 ports ● 1 analog loop-start CO for ETR ● 88 Stations ● 6-4621 ● 2-34610 ● 2-9620 ● 3-9630 ● 6-6211 ● 48 analog ● 2 Analog Fax ● 1 Loudspeaker Page ● 1 MoH analog
i4014A	i40A14 8 FXO 1 6 FXS 1 8 POE 1 1 ETR port	KEY System Profile ● 3 digit dialplan ● North America (US-Canada) ● 1 Outside Line Group Pool - 4 loop-start analog lines in the pool ● 20 Stations ● 3-1616 ● 14-1608 ● 3-1603 ● 1 IP DECT ● 1 Analog Fax ● 1 MoH analog source

Appendix B: Customer Requirements

Profile Name	Relevant Media Module or Construct	Description
i40BRI	i40BRI 8 PoE 2 FXS 1 ETR port	KEY System Profile ● 3 digit dialplan ● Europe (United Kingdom) ● Outside Line Group Pool - 4 BRI lines in the pool ● 20 Stations ● 3-1616 ● 14-1608 ● 3-1603 ● 1 IP DECT ● 1 Analog Fax ● 1 MoH analog source ● 1 analog loop-start CO for ETR
i40DSI	i40DS1 1 T1 1 E1 18 PoE 2 FXS 1 ETR port	PBX Profile ● 4 digit dialplan North America (US-Canada) ● ISDN-PRI ● T1 trunk with 23 ports ● 1 analog loop-start ● CO trunk for ETR ● 20 stations ● 15-4621 ● 15-4610 ● 3-9620 ● 1-9630 ● 1 analog fax ● 1 MoH analog source

Additional customer information

The following additional information might be needed for central location configuration, or for traffic engineering analysis.

Table 19: Additional requirements

✓	Checklist Item	Description
	The number and type of Avaya telephones	IP (H.323) telephones: ● 4610SW ● 4621SW ● 4695 ● 3631 ● 3641 ● 3645 ● 1603 (required for Key-System or Hybrid features) ● 1608 (required for Key-System or Hybrid features) ● 1616 (required for Key-System or Hybrid features) ● Button modules for these telephones ● 9610 ● 9640 ● 9650 SIP telephones: ● 9620 ● 9630 Analog telephones: ● 6211 ● 6219 ● 6221 ● EMEA ● EMEA Hands-Free Wireless telephones: ● 3701 IP DECT ● 3711 IP DECT DCP telephones ● 2402 ● 2410 ● 2420 ● 9630G ● 9640G
	The number of virtual office users and their connection types.	● IP Softphone ● EC500
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Table 19: Additional requirements (continued)

✓	Checklist Item	Description
	The use of T.38 fax.	● T.38 transport methods used by the Internet service provider of the customer can cause packet delay to exceed fax time-out thresholds. ● increased DSP usage.
	The use of private WAN and public Internet connections.	Determine the readiness of the WAN to support networked configurations using SIP trunks. A network assessment might be necessary.
	The use of contact closure.	
	The use of power devices.	● local wall mount ● local in-line ● midspan ● PoE (Avaya 3rd-party)
	CDR and CAS requirements.	Centralized Call Accounting for Communication Manager Branch software, eCAS
	The number and the types of CTI applications.	See Avaya DevConnect for latest interoperability notes.
	The type of backup facilities.	● Server on the LAN ● Laptop computer ● USB portable storage device
	Traffic types	data, voice, or video
	The use and type of loudspeaker paging adjuncts?	Determine whether the integrated paging within the telephones is sufficient or whether the customer desires an overhead paging system and whether the integration will be through an analog trunk or analog station port.
	The use and size of UPS power?	
	The type of backup facilities.	● Server on the LAN or WAN ● Laptop computer ● USB portable storage device
	The stability and the predictability of traffic patterns.	For each type of call (intra-branch, inter-branch, branch-main, branch-PSTN,), specify average call usage rates and standard deviation. See the Communication Manager Branch Traffic Designer tool on the product page on the Avaya Enterprise Portal.
	Use VLANs?	VLANs can be administered to segregate different traffic types and/or user types.
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Table 19: Additional requirements (continued)

✓	Checklist Item	Description
Requirements for the Central Location		
	A description of the existing network infrastructure.	● Network topology (star, mesh, etc), network nodes, network connections ● Interoperability of existing equipment using standards supported by Avaya.
	The number of SES home proxy servers.	These are required if networking branch Communication Manager Branch systems to a centralized Communication Manager over SIP trunks. ● Existing? ● Combo or separate?
	Inter-location communications	● Branch to branch ● branch to core? (need to configure Communication Manager and SES home proxy servers)
	The use of SIP functionality.	● conferencing ● gateways ● applications
	The use of an LDAP corporate directory.	
	The use of an SES edge.	For Branch-to-Core networking to a Communication Manager
	The use of Session Border Controller devices.	
	The use of SES duplication.	
	The use of Avaya Voice Portal applications.	Requires an SES home server at the central site.
	A description of the existing network infrastructure.	● Network topology (star, mesh, etc), network nodes, network connections ● Interoperability of existing equipment using standards supported by Avaya.
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