Avaya Proactive Contact

Release 3.0

Planning and Prerequisites

07-300490

March 2007

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Preface

This section contains the following topics:

Purpose

The purpose of this guide is to provide detailed information for the planning and prerequisites of the installation of the following Avaya Proactive Contact implementations:

- Avaya Proactive Contact System
- Avaya Proactive Contact with PG230
- Avaya Proactive Contact with CTI (Computer Telephony Integration)

Audience

This guide is intended primarily for those who use Avaya Proactive Contact. You should use this guide as an information source for planning the installation of your Avaya Proactive Contact.

The audience for this manual includes:

- Application consultants
- Integration consultants
- Avaya Business Partners
- Customers

Reasons for reissue

Avaya Proactive Contact 3.0 is a major new release of the Avaya Predictive Dialing System (PDS), featuring substantial advances in core functionality, new deployment options, and updates to the underlying platform technology.

Avaya Proactive Contact 3.0 provides you with three system deployment options tailored to meet your specific call center requirements:

- Avaya Proactive Contact with computer telephony interface (CTI)
- Avaya Proactive Contact with Avaya Proactive Contact Gateway PG230 (available with an Avaya-provided server)
- Avaya Proactive Contact system (with the traditional system cabinet)

This release supports simple migrations between the different deployments allowing you to start small and easily upgrade to a larger system.

All configurations use the same robust Avaya Proactive Contact core predictive dialing application and the same client suite called Avaya Proactive Contact Supervisor. The application suite includes Monitor, Editor, Analyst, and a new Health Manager application designed to help you monitor and administer system functions. Changes were also made to provide a more robust, simplified version of the current feature set, as well as simplified configuration and installation of the system. Powerful tools such as Hierarchy Manager and Completion Code Manager continue to be supported.

Avaya Proactive Contact 3.0 introduces an updated predictive dialing algorithm with a revolutionary operating mode called Cruise Control, which allows you to achieve even higher operational efficiencies than were previously possible with Avaya PDS version 12.0.

Avaya Proactive Contact 3.0 is now available with increased capacities for the traditional cabinet and PG230 systems (CTI implementations remain at the previous capacity levels). Capacities for both concurrent agents and outbound trunks have been significantly increased to almost double the current capacities of 240 agents and 480 trunks. Actual agent and trunk maximum capacities differ based upon trunk configuration parameters. To implement these increased capacities, hardware upgrades may be required.

With this release, Avaya will no longer provide an Administrator console device. You are required to supply a PC or other device capable of connecting to the system to perform administrative tasks using the the Digital Switch menu system, the UNIX command and directory system, and the Console Server device interface.

Related documents

- *Using Avaya Proactive Contact Supervisor* (07-300489)

- *Administering Avaya Proactive Contact (UNIX-based Interface)* (07-300488)
- *Using Avaya Proactive Contact Anaylst* (07-300496)
- *Avaya Proactive Contact Safety and Regulatory Information* (Comcode: 700434442)
- *What's New in Avaya Proactive Contact 3.0* (07-300486)
- *What's New in Avaya Proactive Contact 3.0 Service Pack 1* (07-600948)
- *Maintaining and Troubleshooting Avaya Proactive Contact*
- *Avaya Proactive Contact Documentation Library (CD-ROM)* (Comcode: 700381858)

For a list of all related Product Support Notices, software downloads, and other support information, go to http://support.avaya.com.

Chapter 1: Overview

Avaya Proactive Contact is a powerful telephone call management system that provides outbound call generation and placement. It uses proprietary application software running on a system controller. Avaya Proactive Contact is a suite of telephony hardware and software that automates and synchronizes the activities of your call center.

Avaya Proactive Contact contains exclusive technologies that include the most accurate predictive dialer and call progress analysis tools in the industry. It also includes a sophisticated call blending system that provides multiple options for integrating inbound and outbound calls.

This section includes the following topics:

Deployment options

Avaya Proactive Contact offers three deployment options to provide proactive contact capabilities in moderate and high call-volume markets. Each option has its own components and requirements. For more information, see Hardware components on page 23.

This section describes these deployment options to help you identify and plan for the option you have chosen.

Avaya Proactive Contact System

In an Avaya Proactive Contact System implementation, the dialing system components are provided in a single system cabinet. You are responsible for voice messaging software that creates messages and scripts on the dialer.

The Avaya Proactive Contact System works with the equipment and operations of your call center to perform call center tasks. The main functions of the Avaya Proactive Contact System include:

- Receiving customer records from the host computer of your call center
- Selecting and sorting customer records based on the business goals of your call center
- Allowing agents to update customer information on an agent screen or on the host
- Passing specific call types to agents
- Adjusting the calling pace to meet the productivity and quality requirements of your call center
- Monitoring ACD inbound traffic and predicting when to acquire and release ACD agents for outbound calling (Agent Blending)
- Supporting outbound, inbound, and blend jobs
- Generating a variety of reports, including job, agent, system, and administrative
- Uploading updated record information to the host (optional)

For more information, see Avaya Proactive Contact System specification on page 50.

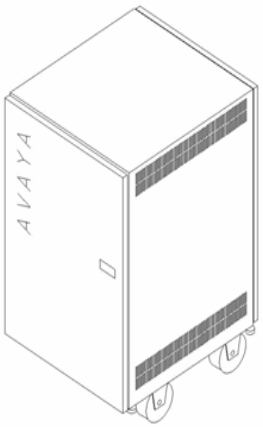
Avaya Proactive Contact with PG230

Avaya Proactive Contact with PG230 implementation uses the same components as the Avaya Proactive Contact System implementation but offers it in a choice of two styles: a small cabinet or rack mountable components.

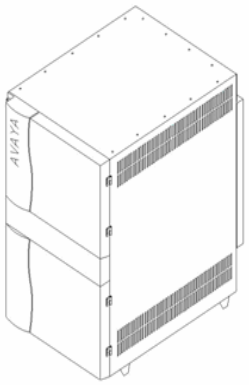
With an Avaya Proactive Contact with PG230 implementation, Avaya provides the Avaya PG230 switch and a DVD containing the Avaya Proactive Contact software applications. You supply the other system components including voice messaging software to create messages and scripts on the dialer.

This implementation provides latitude when sourcing the system components, which can result in a greater cost savings.

The PG230 option is available in two different cabinets – the traditional PG230 cabinet with casters, and the PG230RM cabinet. The following diagram illustrates the PG230 cabinet with casters and the PG230RM cabinet, respectively.



PG230 Cabinet
(Floor model with casters)



PG230RM Cabinet
(Rack mount)

Note:

Most of the information specific to Avaya Proactive Contact with PG230 applies to both the PG230 cabinet and the PG230RM cabinet. Unless otherwise specified, the term PG230, and related descriptions and discussions, applies to both the PG230 and PG230RM cabinet implementations.

The main functions of the PG230 implementation include:

- Receiving customer records from the host computer at your call center
- Selecting and sorting customer records based on the business goals of your call center
- Allowing agents to update customer information on an agent screen or on the host
- Passing specific call types to agents
- Adjusting the calling pace to meet the productivity and quality requirements of your call center
- Monitoring ACD inbound traffic and predicting when to acquire and release ACD agents for outbound calling (Agent Blending)

- Supporting outbound, inbound, and blend jobs
- Generating a variety of reports, including job, agent, system, and administrative
- Uploading updated record information to the host (optional)

For more information, see Avaya PG230 system cabinet on page 58.

Avaya Proactive Contact with CTI

Avaya Proactive Contact with CTI is a CTI-based dialer software solution that uses Avaya MultiVantage Application Enablement Services (AE Services) to communicate with Avaya Communication Manager (CM).

Note:

If you currently use Avaya CT, you can configure Avaya Proactive Contact to use Avaya CT 1.3 in place of AE Services to communicate with ACM.

The main functions of Avaya Proactive Contact with CTI include:

- Receiving customer records from the host computer of the call center
- Selecting and sorting customer records based on the business goals of the call center
- Allowing agents to update customer information on an agent screen or on the host
- Passing specific call types to agents
- Adjusting the calling pace to meet the productivity and quality requirements of your call center
- Monitoring ACD inbound traffic and predicting when to acquire and release ACD agents for outbound calling (Agent Blending)
- Supporting outbound jobs
- Generating a variety of reports, including job, agent, system, and administrative
- Uploading updated record information to the host (optional)

Avaya Proactive Contact with CTI does not support transferring and conferencing calls. By default, the transfer and conference buttons of the agent are disabled. Operators do not have their transfer and conference buttons disabled, so the person who is configuring your Avaya Proactive Contact with CTI must disable the buttons of the operator.

Pod deployment options

Up to four Avaya Proactive Contact systems can be configured in a pod, which is a group of Avaya Proactive Contact systems. All the systems in the pod must be the same type, for example, all Avaya Proactive Contact Systems, all PG230 systems, or all CTI systems.

Shared features

In a pod, the systems are connected through a middle-tier server. Connecting systems together into a pod allows you to share the following features among systems:

- Calling lists
- Jobs
- Phone strategies
- Record selections
- Logins

A pod environment greatly increases the outreach capacity of your company. Using pod functionality, you can manage up to four systems in a distributed architecture through a single, unified administration and supervisor interface.

To support pod functionality, Avaya Proactive Contact Supervisor makes it easy for you to manage operations and monitor traffic and workload across the pod network.

Shared calling list - With Avaya Proactive Contact, you can run a job that uses a calling list from a different system. You can use any system in a pod to dial the calling list of another system (within that same pod). Multiple systems calling the same calling list at the same time provides scalability on a single campaign beyond the physical agent limitation of one system.

The primary advantage of a shared calling list is speed. Imagine a job with one million records that finishes in five hours. The shared list feature allows the agent capacity of multiple systems to be used for a single job. For example, a supervisor can use a single command to create and start a job on each system in a pod. Once agents are logged in to each system, the supervisor can monitor all their activity from a single, real-time view.

Pod management - The pod implemention option allows you to manage, monitor, and control all systems in a pod from a single Supervisor workstation.

- Manage agent logins

  You can create and manage logins and passwords for multiple systems from a single system. For example, a login and password created on one system can be used on any system in the pod.

- Monitor campaigns and jobs

  Monitor supports multiple systems across the pod. For example, real-time job data from multiple systems can be aggregated into a single view of the overall pod.

- Control campaigns and jobs

  Editor provides control functions for all systems within a pod. One supervisor can stop and start jobs, adjust Expert Calling Ratio, assign line pools, and perform other job control functions from a single Supervisor workstation.

- Administer systems

  Supervisor applications and tools provide administration across all systems in a pod, for example, copying, deleting, and modifying phone strategies, record selections, or jobs, regardless of the system on which they reside.

Primary and secondary systems

Within a pod, one system is configured as the primary system which coordinates data management with the database and the secondary systems in the pod.

Primary system - The primary system runs the middle-tier software, essentially controlling and coordinating data management. Each pod must have a primary system. Other systems feed data to the middle-tier of the primary system that processes the data and makes it available for monitoring and reporting. In this way, the system supervisor can view status or create reports that include the operation of all systems in the pod.

Secondary system(s) - The secondary system(s) are configured to assume primary system functions if the primary system fails.

Pod impacts

If you work with a pod containing two to four systems, there are special considerations to think about as you create ways to manage, control, and administer settings across multiple systems.

Multiple systems - Monitor always displays data for all systems in a pod. However, the controls for a pod are turned off by default. You can turn on the pod control by selecting **Settings > Options**. Select those systems in a pod to view.

Once the pod control is turned on, each job control dialog box shows a check mark, for example, **Job Linking** or **Change Time Zones.** To control a single system, clear the check box.

Completion codes - Completion codes and their corresponding code numbers and code descriptions are contained within a system file named compcode.cfg. Each system has one compcode.cfg file.

Completion codes are used in a variety of ways. Initially, the agent uses completion codes to end a call with a customer and to mark the call outcome on the customer record. Completion codes are also used as part of reporting. Completion codes are essential to accurate reporting and to determine the success of a campaign.

If there are four systems in a pod, there are four compcode.cfg files. You must keep these four completion code files in sync for several reasons:

- Agents use the same codes for the same call outcome.
- Completion codes reporting is accurate.
- Troubleshooting for reasons of inaccurate completion codes is eliminated.

- All system completion codes are kept in sync.
- Data is effectively aggregated across systems. Completion code descriptions and completion code assignments (RPC, Abandon, Closure) must remain consistent across all systems in a pod.

Jobs - Jobs must be named carefully. Use the following guidelines when creating or modifying jobs:

- Do not create multiple jobs on multiple systems with the same name if they have different job parameters. When you use the same name on jobs, you limit your ability to aggregate like data across multiple systems.
- If you want to control "like" jobs in a single step (jobs with similar or like parameters), name the jobs the same on different systems. For example, if you want to change the quota on job1 on all systems, you can do so in one step.

Features

Standard features list

The following table describes the standard features provided with Avaya Proactive Contact:

Feature name	Description
Detect the beep	Leaves a message after detecting the last beep on an answering machine. Unavailable with Avaya Proactive Contact with CTI.
Expert Calling Ratio	Allows supervisors to control the dialing pace of a job.
Job Linking	Links jobs to agents to enable the agents to move from job to job.
Letter Generation	Allows supervisors to create a list of customer data (names, addresses, and other record information) to create customized form letters from their calling lists. Letter Generation extracts the information, and that information is exported locally. Once this information is gathered, supervisors can create a mail merge letter that uses this information.
Line Pool	Allows multiple jobs to share common line pools. This line pooling enable Avaya Proactive Contact to distribute lines to active jobs.
List Distribution	Helps you analyze the records in your outbound calling list and creates reports that count the records in the categories (or distributions) you set. List Distribution assists with job planning and analysis.
Managed Dialing	Allows agents to preview a customer record before calling that customer.
PC Analysis	Gathers job, agent, and calling list information. For more information, see PC Analysis on page 26.
Record Edit	Allows the supervisor to view, edit, or delete customer records on a calling list. The supervisor can specify data to locate the customer record and display it on the Supervisor workstation where the supervisor can view, edit, or delete the record. This feature has two options: Standard Record Edit and Quick Search. Your system is configured with both options unless otherwise requested.

Feature name	Description
Standard Record Edit	Searches through a calling list from top to bottom based on the values entered in one or more fields. Standard Record Edit is slower than Quick Search, but it accepts field values that contain special characters such as hyphens (-) and wildcard characters (*). It also allows searches on multiple fields.
Quick Search	Uses the value entered in a single field to locate a record. This field is the same field used by the system to index your calling lists. This field should be unique to each record. Quick Search is a fast retrieval method that is used for large calling lists. It does not accept field values that contain special characters.
Screenbuilder	Allows supervisors to design and modify agent screens.
Ziptones	Indicates the sounds that Avaya Proactive Contact transmits to the headset of an agent immediately before connecting that agent with a customer. Define two ziptones during the specification process: one for inbound calls and one for outbound calls. With a different ziptone for inbound and outbound calls, agents can quickly determine by the sound whether they are handling an inbound or an outbound call.

Configured features list

The following table describes the configured features provided with Avaya Proactive Contact:

Feature name	Description
Agent Owned Recall (AOR)	Allows an agent to set a recall for a customer. The agent who initially set the recall handles the call when the call is placed again.
ANI/DNIS	Automatically displays the ANI (Automatic Number Identification) which is the number the customer is calling from on inbound calls. This ANI display enables the inbound agent to see the phone number that the customer is calling from. The DNIS (Dialed Number Identification Service) displays the number the inbound caller dialed.

Feature name	Description
Autoplay	Allows Avaya Proactive Contact to automatically deliver a message when it detects that an answering machine has picked up the line on the other end. During the process, if Avaya Proactive Contact detects that a live voice has answered the call, Avaya Proactive Contact passes the call to an agent.
Completion Codes	Identifies the results of a call. When a customer answers a phone call, Avaya Proactive Contact transfers the call to an agent. At the end of the call, the agent records its outcome by pressing an agent key associated with a completion code. The completion code can be an agent-generated code that you specified or a standard system completion code. If the system does not pass the call to an agent, Avaya Proactive Contact generates the completion code. Avaya Proactive Contact stores the completion codes and uses them to select records for calling and reports. The system identifies completion codes by a code number, call result, and description. • The call result is a short name that makes the code easier for agents to identify. • The description provides call center supervisors with a more concise description. Each system has one set of completion codes. You specify the agent generated codes to use in the specification process. For a list of the available completion codes, see Completion codes on page 16.
Campaign Update	Eliminates outbound calls to customers who have already been in contact with an agent. If the customer called into an inbound agent, the record is removed from the calling activities of the day.
Do Not Call List	Maintains a list of records that Avaya Proactive Contact does not call during a job.
File Transfer and schedules	Identifies the information used by Avaya Proactive Contact to transfer data between the host and Avaya Proactive Contact. During the specification process, you identify the following information: • Time to start the data transfer, whether to retry transfers when an attempt fails • Time between each transfer attempt • Time to stop transfer attempts • Days to conduct the data transfer • Type of transfer: download from the host to Avaya Proactive Contact and upload from Avaya Proactive Contact to the host • Calling lists to process

Feature name	Description
Infinite job	Allows the system to append records to a calling list during calling activities.
Job Specific Messaging	Links outbound wait queue messages to specific jobs. Job Specific Messaging allows Avaya Proactive Contact to load specific wait queue messages when the system starts a job rather than load all wait queue messages when the system reboots. The system clears the loaded messages when the job ends. Clearing loaded messages is useful when your application requires more than 247 messages or the accumulative duration of all messages exceeds 30 minutes.
List Processing	Occurs whenever a list is updated. Whenever a download occurs, your system is configured to look at the calling lists and update or extract information from the calling lists. During list processing, supervisors can manipulate and update data on current calling from a previous list.
Native Voice and Data transfer	Allows outbound or blend agents to transfer a call and its associated data to an available inbound or blend agent. Unavailable on Avaya Proactive Contact with CTI.
Record Specific Messaging	Links outbound wait queue messages to selected criteria in calling list fields. In Avaya Proactive Contact with CTI, the message is linked to the line pool. During calling activities, Avaya Proactive Contact can play messages specific to zip code, city, account type, or any field in the calling list. During the specification process, you specify the messages a customer hears while waiting in the outbound wait queue.
Sales Verification	Automatically creates a second job to confirm sales or commitments later in the campaign.

Feature name	Description
System wait queue messages	Provides the messages that customers hear while waiting for an agent or when placing a call after business hours. You can also create messages and assign them to agent keys. When an agent presses the agent key, Avaya Proactive Contact plays the assigned messages. System wait queue messages are commonly strung together to create a script. When creating system wait queue messages, create individual messages, and then assign one or more of the messages to a message script. Also indicates the time (in seconds) Avaya Proactive Contact pauses between messages. The following example is a sample message script: 1. "Hold the line. I have a call for this number." 2. Pause for 5 seconds 3. "Sorry to keep you waiting. I'm still trying to connect." 4. Pause for 5 seconds. 5. "Still trying to connect, continue to hold." 6. Pause for 5 seconds. 7. "Thank you for waiting. Sorry I could not connect you. Try again later." 8. Avaya Proactive Contact disconnects the line.
VACANT	A valid number that is not currently assigned to a subscriber.
Virtual agent	Part of an agentless job. Its sole function is to deliver outbound messages to customers.
Wait queues	A holding area for calls the system cannot pass immediately to agents. Customers often hear system messages while waiting in a wait queue.
Wait queue indicators	A message that appears on the screen of an agent when Avaya Proactive Contact passes a call from the wait queue to the agent. Wait queue indicators can show the amount of time that the customer waited for the agent. Wait queue indicators can also show a brief message that the agent reads to the customer. Base each indicator on how long customers waited for an agent. An agent screen can display up to four wait queue indicators in one set. Define one set of indicators for outbound and inbound jobs or define two sets.

Tip:

When you define wait queue indicators, decide whether the agents will read these messages to the customer or inform the agent of the information the customer received. If an agent reads the message to a customer, try to coordinate the text with the system messages the customer hears while waiting.

Hardware components

The following table lists the hardware components required for each implementation option and indicates who provides the component:

Component	Avaya Proactive Contact System	Avaya Proactive Contact with PG230	Avaya Proactive Contact with CTI
System cabinet	Avaya	Avaya	Avaya
Digital switch	Avaya	Avaya	Avaya
I/O Transition Module	Avaya	Avaya	Avaya
System Controller (CPU)	Avaya	Avaya or Customer	Avaya or Customer
Maintenance Modem	Avaya[1]	Avaya[1]	Avaya[1]
Administrator console	Customer	Customer	Customer
Console/Remote Access Server	Avaya	Customer	Customer
Agent workstation	Customer	Customer	Customer
Supervisor workstation	Customer	Customer	Customer
Printers	Customer	Customer	Customer
Uninterruptible Power Supply (UPS)	Avaya	Customer[2]	Customer[2]
Digital Data Storage (DDS) Tape Device	Avaya	Customer	Customer
Disk Mirroring	Avaya[2]	Customer[2]	Customer[2]
Ethernet Network Interface	Avaya	Customer	Customer

1. Maintenance modems are included in the United States and Canada. Elsewhere, the maintenance modem must be provided by the customer or Avaya Business Partner.

2. Optional

Software components

The Avaya Proactive Contact system contains the following software componets:

- Supervisor applications
- Internet Monitor
- Middle-tier applications
- Agent applications

Supervisor applications

The Supervisor applications (previously named Campaign Director) provide you with the tools to configure jobs, select records, define calling strategies, and report on real-time and historical operations. Supervisor applications include Monitor, Editor, Analyst, and Supervisor tools.

New Features

This release of the Supervisor applications encompasses all the features of earlier versions of Campaign Director and some new features. The following table describes the new features that were added to the Supervisor applications for this release:

New Feature	Description
Access privileges	User validation and access control features that identify the privilege level of the user. They control which applications are available to the user based on the privilege level of the user.
Data performance	Enhancements in the way Monitor handles requests and receives real-time data from the middle-tier system. In addition to these enhancements, Monitor now receives compliance data through the middle-tier system rather than through a socket connection to the dialer. Compliance Monitor, formerly a separate application, is incorporated as a view within Monitor.
Completion codes	New completion codes added to the application. A simple completion code set across all the dialers in a pod. A new completion code attribute that flags a code for inclusion in the Analyst Completion Codes reports.
Cruise Control	New feature that enhances the call pacing capabilities by maximizing the number of call attempts while maintaining an the desired cumulative service level.

Monitor

Use Monitor to identify system resource allocations, set alarms, observe job goals, and display aspects of job productivity. You can also monitor system calling activities such as job completion percentages and current agent statistics.

Using Monitor, you can create a complete set of customizable views that display only those data elements that you want to see. You can sort the information to further define the order in which the data elements are displayed. Most important, you can set the scope of the data by dialer, by supervisor, or by job. Custom views can be saved and reused at any time.

Monitor performs the following activities:

- Open a view set
- Set a job goal
- Select agents to view
- Choose dialers to include in views
- Find an agent
- Shut down a job
- Change job settings
- Link a job
- Reassign phone lines
- Send a messages to agents

Editor

Editor includes sample phone strategies, record selections, and jobs that you can review to verify that they meet your campaign objectives. If a job does not meet your objectives, you can modify its settings. Modifications to settings include creating or editing a phone strategy or record selection. You can also create a new job to handle other campaign goals.

Use Editor to perform the following tasks in a single-dialer or a multi-dialer pod environment:

- Create and start jobs
- Change record selection settings
- Edit phone strategies
- Set agent blending settings

Analyst

Use the Analyst business and reporting tool to measure call center performance using historical information about agents, jobs, and other statistics stored by Avaya Proactive Contact after jobs have ended.

For more information on the Avaya Proactive Contact reporting capabilities, see Reporting tool on page 26.

Supervisor tools

Supervisor Tools are accessed from the **Tools** menu in the Supervisor applications. The following table describes the Supervisor Tools indicates the application from which the tool is started:

Tool name	Description	Started from
Agent Blending	Configures domains and domain groups and view Automatic Call Distributor (ACD) statistics	Monitor, Editor
Hierarchy Manager	Creates, views, or modifies agent, job, or dialer hierarchies Analyst and Monitor use the hierarchy definitions to group data in a way that makes sense to your business	Monitor, Analyst
Completion Code Manager	Adds Right Party Contact (RPC), Abandon, and Closure assignments to existing completion codes. Completion codes can have one, two, or all three assignments. These assignments are used to total data based on your business needs.	Monitor, Editor, Analyst
PC Analysis Telnet	Retrieves report data files from the dialer for external reporting	Analyst
System Telnet	Provides access to the dialer through a Unix interface	Monitor, Editor, Analyst

Reporting tool

Use the Analyst Reporting tool to gather crucial information about a call center. Avaya Proactive Contact provides various reports that you can use to collect the precise information you need to keep your call center productive.

Analyst - Avaya Proactive Contact stores historical information about agents, jobs, and various other statistics after jobs have ended. Analyst is a business and reporting tool used to measure call center performance. The Analyst application provides numerous reports to track information by agent, job, time-of-the-day, and other statistics.

PC Analysis - Use the PC Analysis tool to gather data from Avaya Proactive Contact to prepare reports and charts. You can also mail merge letters (Letter Generator) and spreadsheets using your preferred PC software.

PC Analysis extracts data from the following sources:

- Job history
- Agent history
- Calling information statistics
- Calling transactions statistics
- Calling list

PC Analysis extract data example

The following table shows the type of data that can be obtained from the extract sources.

Extract source	Sample data extracted
Job history	Job name Job number Job type Job date Job start time Job end time Job talk time Job idle time
Agent history	Job name Job number Operator Operator date Operator login time Operator logout time Operator talk time Operator idle time
Calling information statistics	Job number Call date Call release time Operator Operator type

Extract source	Sample data extracted
Calling transaction statistics	Job number Call date Call release time Time in wait queue Operator Phone line Completion code Phone number Recall count
Calling list	Data from any field on your calling list

Avaya Proactive Contact system reports - During the specification process, you can identify the columns and fields to be used in the Avaya Proactive system call list reports. The following table describes these reports:

Report name	Description
Release Code Report	This report contains customer information based on system and agent call completion codes. It can contain up to 200 codes. System supervisors can generate a Release Code Report for printing or viewing on the supervisor workstation.
Days On Report	While processing a download file, the system keeps track of the number of times a record appears on the same call list. The system flags any record downloaded for more than a specified number of consecutive days. These records are still eligible for calling. This report lists account information for records that exceed the maximum number of days.
Reject Report	While processing a download file, the system rejects duplicate records and records with invalid phone numbers. A phone number can be invalid for several reasons, including wrong length and missing or invalid area code. This report lists records that Avaya Proactive Contact rejected for calling.

Internet Monitor

You can use Avaya Proactive Contact Internet Monitor to monitor job and agent activity on the system. If you have a network web server, you can allocate space (approximately 40 MB) for the system to deliver system information via NFS mount. You can view the information from a

network PC using an internet browser (Netscape 2.0 or Microsoft Internet Explore 3.x or later). Internet Monitor transfers approximately 40 KB of data every 15 seconds.

Middle-tier applications

Middle-tier applications are components that provide different types of data services to the Supervisor applications. These data services relate to the following:

- Historical Reporting
- Exception/Alerts Monitoring
- Command and Control Services Integration for Supervisor
- Session Management
- Middle-tier Configuration Tools
- Real Time Monitoring Hierarchy Editor
- Health and Services Monitor, Oracle client application
- Open Database Connectivity (ODBC) Services

This release of the middle-tier applications provides some new features. The following table describes the features that were added to the middle-tier applications in this release:

New feature	Description
ACE+TAO Library Updates	Introduced HealthBridge and ACE+TAO 1.4 to provide health information about Avaya Proactive Contact to the Health Manager application. This information includes the status of services on the Dialing servers and system health (CPU, disk, memory, and processes).
Health Manager application	Provides information about programs and processes running on your Avaya Proactive Contact system or group (pod) of systems. It also enables you to monitor the overall system health and start and stop services across several subsystem components.
Editor application	Updated to support administrative functionality
Monitor application	Updated with data service enhancements

Agent applications

Agent applications consist of the following software components:

Agent screens

Agents view and enter customer information and record call results in fields on an agent screen. Avaya Proactive Contact stores the data entered in these fields.

During the specification process, design one or more character-based screens for outbound calls and for inbound calls, if necessary. Each character-based screen can contain up to 78 characters on a line and have 23 lines of text that consist of data fields. Use **Screenbuilder** to add and modify character-based screens.

If your agent workstations run on Windows, you need to purchase the optional Agent API (Application Programming Interface) software to develop graphical-based screens. You also need application development software for Visual Basic or C++ application development.

If you purchased the ANI/DNIS option, inbound agent screens can also display the ANI field and the DNIS field.

Outbound screens

Agents usually update customer records directly on the host screen. The Avaya Proactive Contact Agent screen contains one or two fields that identify a customer record, for example, ACCTNUM or PHONE1.

On an outbound job, Avaya Proactive Contact completes these fields when the system connects a call. The system uses the field data to retrieve and display the host record.

Inbound screens

Inbound screens are provided with the Avaya Proactive Contact System and Avaya Proactive Contact with PG230 options. They are unavailable on Avaya Proactive Contact with CTI.

On an inbound job, the agent receives an inbound screen. The agent then toggles to the host screen to update the customer information. Once the call is completed, the agent can use Campaign Update to update the outbound calling list. The agent uses the Cut Account Number function key to copy and paste the account number to the Avaya Proactive Contact agent screen. The agent then releases the inbound record. The system searches for the account number in the outbound calling list and marks the customer record as Do Not Call (uncallable).

Configuring agent applications

During the specification process, a representative from your company works with your Avaya representative to configure some of the Avaya Proactive Contact features for your call center.

This section describes those configured Avaya Proactive Contact features.

Agent keys - Agents use function keys to record call results and release phone lines. Agents can also use function keys to start actions such as:

- Playing a recorded message for a customer

- Logging off the job
- Switching screens

Agent keys can be function keys, key combinations, or other programmable keys. You can design one key set for all applications, or you can design multiple key sets.

During the specification process, define agent keys for the following functions and call completion codes:

- Standard functions (such as Get Record and Set Recall)
- Standard call completion codes (such as NOANSWER)
- Optional company-defined call completion codes (such as Left Message and Promise to Pay)

The following table describes the standard agent key functions:

Function	Description
Get record	Request the host record that matches the record field value.
Release record	Release the current record and request a new one.
Toggle	Switch the display between the host and Avaya Proactive Contact.
Set Recall	Schedule a callback at a specific time.
Manual Hangup	Hang up the call without releasing the line so the agent can place a manual call. Unavailable with Avaya Proactive Contact with CTI.
Manual Call	Place a call. Avaya Proactive Contact prompts the agent for a phone number. Unavailable with Avaya Proactive Contact with CTI.
Field Call	Call the number that appears in a record field.
Transfer Call	Transfer a call to another phone number. Unavailable with Avaya Proactive Contact with CTI.
Dial Ahead	Call the customer shown on the screen. Enabled through the Managed Dialing user feature.
Logout	Request to stop working in the current job.
Ear volume	Control the volume in the ear piece of the headset. Not applicable to Avaya Proactive Contact with CTI because it is on the extension of the agent.

Function	Description
Mouth volume	Control the volume in the mouthpiece of the headset. Not applicable to Avaya Proactive Contact with CTI because it is on the extension of the agent.
Go To	Move between multiple screens.

Note:

When you use a keyboard, assign a single key — such as a function key — for frequently used functions. Use multiple function key combinations such as **Shift+F1** for functions used less frequently.

Supported platforms

Avaya Proactive Contact requires the following browsers, databases, and operating systems. Refer to the Avaya Support web site for the most current list of supported platforms. This product and its full set of features is supported on all the listed platforms.

Component	Required platforms
Avaya Proactive Contact System CPU	Hewlett Packard HP-UX 11i
Database	Oracle 10g 32-bit (on HP-UX)
Runtime Software	Crystal Reports10
Supervisor Operating System	Microsoft Windows 2000 Microsoft Windows XP (current Service Pack)
Agent Desktop Operating System	Microsoft Windows 2000 Microsoft Windows XP (current Service Pack)
Internet Monitor	Microsoft Internet Explorer 6.0 Service Pack 1
CTI	Avaya Application Enablement Services (AE Services) 3.0 or Avaya CT 1.3
Digital Switches	Avaya: G3R/3Gi/G3Si DEFINITY 8.3 G3R/3Gi/G3Si DEFINITY 9 MultiVantage 1.1 MultiVantage 1.2 MultiVantage 1.3 MultiVantage 2.0 MultiVantage 2.3 IP 8100 IP 8300 IP 8500 IP 8700
Multi-Site Heterogeneous Switch	Avaya: G3R/3Gi/G3Si DEFINITY 8.3 with Avaya CT 1.3 G3R/3Gi/G3Si DEFINITY 9 with Avaya CT 1.3 MultiVantage 1.1 with Avaya CT 1.3 MultiVantage 1.2 with Avaya CT 1.3 MultiVantage 1.3 with Avaya CT 1.3
Interactive Voice Response (IVR)	Avaya IR 1.2 Avaya IR 2.0

Chapter 2: Implementation process

Avaya Proactive Contact fits within the operations of your current call center. Both your Avaya project manager and your company prepare for its installation. Preparations occur during a multiple-week process called project implementation.

This section includes the following topics:

Project kickoff

During the Project Kickoff phase, your company designates a project team, and your Avaya project manager designates an Avaya project implementation team. The terms used for titles and team members in this guide represent typical teams. Your Avaya vendor can structure teams differently. Use this information as a guide. For information more specific to your implementation, see the agreement with your vendor.

Your Avaya project manager provides you with an *Implementation Guide,* a *Project Plan,* and a *Site Preparation Checklist*.

Your project team tasks

The structure of your project team depends on your Avaya Proactive Contact design. Some team members might be third-party vendors or Avaya vendors. One person could perform one or more tasks.

The following table describes the primary roles of your project team members.

Your project team member	Primary role
Project Manager	Responsible for coordinating activities, making final decisions, and overseeing the implementation schedule. Your project manager is the primary contact for the Avaya project manager and other Avaya personnel.
System Supervisor	Responsible for conducting the daily Avaya Proactive Contact operations, such as selecting accounts for calling, monitoring the calling process, and generating system reports. Designate one person as the primary system supervisor. This person is responsible for assisting with the Avaya Proactive Contact specification process.
Host application contact	Responsible for creating the download file and processing an upload file on the host computer. Your host application contact must be familiar with host data formats, daily operations, and programming capabilities.
Data communications contact	Responsible for connecting the workstations to the host computer or network and loading the software on the workstations.
Facilities contact	Responsible for providing floor plans, verifying electrical wiring, and receiving Avaya Proactive Contact equipment.
Telecommunications contact	Responsible for setting up phone lines, including programming the switch or Automatic Call Distributor (ACD) to work with Avaya Proactive Contact.

Your project team member	Primary role
Host file transfer contact	Responsible for working with the Avaya file transfer technician. Your host file transfer contact sets up and tests the file transfer between your host computer and Avaya Proactive Contact.
Cable contact	Supervises the technicians responsible for voice, data, and phone cabling.
Data communications contact	Responsible for connecting the workstations to the host computer or network and loading the software on the workstations.
Facilities contact	Responsible for providing floor plans, verifying electrical wiring, and receiving Avaya Proactive Contact equipment.
Telecommunications contact	Responsible for setting up phone lines, including programming the switch or Automatic Call Distributor (ACD) to work with Avaya Proactive Contact.

Avaya project team tasks

The Avaya project manager assembles the members of the Avaya project team and works closely with your project team. The Avaya project team is the primary contact for your company. This team answers questions about the Avaya Proactive Contact installation and ensures that your company receives the information required to successfully complete installation tasks.

The Avaya project team comprises the members of your project team to meet your needs. The following table describes typical team members.

Avaya project team member	Primary Role
Avaya Project Manager	Conducts the project kickoff meeting and is your main contact throughout implementation. Responsible for coordinating activities, overseeing the schedule, and working with you to determine how Avaya Proactive Contact can work in your environment.
Account Executive	Responsible for the primary relationship between your Avaya Proactive Contact vendor and your company.
Solutions Architect	Helps identify all the technical connectivity requirements for your Avaya Proactive Contact implementation.

Avaya project team member	Primary Role
Integration Consultant (IC)	Installs your Avaya Proactive Contact and provides on-site overview training for the system supervisors and agents.
Application Consultant (AC)	Conducts the specification workshop and gathers Avaya Proactive Contact specifications for your installation.

Once your company and your Avaya representative assemble project teams, the Avaya project manager provides an *Implementation Guide* and develops a *Project Plan* and a *Site Preparation Checklist.* Your company assigns resources and tasks based on these documents and the recommendations of your project manager.

Implementation guide - The *Implementation Guide* provides your project management with an overview of the people and tasks involved in:

- Preparing for the installation
- Installing Avaya Proactive Contact
- Supporting Avaya Proactive Contact

This guide describes each major milestone and due date. To keep the project on schedule, the teams must meet each due date.

The following table provides examples of major milestones for the project managers:

Major Milestones for	
Your Project Manager	**Avaya Project Manager**
Complete the worksheets and deliver them to the Avaya Proactive Contact Project Team.	Deliver a site preparation checklist to your project team.
Create sample download files and deliver them to the Avaya Proactive Contact Project Team.	Complete the software specifications package.
Deliver the Project Plan.	Complete the Avaya Proactive Contact configuration.
Complete site preparations.	
Deliver upload test data to your project team.	

Project plan - The *Project Plan* outlines the tasks of the team, starting with an introductory conference call and ending with your acceptance of your new Avaya Proactive Contact system.

This plan identifies the responsible team members and due dates for each task. Pay careful attention to the due dates of your company. Missing a deadline can affect the live calling date scheduled for your Avaya Proactive Contact system.

Site preparation checklist - The Avaya Proactive Contact project manager customizes the *Site Preparation Checklist* to fit your site-specific requirements. The checklist provides the detailed specifications required to prepare your site for the integration of your Avaya Proactive Contact system. For more information, see Site preparation on page 40.

Site preparation

Your Avaya project manager works with you to determine your site preparation requirements which can include:

- Providing a dedicated power circuit and ground wiring
- Installing AE Services (Avaya Proactive Contact with CTI option)
- Assessing and meeting space and environmental needs
- Ordering phone lines for outbound, inbound, transfer, and agent headset capabilities
- Installing the correct connectors and cables
- Isolating your network traffic from Avaya Proactive Contact traffic
- Providing file transfer capabilities
- Installing and configuring workstations

Your Avaya project manager provides a *Site Preparation Checklist* that outlines specifics for your site.

Some site preparation tasks can require substantial lead time. Having your project team closely monitor the site preparation tasks is critical to the project schedule.

For detailed safety and regulatory information, see *Safety and Regulatory Information for Avaya Proactive Contact*.

Software configuration specifications

At the specifications workshop, representatives from your company discuss Avaya Proactive Contact options with the Avaya Application Consultant and how to complete the specifications. These specifications define how to configure Avaya Proactive Contact software to meet your calling needs.

To help your Avaya vendor assemble and test your new system, your Avaya Application Consultant gathers information about the following items.

Item	Description
Test data	This file, in the download file format, is defined in your Avaya Proactive Contact design worksheets. This file should include at least 250 data records.
File Layout	This layout defines the structure of the information that is sent to Avaya Proactive Contact by FTP (File Transfer Protocol).
Completion Codes	Each record is released with a code that you specify, depending on the outcome of the call.
Agent Screens	The screens that the agents view when Avaya Proactive Contact contacts a customer. You might need to design outbound and inbound screens.
Wait Queue Messages	The recorded messages that are played to customers when an agent is unavailable. You can specify different messages for different scenarios.
IP Addresses	The network addresses used by Avaya Proactive Contact to communicate with the company network. The number of IP addresses depends on the products you purchased and your system configuration.
Training Information	Each person planning on attending the training classes at Avaya must complete the training schedule provided by your Avaya project manager. This information helps the training instructors to structure the classes to meet your needs.

After you and the Avaya Application Consultant approve the specifications package, the project manager sends you a specification letter for your signature. At this point, the Avaya Proactive Contact project team starts configuring your Avaya Proactive Contact. The involvement of your project team is minimal during this phase.

Wait queue messages

The following table shows a sample wait queue message set:

Time in wait queue	Display message (maximum of 20 characters)
0 to 10 seconds	"How may I help you?"
10 to 20 seconds	"Thank you for waiting..."
20 to 30 seconds	On hold for 30 seconds
More than 30 seconds	"I apologize..."

Completion codes

This section describes the agent-generated and system-generated completion codes available with Avaya Proactive Contact 3.0. During the specification process, specify the agent generated codes to use.

Code	Name	Type	Description
000	NOTCALLED	system	The account has not been called.
001	CODE1	system	Reserved for the system.
002	ERROR	system	The system detected an invalid phone number.
003	TIMEOUT	system	The system did not receive a dial tone.
004	HANG_PORT	system	The line was idle after the system dialed the customer record phone number.
005	NOTINZONE	system	The local time for the customer phone is outside calling hours.
006	MOFLASH_B	agent	Used for native voice and data transfer. An agent transfers a call to an inbound agent without remaining on the line (voice and data blind transfer).
007	HANG_TRANS	system	No agent is available for a supervisor transfer.
008	TDSS_HF_B	agent	ADAPTS API: the agent transfers a call without remaining on the call (blind hook flash transfer).
009		system	Reserved for the system.
010		system	Reserved for the system.
011	BUSY	system	The system detected a busy signal.

Code	Name	Type	Description
012	CONTTONE	system	The system detected a continuous tone, such as a fax or a modem.
013	AUTOVOICE	system	The system detected an answering machine.
014	VOICE	system	Interim code when a person is on the line.
015	NOANSWER	system	The call that was placed was not answered.
016	RINGING	agent	Can be user defined but is usually defined as a phone call that was still ringing but was passed to an agent.
017	CUSTHU	agent	Can be user defined but is usually used to define when a customer hangs up while the call is in the wait queue, and the call is still passed to an outbound agent.
019	RECALL	agent	Can be user defined but is usually defined as a recall release.
020-034		agent	Customer-assigned codes used by agents.
035	CANCEL	system	Can be user defined but is usually defined as the agent cancelled the managed call.
036	INTERCEPT	system	Special Information Tone (SIT) received that indicates an operator intercepted the call. For ISDN trunks, set as a D-channel signal.
037	NOCIRCUIT	system	SIT received that indicates the circuits were unavailable. For ISDN trunks, set as a D-channel signal.
038	DISCONN	system	SIT received that indicates the call was a disconnected number. For ISDN trunks, set as a D-channel signal.
039	VACANT	system	SIT received that indicates the call cannot be completed as dialed.
040	REORDER	system	The call resulted in a fast busy tone.
041	R_RINGING	system	Reserved.
042	LINEFAIL	system	A failure on the phone line occurred.
043	OP_RECALL	system	Operator set recall.
044	DTMF_V	system	DTMF tone detected.
045	HU_INB	system	The customer hung up while in the inbound wait queue.

Code	Name	Type	Description
046	HU_OUT	system	The customer hung up while in the outbound wait queue.
047	HANG_INB	system	An agent was unavailable for the inbound call.
048	HANG_OUT	system	An agent was unavailable for the outbound call.
049	OPDIED	system	The agent session ended abnormally.
050	R_HSONHOOK	system	The agent headset disconnected from Avaya Proactive Contact.
051-088		agent	Customer-assigned codes used by agents.
089	MANAGEDA	agent	Managed Dial: Managed non-connection A.
090	MANAGEDB	agent	Managed Dial: Managed non-connection B.
091	VIRTVOICE	system	Virtual Agent: Virtual message to VOICE (to a person).
092	VIRTAUTOV	system	Virtual Agent: Virtual message to AUTOVOICE (to a calling machine).
093	SOLD	agent	Sales Verification: Sold campaign.
094	VERIFIED	agent	Sales Verification: Sale verified.
095	UNVERIFIED	agent	Sales Verification: Sale not verified.
096		system	OFCOM compliance code
097		system	Reserved for the system.
098	AORECALL	agent	Agent Owned Recall.
099		system	Reserved for the system.
100-200		agent	Customer assigned

Training

Your system supervisor, project manager, and other representatives from your company attend Avaya Proactive Contact training courses. These courses include an overview of Avaya Proactive Contact and hands-on training in using the system to prepare for and manage calling activity. In addition, the integration consultant provides an on-site review and works with the supervisors to train a group of agents.

To access available training courses and schedules, go to http://www.avaya.com/learning, and search for *Avaya Proactive Contact*.

Installation

On the scheduled installation date, the Integration Consultant (IC) arrives at your site to complete the installation. The IC also tests Avaya Proactive Contact and conducts a review of the training that the system supervisors received.

The IC works closely with your project team to integrate Avaya Proactive Contact into your environment. Your project team must be available to answer questions related to the installation.

The installation process includes:

- Setting up and testing the hardware
- Installing and testing the software
- Testing the network and telephony connections
- Validating the file transfer procedure
- Conducting overview training with the system supervisors and calling agents
- Achieving live calling

This installation process is followed to ensure seamless integration into your existing calling environment. During this time, the people responsible for facilities, cabling, and phone lines must be available for assistance.

On-site training

After the IC prepares your site for live calling, the IC conducts a review session for the system supervisors. This session reviews the topics and concepts covered during the Avaya Proactive Contact training workshop. Supervisor training also includes a one hour review of Supervisor functionality.

The agent training usually starts the day before live calling. The IC conducts the first session with the system supervisors present. The system supervisors then conduct the remaining sessions with assistance from the IC. This step ensures that the system supervisors are comfortable training new agents.

When the IC arrives, schedule the on-site training. Training can be conducted during normal business hours. When scheduling training, limit the number of agents to eight people per session.

Your Avaya Proactive Contact training team does not provide training and support for the following third party software:

- Microsoft Windows 2000 or XP
- Microsoft Office

- Crystal Reports

System supervisors and agents who are not familiar with these packages can attend outside training prior to the installation.

Live calling date

Usually during the second week of installation, Avaya Proactive Contact starts to place calls to and receive calls from customers.

During live calling, the IC identifies issues related to the installation. After the IC resolves these issues, Avaya Proactive Contact is ready for daily calling operations.

The IC monitors Avaya Proactive Contact during daily operations. The IC makes the transition conference call to your Avaya technical support representative before leaving your site.

Transition conference call

The transition conference call introduces your project team to your Avaya customer support team. The support team is responsible for ongoing Avaya Proactive Contact support. After this call, your company directs all Avaya Proactive Contact customer support questions or concerns to this team. For more information, contact Avaya support for service and support details.

Chapter 3: System hardware specifications

This section describes Avaya Proactive Contact component hardware and environmental requirements for each deployment option.

This section contains the following topics:

Deployment option specifications

Avaya Proactive Contact System specification

To prepare for the installation of your Avaya Proactive Contact System, develop a facilities floor plan that includes the location of each component. Use the specifications in this chapter to determine the requirements of each component and to identify heating, ventilation, and air-conditioning requirements. Do not keep Avaya Proactive Contact or any of its components under the sprinklers in your facility.

In addition to meeting the requirements in this section, you must comply with the requirements in *Avaya Proactive Contact Safety and Regulatory Information*. You must also comply with all local regulations that govern the installation of your Avaya Proactive Contact System. See Avaya Proactive Contact System Site Preparation Checklist on page 147 for a sample of the Site Preparation Checklist for this deployment option.

CAUTION:

Failure to comply with these requirements can lead to severe damage of your Avaya Proactive Contact System equipment.

The Avaya Proactive Contact System deployment option contains the following components:

- Avaya Proactive Contact System cabinet
  - Digital switch
  - Avaya Proactive Contact System CPU
  - Maintenance modem
  - Uninterruptible power supply (UPS)
- Remote access server
- Disk mirroring (optional)
- Ethernet hub
- Administrator console (customer provided)
- Supervisor workstations (customer provided)
- Agent workstations (customer provided)
- Printers (customer provided)

Avaya Proactive Contact with PG230 specification

To prepare for the installation of your PG230, develop a facilities floor or a rack mounting plan. This plan includes the location of each component. Use the specifications in this chapter to determine the requirements of each component and to identify heating, ventilation, and air-conditioning requirements.

In addition to meeting the requirements in this section, you must comply with the requirements in *Avaya Proactive Contact Safety and Regulatory Information*. You must also comply with all local regulations that govern the installation of your PG230. See Avaya Proactive Contact PG230 Site Preparation Checklist on page 171 for a sample of the Site Preparation Checklist for this deployment option.

ELECTROSTATIC ALERT:
Failure to comply with the requirements described in this section can lead to severe damage of your PG230 equipment.

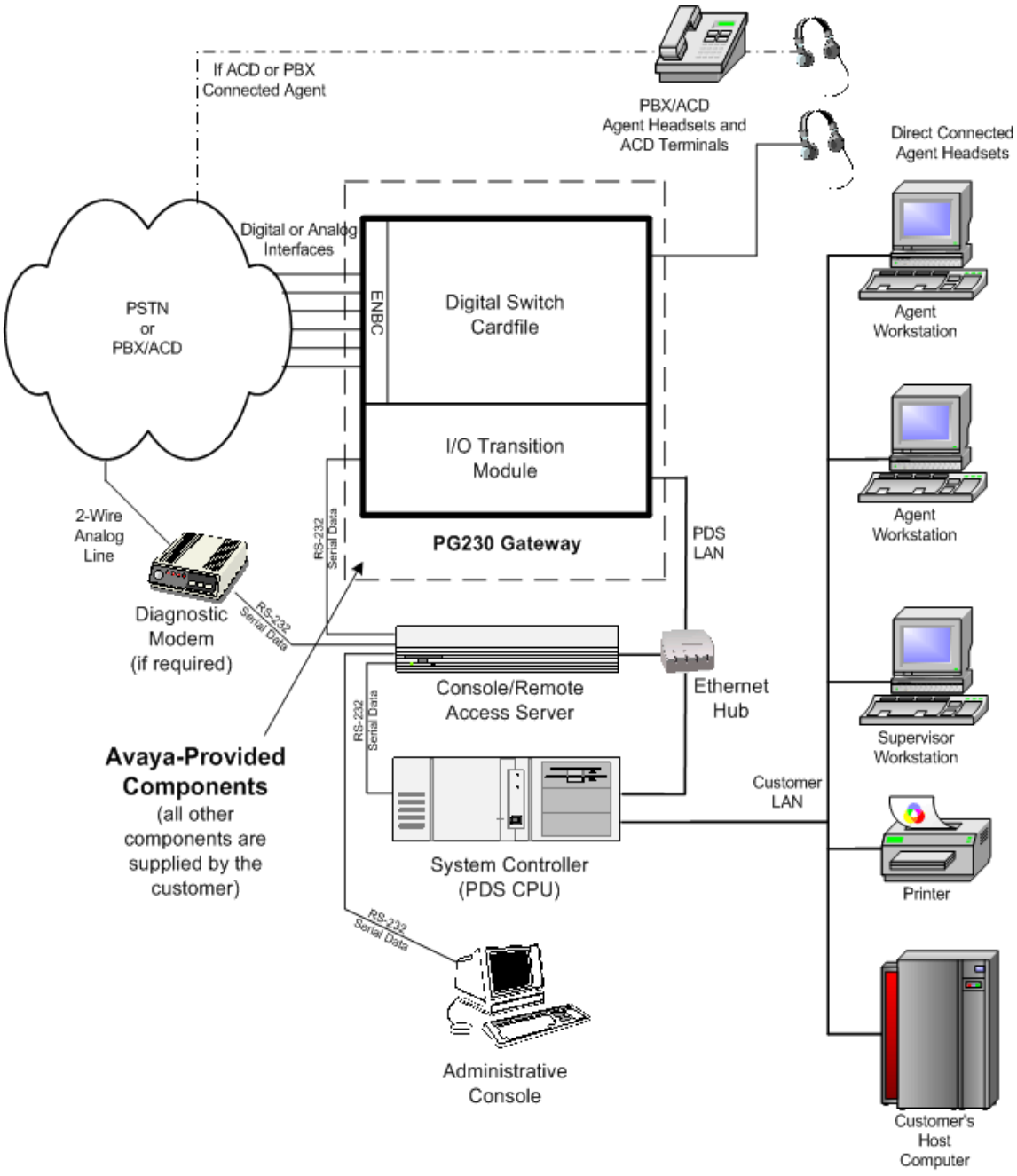
You must set up the Avaya Proactive Contact System CPU and its peripherals externally for a PG230 implementation.

CAUTION:
If you choose the rack mounted version, you must mount the components in the rack prior to Avaya installation personnel arriving at your site. The fully-loaded unit (cards and UPS) can weigh up to 150 pounds (with dual power supply).

The Avaya Proactive Contact with PG230 deployment option contains the following components:

- Avaya PG230 system cabinet (standalone or rack mountable)
  - Digital switch
- Maintenance modem (customer provided)
- Remote access server (customer provided)
- Avaya Proactive Contact System CPU (Avaya or customer provided)
- Uninterruptible power supply (UPS) (optional, Avaya or customer provided)
- Disk mirroring (optional)
- Ethernet hub
- Administrator console (customer provided)
- Supervisor workstations (customer provided)
- Agent workstations (customer provided)
- Printers (customer provided)

The following diagram illustrates a typical PG230 deployment with all its supporting equipment.



Avaya Proactive Contact with CTI specification

This section describes the equipment that must be installed for Avaya Proactive Contact with CTI to function properly. See Avaya Proactive Contact with CTI Site Preparation Checklist on page 197 for a sample of the Site Preparation Checklist for this deployment option.

This deployment option contains the following components:

- Avaya PG230 system cabinet (standalone or rack mountable)
  - Digital switch
- Maintenance modem (customer provided)
- Remote access server (customer provided)
- Avaya Proactive Contact System CPU (Avaya or customer provided)
- Uninterruptible power supply (UPS) (optional, Avaya or customer provided)
- Disk mirroring (optional)
- Ethernet hub
- Administrator console (customer provided)
- Supervisor workstations (customer provided)
- Agent workstations (customer provided)
- Printers (customer provided)

Pod deployment specifications

You can combine up to four of the same system types together into a pod. See the other deployment specifications for information on components. You will designate one of the systems to be the primary system in the pod. This system will serve as the statistics collection location for the entire pod. Determine whether the primary and secondary systems will be configured with shared features. See Shared features on page 15 for more information.

Important:
All the systems in the pod must be the same type, for example, all Avaya Proactive Contact Systems, all PG230 systems, or all CTI systems.

Avaya Proactive Contact System cabinet

The Avaya Proactive Contact System cabinet contains the Avaya Proactive Contact software and hardware that enables the system to connect agents to customers. The system cabinet components also store system, job, and agent statistics.

Components inside the system cabinet include:

- Avaya Proactive Contact System CPU to run the system software with a DVD or DDS drive for backing up and restoring the database and files
- Digital switch to place and answer phone calls
- Maintenance modem and Remote access server for remote technical support of the system

  Note:

  Systems installed in the United States and Canada include a maintenance modem and modem cable.

  Installations outside the United States and Canada include only a modem cable. You, your VAR, or your Avaya Business Partner provides the modem.
- Uninterruptible power supply (UPS) to provide backup power to the system cabinet components

Components that connect to the system cabinet include:

- Administrator console (customer provided) for access to the digital switch, CPU and system controller
- Public Switched Telephone Network (PSTN) for placing and receiving calls
- Local area network (LAN) for connecting to agent and supervisor workstations
- Agent workstations (customer provided) and Supervisor workstations (customer provided) headsets or phones, using the trunk connections to the switch

Environmental specifications

The environment can influence Avaya Proactive Contact System performance and reliability. You must control the temperature, humidity, and other environmental factors to meet Avaya Proactive Contact System operating requirements.

Electrical - Connect the Avaya Proactive Contact System cabinet ground to the building ground. Use a minimum of 10 AWG (5.26 sq-mm) stranded ground conductor (green insulated wire with at least 1 yellow stripe).

Air conditioning - A qualified air-conditioning engineer must determine the exact requirements for your environment. Use the following guidelines to estimate air conditioning requirements.

Air-conditioning must handle the heat produced by the components in the system cabinet, personnel in the room, and lighting. You must also consider the heat that comes through walls, windows, floors, and ceilings. Because the system requires constant power (even if the system is idle), the system continually generates heat. Air conditioning requirements must always be met.

Avaya recommends a stable ambient operating temperature of approximately 72 degrees Fahrenheit (22 degrees Celsius). A temperature in the range of 45 degrees to 80 degrees Fahrenheit (7 degrees to 26 degrees Celsius) is acceptable. The temperature variation in the equipment room should not exceed ±5 degrees Fahrenheit (±3 degrees Celsius).

Heat dissipation from a system is estimated in BTUs (British Thermal Units) per hour. Estimate the amount of air conditioning required based on the heat generated in the equipment area and square feet of occupied floor space. Remember, each person in the occupied area generates heat. Consult your HVAC (High Volume Air-Conditioning) representative for specific air-conditioning, heating, and ventilation requirements.

Use the following guidelines for all the hardware components listed in this chapter.

- Keep the temperature between 45°F to 80° F (7°C to 26° C)
- Maintain 8% to 80% relative humidity
- Protect from heat, cold, and water exposure.
- Avoid direct sunlight.

Other environmental factors - In addition to controlling temperature, you must control the following environmental factors in the equipment areas:

Environmental factors	Descriptions
Humidity	Low humidity can increase static electricity buildup, while high humidity can affect the performance of disks and printers. Maintain a non-condensing, relative humidity between 8 percent and 80 percent.
Static electricity	Avaya recommends placing the system cabinet on an antistatic electrical grade matting. When you work on Avaya Proactive Contact System equipment, use an antistatic wrist strap.
Lighting	Avoid direct sunlight.
Ventilation	Do not block the vents on the system cabinet.

Grounding and power requirements - In addition to meeting the requirements in this section, you must comply with the requirements in *Avaya Proactive Contact Safety and Regulatory Information*.

WARNING:

If you fail to follow grounding procedures, the installation can be unsafe for personnel, unprotected from lightning or power transients, and subject to service interruptions and degraded performance. Avaya recommends that power supply conductors be dedicated and uninterrupted from the service panel to the system cabinet.

System cabinet specifications

The Avaya Proactive Contact System cabinet contains the system software and hardware required to make calls, handle incoming calls, connect agents and clients, and maintain client information.

Dimensions - The dimensions of the system cabinet are:

4.7 feet x 2.16 feet x 3.33 feet (1.42 meters x 0.66 meters x 1.04 meters)

Placement - You must allow sufficient space to open and close the front and rear doors. Each door is the full width of the system cabinet and is hinged on the left side. The doors require a 24-inch arc from the left side of the front and rear of the system cabinet.

When planning placement space for your the system cabinet, use the following requirements:

- Minimum of 3 feet (0.92 meters) of work space at the front and back of the system cabinet
- Minimum of 2.34 feet (0.75 meters) of ventilation space on sides
- Minimum of 5 feet (1.5 meters) from air-conditioning or heating ducts
- Raised floors must support 550 pounds (250 kilograms) for each system cabinet

Clearance - You must allow access and entry ways (including doors, hallways, stairs, elevators, and lifts) of at least 5.5 feet x 3.16 feet x 4 feet (1.69 meters x 1 meters x 1.23 meters) to accommodate the crated system cabinet.

Avaya recommends moving the system cabinet in the shipping crate.

Note:

After the initial installation, use the shipping crate any time you need to move your system. Prior to moving your system after the initial installation, you must first contact your Customer Support Engineer, or risk noncompliance.

IP address requirements - Provide the required IP addresses for the Avaya Proactive Contact System.

Electrical connections - The system cabinet is equipped with one power cord and a standard three-prong grounded electrical plug. Use one separate, dedicated circuit with the appropriate receptacle for the system cabinet.

Use the following guidelines for electrical connections:.

Power input	Cord	Plug (UPS end)	Plug (customer end)
120 VAC, 50-60 Hz	16A, 6 ft provided	Hard-wired	NEMA 5-20P
100 VAC, 50-60 Hz	20A, 5 ft provided	Hard-wired	NEMA L5-30P
220-240 VAC, 50-60 Hz	8A, not provided	IEC-320 C19	Country specific, customer provided

Note:

The circuit must accommodate the appropriate power input requirements. Any change to the supplied electrical connection is your responsibility. A qualified electrician must complete any changes to the supplied electrical connection at the call center. The local building inspectors must approve all electrical connections and components to ensure that they meet local electrical requirements.

These guidelines also include:

- One earth grounded outlet within 5 feet (1.5 meters) of the system cabinet
- One dedicated, separate circuit breaker

Power consumption - The Avaya Proactive Contact System uses approximately 1500 watts.

Grounding - Install wire to connect the system cabinet to the building earth ground. Use minimum 10 AWG (5.26 sq-mm) stranded ground conductor (green insulated wire with one or more yellow stripes).

In addition to meeting the requirements in this section, you must comply with the requirements in *Avaya Proactive Contact Safety and Regulatory Information*.

In the United States: Comply with grounding connections listed in Article 250 of the National Electric Code, NFPA70.

Outside the United States: Comply with applicable national electrical codes.

Floor mounting - An optional floor mounting kit is available. Each kit includes detailed installation instructions and the parts required to secure the system cabinet to a concrete floor. For more information, contact your Avaya vendor.

Telephony - The telephony specifications are included in Telephony on page 85.

Heat output - The Avaya Proactive Contact System cabinet can produce up to 5,000 BTUs per hour.

Security - Avaya recommends placing the system cabinet in a secure location with controlled access.

Avaya PG230 system cabinet

The PG230 system cabinet (PG230 and PG230RM) contains the Digital switch card cage to place and answer phone calls

Components that connect to the system cabinet include:

- Maintenance modem and Remote access server for remote technical support of the system

  Note:

  Systems installed in the United States and Canada include a maintenance modem and modem cable.

  Installations outside the United States and Canada include only a modem cable. You, your VAR, or your Avaya Business Partner provides the modem.
- Avaya Proactive Contact System CPU to run the system software with a DVD or DDS drive for backing up and restoring the database and files
- Uninterruptible power supply (UPS) to provide a dual power supply to the system cabinet components (in addition to the power supply included at the factory with the PG230)
- Administrator console (customer provided) for access to the digital switch, CPU and system controller
- Public Switched Telephone Network (PSTN) for placing and receiving calls
- Local area network (LAN) for connecting to agent and supervisor workstations
- Agent workstations (customer provided) and Supervisor workstations (customer provided) headsets or phones, using the trunk connections to the switch
- (For CTI deployment options) Avaya MultiVantage Application Enablement Services (AE Services) to communicate with the Avaya Communication Manager switch. The server integrates telephones on the desktops of agents with telephony enabled or telephony based applications. These applications can reside either on the server where they are referred to as "server applications" or on the desktop PC where they are called "client applications". For more information on installing AServices, see the *AE Services Client Installation Guide*.

Environmental specifications

The environment can influence PG230 system performance and reliability. You must control the temperature, humidity, and other environmental factors to meet PG230 operating requirements.

Electrical - Connect the system cabinet ground to the building ground. Use a minimum of 10 AWG (5.26 sq-mm) stranded ground conductor (green insulated wire with at least 1 yellow stripe).

Air conditioning - A qualified air-conditioning engineer must determine the exact requirements for your environment. Use the following guidelines to estimate air conditioning requirements.

Air-conditioning must handle the heat produced by the components in the system cabinet, personnel in the room, and lighting. You must also consider the heat that comes through walls, windows, floors, and ceilings. Because the system requires constant power (even if the system is idle), the system continually generates heat. Air conditioning requirements must always be met.

Avaya recommends a stable ambient operating temperature of approximately 72 degrees Fahrenheit (22 degrees Celsius). A temperature in the range of 45 degrees to 80 degrees Fahrenheit (7 degrees to 26 degrees Celsius) is acceptable. The temperature variation in the equipment room should not exceed ±5 degrees Fahrenheit (±3 degrees Celsius).

Heat dissipation from a system is estimated in BTUs (British Thermal Units) per hour. Estimate the amount of air conditioning required based on the heat generated in the equipment area and square feet of occupied floor space. Remember, each person in the occupied area generates heat. Consult your HVAC (High Volume Air-Conditioning) representative for specific air-conditioning, heating, and ventilation requirements.

Use the following guidelines for all the hardware components listed in this chapter.

- Keep the temperature between 45°F to 80° F (7°C to 26° C)
- Maintain 8% to 80% relative humidity
- Protect from heat, cold, and water exposure.
- Avoid direct sunlight.

Other environmental factors - In addition to temperature, the following environmental factors must be controlled in the equipment areas:

Environmental factors	Descriptions
Humidity	Low humidity can increase static electricity buildup, while high humidity can affect the performance of disks and printers. Maintain a relative, non-condensing, humidity between 8 percent and 80 percent, non condensing.
Static electricity	Avaya recommends placing the system cabinet on an antistatic electrical grade matting. When you work on Avaya Proactive Contact equipment, use an antistatic wrist strap.
Lighting	Avoid direct sunlight.
Ventilation	Do not block the vents on the system cabinet.

Grounding and power requirements - In addition to meeting the requirements in this section, you must comply with the requirements in *Avaya Proactive Contact Safety and Regulatory Information*.

ELECTROSTATIC ALERT:

If you fail to follow grounding procedures, the installation can be unsafe for personnel, unprotected from lightning or power transients, and subject to service interruptions and degraded performance. Avaya recommends that power supply conductors be dedicated and uninterrupted from the service panel to the system cabinet.

System cabinet specifications

The PG230 and the PG230RM implementations have no requirements for an enclosure to house all of the other support equipment (CPU, modems, access servers, UPS, etc.). You can house some or all of the equipment described in this section in an enclosure, but you must comply with the cable length and environmental requirements.

Dimensions -

- PG230 cabinet: 33.75 inches x 23 inches x 26 inches (0.86 meters x 0.58 meters x 0.66 meters)
- PG230RM cabinet: 28 inches x 17.5 inches x 25.5 inches (0.71 meters x 0.44 meters x 0.65 meters)

Placement - Allow sufficient space to open and close the front and rear doors. Each door is the full width of the system cabinet and is hinged on the left side. The doors require a 24-inch arc from the left side of the front and rear of the system cabinet.

- PG230 cabinet: When planning placement space for the system cabinet, use the following requirements:
  - Minimum of 3 feet (0.92 meters) of work space at the front and back of the system cabinet
  - Minimum of 2.34 feet (0.75 meters) of ventilation space on sides
  - Minimum of 5 feet (1.5 meters) from air-conditioning or heating ducts
  - Raised floors must support 165 pounds (75 kilograms) for each system cabinet
- PG230RM cabinet
  - Minimum of 3 feet (0.92 meters) of work space at the front and back of the rack
  - Ensure that the ventilation slots on each side of the cabinet are not blocked, and adequate airflow is also provided. Typical rack spacing will ensure adequate airflow
  - Minimum of 5 feet (1.5 meters) from air-conditioning or heating ducts
  - Rack must support 135 pounds (62 kilograms) for each cabinet and can be a two or four rail rack.

- The bare enclosure (with rack mount ears installed, front door removed and no switch cards or adapter modules/cables) with a non-redundant power supply weighs 70 pounds.
- The bare enclosure (same as above) with a redundant power supply weighs 85 pounds.
- The front door weighs 6 pounds and has lift-off hinges, so this is easy to remove (and must be removed) before installation.
- If switch cards and adapter modules/cables are left in the enclosure, the weight will increase. Most switch cards are 1.7 pounds, so a system with eight Quad-T1 cards and the other standard cards (ENBC, two LPVC2s, two DSP2s) adds 22 pounds to the total weight. Adapter modules and cables add another 6 pounds. Total weight of the system with a non-redundant power supply (with the front door) is 104 pounds.
- Four installation guide pins are provided to make installation easier. You can lift the enclosure and slide it over the pins to hold it until the rack mount screws are installed. Then remove the guide pins and replace with normal screws.

Clearance - Access and entry ways (including doors, hallways, stairs, elevators, and lifts) must be at least 43 inches x 36 inches x 32 inches to accommodate the crated system cabinet.

Avaya recommends moving the system cabinet in the shipping crate.

Note:

After the initial installation, use the shipping crate any time you need to move your system. Prior to moving your system after the initial installation, you must first contact your Customer Support Engineer or risk noncompliance. These clearance numbers are suitable to PG230 and PG230 RM cabinets, because they use the same shipping crate.

IPaddress requirements - Provide the required IP addresses for the PG230.

Electrical connections - The system cabinet is equipped with an IEC-320 C14 electrical connector. Use one separate, dedicated circuit with the appropriate receptacle for the system cabinet.

Use the following guidelines for electrical connections:.

Power input	Cord	Plug (PG230 end)	Plug (customer end)
120 VAC, 50-60 Hz	10A, 8 ft provided	ICE-320 C13, 90^{o}	NEMA 5-15P
100 VAC, 50-60 Hz	10A, 8 ft provided	ICE-320 C13, 90^{o}	NEMA 5-15P
220-240 VAC, 50-60 Hz	8A, not provided	IEC-320 C13, 90^{o}	Country specific, customer provided

Important:

The circuit must accommodate the appropriate power input requirements. Any change to the supplied electrical connection is your responsibility and must be completed by a qualified electrician where the call center is located. The local building inspectors must approve all electrical connections and components to ensure that they meet local electrical requirements.

Guidelines for both implementations also include:

- One earth grounded outlet within 5 feet (1.5 meters) of the system cabinet
- One dedicated, separate circuit breaker

Ethernet - Do not exceed the networking limitations of the Avaya Proactive Contact System CPU when you set up this network.

Power consumption - Avaya Proactive Contact with PG230 uses approximately 800 watts.

Grounding - Install wire to connect the system cabinet to the building earth ground. Use minimum 10 AWG (5.26 sq-mm) stranded ground conductor (green insulated wire with one or more yellow stripes).

In addition to following the information in this guide, you must comply with the requirements in *Avaya Proactive Contact Safety and Regulatory Information*.

In the United States: Comply with grounding connections listed in Article 250 of the National Electric Code, NFPA70.

Outside the United States: Comply with applicable national electrical codes.

Heat output - The PG230 cabinet can produce up to 3,000 BTUs per hour.

Security - Avaya recommends placing the system cabinet in a secure location with controlled access.

Component hardware specifications

All Avaya Proactive Contact deployment options contain the following hardware components:

- Digital switch
- Avaya Proactive Contact System CPU
- Uninterruptible power supply (UPS)
- Maintenance modem
- Remote access server
- Disk mirroring (optional)
- Ethernet hub
- Administrator console (customer provided)
- Supervisor workstations (customer provided)
- Agent workstations (customer provided)
- Printers (customer provided)

Digital switch

The digital switch places calls, performs call progress analysis, answers calls, processes calls, plays messages, and communicates with the Avaya Proactive Contact CPU.

The digital switch is made up of two subsystems:

- Digital switch subrack
- Enhanced Network Bus Controller (ENBC) I/O Transition Module

The digital switch uses an internal, isolated Ethernet connection to communicate with the system controller.

Digital switch subrack

The digital switch subrack, also called the digital switch card file, contains cards that provide the following functions:

- Provides a central processor for the digital switch.
- Monitors alarm conditions and provides controls for resetting the digital switch.
- Provides interfaces for phone circuits.
- Places, receives, and processes phone calls.

- Provides call progress analysis to screen out answering machines, busies, no answers, and intercepts.
- Plays and records digitized voice messages.
- Switches calls to workstation headsets.

The following table provides an overview of the function of the most common cards.

Card type	General function	Description
ENBC (Enhanced Network Bus Controller)	Control circuit card	Controls the operation of the digital switch under the direction of the system controller (CPU).
DSP2 (Digital Signal Processor)	Service circuit card - all DSP functions	EDTG (Enhanced Digital Tone Generator) ECC (Enhanced Conference Card) EDRC (Enhanced DTMF Receiver Card) ECPA (Enhanced Call Progress Analyzer) DDC (Digital Dialer Card) EMFCR2 (Enhanced MFCR2) (Multi Frequency Compelled R2 signaling)
LPVC2 (Large Port Voice Card)	Service circuit card	Plays and records digitized voice messages and ziptones.
EUTC (Enhanced Universal Trunk Card)	Port interface card	Provides an interface to 16 analog ground start/loop start phone trunks.
QT1 (Quad T1 card)	Port interface card	Provides interfaces for up to four digital T1 phone trunks (non-ISDN).
QE1 (Quad E1 card)	Port interface card	Provides interfaces for up to four digital E1 phone trunks (non-ISDN).
QT1-PRI (Quad T1 Primary Rate ISDN card)	Port interface card	Provides interfaces for up to four T1-based Primary Rate ISDN (PRI) phone trunks.
QE1-PRI (Quad E1 Primary Rate ISDN card)	Port interface card	Provides interfaces for up to four E1-based Primary Rate ISDN (PRI) phone trunks.
OLIC2 (Operator Line Interface Card)	Port interface card	Provides an interface to 24 direct-connect headsets.

The digital switch buses are integrated in the digital switch subrack and controller. The buses control signals and other information within the digital switch.

The following table describes the digital switch buses:

Digital switch bus name	Description
Ethernet	Carries communication network traffic between the system controller (CPU) and the digital switch.
SCSI	Connects the ENBC I/O Transition Module to the digital switch subrack. When the call center starts a job, the ENBC uses the SCSI bus to download digitized voice messages to the LPVC.
Communication	Carries control signals and data between the ENBC and the cards in the digital switch subrack. When you reset the digital switch, the ENBC uses the communication bus to download application software to cards in the digital switch subrack.
Pulse Code Modulation (PCM)	Carries phone audio information within the digital switch. The digital switch uses the PCM bus to link the ports on the port interface cards and service circuit cards in the digital switch subrack.

ENBC I/O Transition Module

The ENBC I/O Transition Module provides the following connections to the digital switch:

- Ethernet
- Serial RS-232 communication
- SCSI
- External clock for testing

The ENBC I/O Transition Module has a hard disk drive and a diskette drive.

The hard disk drive stores the operating system, switch generic software, card download, and configuration information used by the digital switch.

Avaya Proactive Contact System CPU

The Avaya Proactive Contact System CPU controls all Avaya Proactive Contact System operations and provides an interface that supervisors and agents use on their workstations. It contains the Avaya Proactive Contact software that calls customers; connects agents and customers; and stores system, job, and agent statistics.

The Avaya Proactive Contact System CPU also contains a writable DVD drive that provides data storage and is used for backing up system software. A DDS tape drive is available as an option for larger backups.

The environmental requirements for the Avaya Proactive Contact CPU are listed in the following table. Every component described in this section s subject to these requirements:

Environmental specifications	Operating requirements	Non-operating requirements
Altitude	0 to 3000 meters (0 to 10,000 feet)	0 to 4500 meters (0 to 15,000 feet)
Temperature	+5^{o} C to +35^{o} C	-40^{o} C to +70^{o} C
Humidity	8% to 80% non condensing	—

Uninterruptible power supply (UPS)

The UPS protects against power supply fluctuations and outages. It provides approximately seven minutes of power reserve. This gives a system administrator time to shut down the system. You can monitor the UPS through its serial interface using the optional software (for example, Parachute software). Monitoring the UPS lets you automatically shutdown the system if a power interruption occurs.

Avaya Proactive Contact System deployment option

In the Avaya Proactive Contact System deployment option, the UPS is provided within the system cabinet. It protects:

- Avaya Proactive Contact System cabinet components (CPU, digital switch, modem, etc.)
- Remote access hardware
- Administrator console (if connected to the same UPS)
- Ethernet hub
- DDS tape or DVD device

Avaya Proactive Contact PG230 and PG230RM deployment options

In the Avaya Proactive Contact with PG230 or PG230RM with CTI deployment options, you must provide your own UPS. Avaya recommends that all Avaya Proactive Contact equipment be sufficiently protected by a UPS. This equipment includes:

- Avaya Proactive Contact System CPU
- PG230 or PG230RM
- Modem
- Remote access hardware
- Administrator console (if connected to the same UPS)

- Ethernet hub
- DDS tape or DVD device

Avaya also recommends that you monitor the UPS through its serial interface by using optional software that you can configure on the Avaya Proactive Contact System CPU. If you do this, you can automatically shut down the system if a power interruption occurs.

Maintenance modem

The Avaya Proactive Contact System uses a high-speed modem to enable remote access to the system for diagnostic and maintenance purposes. The modem connects an analog phone line to the access server to provide access to the major subsystems.

Avaya Proactive Contact Systems installed in the United States and Canada include a maintenance modem and modem cable. All other installations outside the United States and Canada include only a modem cable with the Avaya Proactive Contact System. You, your VAR, or your Avaya Business Partner provides the modem.

Remote access server

Avaya support services must be able to remotely obtain system console access and network access to both the Avaya Proactive Contact System CPU and the digital switch. Remote access is usually provided through a remote access server. The remote access server must have at least four asynchronous serial ports and one Ethernet port.

Disk mirroring (optional)

Disk mirroring mirrors all the logical volumes on the existing root disk to a new disk, making both disks functional as bootable devices. If a disk failure and subsequent reboot occur, the system boots to the disk that is still functioning.

You can set up a RAID Level 1, disk-mirrored system by using optional software and an additional internal disk drive from Avaya. When disk mirroring is functional, all the logical volumes on the existing root disk are mirrored to the new disk, and the new disk is fully functional as a bootable device if necessary.

The following hardware and software is required:

- Hard disk drive to match the existing root disk. The disk drive model must be determined on a case-by-case basis.
- Disk-mirroring software delivered on a CD-ROM.

Ethernet hub

You must install an Ethernet hub that supports 10-Mbit half-duplex with a minimum of three ports. This hub provides a network interconnection between the built-in interface of the Avaya Proactive Contact System CPU, the PG230, and the remote access server.

The three Ethernet segments, CPU-to-hub, PG230-to-hub, and remote access server-to-hub must be as short as is practical.

The following network performance restrictions also apply for all Ethernet segments:

- The average round-trip time between the Avaya Proactive Contact System CPU and the PG230 for 100 packets of 1,500 bytes each must not be greater than 5 milliseconds. This network performance metric must be met or exceeded for all Ethernet segments.
- The network performance measurements must be made using the ping (1 meter) utility on the Avaya Proactive Contact System CPU when:
  - No jobs or record selections are running
  - Only the root user is logged in to the workstation

  Example ping command syntax:

  ```
  ping switch1  1500  100
  ```

Administrator console (customer provided)

The administrator console provides access to the Avaya Proactive Contact System CPU and digital switch. It connects directly to the access server inside the system cabinet. This interface requires a monitor and a keyboard. The system administrator uses this interface to perform basic system operations such as monitoring system status, backing up system files, shutting down the system, and setting the time and date of the system.

You can use any terminal emulation software that supports VT100 terminal emulation on a Windows 2000 or later PC. The PC must have an available serial port for connection to the remote access hardware. An alternative is to use an available USB port in conjunction with a USB to Serial Adapter. You must provided the cabling for either solution.

Placement - Avaya recommends the following placement specifications:

- Minimum of 2 feet x 3 feet (0.6 meters x 0.9 meters) table or computer stand space
- Maximum of 10 feet (3 meters) from the system cabinet
- Minimum weight of 19.5 pounds (9 kilograms)

Table placement - If you place the Administrator console and the printer on the same table, use the following guidelines:

- Table: the table dimensions must be 4 feet x 2 feet (1.3 meters x 0.6 meters)
- Weight: the table must support 50 pounds (18.65 kilograms)
- Distance: the table must not be more than 8 feet (2.66 meters) from the system cabinet

Electrical - The workstation power cord plugs can be plugged directly into the system cabinet UPS.

Data connectivity - The workstation connects directly to the system cabinet through an RS-232 serial bus connection.

Avaya supplies a 15 foot RS232 serial cable terminating in a DB9 or DB25 connector. It may be necessary for you to provide a serial-to-USB converter to connect to a PC with terminal emulation software.

Security - The administrator user name and password are required for system security.

Supervisor workstations (customer provided)

Supervisor workstations are network-attached PCs. Supervisor workstations require a headset or phone. Identify and dedicate workstations for each Avaya Proactive Contact Supervisor license purchased. The location of Supervisor workstation varies based upon your operational requirements.

Avaya Proactive Contact Supervisors use these workstations to:

- Set up and manage system settings
- Set up jobs
- Monitor calling activity
- Produce call center reports

Supervisor workstation hardware requirements:

- Pentium III 550MHz Processor
- 128 MB RAM required, 256 MB RAM recommended
- 400 MB available disk space
- Network Interface Card -Ethernet 10/100 TX
- CD-ROM drive, 4x minimum
- 1.44 MB 3.5-inch high density disk drive
- SVGA accelerator card with 1 MB VRAM
- 17-inch Super VGA monitor
- 56 KBPS V.32 internal or external modem

- Windows PC keyboard

Supervisor workstation software requirements:

- One of the following operating systems:
  - Windows 2000 SPK 2
  - Windows XP SP 2

  Note:

  If they are using XP SP2 with the Windows Firewall turned on, you can allow permissions for Avaya applications to run.

  - Winsock Version 1.1 (TCP/IP Stack)
  - Symantec PC Anywhere, version 10.x
  - Microsoft 32 bit ODBC

Agent workstations (customer provided)

Each agent workstation consists of a computer and voice connection. During jobs, agents use the workstation to talk to customers and update customer records.

Agent workstaitons can be network connected or serial connected (direct connected). The Avaya Proactive Contact System provides the best service using network connected PCs. The Avaya Proactive Contact System supports connections to an Ethernet network. The Avaya Proactive Contact System uses the TCP/IP protocol to move data between itself and the agent workstations. These systems can use the Avaya graphical user interface or one designed by an application developer that use Agent API.

Agent workstation hardware requirements:

- Pentium III 450 mHz processor
- 2GB Hard drive
- 64 MB RAM at minimum

Agent workstation software requirements:

- One of the following operating systems:
  - Windows 2000 SPK 2
  - Windows XP SP 1 or 2

  Note:

  If you are using Windows 2000 and VLTerm is your desktop solution, please consult with your Avaya Project Manager for DDE communication requirements.

- If you are using VLTerm, provide VT100 Emulation software for connection to host and system. Avaya recommends:

- WallData Rumba
- Attachmate Extra!
- WRQ Reflections
- Hummingbird

Note:

Integration development and consulting is not usually included as part of your services agreement with Avaya Professional Services.

Or

- If you are using an Agent API solution, provide network-connected agent PCs. The Avaya Proactive Contact Agent session communicates via the Agent API to the system. An emulation session is not necessary.

  The Avaya Proactive Contact Agent application broadcasts record information via DDE. If you are creating a cut and paste solution to your host, the host emulation session must support DDE. You are responsible for creating any cut and paste solution, unless you have contracted with Avaya Professional Services for this work. If you have contracted with Avaya CSI to create a cut and paste solution to your host, you will be asked to provide the host emulation software name (for example, Reflections) and the host emulation software type (for example, vt100 or 3270).

Printers (customer provided)

Avaya requires at least one network printer connected to be used for printing Avaya Proactive Contact reports. Use the printer to print status messages, error messages, diagnostic information, and reports on call center operations.

You are responsible for the purchase, installation, and maintenance of the printer. Purchase a laser printer that has either an internal or an external HP Jet Direct Card. (This printer must be able to communicate PCL 4, which is HP's Printer Control Language version 4.0.)

The printer must have network access via TCP/IP. You will be asked to provide either the static IP address or DNS name to be entered into the Avaya Proactive Contact hosts table.

The printer is connected to the LAN at your call center, which makes it available to other application software. The printer connects to the system controller by an Ethernet LAN connection.

Chapter 4: Network communications and data transfers

You must prepare Avaya Proactive Contact to connect to your network. Preparations include ordering and installing data cables, isolating the network traffic, and providing data connectivity.

This section includes the following topics:

Preparing your network

Your company provides the necessary cable and components to connect Avaya Proactive Contact to your network. The Avaya Proactive Contact components include the system cabinet with administrator console, supervisor workstations, and agent workstations. Prepare a network diagram that shows all cables, connectors, and devices. Since network and phone cables often share a cable run, you can combine this diagram with the telephony diagram.

To prepare your network for installation, consider the following:

- Identify which components connect to your network.
- Identify the appropriate network connector for each component.
- Order and install network connectors, devices, and cables.
- Reserve a dedicated, static IP address for the Avaya Proactive Contact System CPU.

This section includes the following topics:

Network isolation

The system cabinet internal network is Ethernet 10BaseT. The connection to your network is 10/100BaseT. For multi-dialer environments, the recommended connection is 100BaseT.

Multi-dialer network isolation

In a multi-dialer environment, the connection to your network can be 10/100/1000BaseT.

IP address requirements

Avaya Proactive Contact requires an IP address for the Avaya Proactive Contact System CPU to allow communication to your network. Ask your network administrator for a dedicated, static IP address. The other internal components are assigned IP addresses by Avaya to separate internal and external work traffic. Your installation might require additional IP addresses based on the features you purchased.

Use the following table to determine the IP address requirements for the other Avaya Proactive Contact system components.

Component	IP address
Supervisor workstation	Required for each PC; can be dynamic or static
Agent workstation	Required for each network-attached workstation
Host or enterprise data source	Alias and IP address
CTI link	Required if present
ASPI server	Required if present
Network printer	Required if present; can be static or dynamic

To network data between the system controller, the middle-tier, supervisor workstations, and any other dialers within a pod, you need the following DNS information:

- Domain name and DNS server IP address
- Dialer DNS name
- CD DNS name
- Network printer DNS name

Ethernet II network connection specifications

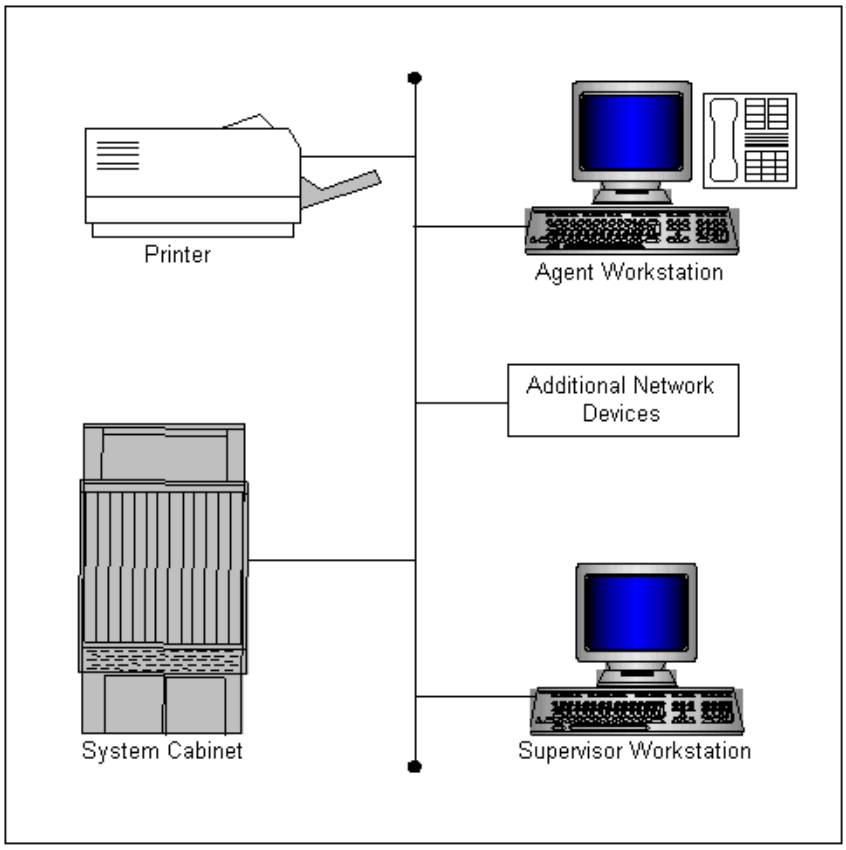
The system cabinet internal components connect to an Ethernet II network. This internal network transfers data between these components only. Use a separate PCI Ethernet card to connect to your network.

You must connect the customer network to the Avaya Proactive Contact System CPU, not to the internal LAN hub. A cable is provided for this purpose and is already connected to the Avaya Proactive Contact System CPU. Connect your network to this cable to provide access to supervisor workstation, agent workstations, and printers.

This section includes the following topics:

The following figure shows an Ethernet II network connected to the system cabinet and the supervisor and agents workstations connected to your network.

For more PG230 information, see Network interface requirements on page 82



Network requirements

Obtain dedicated, static IP addresses for each component connected to Avaya Proactive Contact and your network.

Avaya Proactive Contact supports Ethernet II networks that meet the following requirements:

- Ethernet II
- Address Resolution Protocol (ARP)
- TCP/IP
- User Datagram Protocol (UDP)
- Telnet and FTP
- Avaya Proactive Contact compatible sockets (consult with your Avaya representative for the most current list of required sockets)
- Provide a location for the switch (your Avaya representative has placement and environmental requirements)

Workstations

Supervisor workstations - Supervisor workstations connect directly to your network and must match the connections used on your network. Allocate one IP address for each Supervisor workstation. You will be asked to provide the IP address or DNS name to your Avaya Project Manager. You will need to verify network connectivity from Supervisor workstation address to the system and to the network printer.

Agent workstations - Agent workstations can be network connected or serial connected (direct connected). However, the Avaya Proactive Contact System provides the best service using network connected PCs. The Avaya Proactive Contact System supports connections to an Ethernet network using TCP/IP protocol to move data between itself and the agent workstations. These systems can use the Avaya graphical user interface or one designed by an application developer that use Agent API.

Note:

If you are using Windows 2000 and VLTerm is your desktop solution, please consult with your Avaya Project Manager for DDE communication requirements.

If you are using VLTerm, provide VT100 Emulation software for connection to host and system. Avaya recommends:

- WallData Rumba
- Attachmate Extra!
- WRQ Reflections

- Hummingbird

  Note:

  Integration development and consulting is not usually included as part of your services agreement with Avaya Professional Services.

If you are using an Agent API solution, provide network-connected agent PCs. The Avaya Proactive Contact Agent session communicates via the Agent API to the system. An emulation session is not necessary.

The Avaya Proactive Contact Agent application broadcasts record information via DDE. If you are creating a cut and paste solution to your host, the host emulation session must support DDE. You are responsible for creating any cut and paste solution, unless you have contracted with Avaya Professional Services for this work. If you have contracted with Avaya CSI to create a cut and paste solution to your host, you will be asked to provide the host emulation software name (for example, Reflections) and the host emulation software type (for example, vt100 or 3270).

Cable identification

To make connecting the cables easier, clearly label each cable end with the component, number and location, and cable type.

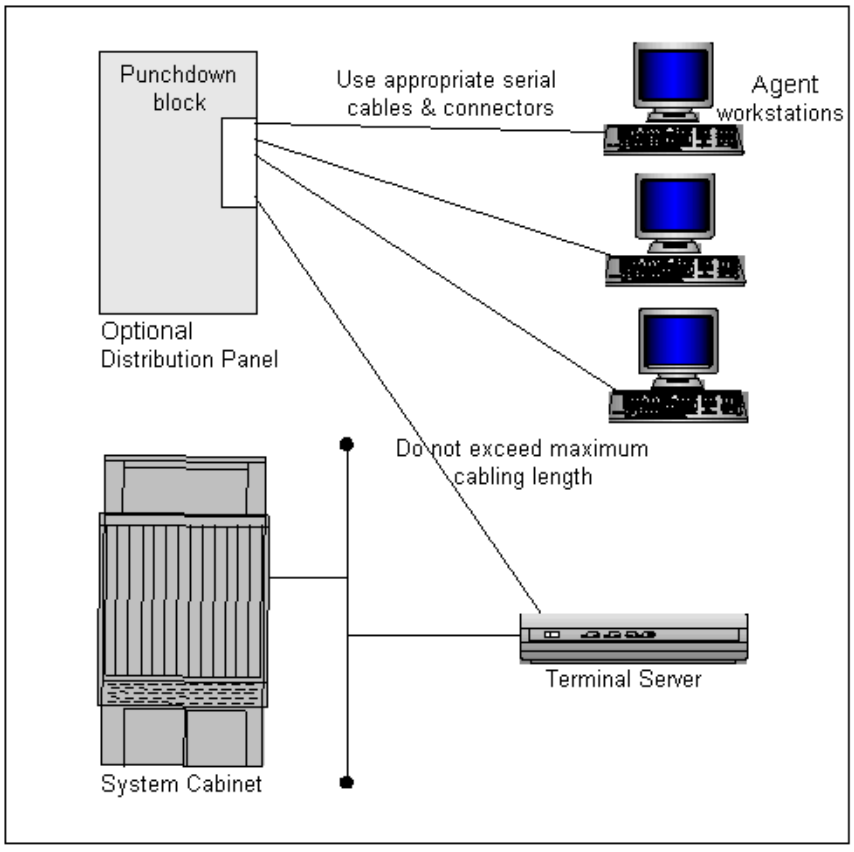
Serial-attached agent workstation specifications

Serial-attached agent workstations can be ASCII terminals or PCs running terminal emulation software. Serial-attached terminals can be dual ported. One port connects the terminals to Avaya Proactive Contact and the other connects to your host.

You are responsible for providing the terminal servers along with cables, configuration, and support.

This section includes the following topics:

The following figure shows a terminal server located outside the system cabinet that connects the terminal to Avaya Proactive Contact:



Agent workstations

Serial cables connect serial-attached agent workstations directly to the terminal server or through the distribution panel. See Workstations on page 77.

Terminal servers

For more information, see the product documentation of the manufacturer for details on the following requirements:

- Placement
- Electrical
- Environmental
- Cable pin outs

Data LAN connection

You provide and support the terminal servers that connect to your Ethernet II network. Ensure they conform to Ethernet II standards for network cable distances and use TCP/IP to connect to Avaya Proactive Contact and across the network.

Cable identification

Clearly label each connector at the distribution panel or terminal server with the workstation identification.

Label each cable with the associated workstation.

Data transfers

Data transfers occur between your host computer and Avaya Proactive Contact. This chapter describes how to prepare your site for transferring data between your host and Avaya Proactive Contact.

If you do not upload data to the host, ignore the references to uploading.

Avaya Proactive Contact uses File Transfer Protocol (FTP) to transfer files between your host and it.

Either Avaya Proactive Contact or the host can start the transfer at scheduled times. For security reasons, the host usually starts transfers.

If the host starts the transfer	If Avaya Proactive Contact starts the transfer
Your Avaya Representative provides the Avaya Proactive Contact login and password specifications.	Provide your Avaya representative with the following information. Use the File Transfer worksheet on page 83: • Download information: date and time of the download • Upload information: date and time of the upload • Host System Information: IP address, login name, password, download file location, logout procedure, download file names, upload file location, upload file names

This section includes the following topics:

Download record formats

The download record formats contain field definitions for the records that are downloaded from the host to Avaya Proactive Contact. Your host application contact writes a script, such as Job Control Language (JCL), to instruct the host to generate one or more files (ASCII or EBCDIC) that contain customer records. After Avaya Proactive Contact receives the files, Avaya Proactive Contact converts each file into a format it can use and creates a calling list.

Testing downloads during configuration - At least 4 weeks before the scheduled Avaya Proactive Contact installation, send your Avaya representative a sample file of customer data. Include a printout of each file.

After Avaya Proactive Contact is configured, your vendor uses the sample data to test your system by simulating calling operations.

Use the following guidelines to create a sample file for each record format you use:

- Include a minimum of 100 actual or simulated host records in ASCII or EBCDIC format.
- If you use simulated records, assign unique account and phone numbers to each record.
- Include a range of host customer data rather than repeat one record.
- Do not use packed or signed fields.
- Do not include record headers or trailers.

Upload record formats

Upload record formats, which are optional, define the customer data that you want Avaya Proactive Contact to return to your host computer. If your agents update customer records on the host during calling operations, you might not require Avaya Proactive Contact-to-host uploads.

Your host application contact writes a script that instructs the host to accept one or more files that contain customer records.

At scheduled times, Avaya Proactive Contact converts the customer records in a specific calling list into the format of the host computer and creates an upload file. When the host receives this file, it follows the script and updates the host database.

Testing the upload process at your site - At your request, your Avaya representative will send you sample upload files. Use these files to test the script that updates the host database with the Avaya Proactive Contact data.

File Transfer worksheet

Download Information
Anonymous _____ Direct Connect _____ Automatic? Yes _____ No _____ Days of the week? _____ Time? _____
Upload Information
Anonymous _____ Direct Connect _____ Automatic? Yes _____ No _____ Days of the week? _____ Time? _____
Host System Information
Host IP Address:
Host Login Name:
Host Password:
Download File Location:
Upload File Location:
Logout Procedure:
Download File Names
Upload File Names

Chapter 5: Telephony

To prepare your site, work with your phone company representative to install the correct phone circuits and equipment.

This section includes the following topics:

Terminology

Telephony terminology can vary from country to country. The following table provides a list of common terms, abbreviations, and definitions.

Term	Description
Automatic Call Distributor (ACD)	A specialized phone system used for handling incoming calls. An ACD performs the following functions: • Recognizes and answers incoming calls • Handles the calls based on your instructions • Plays a message to callers • Holds a call in a wait queue until the agent is available
Central Office (CO)	A phone company facility where lines of the subscribers are joined to switching equipment for connecting other subscribers to each other, locally and long distance. Also referred to as public exchange or phone exchange.
Centrex	A business phone service offered by a local phone company from a local central office. Centrex is a single line phone service delivered to individual desks with PBX-like features that include intercom, call forwarding, call transfer, toll restriction, least cost routing, and call hold. Companies lease Centrex instead of buying or leasing a PBX, key system, or ACD.
Computer Telephony Integration (CTI)	A term for connecting a computer to a phone switch and having the computer issue the switch commands to move calls around.
Local Access and Transport Area (LATA)	One of 161 local geographic areas in the United States within which a local phone company can offer telecommunications services. Some phone companies are prohibited from offering intra-LATA calls. The rules vary by state.
Interexchange Carrier (IXC)	A phone company that is allowed to provide long distance phone service between LATAs but not within any one LATA.
Private Branch Exchange (PBX)	A private phone switching system usually used within a building or campus environment. It directs calls between building residents and allows access to the public phone network. Also referred to as a PABX (Private Automatic Branch Exchange).

General information

General information is required before telephony specifications can be met. Discuss the topics in this section with your Avaya representative.

This section contains the following topics:

Telephone circuits

Avaya Proactive Contact supports both digital and analog circuits to place and receive calls. During the sales process, you and your Avaya vendor determined the number of phone circuits required for your Avaya Proactive Contact configuration. In an Avaya Proactive Contact with CTI environment, the telephone circuits do not connect directly to Avaya Proactive Contact, but they need to be considered.

Your phone company representative can help you order and install phone network cables and equipment. If you are using a PBX, work closely with your PBX representative to purchase and install the appropriate PBX cables and equipment.

You can connect phone and agent voice circuits to a central office, Interexchange Carrier, PBX, or Centrex equipment.

If your circuits go through a local central office and you want phone transfer or conference features, Avaya recommends that you order Centrex service to accommodate hook flash capability.

Distribution panel

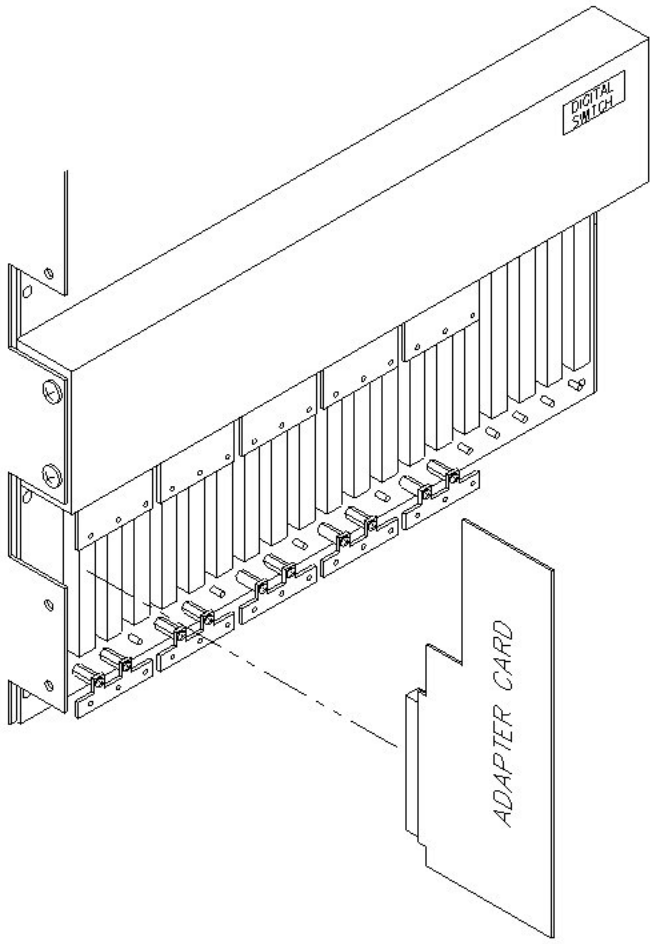
The distribution panel is used by the Avaya Proactive Contact System and Avaya Proactive Contact with PG230 options but not by Avaya Proactive Contact with CTI.

Install a distribution panel at each Avaya Proactive Contact site. Locate the panel within 150 feet (50 meters) of Avaya Proactive Contact.

Use this panel to install phone communication equipment and phone cables. The panel can then serve as a demarcation point where you, your Avaya vendor, and other vendors can test phone equipment.

The access to the I/O connections on the switch backplane is different depending on whether the switch is in the Proactive Contact System, PG230 cabinet, or the PG230RM rack mount enclosure. The two access methods for each of these systems are described in the following sections.

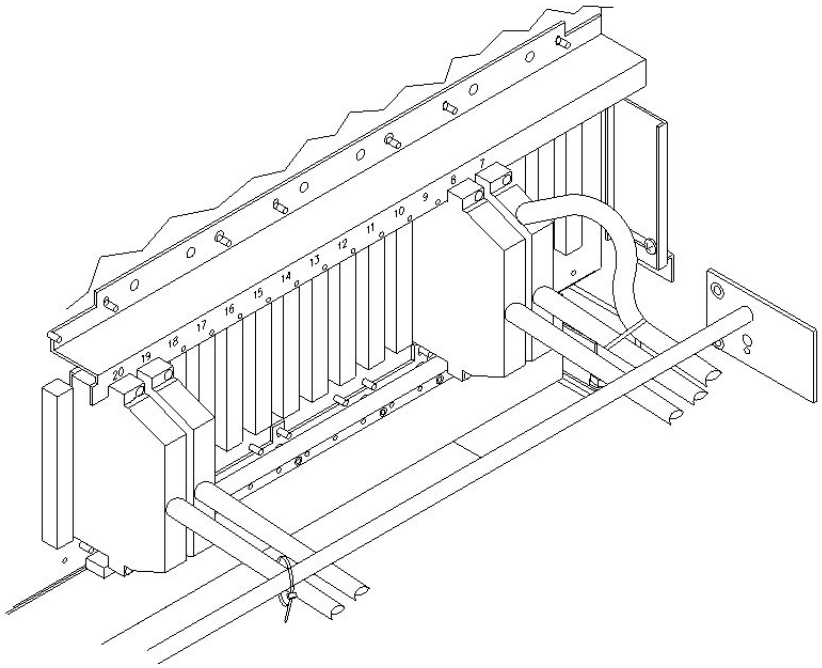
Avaya Proactive Contact System and PG230 system cabinets - The Avaya Proactive Contact System and PG230 cabinets use the traditional backplane adapter card to access the I/O connections on the backplane. This card plugs directly into the switch backplane and has connectors on the card's outer edge where customer connections are made. The following diagram illustrates the Backplane Adapter Cards.



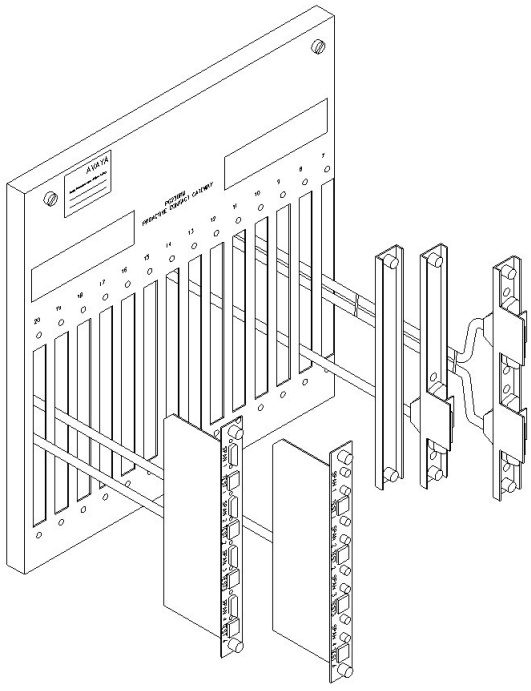
Backplane Adapter Cards

Cables are attached to the Backplane Adapter Cards which then lead down the inside of the cabinet along the sides and exit at the bottom. Pinouts for the connectors on the various adapter cards are described later in this section.

PG230RM - This connection scheme uses a cable to connect from the backplane connector on the switch to a new I/O card that is mounted directly on the back panel of the enclosure. Similarly, the customer cabling is connected directly to the rear panel of the enclosure and no access is needed to the inside of the system. The following diagram illustrates the Switch Backplane and I/O Cables.



Switch Backplane and I/O Cables



I/O cards Mounted on Enclosure Rear Panel

You can connect the various telephone cables to these I/O cards. The pinouts and connectors are essentially the same as for the Backplane Adapters. However, the Twisted Pair I/O card has the ability to transform the pinouts from the traditional PDS (Accunet) pinouts to the more common pinouts and used on the Avaya Communication Manager (CM). The pinout options for the Twisted Pair I/O card are described later in this section.

Agent voice circuits

The circuit types available for agent voice connections depend on the connection type. There are two connection types for the Avaya Proactive Contact System and Avaya Proactive Contact with PG230 options:

- Direct connect agents
- Dialback or dial-in agents (Agent Blending does not support agent dial-in headsets)

Avaya Proactive Contact with CTI uses the SOFTDIAL connection type.

Direct connect agents - Direct connect agents connect to Avaya Proactive Contact through a proprietary four-wire analog card. The agents reside locally on Avaya Proactive Contact and are permanently connected to the system.

Dialback or dial-in agents - Dialers with dialback or dial-in agent voice connections use an agent port identification number or extension number to establish a relationship between an agent workstation and a phone. You define the identification number or extension numbers during the software planning process.

When a dialback agent logs in to Avaya Proactive Contact, the system prompts the agent to type an identification number or extension number in the login window. The system matches the number against your list of valid identification numbers or extension numbers and then calls the agent at that number to complete the login.

When a dial-in agent logs in to Avaya Proactive Contact, the phone network routes the call to the first available headset port coming into the system. The digital switch answers this call and the agent hears a dial tone. The agent enters a unique key code on the phone keypad and then logs in to the workstation. The agent is again prompted for the key code. When the system matches the headset and data session, the agent hears a welcome message on the headset.

Transfer trunks

The Avaya Proactive Contact System and Avaya Proactive Contact with PG230 options use transfer trunks. Avaya Proactive Contact with CTI does not use transfer trunks.

Transfer trunks are dedicated phone circuits that agents use to transfer calls. The trunks are installed between Avaya Proactive Contact and the PBX or CO of the customer.

When hook flash is unavailable, use E&M or Ground Start circuits for T1 and Ground Start circuits for analog transfer trunks from the dialer to a telephony switch or the central office. Transfer trunks must support disconnect supervision.

For E1 transfer trunks, use ISDN (DPNSS or Q.SIG) or non ISDN (E1 CAS) circuits to connect the dialer to a switch. Depending on your call center requirements, designate 1 to 30 channels within the E1 span as transfer trunks.

Hunt group

The Avaya Proactive Contact System and Avaya Proactive Contact with PG230 options use hunt groups. Avaya Proactive Contact with CTI does not use hunt groups.

A hunt group is an organized group of inbound phone circuits. When the CO or PBX finds the first circuit busy, it hunts for the next available circuit.

For example, a company has two 800 numbers (main access numbers) associated with one inbound T1 trunk. When a customer calls one 800 number, the central office hunts for an available circuit among channels 1 through 10. When a customer calls the other 800 number, the central office hunts for an available circuit among channels 11 through 20.

If your Avaya Proactive Contact uses Intelligent Call Blending, arrange with your phone company or PBX contact to set up your inbound trunks as one or more hunt groups.

If your Avaya Proactive Contact runs multiple inbound jobs for different campaigns at the same time, using different main access phone numbers, define a hunt group for each phone number.

During the setup process, determine the following information and provide this information to your project manager:

- The total number of inbound trunks coming into your call center
- The number of inbound circuits in each hunt group set up by your phone company or PBX contact

  Note:

  Request a cyclic hunt type that spreads inbound calls evenly over inbound circuits. Round Robin and Least Used are typical cyclic hunt types.

ANI and DNIS

Avaya Proactive Contact supports Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS). ANI information shows the phone number of the inbound caller. DNIS information shows the number the inbound caller dialed.

Avaya Proactive Contact with CTI does not support ANI and DNIS for inbound calls. Outbound calls are supported for ANI and DNIS, but they are configured on the PBX.

ANI and DNIS numbers can appear on the screen of an agent and can be stored in the customer record.

To use ANI and DNIS with Avaya Proactive Contact, your installation requires the following elements:

- ANI and DNIS information is available from your carrier.
- If you have a switch, equip and configure it to collect ANI and DNIS information.
- Avaya Proactive Contact requires that ANI and DNIS fields contain delimiters to mark the end of the fields. The number sign (#) and asterisk (*) are typical delimiters.

Avaya Proactive Contact also supports sending ANI through Caller ID. To set up a Caller ID number, use the character-based interface (unavailable in Supervisor) to set up a job. Type the Caller ID number as an outbound job parameter. Avaya Proactive Contact sends the Caller ID (ANI) when the system dials the outbound number.

Note:

If you add Caller ID, the CO must reconfigure your outbound phone line to recognize and use Caller ID digits. This usually requires the outbound lines to be ISDN or Feature Group D lines. For more information, contact your phone company.

T1 circuits

This section discusses the supported phone circuit, Channel Service Unit (CSU), and ISDN PRI. The specification sheet in this section contains additional information to help you complete the T1 and network headset connections.

This section contains the following topics:

Telephone circuits

The available circuit types depend on the destination: local CO, IXC, PBX or other switch, or Centrex service.

When planning your phone circuits, consider the following elements:

- If your circuits go through a local central office and you want phone transfer or conference features, Avaya recommends that you order Centrex service to accommodate hook flash capability.
- If your headsets are network attached, use E&M signaling for T1 trunks from the dialer to the switch. E&M signaling for T1 trunks provides Avaya Proactive Contact with answer and disconnect supervision.

The following table summarizes the T1 signaling methods supported by Avaya Proactive Contact. For more information, contact your Avaya representative.

Signaling type	Features
Loop Start Foreign Exchange Station (FXS)	Emulates a 2500 phone. Accesses switch or Centrex features (transfer, conference) through hook flash signaling. Answer and disconnect supervision are unavailable in most cases.
Loop Start Foreign Exchange Office (FXO)	Emulates a central office or PBX that supports a 2500 phone.
Ground Start FXS	Provides disconnect supervision.
Ground Start FXO	Provides remote party disconnect supervision.
E&M	Provides answer and disconnect supervision. Supports automatic or wink start. Provides access to the transfer and conference features of the digital switch.

Signaling type	Features
ISDN PRI (USA)	Provides fully featured ISDN service 30 B+D and supports Non-Facility Associated Signaling (NFAS) operation.
ISDN PRI (Europe)	Provides fully featured ISDN service 30 B+D and supports Non-Facility Associated Signaling (NFAS) operation.

The following table shows where to use each T1 signaling type for outbound and inbound calling.

Signaling type	PBX station	PBX trunk	CO station	Centrex station	CO trunk	IXC trunk
Loop Start FXS/FXO	X		X	X		
Ground Start FXS/FXO			X	X	X	X
E&M		X		X	X	X
E&M with 500 ms hookflash				X		
ISDN PRI without NFAS		X		X	X	X
ISDN PRI with NFAS		X		X	X	X

Channel Service Units

The CSU connects the dialer to a T1 trunk. The T1 can originate at a CO or switch, such as a PBX.

The CSU performs the following functions:

- Regenerates the digital (T1) signal
- Provides loopback testing capabilities and test jack points for T1 test equipment
- Performs line conditioning and equalization functions
- Responds to loopback commands from the phone network

Avaya requires a CSU for any T1 circuit connecting Avaya Proactive Contact to a CO. The CSU transforms long-haul (DS-1) signaling on the CO side to short-haul (DSX-1) signaling on the Avaya Proactive Contact side.

A CSU is recommended for any T1 circuit connecting to a private network or PBX.

ISDN PRI for T1 circuits

Avaya Proactive Contact also supports ISDN PRI T1 circuits with optional NFAS. NFAS is available for installations in the United States and Canada, depending on your carrier.

In inbound environments using ANI and DNIS, your carrier might require T1 connections that provide ISDN PRI to make ANI and DNIS information available.

In an NFAS environment, configure T1 circuits without D channels (24 B circuits) for 64 Clear Channel Signaling (CCS). Set the T1 circuits for the following elements:

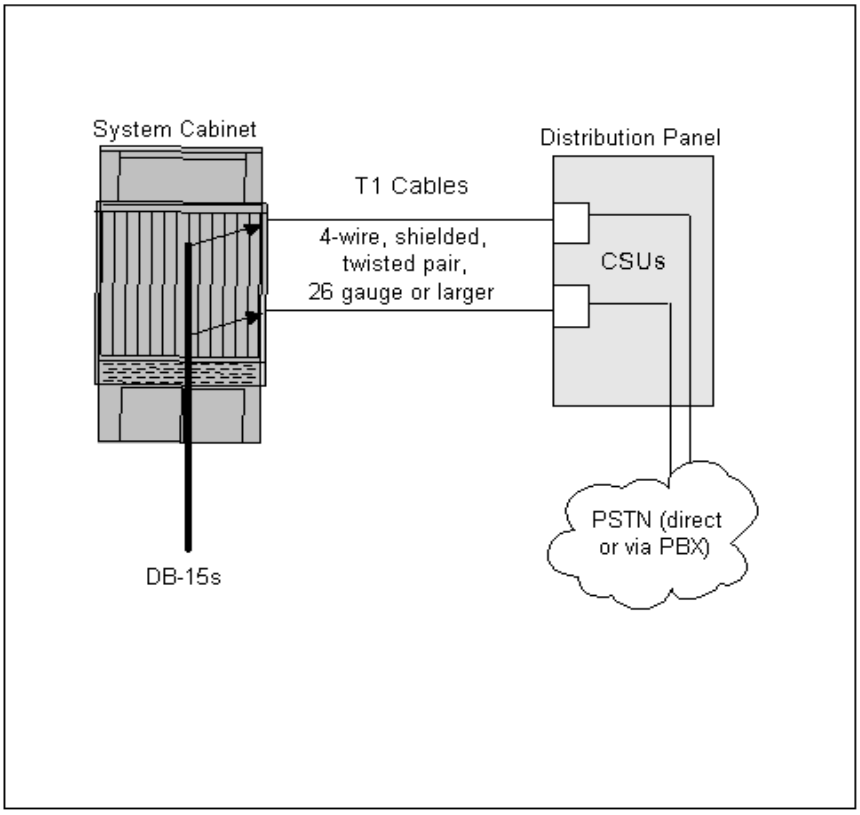
- Extended Superframe Format (ESF)
- Binary 8 Zero Substitution (B8ZS)
- No robbed bit signaling
- Maximum of 192 channels (For more than 192 channels, split the outbound lines into two NFAS groups.)

T1 connection specifications

Avaya Proactive Contact can use T1 circuits to place outbound calls or receive inbound calls from customers.

You can access a headset connected to a PBX or ACD over a T1 connection between Avaya Proactive Contact and the PBX or ACD.

T1 cables connect Avaya Proactive Contact to the central office, PBX, or ACD through your distribution panel and phone network terminator.



This section includes the following topics:

For more PG230 information, see Avaya PG230 system cabinet on page 58.

Cable requirements

The cable is a four-wire (minimum), shielded, twisted pair, 26-gauge (0.129 sq-mm) or larger, Teflon or PVC coated (data grade).

Attach the shield of the T1 cables to the shell of the straight, metallized DB-15P connector and to the ground at the CSU end.

Use one T1 cable for every 24 phone channels (23 channels is ISDN PRI).

Leave 10 feet (3 meters) of slack on each cable terminating at Avaya Proactive Contact.

Adaptors, I/O cards, and connectors

The user I/O is connected to the Avaya Proactive Contact systems using two different methods. On the system cabinet and the PG230 cabinet, the Quad MDF backplane adapter card is used to provide the connection point. On the PG230RM rack mount cabinet, the Twisted Pair I/O card is used to provide the connection point.

Quad MDF backplane adapter

For network or PBX T1 connections, the Quad MDF backplane adapter is used to provide four DB-15 style connectors, one for each T1 span. The DB-15 connector uses the pinouts shown in the following table.

Pin number	Signal
1	Avaya Proactive Contact to network, transmit tip
9	Avaya Proactive Contact to network, transmit ring
3	Network to Avaya Proactive Contact, receive tip
11	Network to Avaya Proactive Contact, receive ring
2, 4-8, 10, 12-15	Avaya Proactive Contact does not use

A separate 8-pin modular connector is also provided in parallel with the DB-15 connector.

WARNING:

Avaya recommends that you use the 8-pin modular connector for diagnostic purposes only. Do not use this modular jack to connect to the CSU, the PBX, or the network. The use of this connector results in nonconformance with our EMC test results (FCC Part 15 and CISPR 22) and violates the EMC regulations in most countries.

For diagnostic purposes only, connect the test equipment to this 8-pin modular connector using the pinouts shown in the following table.

Pin number	Signal
1	Avaya Proactive Contact to network, transmit ring
8	Avaya Proactive Contact to network, transmit tip
4	Network to Avaya Proactive Contact, receive ring
5	Network to Avaya Proactive Contact, receive tip
2, 3, 6, 7	Avaya Proactive Contact does not use

For network or PBX T1 connections on the PG230RM, the Twisted Pair I/O card is used to provide four DB-15 style connectors, one for each T1 span. The Pinouts for the DB-15 connector use the pinouts shown in the following table.

Pin number	Signal
1	Avaya Proactive Contact to network, transmit tip
9	Avaya Proactive Contact to network, transmit ring
3	Network to Avaya Proactive Contact, receive tip
11	Network to Avaya Proactive Contact, receive ring
2, 4-8, 10, 12-15	Avaya Proactive Contact does not use

A separate 8-pin modular connector is also provided in parallel with the DB-15 connector.

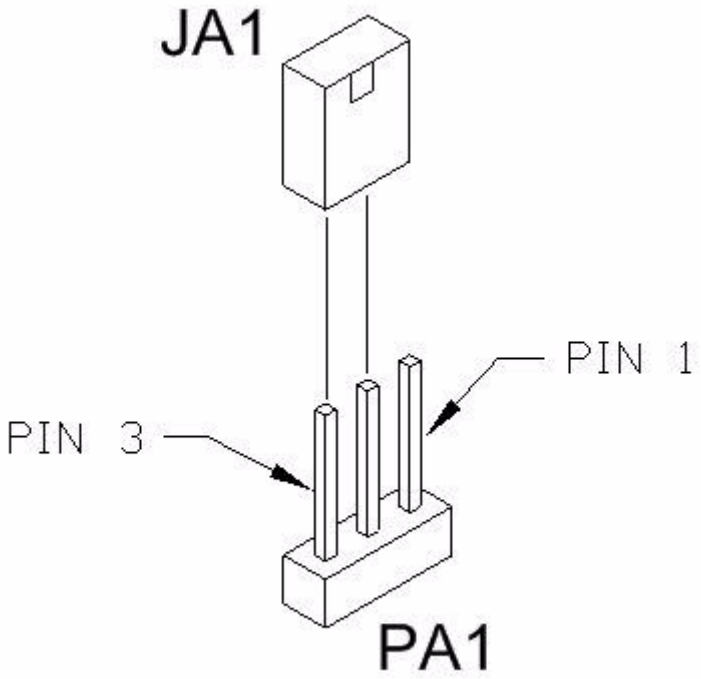
WARNING:
Avaya recommends that you use the 8-pin modular connector for diagnostic purposes only. Do not use this modular jack to connect to the CSU, the PBX, or the network. The use of this connector results in nonconformance with our EMC test results (FCC Part 15 and CISPR 22) and violates the EMC regulations in most countries.

This connector is available with the following two pinout options:

- The traditional PDS pinout that has been used for many years on the dialer switch (and was defined by the old AT&T Accunet specification).
- The recent and more standard pinout used in the industry by many vendors, including Avaya on the Communication Manager. The pinout option is controlled by a jumper field on the Twisted Pair I/O card.

The jumper field uses the small suitcase style jumpers as you see in the following diagram.

The bottom pin assembly has reference designations PA1-PA4 for span #1; PB1-PB4 for span #2, PC1-PC4 for span #3, and PD1-PD4 for span #4,respectively. You use the associated jumpers JA1-JA4, JB1-JB4, and so on to make the connections to the pins. The following diagram indicates the designations for PA1 and JA1.



If the jumper is across pins 2 and 3, then the traditional PDS (Accunet) pinouts are connected on the 8-pin modular connector. If the jumper is moved to pins 1 and 2, the pinouts matching Communication Manager are given. The default settings are for traditional PDS (Accunet).

For diagnostic purposes only, connect test equipment to this 8-pin modular connector using the pinouts for the jumper settings as shown in the following table.

Signal	Traditional PDS Pin Numbers (jumper from 1 to 2)	Communication Manager Pin Numbers (jumper from 2 to 3)
Avaya Proactive Contact to network, transmit tip	1	5
Avaya Proactive Contact to network, transmit ring	8	4
Network to Avaya Proactive Contact, receive tip	4	2
Network to Avaya Proactive Contact, receive ring	5	1
Span shield connections	3,6	3,6
Avaya Proactive Contact does not use	2,7	2,7

Each span connection carries ground shields to protect against unwanted radiation affects. If required, you can connect these connections to pins 3 and 6. The type of ground connection to the shields can be modified by another jumper for each span on the Twisted Pair I/O card. Jumper fields PA5 – PD5, and associated jumpers JA5 – JD5, control this option.

If the jumper is across pins 1 and 2 of the jumper pins, then the connection is coupled to the ground through a capacitor (AC coupling). If the jumper is across pins 2 and 3, then the shield connection is made directly to the ground (DC coupling). If the jumper is not used at all, then no ground connection is made to the shield (this is a valid option in some environments). The jumper position and the relevant shield condition is concisely shown in the following table.

Jumper Position	Shield Condition
1-2	AC coupled to the ground.
2-3	DC coupled to the ground.
No Jumper	No connection to the ground.

Network equipment

Your T1 circuits can connect either to a central office (Centrex, LXC, IXC) or to a switch (such as a PBX, PABX, or CBX).

Channel Service Unit

A Channel Service Unit (CSU) is required for any T1 circuit connecting Avaya Proactive Contact to a central office. Avaya recommends a CSU for any T1 circuit connecting to a private network or PBX.

Each CSU has two interfaces. The DS-1 interface connects to the T1 circuit from the central office or switch. The DSX-1 interface connects to Avaya Proactive Contact. Connect cables from Avaya Proactive Contact to the DSX-1 interface.

Equalize each CSU for the distance to Avaya Proactive Contact. You usually do this through a configuration menu or by setting dip switches on the CSU. Equalization keeps the signal that the CSU passes to Avaya Proactive Contact from being too strong or too weak.

For more information on cabling from the distribution panel to a central office or ACD, consult your phone company representative or switch vendor.

The following table lists the maximum distances between the digital switch and CSU or customer switch.

Distance	Cable gauge
380 feet (116 meters)	26 (0.129 sq-millimeters)
520 feet (158 meters)	24 (0.205 sq-millimeters)
655 feet (220 meters)	22 (0.326 sq-millimeters)

If you must terminate T1 cables, terminate each T1 cable from Avaya Proactive Contact at a CSU on the distribution panel. Install the CSUs at the distribution panel that uses type-66 punchdown blocks.

If your site requires other switched phone network equipment, such as a DS-3 concentrator or smart jacks, you can also connect to these devices through the panel.

Connect the T1 cables to each CSU with the connector type specified by the CSU manufacturer.

Cable identification

Clearly label each T1 cable. During installation, the installer connects the DB-15P male connector to Avaya Proactive Contact.

- Label outbound T1 cables as “outbound”.
- Label inbound T1 cables as “inbound”.
- Label agent voice T1 cables with the voice connection type.

Example

At the DB-15P male connector for the T1 circuit connecting dialback agent voice connections to the Avaya Proactive Contact ports 01 through 24, label as:

01-24-AGvoice/dialback

At the DB-15P male connector for the T1 carrying agent headsets 01 through 24, label as:

AgentHeadsets 01-24

Tip:

If you are connecting to a PBX:

- The transmit pairs connect to the PBX receive pairs.
- The receive-pairs connect to PBX transmit-pairs. (some CSU models switch transmit and receive pairs internally.)
- Set the configuration or dip switches on each CSU to reflect the correct distance to the dialer. The distance cannot exceed 655 feet (220 meters).
- Connect each cable from Avaya Proactive Contact to each CSU DSX-1 interface.
- If you are not using a CSU for your T1 circuits, consult with your switch vendor regarding connectors or equipment at the distribution panel.

E1 circuits

This section discusses the supported phone circuits, Network Termination Points (NTPs), and ISDN PRI circuits for E1 technology. The specification sheet in this section contains additional information to help you complete the E1 and network headset connections.

This section includes the following topics:

Telephone circuits

You can connect E1 phone circuits to a local phone office, other common carriers, a PBX, an ACD, or another switch.

The following table summarizes the E1 signaling methods that Avaya Proactive Contact supports. For more information, contact your Avaya project manager.

E1 signaling type	Features
CAS-DTMF	Channel Associated Signaling (CAS) with Dual Tone Multi-Frequency (DTMF) signaling. Provides simple tone signaling over the audio path for station-like interface applications. This interface mimics standard phone operation.
CAS-MFCR2	Channel Associated Signaling (CAS) with Multi-Frequency, Compelled R2 signaling (MFCR2). Provides a more complex audio tone signaling method, using R2 tones, for interfacing to the Public Switched Telephone Network (PSTN) and PBX.
ISDN-DASS2 (United Kingdom only)	Digital Access Signaling System2 (DASS2). Provides direct Primary Rate ISDN access to the PSTN with simple call setup facilities supported.
ISDN-DPNSS	Digital Private Network Signaling System (DPNSS). Provides private Primary Rate ISDN connectivity between PBXs with simple call setup facilities supported. This signaling type is used in many countries. Use DPNSS for E1 tie trunks between PBXs and the dialer. ISDN-DPNSS can also be used on a Private Leased Line in a Centrex-like mode to connect to remote PBXs and other switches.
ISDN-TBR4	ISDN-TBR4 is a common name for Euro-ISDN and is a modern ISDN interface that complies with the Q.931 specification. TBR4 provides full-featured Primary Rate ISDN connectivity between the dialer and the PSTN. This signaling type is also known as Euro-ISDN, CTR4, iCTR4, ETS 300, NET5, and other names. Use for connecting to the PSTN whenever possible.
ISDN-Q.SIG	Provides ISDN connectivity between PBXs that use a Q.931 compliant protocol.

E1 circuit usage

The following E1 circuit usage table shows where you can use each E1 signaling type for outbound and inbound calling.

Signaling type	PBX station	PBX trunk	CO station	Centrex station	CO trunk	IXC trunk
CAS-DTMF	x		x	x		
CAS-MFCR2		x	x	x	x	x
ISDN-DASS2 (United Kingdom only)				x	x	x
ISDN-DPNSS	x	x		x		
ISDN-TBR4				x	x	x
ISDN-Q.SIG	x	x				

Network Termination Point

An NTP device connects Avaya Proactive Contact to an E1 circuit that goes off premise or exceeds the allowable length of an E1 cable. The E1 might come in from the phone office or from a distant switch (such as a remote PBX).

NTPs perform the following functions:

- Regenerate the digital (E1) signal
- Provide loopback testing capabilities and test jack points for E1 channel test equipment
- Perform line conditioning and equalization functions
- Respond to loopback commands from the phone network

An NTP is required for any E1 circuit connecting an Avaya Proactive Contact System to a CO. The NTP transforms long-haul signaling on the central office side to short-haul signaling on the dialer side. Avaya recommends an NTP for any E1 circuit connecting to a private network or PBX.

Avaya Proactive Contact supports two types of E1 circuit interfaces: 75 ohm and 120 ohm. The following table describes how they are used.

	75 ohm	120 ohm
Cable	Coaxial cable and BNC connectors to connect the E1 cable to the interface card and to the PBX, NTP, or distribution panel.	Four-wire, shielded twisted pair wire.
Interface	Usually, the E1 DPNSS and DASS2 circuits use 75 ohm coax interfaces, especially in the United Kingdom.	E1 ISDN TBR4 (EuroISDN30 or EuroISDN30e) interface is usually 120-ohm twisted pair.
E1-CAS and MFCR2 interfaces are usually 75 ohm. However, 120 ohm is occasionally requested (such as in South Africa and South Korea).		

ISDN PRI for E1 circuits

Avaya Proactive Contact supports several implementations of ISDN PRI for E1 circuits. These circuits are useful for environments using ANI and DNIS and for connecting switches.

Avaya Proactive Contact supports the following PRI ISDN protocols:

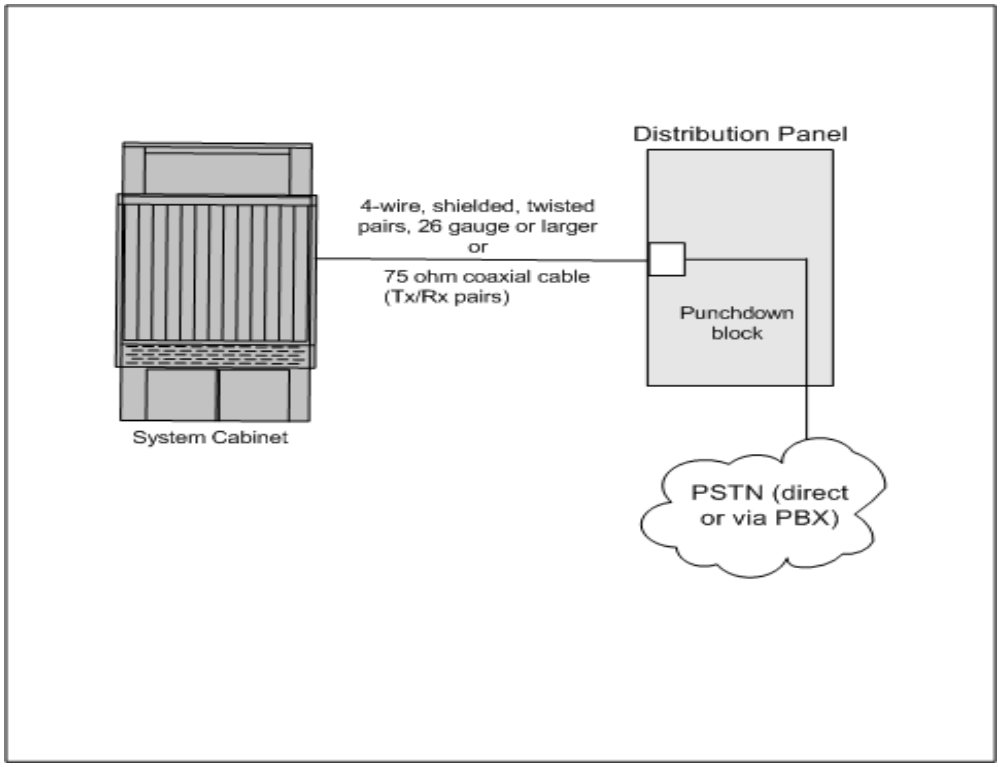
- ISDN TBR4 (also referred to as EuroISDN30 and EuroISDN30e, CTR4, iCTR4, ETS 300, NET5)
- Q.SIG
- DASS2
- DPNSS

E1 connection specifications

Avaya Proactive Contact can use E1 circuits to place outbound calls or receive calls from customers. Access to a headset connected to a PBX or ACD can be made over an E1 connection between Avaya Proactive Contact and the PBX or ACD.

This section includes the following topics:

E1 cables connect Avaya Proactive Contact to the central office, PBX, or ACD through your distribution panel and phone network terminator.



75 ohm interface cable requirements

The cable is 75 ohm coaxial, RG-59/U Type. Many versions of this cable have similar characteristics. Some have higher breakdown voltages between the shield and center conductor, and some exhibit slightly more or less loss per cable foot. The Belden RG-59/U Type (8241) has 2 decibels loss per 100 meters (0.6 decibels of loss per 100 feet). This behavior is typical for this type of cable.

Use two coaxial cables for each E1 circuit, a Transmit (Tx) cable and a Receive (Rx) cable. Each cable is independent of the other.

Leave 10 feet (3 meters) of slack on each cable terminating at Avaya Proactive Contact.

75 ohm adapters, I/O cards and connectors

The 75 ohm coaxial cable connections to the Avaya Proactive Contact systems are made using two different methods. Use the Quad E1 coax backplane adapter card to provide the connection point on the Avaya Proactive Contact system cabinet and the PG230 cabinet. Use the Quad coax I/O card on the PG230RM rack mount cabinet to provide the connection point.

Quad E1 coax backplane adapter

The transmit (Tx) and (Rx) coaxial cables are connected to the adapter card with BNC style coaxial connectors. The following table shows the connection points for each span pair and the direction relative to the Avaya Proactive Contact switch.

Span	Signal	Direction	Jack
1	Network to Avaya Proactive Contact	Rx	J1
	Avaya Proactive Contact to Network	Tx	J2
2	Network to Avaya Proactive Contact	Rx	J3
	Avaya Proactive Contact to Network	Tx	J4
3	Network to Avaya Proactive Contact	Rx	J5
	Avaya Proactive Contact to Network	Tx	J6

Span	Signal	Direction	Jack
4	Network to Avaya Proactive Contact	Rx	J7
	Avaya Proactive Contact to Network	Tx	J8

A separate 8-pin modular connector is also provided in parallel with the two coaxial cables for each span.

WARNING:

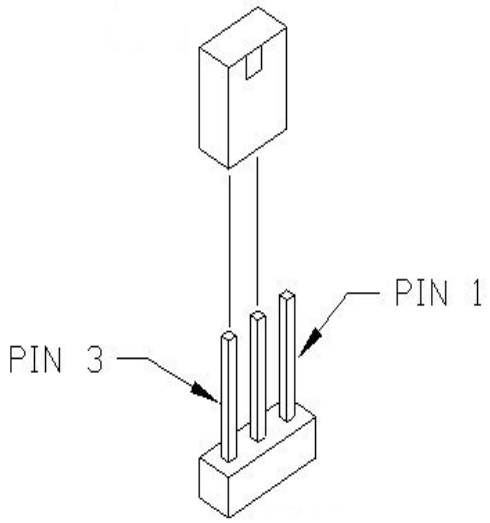
Use this 8-pin modular connection for diagnostic purposes only. Do not use this modular jack to connect to the CSU, the PBX, or the network. The use of this connector results in nonconformance with our EMC test results (FCC Part 15 and CISPR 22) and violates the EMC regulations in most countries. Additionally, 75 ohm impedance matching is lost when connecting 75 ohm spans over 8-pin modular connectors. Keep the test connections as short as possible.

For diagnostic purposes only, use the pinouts shown in the following table to connect the test equipment to the 8-pin modular connector.

Pin number	Signal
1	Avaya Proactive Contact to network, transmit ring
8	Avaya Proactive Contact to network, transmit tip
4	Network to Avaya Proactive Contact, receive ring
5	Network to Avaya Proactive Contact, receive tip
2, 3, 6, 7	Avaya Proactive Contact does not use

Each coaxial span connection consists of a Transmit cable and a Receive cable. These coaxial cables each contain a central (axial) conductor surrounded by a shield. You can ground the shields to the chassis in several ways. Each cable on the Quad E1 Coaxial Adapter has a jumper for the ground connection.

The jumper field uses small suitcase style jumpers as shown in the following diagram. The jumpers are identified as JP1 through JP8, where JP1 and JP2 are for the first span, JP3 and JP4 are for the second, and so on.



If the jumper is across pins 1 and 2, then the shield connection is made directly to ground (DC coupling). If the jumper is across pins 2 and 3 of the jumper pins, then the connection is coupled to ground through a capacitor (AC coupling). If the jumper is not used at all, then no ground connection is made to the shield (this is a valid option in some environments).

The jumper position and the relevant shield condition is concisely shown in the following table.

Jumper Position	Shield Condition
1-2	DC coupled to the ground.
2-3	AC coupled to the ground.
No Jumper	No connection to the ground.

Quad E1 coax I/O card

The Transmit (Tx) and the Receive (Rx) coaxial cables are connected to the adapter card with BNC style coaxial connectors. The following table shows the connection points for each span pair and the direction relative to the Avaya Proactive Contact switch.

Span	Signal	Direction	Jack
1	Network to Avaya Proactive Contact	Rx	JA3
	Avaya Proactive Contact to Network	Tx	JA4
2	Network to Avaya Proactive Contact	Rx	JB3
	Avaya Proactive Contact to Network	Tx	JB4
3	Network to Avaya Proactive Contact	Rx	JC3
	Avaya Proactive Contact to Network	Tx	JC4
4	Network to Avaya Proactive Contact	Rx	JD3
	Avaya Proactive Contact to Network	Tx	JD4

A separate 8-pin modular connector is also provided in parallel with the two coaxial cables for each span. (In the UK, use RJ45 cables.)

WARNING:
Use this 8-pin modular connection for diagnostic purposes only. Do not use this modular jack to connect to the CSU, the PBX, or the network. The use of this connector results in nonconformance with our EMC test results (FCC Part 15 and CISPR 22) and violates the EMC regulations in most countries. Additionally, 75 ohm impedance matching is lost when connecting 75 ohm spans over 8-pin modular connectors. Keep the test connections as short as possible.

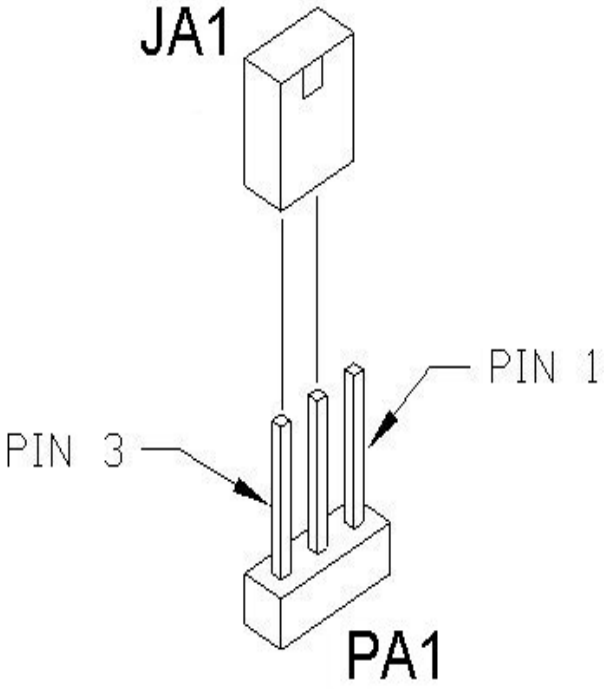
For diagnostic purposes only, use the pinouts shown in the following table to connect the test equipment to the 8-pin modular connector.

Pin number	Signal
1	Avaya Proactive Contact to network, transmit ring
8	Avaya Proactive Contact to network, transmit tip
4	Network to Avaya Proactive Contact, receive ring
5	Network to Avaya Proactive Contact, receive tip
2, 3, 6, 7	Avaya Proactive Contact does not use

Use the pinouts shown in the following table to connect the test equipment to the 8-pin modular connector for diagnostic purposes only.

Each coaxial span connection consists of two cable connections (RX and TX). These coaxial cables each contain a central (axial) conductor surrounded by a shield. You can ground the shields to the chassis in several ways. Each cable on the Quad E1 coax I/O card has a jumper for the ground connection.

The jumper field uses small suitcase style jumpers as shown in the following diagram. The bottom pin assembly has reference designation PA1 and PA2 for span #1; PB1 and PB2 for span #2, PC1 and PC2 for span #3, and PD1 and PD2 for span #4, respectively. The associated jumpers JA1/JA2, JB1/JB2, JC1/JC2, and JD1/JD2 are used to make the connections to the pins. The following diagram indicates the designations for PA1 and JA1.



If the jumper is across pins 1 and 2 of the jumper pins, then the connection is coupled to ground through a capacitor (AC coupling). If the jumper is across pins 2 and 3, then the shield connection is made directly to ground (DC coupling). If the jumper is not used at all, then no ground connection is made to the shield (this is a valid option in some environments).

The jumper position and the relevant shield condition is concisely shown in the following table.

Jumper Position	Shield Condition
1-2	AC coupled to the ground.
2-3	DC coupled to the ground.
No Jumper	No connection to the ground.

120 ohm Interface cable requirements

The cable is four-wire (minimum), shielded, twisted pair, 26-gauge (0.129 sq-millimeter) or larger, Teflon or PVC coated (data grade).

Use one E1 cable for each E1 circuit.

Leave 10 feet (3 meters) of slack on each cable terminating at Avaya Proactive Contact.

120 ohm adapters, I/O cards and connectors

The 120 ohm connections of user I/O to the Proactive Contact dialers are made using two different methods. Use the Quad MDF backplane adapter card on the Proactive Contact System cabinet and the PG230 cabinet to provide the connection point.

Use the Twisted Pair I/O card on the PG230RM rack mount cabinet to provide the connection point.

Quad MDF backplane adapter

For network or PBX E1 (CAS or PRI) connections at 120 ohms, the Quad MDF backplane adapter is used to provide four DB-15 style connectors, one for each E1 span. The pinouts for the DB-15 connector are shown in the following table.

Pin number	Signal
1	Avaya Proactive Contact to network, transmit tip
9	Avaya Proactive Contact to network, transmit ring
3	Network to Avaya Proactive Contact, receive tip
11	Network to Avaya Proactive Contact, receive ring
2, 4-8, 10, 12-15	Avaya Proactive Contact does not use

A separate 8-pin modular connector is also provided in parallel with the DB-15 connector.

WARNING:

Use this 8-pin modular connection for diagnostic purposes only. Do not use this modular jack to connect to the CSU, the PBX, or the network. The use of this connector results in nonconformance with our EMC test results (FCC Part 15 and CISPR 22) and violates the EMC regulations in most countries.

For diagnostic purposes only, use the pinouts shown in the following table to connect the test equipment to the 8-pin modular connector.

Pin number	Signal
1	Avaya Proactive Contact to network, transmit ring
8	Avaya Proactive Contact to network, transmit tip
4	Network to Avaya Proactive Contact, receive ring
5	Network to Avaya Proactive Contact, receive tip
2, 3, 6, 7	Avaya Proactive Contact does not use

Twisted Pair I/O card

For network or PBX E1 (CAS or PRI) connections on the PG230RM, the Twisted Pair I/O card is used to provide four DB-15 style connectors, one for each E1 span. Pinouts for the DB-15 connector are shown in the following table.

Pin number	Signal
1	Avaya Proactive Contact to network, transmit tip
9	Avaya Proactive Contact to network, transmit ring
3	Network to Avaya Proactive Contact, receive tip
11	Network to Avaya Proactive Contact, receive ring
2, 4-8, 10, 12-15	Avaya Proactive Contact does not use

A separate 8-pin modular connector is also provided in parallel with the DB-15 connector.

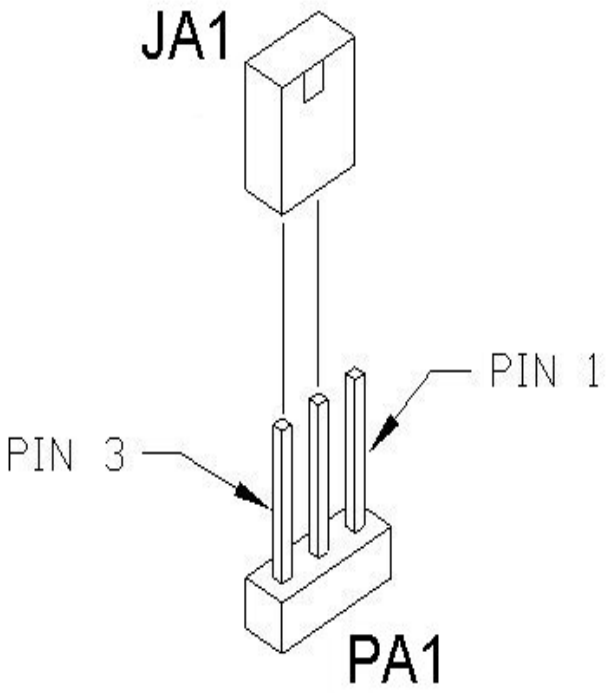
WARNING:

Use this 8-pin modular connection for diagnostic purposes only. Do not use this modular jack to connect to the CSU, the PBX, or the network. The use of this connector results in nonconformance with our EMC test results (FCC Part 15 and CISPR 22) and violates the EMC regulations in most countries.

This connector has the following two pinout options:

- The traditional PDS pinout that has been used for many years on the dialer switch (and was defined by the old AT&T Accunet specification).
- A newer and more standard pinout used in the industry by many vendors, including Avaya on the Communication Manager. The pinout option is controlled by a jumper field on the Twisted Pair I/O card.

The jumper field uses small suitcase style jumpers as shown in the following diagram. The bottom pin assembly has reference designations PA1-PA4 for span #1; PB1-PB4 for span #2, PC1-PC4 for span #3, and PD1-PD4 for span #4. Associated jumpers JA1-JA4, JB1-JB4, and so on are used to make the connections to the pins. The following diagram indicates the designations for PA1 and JA1.



If the jumper is across pins 2 and 3, then the traditional PDS (Accunet) pinouts are connected on the 8-pin modular connector. If the jumper is moved to pins 1 and 2, the pinouts matching Communication Manager are given. The default settings are for traditional PDS (Accunet).

For diagnostic purposes only, connect test equipment to this 8-pin modular connector using the pinouts for the jumper settings as shown in the following table.

Signal	**Traditional PDS Pin Numbers (jumper from 1 to 2)**	**Communication Manager Pin Numbers (jumper from 2 to 3)**
Avaya Proactive Contact to network, transmit ring	1	5
Avaya Proactive Contact to network, transmit tip	8	4

Signal	Traditional PDS Pin Numbers (jumper from 1 to 2)	Communication Manager Pin Numbers (jumper from 2 to 3)
Network to Avaya Proactive Contact, receive ring	4	2
Network to Avaya Proactive Contact, receive tip	5	1
Span shield connections	3,6	3,6
Avaya Proactive Contact does not use	2,7	2,7

Each span connection carries ground shields to protect against unwanted radiation affects. These may be connected to pins 3 and 6 if desired. The type of ground connection to the shields can be modified by another jumper for each span on the Twisted Pair I/O card. Jumper fields PA5 – PD5, and associated jumpers JA5 – JD5, control this option.

If the jumper is across pins 1 and 2 of the jumper pins, then the connection is coupled to ground through a capacitor (AC coupling). If the jumper is across pins 2 and 3, then the shield connection is made directly to ground (DC coupling). If the jumper is not used at all, then no ground connection is made to the shield (this is a valid option in some environments).

The jumper position and the relevant shield condition is concisely shown in the following table.

Jumper Position	Shield Condition
1-2	AC coupled to the ground.
2-3	DC coupled to the ground.
No Jumper	No connection to the ground.

Network equipment

Your E1 circuits can connect either to a phone office (Centrex, LXC, IXC) or to a switch (such as a PBX, PABX, CBX, or ACD). For more information on cabling from the distribution panel to a central office or switch, consult your phone company representative or switch vendor.

If the E1 circuit leaves a building or exceeds the allowable length of the E1 cable, you must install an NTP. The phone network provider is usually responsible for NTP devices.

Your Avaya vendor makes no recommendation for the NTP type and manufacturer.

Install the NTP at the distribution panel that uses punchdown blocks. Avaya recommends KRONE Insulation Displacement Connection (IDC) blocks.

If your site requires other phone network equipment, such as higher rate digital transmission equipment, optical fiber, or smart jacks, install them at the distribution panel.

Cable identification

Clearly label each cable pair for each span. During installation, the installer connects DB-15 or BNC connectors to Avaya Proactive Contact:

- Label one outbound E1 cable “outbound Tx” (transmit) and another “outbound Rx” (receive).
- Label one inbound E1 cable “inbound Tx” (transmit) and another “inbound Rx” (receive).
- Label agent voice E1 cables with the voice connection type.

Examples

The following label identifies the phone cable that connects dial-in agent voice connections to Avaya Proactive Contact ports 01 through 30:

01-30-AG voice/dial-in

At the BNC connector for the E1 carrying agent headset lines 01 through 30:

AgentHeadsets 01-30

At the NTP or the switch for the same cable:

AgentHeadsets 01-30

Tip:

Remember the following when working with E1 connections.

- If you are connecting Avaya Proactive Contact to a PBX, the Avaya Proactive Contact transmit cables connect to the PBX receive cables. The Avaya Proactive Contact receive cables connect to PBX transmit cables.

- Set the configuration values on the E1 card configuration menu and any switches (software or hardware) at the NTP for the proper distance and equalization required for the length of the cable, if applicable. Ask your phone network provider for assistance, if needed.

Supported telephone circuits and connector pinouts

This section discusses the supported phone circuits and connector pinouts for call centers that use analog technology. The specification sheets in this section contain additional information to help you complete the analog and network headset connections.

This section pertains to the Avaya Proactive Contact System and Avaya Proactive Contact with PG230. This section does not apply to Avaya Proactive Contact with CTI.

Analog circuits

Avaya Proactive Contact supports analog circuits to place and receive calls. The system also uses dedicated analog two-wire circuits to connect its maintenance modem to the phone network.

The following table summarizes the analog telephone signaling types that Avaya Proactive Contact supports. For more information, contact your Avaya vendor.

Signaling type	Features
Loop Start	Emulates a 2500 phone.
Ground Start	Provides a PBX-like ground start circuit with disconnect supervision.

Analog circuit usage

The Analog circuit usage table shows where you can use each analog signaling type for outbound and inbound calling

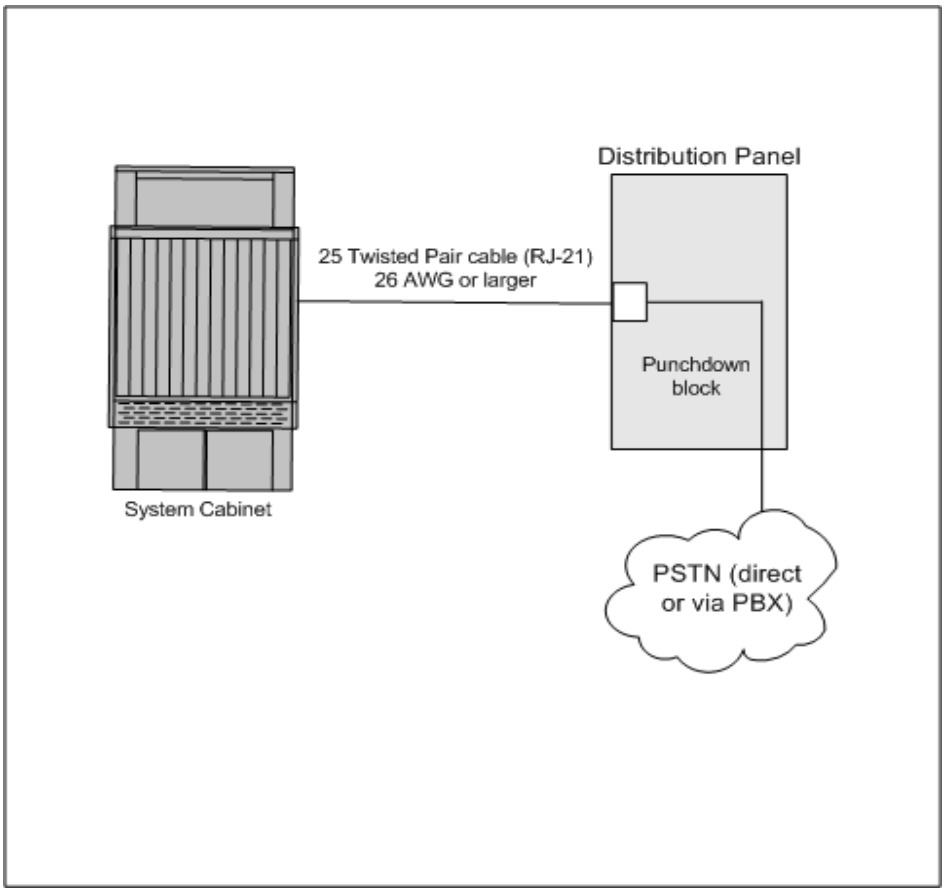
Signaling type	PBX station	PBX trunk	CO station	Centrex station	CO trunk	IXC trunk
2-W Loop Start	x		x	x		
2-W Ground Start		x	x	x	x	x

Analog connection specifications

Avaya Proactive Contact can use analog circuits for either ground start or loop start signaling for outbound or inbound calls. Circuit connections are made from Avaya Proactive Contact to the CO, PBX, or ACD through your distribution panel.

This section includes the following topics:

Prepare cables from the distribution panel to the switched phone network as specified by your phone company representative.



Cable requirements

Install cables from Avaya Proactive Contact to a punchdown block at the distribution panel. Use one cable for every 16 two-wire circuits. Cable requirement is 26 AWG (0.129 sq-millimeters) or larger.

Leave 10 feet (3 meters) of slack for each cable terminating at the Avaya Proactive Contact System.

The installer connects the 50-pin Telco connectors to the Avaya Proactive Contact System.

Distribution panel

Attach the 25-pair cable to the block with another 50-pin male 90-degree Telco connector. The pinouts on the 25-pin cable follow the RJ-21 cable standard. Do not forget to install bridge clips at the punchdown block.

For more information on cabling from the distribution panel to a central office or switch, consult your phone company representative or switch vendor.

Cable identification

Clearly label each analog cable. During installation, the installer connects the Telco connectors to the Avaya Proactive Contact System.

Two-wire connections for 50-pin Telco connector

Color codes: BL-blue, BK-black, BR-brown, G-green, O-orange, R-red, SL-slate gray, V-violet, W-white, Y-yellow

Pin number	Line number	Tip/Ring	Wire color
1	1	Ring	BL-W
2	2	Ring	O-W
3	3	Ring	G-W
4	4	Ring	BR-W
5	5	Ring	SL-W
6	6	Ring	BL-R
7	7	Ring	O-R
8	8	Ring	G-R

Pin number	Line number	Tip/Ring	Wire color
9	9	Ring	BR-R
10	10	Ring	SL-R
11	11	Ring	BL-BK
12	12	Ring	O-BK
13	13	Ring	G-BK
14	14	Ring	BR-BK
15	15	Ring	SL-BK
16	16	Ring	BL-Y
17	Not used	Ring	O-Y
18	Not used	Ring	G-Y
19	Not used	Ring	BR-Y
20	Not used	Ring	SL-Y
21	Not used	Ring	BL-V
22	Not used	Ring	O-V
23	Not used	Ring	G-V
24	Not used	Ring	BR-V
25	Not used	N/A	SL-V
26	1	Tip	W-BL
27	2	Tip	W-O
28	3	Tip	W-GR
29	4	Tip	W-BR
30	5	Tip	W-SL
31	6	Tip	R-BL
32	7	Tip	R-O
33	8	Tip	G-R
34	9	Tip	R-BR
35	10	Tip	R-SL

Pin number	Line number	Tip/Ring	Wire color
36	11	Tip	BK-BL
37	12	Tip	BK-O
38	13	Tip	BK-G
39	14	Tip	BK-BR
40	15	Tip	BK-SL
41	16	Tip	Y-BL
42	Not used	Tip	Y-O
43	Not used	Tip	Y-G
44	Not used	Tip	Y-BR
45	Not used	Tip	Y-SL
46	Not used	Tip	V-BL
47	Not used	Tip	V-O
48	Not used	Tip	V-G
49	Not used	Tip	V-BR
50	Not used	N/A	V-SL

Analog direct-connect headset connection specifications

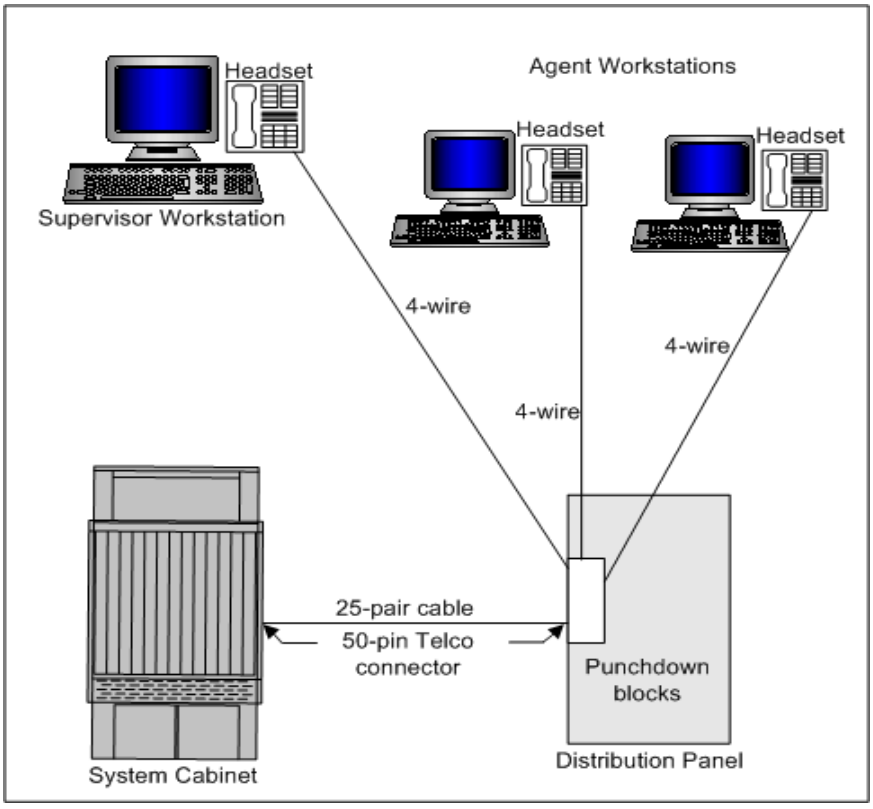
Avaya Proactive Contact can use special four-wire analog voice circuits for direct-connect (dedicated) agent headsets.

Analog voice cables for direct-connect agent headsets connect from Avaya Proactive Contact to the distribution panel. From the panel, they connect to agent headsets at individual Avaya Proactive Contact agent workstations.

Important:

Avaya does not provide any acoustic shock protection circuitry in the Avaya Proactive Contact System switch. Acoustic protection must be present in the customer-provided headset. The customer is responsible to provide acoustic shock protection.

This section includes the following topics:



Cable requirements

Install cables from Avaya Proactive Contact to a punchdown block at the distribution panel. Use one 25-pair cable for every 12 direct-connect headsets.

Install cables from the distribution panel to each agent workstation and supervisor workstation that use a direct-connect headset.

Total cable length from the Avaya Proactive Contact to any headset cannot exceed 3,000 feet (900 meters). Leave 10 feet (3 meters) of slack for each cable terminating at Avaya Proactive Contact.

Distribution panel

From the Avaya Proactive Contact System or the PG230 to the distribution panel, connect one 50-pin male 90-degree Telco connector to a 25-twisted pair Telco, 26 gauge (0.129 sq-mm) or larger cable for every 12 headsets.

At the distribution panel, attach the 25-pair cable to the block with another 50-pin male Telco connector.

Wire the cable that runs from the distribution panel to the headsets directly into the punchdown block.

Connect one four-wire (minimum), shielded, twisted-pair cable to the punchdown block for each headset. Run the cable to within 6 feet (1.8 meters) of each headset. Connect two pairs of wires for each headset. The connector at the headset may vary, depending on the model selected.

RJ-11 pinouts at headset

The following table lists the RJ-11 pinouts at the headset.

Tip/Ring	Ear/Mouth	Pin	Wire color
Ring	Ear	3	Red
Tip	Ear	4	Green
Ring	Mouth	2	Black
Tip	Mouth	5	Yellow

Cable identification

Clearly label each cable. During installation, the installer connects each 25-pair cable to Avaya Proactive Contact.

Example

At Avaya Proactive Contact, the label on the connector for the headsets at agent workstations 1 through 12 is AgentHeadsets 1-12. At agent workstation number 7, the label on the jack for that headset is Headset 7.

50-pin Telco connector pinouts for dedicated headset connections

Color codes: BL-blue, BK-black, BR-brown, G-green, O-orange, R-red, SL-slate gray, V-violet, W-white, Y-yellow

Pin number	Headset number	Ear/Mouth	Tip/Ring	Wire color
1	1	Ear	Ring	BL-W
2	1	Mouth	Ring	O-W
3	2	Ear	Ring	G-W
4	2	Mouth	Ring	BR-W
5	3	Ear	Ring	SL-W
6	3	Mouth	Ring	BL-R
7	4	Ear	Ring	O-R
8	4	Mouth	Ring	G-R
9	5	Ear	Ring	BR-R
10	5	Mouth	Ring	SL-R
11	6	Ear	Ring	BL-BK
12	6	Mouth	Ring	O-BK
13	7	Ear	Ring	G-BK
14	7	Mouth	Ring	BR-BK
15	8	Ear	Ring	SL-BK
16	8	Mouth	Ring	BL-Y

Pin number	Headset number	Ear/Mouth	Tip/Ring	Wire color
17	9	Ear	Ring	O-Y
18	9	Mouth	Ring	G-Y
19	10	Ear	Ring	BR-Y
20	10	Mouth	Ring	SL-Y
21	11	Ear	Ring	BL-V
22	11	Mouth	Ring	O-V
23	12	Ear	Ring	G-V
24	12	Mouth	Ring	BR-V
25	Not used	N/A	N/A	SL-V
26	1	Ear	Tip	W-BL
27	1	Mouth	Tip	W-O
28	2	Ear	Tip	W-GR
29	2	Mouth	Tip	W-BR
30	3	Ear	Tip	W-SL
31	3	Mouth	Tip	R-BL
32	4	Ear	Tip	R-O
33	4	Mouth	Tip	G-R
34	5	Ear	Tip	R-BR
35	5	Mouth	Tip	R-SL
36	6	Ear	Tip	BK-BL
37	6	Mouth	Tip	BK-O
38	7	Ear	Tip	BK-G
39	7	Mouth	Tip	BK-BR
40	8	Ear	Tip	BK-SL
41	8	Mouth	Tip	Y-BL
42	9	Ear	Tip	Y-O
43	9	Mouth	Tip	Y-G

Pin number	Headset number	Ear/Mouth	Tip/Ring	Wire color
44	10	Ear	Tip	Y-BR
45	10	Mouth	Tip	Y-SL
46	11	Ear	Tip	V-BL
47	11	Mouth	Tip	V-O
48	12	Ear	Tip	V-G
49	12	Mouth	Tip	V-BR
50	Not used	N/A	N/A	V-SL

Important:

Avaya does not provide acoustic shock protection circuitry in the Avaya Proactive Contact System/PG230 switch. Acoustic protection must be present in the customer provided headset. The customer is responsible to provide acoustic shock protection.

Telephony components for CTI

This section describes the other telephony configuration components for Avaya Proactive Contact with CTI. The features described in this section must be enabled for CTI:

This section includes the following topics:

Computer Telephony Adjunct Links

Computer Telephony Adjunct Links is an ISDN-based CTI program that links adjunct applications (AE Services or Avaya CT) to Avaya Communication Manager (CM). Avaya Proactive Contact with CTI uses the adjunct application to access CM features, control phone calls, and supply routing information to the system.

Adjunct Links enable Adjunct Call Control, Domain Control, Event Notification, and Request Feature.

Adjunct Links expands the linking capabilities between CM and the adjunct applications (AE Services or Avaya CT) to enable the following capability groups. It is available only on links that are administered as Adjunct Links.

- Adjunct Routing
- Answering Machine Detection
- Selective Listening
- Switch Classified Outbound Calls
- Integrated Services Digital Network (ISDN) Redirecting Number Information
- Network Call Redirection (NCR) Adjunct Routing

Agent states

The Agent States feature defines the work mode of the agents who are currently logged in to the system. Agent States are used to determine if an agent if an agent is available to take outbound calls. If an agent is logged in and in the Ready state (Manual In or Auto In) no calls should be delivered to that agent.

The Agent States feature must be turned on for Avaya Proactive Contact with CTI to receive agent work mode events. This information is used to prevent the dialer from delivering outbound calls to an agent who is ready to inbound work.

The Agent States feature applies only to links that are administered as ADJLNK.

The following table lists the supported agent states/work modes:

Agent state/work mode	Description
ACD	The agent is engaged in an ACD call.
ACW	The agent is involved with work associated with a call but is not on the call.
AI	Auto In, same as the Ready state.
AUX	The agent is involved in non-ACD work, is on break, in a meeting, at lunch, or otherwise unavailable to take calls. AE Services recognizes the extension as staffed, and also that it does not want the ACD to route calls to it for an extended period of time.
DACD	The agent is engaged in a direct agent ACD call.
DACW	The agent is in the after call work (ACW) state for a direct agent ACD call.
MI	Manual In, same as the Ready state.
OTHER	The agent is doing other work. If an agent is working in three splits/skills and receives a call from one, the ACD puts the agent in the OTHER state for the other two.
READY	The agent is logged in (Manual In or Auto In) and ready to take inbound work. No outbound calls should be delivered to this agent.
RING	The time that a call rings at the phone of an agent after leaving the queue and before the agent answers the call.
UNKNOWN	The agent is in a state that is not recognized. The agent remains in this state until the condition is cleared or the agent completes the current ACD call and any current ACW.
UNSTAF	The time a call rings at the phone of an agent after leaving the queue and before the agent answers the call.

Automatic Route Selection

The Automatic Route Selection (ARS) feature allows the system to automatically select the lowest cost method of sending a toll call. ARS is needed to make predictive calls through CTI.

Call Classification

The Call Classification feature listens for tones and classifies those tones that are detected. This feature supports:

- Recognition and classification of progress tones
- Special information tones
- Answering machines
- Modem tones

The accuracy of classification varies with the type of tone and method of tone generation.

Universal Call ID

Universal Call ID (UCID) is a unique tag, assigned to each call that the application uses to track the life of a call. UCID tracks the call from origination to disconnection. UCID tracks where the call goes and how it gets there (transfer, conference, routing, through a variety of network and Avaya Communication Manager servers, voice responses, and so on).

Avaya Proactive Contact with CTI needs the UCID to associate call events to a particular call because the switch ID can change during the life of a call.

Phantom calls

A phantom call is a call that is originated either from a station AWOH (Administered Without Hardware) or from a Non-ACD Hunt Group made up of AWOH stations. Phantom numbers are used when making acquisition calls. The acquisition call is made to the extension of the acquisition domain. When an agent answers an acquisition call:

1. The extension of the agent is collected.
2. The agent is put into AUXWORK mode.
3. The acquisition call is disconnected.

When the agent is put into AUXWORK mode, a reason code can be sent so that Avaya Communication Manager reporting marks the call as an acquisition call. The number of acquisition calls that can be outstanding determines the number of phantom calls.

Vector Directory Numbers

Call Vectoring is the process of defining vector programs that determine how a specific call should be routed and what call treatment that call is to be given. When a call arrives at a switch for which Call Vectoring is enabled, the call is first directed to a Vector Directory Number (VDN).

A VDN is an internal telephone number that, in turn, directs the call to a specific vector. The VDN represents the call type or category, for example: billing, customer service, and so on. The VDN defines the service that is desired by the caller. Multiple VDNs can point to the same or to different vectors, depending on whether the relevant calls are to receive the same or different treatment.

Vectors

A vector is a set of commands that define the processing of a call. For example, a call can be queued and then routed to another destination. A vector can contain up to 32 command steps. Multiple vectors can be linked together to extend processing capabilities or to process calls to the same or different answering destinations. Any number of calls can use the same multiple vectors and process steps independently.

CTI-Links

CTI links provide connectivity between Avaya Proactive Contact and the Communication Manager switch. Avaya Proactive Contact uses Computer Telephony Adjunct Links which are proprietary links used by Avaya applications.

The two types of Computer Telephony Adjunct Links are:

- Link Type: ADJLK -- ADJLK links provide connectivity for configurations that rely on the MAPD based DLG. Configurations that use ADJLK links.
- Link Type: ADJ-IP -- ADJ-IP links provide connectivity for configurations that rely on the Co-Resident DLG. Configurations that use ADJLK links.

Announcement ports

When configuring Avaya Proactive Contact with CTI, define announcement ports for the following uses:

- Wait queue messages, messages played to customers when no agent is available.
- Messages to be played to the customer as directed by the agent. For instance, this can be a message to be played when the agent was connected to an answering machine.
- Virtual agents, customers that are reached are directed always to a message for a virtual agent job. These could be public service announcement, or the beginning of a voice dialog.
- Messages for blended agents.
- Agent login, the message played to an agent when first logging in.

Other CTI configuration considerations

Before you configure Avaya Proactive Contact with CTI, you need the following AE Services information:

- TLINK name
- IP address of Avaya CT
- Administrator login id and password

You also need to know:

- VDN numbers
- Announcement extension numbers
- Phantom extension numbers
- Reason code
- Whether agents are released to inbound calls in manual (MI) or automatic (AI) mode

Chapter 6: Proactive Contact Blending

Avaya Proactive Contact Blending allows call centers to make outbound calls and to service inbound calls. This section describes the blending of inbound and outbound calls.

This section includes the following topics:

Intelligent Call Blending

Avaya Proactive Contact uses Intelligent Call Blending (ICB) as a call blending method for call centers whose main priority is outbound dialing. ICB is supported on the Avaya Proactive Contact System and Avaya Proactive Contact with PG230 options. ICB is not supported on Avaya Proactive Contact with CTI.

ICB distributes a blend of inbound and outbound calls to Avaya Proactive Contact agents. Usually, the ACD transfers inbound calls to available inbound or blend agents on Avaya Proactive Contact. When an agent is unavailable, Avaya Proactive Contact places calls in the inbound wait queue. If your system does not use an ACD, Avaya Proactive Contact transfers inbound calls to available inbound or blend agents.

With ICB, blend agents handle outbound calls until there are more inbound calls than available inbound agents. ICB passes the excess inbound calls to the blend agents. When the inbound call volume decreases, Avaya Proactive Contact returns to passing outbound calls to the blend agents. ICB does not require special switch settings.

ICB routes inbound calls to agents who otherwise participate in outbound jobs. In Intelligent Call Blending, blend agents handle outbound calls until there are more inbound calls than available inbound agents. ICB passes the excess inbound calls to the blend agents.

When the call volume decreases, Avaya Proactive Contact returns to passing outbound calls to the blend agents. ICB works with inbound trunks from a CO, a PBX, or with inbound trunks from an ACD.

When Avaya Proactive Contact is working with a CO or PBX, inbound calls are routed directly to Avaya Proactive Contact.

When Avaya Proactive Contact is working with an ACD, inbound calls are distributed from the ACD to Avaya Proactive Contact. The distribution is based on thresholds configured on the ACD.

Agent Blending

Agent Blending integrates outbound calling activities on your Avaya Proactive Contact with inbound calling activities on your ACD. In an Agent Blending system, ACD agents log in to Avaya Proactive Contact and the ACD.

Agent Blending monitors the activity on the ACD. Agent Blending uses this information to determine when to acquire agents for outbound calling and when to release ACD agents to handle inbound calls.

Avaya Proactive Contact uses a pool of ACD (blend) agents for outbound calling. The system acquires the pooled agents for outbound calling when the inbound calling activity decreases and releases these agents to inbound calling when the inbound calling activity increases. This movement keeps the ACD blend agents busy while keeping the ACD service level within your prescribed limits.

This section includes the following topics:

Predictive Agent Blending

If your first priority is servicing your inbound customers and your inbound volume is fairly high, you can benefit from using Predictive Agent Blending. Predictive Agent Blending focuses on the inbound mission. Predictive Agent Blending acquires agents for outbound only when the Service Level (SL) or Average Speed to Answer (ASA) parameters are above the desired value. These agents take inbound calls until Avaya Proactive Contact predicts that there are too many agents on inbound. This prediction is based on the service level requirements you set. Avaya Proactive Contact then acquires agents from the ACD to handle outbound calls until the inbound volume increases.

Call centers with moderate to heavy inbound traffic and more than 25 agents in an inbound pool benefit from using Predictive Agent Blending. Predictive Agent Blending uses events from the ACD to forecast call volume and determine when to move ACD agents between inbound and

outbound calling. For this movement to occur, your agents must receive internal (station-to-station) calls.

Predictive Agent Blending uses events from the ACD to forecast call volume and determine when to move ACD agents between inbound and outbound calling. For this movement to occur, your agents must receive internal (station-to-station) calls.

Two control method options are available within Predictive Agent Blending: Average Speed to Answer and Service Level. To configure Predictive Agent Blending, set up an Average Speed to Answer or a Service Level domain group that contains one or more acquire domains and at least one inbound domain. Each type requires different settings.

This section includes the following topics:

Average Speed to Answer (ASA)

This domain group type uses the target ASA field (MAAS) to calculate when to acquire and release agents. Agents are acquired for outbound calls when the ASA for all inbound domains in the group is less than or equal to the targeted value. Agents are released when the value rises above the target value.

Parameter	Description
Desired level (required)	The average number of seconds within which agents must answer calls. Select a setting between 0 and 100 seconds. The setting represents an average calculated over the Average Speed to Answer interval.
Average Speed to Answer	The interval that Avaya Proactive Contact uses to calculate the ASA. This parameter influences how responsive the system is to fluctuations in answer delays. This interval is a rolling interval that starts whenever you start Avaya Proactive Contact or restart Agent Blending. The minimum setting is 0.25 hours (15 minutes). For example, a setting of 1 calculates the activity during the past hour.
Traffic intensity threshold (required)	The percentage of agents available to take calls. Use this setting to determine how quickly Avaya Proactive Contact moves agents between inbound and outbound calls. The goal is to prevent agents from being acquired or released too frequently. Agents are available if they are not taking calls or updating records. Agent Blending tracks calling statistics and uses this information to predict future availability. To calculate the threshold, Avaya Proactive Contact divides the projected inbound call volume by the projected number of available agents.

Parameter	Description
Minimum number of agents on outbound (optional)	The minimum number of ACD blend agents, in this domain group, dedicated to handling outbound calls. This setting overrides Desired level. For example, no matter how low the ASA, there will always be this number of agents unavailable to handle inbound calls. Use this option when you must meet outbound goals before you service inbound calls.
Initial traffic rate (optional)	The estimated number of calls per second. Avaya Proactive Contact uses this rate for the first 30 calls. It ensures that there are enough agents to handle the first 30 calls.
Minimum talk time (optional)	The estimated minimum number of seconds agents spend connected on each inbound call. Avaya Proactive Contact adds Talk time and After Call Work time to determine agent availability. Agent availability is sometimes called service capacity.
Minimum after call work time (optional)	The estimated minimum number of seconds agents spend, after a call, updating records and processing information.

Service Level (SL)

This domain group type uses the Service Criterion (SC), Desired Service Level (DSL), and Abatement Service Level (ASL) fields to calculate when to acquire and release agents.

- Agents are acquired for outbound calls when the percentage of inbound calls answered within the SC time is greater than or equal to the DSL percentage.
- Acquisitions stop when the actual service level reaches the Abatement Service Level value.
- Agents are released back to inbound when the service level falls below the desired value. The actual service level is calculated using all inbound domains in the group.

The following table describes the SL parameters:

Parameter	Definition
Desired Service Level (required)	The percentage of calls agents can answer within the Service Criterion.
Abatement Service Level (required)	The percentage (SL) where Avaya Proactive Contact stops acquiring agents for outbound calling. Select a value greater than the Desired level and less than or equal to 100.
Service criterion (required)	The maximum time within which an agent must answer a call. It measure the seconds an inbound call is in the ACD queue.

Parameter	Definition
Service level interval (required)	The interval that Avaya Proactive Contact uses to calculate the SL. This parameter influences how the response Avaya Proactive Contact is to fluctuations in answer delays. This interval is a rolling interval that starts whenever you start Avaya Proactive Contact or restart Agent Blending. The minimum setting is 0.25 hours (15 minutes). For example, a setting of 1 calculates the activity during the past hour.
Traffic intensity threshold (required)	The percentage of agents available to take calls. This setting determines how quickly Avaya Proactive Contact moves agents between inbound and outbound calls. The goal is to prevent agents from being acquired or released too frequently. Agents are available if they are not taking calls or updating records. Agent Blending tracks calling statistics and uses this information to predict future availability. To calculate the threshold, Avaya Proactive Contact divides the projected inbound call volume by the projected number of available agents.
Minimum number of agents on outbound (optional)	The minimum number of ACD blend agents, in this domain group, dedicated to handling outbound calls. This setting overrides Desired level. For example, no matter how low the ASA, this number of agents is always unavailable to handle inbound calls. Use this option when you must meet outbound goals before you service inbound calls.
Initial traffic rate (optional)	The estimated number of calls per second. Avaya Proactive Contact uses this rate for the first 20 calls. It ensures that there are enough agents to handle the first 30 calls.
Minimum talk time (optional)	The estimated minimum seconds agents spend connected to each inbound call. Avaya Proactive Contact adds Talk time and ACW time to determine agent availability. Agent availability is sometimes called service capacity.
Minimum after call work time (optional)	The estimated minimum seconds agents spend, after a call, updating records and processing information.

Proactive Agent Blending

If your focus is on outbound calling, use Proactive Agent Blending but you need to service a low volume of inbound customers. Proactive Agent Blending focuses on outbound calls and releases agents to inbound only when an inbound call enters a monitored queue on the ACD. When an ACD agent logs in, Avaya Proactive Contact immediately acquires the agent for outbound calling. When an inbound call comes into the ACD queue, Avaya Proactive Contact releases the agent to handle the call.

The number of queued calls before agents release to inbound can be configured for each OB_ONLY domain group. If inbound calls continue to come in, Avaya Proactive Contact

continues to release agents. As soon as the queue is empty, Avaya Proactive Contact acquires the agent for outbound calls.

Outbound Agent Blending

Outbound Agent Blending acquires ACD agents to handle outbound calls as soon as they log in to Avaya Proactive Contact and the ACD. Since there is no inbound domain in the OB_ONLY domain group, agents assigned to an Outbound domain are not released to handle inbound calls.

Blending and ACDs

Setting up Agent Blending requires coordinating settings on the ACD and on Avaya Proactive Contact. Many ACDs require special settings and have unique terminology. Work with your switch and Avaya technical support representatives to ensure that system settings are compatible.

Avaya Proactive setup

During the setup process, specify the following elements:

- Agent Blending settings
- Domains
- Domain groups
- Domain group control methods

Your Avaya representative configures the Agent Blending software to match your specifications.

If you make changes to Agent Blending later, define these settings in the Supervisor Main menu of the character-based application or Agent Blending from Supervisor tools.

Inbound Calling and Agent Blending

Agent Blending integrates outbound calling activities on your Avaya Proactive Contact with inbound calling activities on your ACD. ACD agents log in to Avaya Proactive Contact and the ACD. Agent Blending monitors the activity on the ACD and uses this information to determine when to acquire and release ACD agents for outbound calling.

Avaya Proactive Contact uses a pool of ACD (blend) agents for outbound and inbound calling. The system acquires the pooled agents for outbound calling when the inbound calling activity

decreases. It releases these agents to inbound calling when the inbound calling activity increases.

This movement keeps the blend agents busy while keeping the ACD service level within your prescribed limits.

Domains

No matter which type of switch your system uses, Avaya Proactive Contact requires domains and domain groups. Domains are the Avaya Proactive Contact name for ACD call queues that are defined on the ACD and on Avaya Proactive Contact.

Each domain is a member of a domain group. Agent Blending collects calling events for each domain and adds them by domain group for statistic calculation. The domain group uses these statistics to determine when to move ACD agents between inbound and outbound calling. The domain group does not add statistics across domain groups and it does not monitor activity in call queues that are not part of a domain group.

After you install your system, assign your agents to domains based on a skill set. For example, you might divide agents into three sets:

- agents who handle only credit card customers
- agents who handle consumer loan customers
- agents with skills to handle both credit card customers and consumer loan customers

This section includes the following topics:

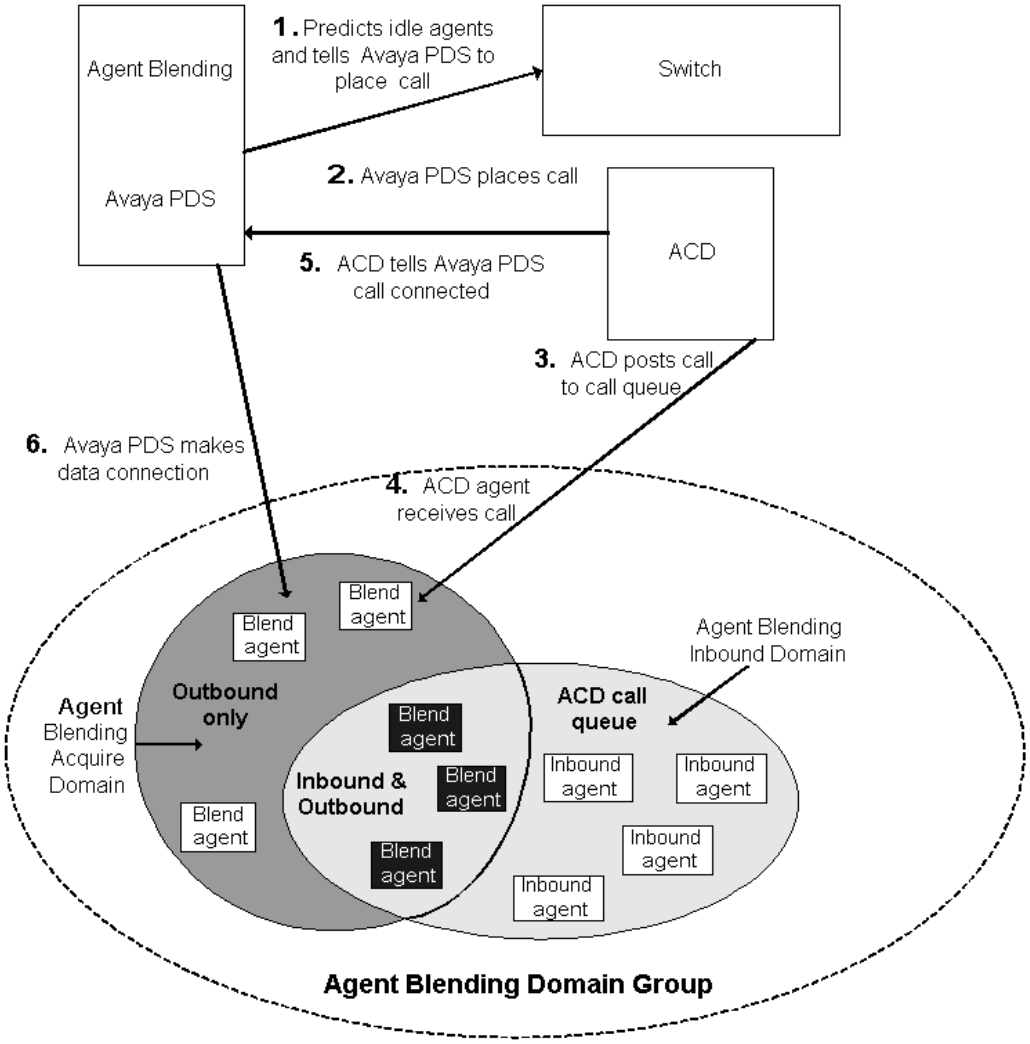
Configure domains

The types of domains you configure depend on the ACD. The two main domain types are inbound and acquire. All Agent Blending systems must have an acquire domain.

Agent Blending uses inbound domains to determine agent availability by monitoring and analyzing the traffic. It uses acquire domains to acquire agents for outbound calling.

In addition to inbound and acquire domains, Avaya Proactive Contact recognizes two additional domains. Some ACDs use auxiliary domains to monitor all calling activity in a domain group. In addition to inbound and acquire domains, Avaya Proactive Contact recognizes two additional domains. Some ACDs use auxiliary domains to monitor all calling activity in a domain group.

Meridian switches without multiple queues assignment (MQA) use transient domains to temporarily hold agents that are moving between inbound and outbound.



Domain groups

During site preparation, identify which domains you want grouped. A domain group contains one or more domains.

Each domain group must be defined using one of the following four configurations:

- Outbound without inbound domain (OB_ONLY control method)
- Predictive Average Speed to Answer (ASA control method)
- Predictive Service Level (SL control method)
- Outbound with inbound domain (Proactive Blend, OB_ONLY control method)

Agent logins

In an Agent Blending system, an agent can handle only inbound calls, inbound and outbound calls, or only outbound calls. An agent who handles only inbound calls logs on to the ACD. Avaya Proactive Contact can monitor the inbound calling activity of an agent based on the dialer and ACD configuration.

An agent who handles both inbound and outbound calls logs on to Avaya Proactive Contact as an ACD agent and to the ACD to receive inbound and outbound calls. Avaya Proactive Contact monitors the inbound calling activity and acquires ACD agents for outbound calling when appropriate.

An agent who handles only outbound calls logs on to Avaya Proactive Contact as an ACD agent and the ACD to receive outbound calls. Avaya Proactive Contact acquires the agent immediately for outbound calling.

The following table summarizes agent logons based on the calls an agent handles and whether you want Agent Blending to monitor agents.

Call type	Monitored by Agent blend	Proactive Contact logon	ACD logon
Inbound only	No	N/A	ACD logon
Inbound only	Yes	N/A	Log in using the method to receive only inbound calls, not outbound calls from Avaya Proactive Contact (ACD and acquire skill related)
Outbound and Inbound	Yes	ACD agent	Log in to receive ACD inbound and outbound calls from Avaya Proactive Contact.
Outbound	Yes	ACD agent	Log in to receive outbound calls from Avaya Proactive Contact.

Appendix A: Avaya Proactive Contact System Site Preparation Checklist

These sample checklists describe tasks that you need to perform before the installation of the Avaya Proactive Contact System begins. Your Avaya Project Manager will provide you with a checklist customized for your environment.

These checklists are provided for the Avaya Proactive Contact System deployment option (non-CTI):

- Electrical checklist
- Space checklist
- Environmental checklist
- Phone line configuration and cabling checklists
- Modem line checklist
- Network checklist
- File transfer checklist
- Administrator console checklist
- Supervisor workstation checklist
- Agent workstation checklist
- Printer checklist
- Internet Monitor checklist
- Pod checklist

Electrical checklist

Provide one dedicated AC circuit.

	• North America: 105-125 VAC at 60 Hz, and additional for added equipment • Europe and South America: 210-250 VAC (220 VAC nominal) at 50 Hz • Japan: 85-110 VAC at 50 Hz
	20 amp circuit with 20 amp circuit breaker
	• One Earth-grounded, three-wire, single or double outlet within 9 ft. of the cabinet • North America: Use the provided 3 prong grounded, NEMA 5-20 plug or • Europe, South America, and Japan: Provide the appropriate power cord, locking plug, and receptacle for the electrical cord. See Component hardware specifications on page 63 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*.
	Provide wire to connect the system chassis to building Earth ground Use minimum 10 gauge wire (.1019" / 2.6mm) ground conductor (green insulated wire with at least 1 yellow stripe)

Space checklist

	Allow a total of 33.81 cubic ft. (0.97 cubic m.), per cabinet. Physical cabinet size: (H x W x D) 4.7 ft x 2.16 ft x 3.33 ft (1.42 m x 0.66 m x 1.04 m)
	Reserve at least 3 ft (0.92 m) of workspace at front and back of the cabinet to allow the doors to open fully.
	Reserve at least 2.34 ft (0.75 m) along each side of the cabinet to allow proper ventilation.
	Locate one 4 ft x 2 ft (1.3 m x 0.6 m) or larger table that will support 50 lbs (18.65 kg), located no more than 8 ft (2.66 m) from the cabinet. This table will support the Administrator console(s). The Administrator console cable extends from the cabinet approximately 10 ft (3.3 m).
	Tile or concrete floors are preferred in computer room. Raised floors must support 550 lbs. (250 kg) per system cabinet. If static free floor is not available, provide static mat.

Environmental checklist

ELECTROSTATIC ALERT:

Prepare cabinet location to meet these environmental requirements to avoid component failure due to temperature, moisture, static, and air quality.

	Maintain the temperature between 45 and 80 degrees F (7 to 26º C). Ideal temperature is between 65 and 75 degrees F. **CAUTION:** Temperature must be maintained in this range at all times. The system produces up to 5500 BTUs of heat per hour. In a small room lacking air conditioning, this heat can raise the temperature above the operating limits of the system.
	Maintain the humidity between 8% and 80% non-condensing.
	Keep the system cabinet at least 5 ft (1.7 m) from any air conditioning or heating ducts.
	Keep the system away from direct sunlight.
	Do not place system cabinet under an overhead sprinkler or in an area near water (such as a damp basement). **Important:** If sprinkler placement cannot be changed, Avaya's warranty is limited.

Phone line configuration and cabling checklists

T1 digital line assignment

The table below illustrates the T1 utilization. Each T1 will use 24 channels) for your system, please review it carefully for discrepancies.

ID	Channels	Line Type
1	# - #	Outbound calls via PBX or PSTN (signaling type)
2	# - #	Overflow inbound calls via PBX or PSTN (signaling type)
3	# - #	Call transfer via PBX or PSTN (signaling type)
4	# - #	Agent headset connection via PBX or PSTN (signaling type)
	# - #	Channels remain unused

Tip:

Label and number each cable with its circuit ID, cable assignment, sequence of lines, and function. For example: #1/01-24Out, #2/25-48Inb, #3/1-12Trans, #4/1-24Head.

ISDN-PRI digital line requirements

North American ISDN requirements

1. Avaya Proactive Contact can support the custom (N1) protocol for your switch or the national (N2) ISDN protocol.
2. ISDN circuit must use the E.164/E.163 ISDN/Telephony numbering plan
3. If your are not using NFAS (Non Facility Associated Signaling), each ISDN circuit must have its own D-Channel on channel 24.
4. If the outbound circuits go from the Avaya Proactive Contact directly to the CO, the digital switch is configured as the *user* side, the CO must be configured for *network* mode.

   If the outbound circuits go from the Avaya Proactive Contact through your PBX, the system will be configured as the *network* side and the customer PBX should be configured as the *user* side.
5. ISDN signaling uses ESF format, B8 zero substitution (B8ZS), clear channel signaling.

Additional NFAS requirements

1. The switches to which system can interface with NFAS are:
   - DMS100
   - DMS250
   - 5ESS
   - 4ESS
2. If using NFAS, you will need two ISDN/PRI spans (primary and backup) with D-Channel per NFAS group.
3. For DMS-type CO, the group should be limited to 192 ports (8 T1 spans), including the primary and backup ISDN/PRI spans.
4. For ESS-type CO, the group should be limited to 240 ports (10 T1 spans), including the primary and backup ISDN/PRI spans.
5. Inbound and outbound lines must be in separate NFAS groups.
6. All the T1 spans, except the two D-Channel spans, should be ordered as ISDN T1 without D-Channel.
7. If the ISDN T1 spans go to different COs, then the configuration will require two ISDN spans with D-Channel for each different CO.

Using ISDN on Meridian (Nortel) PBX

When a customer's Meridian (Nortel) PBX receives it's inbound calls via ISDN, the inbound lines to the system cannot be E&M. The Meridian can not change an ISDN call to a non-ISDN call using a trunk interface like E&M.

Use one of the following solutions:

- Lineside T1 (loop start signaling) or analog loop start lines between the Meridian and Avaya Proactive Contact, configured in an ACD group on the Meridian:
  - Option 125 is required on the Meridian
  - No ANI/DNIS digits can be passed
- ISDN from the Meridian to the Avaya Proactive Contact system:
  - Circuits configured using #5ESS protocol on both the system (network) end and the Meridian PBX (user) end
  - ANI and DNIS digits are available

T1 digital line configuration and cabling

Tip:

Avoid delays in your installation by completing the cabling one week prior to the installation engineer's arrival. If you have questions about the cabling, call your project manager as questions arise, rather than wait for the installation to begin. If you have a contractor construct the cables, arrange for the contractor to be available during the installation of the Avaya Proactive Contact System to handle any unexpected cabling problems.

	For (all, or outbound, and/or inbound, and/or headset and/or transfer) T1s must be configured as (signaling type): • Superframe • D4 channelized • Robbed-bit signaling • Alternate Mark Inversion (AMI) or Extended Superframe (ESF) format • B8ZS
And/or	
	For (all, or outbound, and/or inbound, and/or headset and/or transfer) T1s must be configured as (ISDN or ISDN/NFAS): • ESF format • B8ZS • Clear channel signaling
	Provide a Channel Service Unit (CSU) for each T1. A CSU is *required* for circuits going directly to the CO, and *recommended* for circuits going to your PBX. Provide cable for each T1 from the CSU to the system.
	• 4-wire shielded, 2 twisted pair, 26 gauge or larger, teflon or PVC coated
	• Maximum cable length 655 ft. (199.6 m).
	• Terminate as MALE DB-15 (straight) connector at the system. The system is not compatible with cabling terminated with a 90-degree cable hood.

	• Leave at least 9 ft (3 m) of slack at the system
	• DB-15 pin configuration: 1 (tip), 9 (ring) for transmit; 3 (tip), 11 (ring) for receive as noted below: - Transmit Tip, Pin #1 to Receive Tip, Pin # ___ - Transmit Ring, Pin #9 to Receive Ring, Pin #___ - Receive Tip, Pin #3 from Transfit Tip, Pin #___ - Receive Ring, Pin #11 from Transmit Ring, Pin #___ **Important:** Avaya Proactive Contact T1s are DTE devices. Ensure pins are configured to connect properly to transfer and receive correctly. See Telephony on page 85 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for additional information on digital cabling specifications.

Analog line assignment

The table below illustrates the phone cable utilization. Please review it carefully for discrepancies.

ID	Channels	Line Type
1	# - #	Outbound calls via PBX or PSTN (signaling type)
2	# - #	Overflow inbound calls via PBX or PSTN (signaling type)
3	# - #	Call transfer via PBX or PSTN (signaling type)
4	# - #	Agent headset connection via PBX or PSTN (signaling type)
	# - #	Channels remain unused

Tip:

Label and number each cable with its circuit ID, cable assignment, sequence of lines, and function. For example: #1/01-24Out, #2/25-48Inb, #3/1-12Trans, #4/1-24Head.

Analog line configuration and cabling

Provide cables from the system to a punch down block at the distribution panel.

	Provide one cable for every 24 (2-wire) lines (outbound, inbound, transfer, network-attached headset) or for every 12 (4-wire) lines (direct-attached headset)
	Cable type is shielded, 25-twisted pair Telco, 26 gauge or larger

	Terminate the system end of each cable with male, 50-pin, 90 degree Amphenol connectors • If 2-wire cabling, connect one pair of wires for each line • If 4-wire cabling, connect two pair of wires for each line (direct-attached headsets only)
	Use an RJ21X (4-wire, 4-row, connectorized) punch down block for termination of analog lines at distribution panel
	Maximum length from punch block to the system is 150 ft (46.15 m)
	Please leave at least 9 ft (3 m) of slack for each cable terminating at the system

Note:

See Telephony on page 85 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for additional information for additional information on analog cabling specifications and cabling pinouts of amphenol connectors.

E1 digital line assignments

The table below illustrates the E1utilization (each E1 uses 30 channels). Please review it carefully for discrepancies.

ID	Channels	Line Type
1	2-16, 18-32	Outbound calls via PBX or PSTN (signaling type)
2	# - #	Overflow inbound calls via PBX or PSTN (signaling type)
3	# - #	Call transfer via PBX or PSTN (signaling type)
4	# - #	Agent headset connection via PBX or PSTN (signaling type)
	# - #	Channels remain unused

Available E1 Calling Circuits are:

- ISDN - DPNSS
- ISDN - DASS2 (UK only)
- CAS with MFCR2
- CAS with DTMF
- ISDN - NET5 signaling

Of the 32 channels on an E1, channels 1 and 17 on each E1 are reserved for signaling.

Note:

Please label and number each cable pair (Transmit and Receive) with it's cable assignment, sequence of lines, and function. For example: #1/01-30Out, #2/31-60Out, #5/1-30Head.

E1 digital line configuration and cabling

Install a total of (# E1) E1 cables, with 1 Receive (Rx) and 1 Transmit (Tx), for each 30 telephone lines between the system and an NTP/NE1 or another PBX at the distribution panel.

	Leave 3 m of slack on each each cable terminating at the system cabinet
	Clearly label each E1 cable pair (50 meter maximum run length). • Label outbound E1 cables **Outbound** and indicate **Rx** and **Tx** at the appropriate ends of the cable • Label agent voice E1 cables with the voice connection type and agent location
	For 75 ohm E1 circuits, cables should be coaxial with BNC connectors
	For 120 ohm E1 circuits, cables should be 4-wire, shielded, twisted-pair with DB15 connectors

Note:

See E1 connection specifications on page 108 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for additional information on digital cabling specifications.

Line type configuration checklists

Outbound phone lines

The following checklists provide outbound phone line configuration information for digital or analog line types.

Important:

Unless the outbound lines you purchase from your carrier are configured to allow toll-free dialing, Avaya Proactive Contact will not be able to dial toll-free numbers during outbound campaigns. To dial toll-free numbers using Avaya Proactive Contact, order service such as AT&T Digital Link (ADL) on your outbound lines. Please contact your long distance carrier for more information.

Digital outbound phone lines

Provide ___ outbound-dedicated channels for outbound calling.

	Provide sufficient capacity from (PBX or PSTN) if new or additional lines are being installed **Note:** Outbound calling volume may be disrupted if there are not enough outbound lines to accommodate dialing speed.
	Does not allow transfer to occur between two agents that are both logged on to the system
	If switch type is Avaya G3 and the ANI Outpulse feature is being used, the outbound lines through the G3 must be configured as ISDN

Analog outbound phone lines

Provide ___ outbound-dedicated channels for outbound calling.

	Install a total of (# Outbound/24) 25-pair cables for use by the system to place outbound calls to customers
	Configure analog outbound lines as Loop Start or Ground Start. (If Loop Start is used and the switch type is Meridian, Option 125 must be purchased.)
	Provide sufficient capacity from (PBX or PSTN) if new or additional lines are being installed (outbound calling volume may be disrupted if the system is line-starved)
	Does not allow transfer to occur between two agents that are both logged on to the system
	If switch type is Avaya G3 and the ANI Outpulse feature is being used, the outbound lines through the G3 must be configured as ISDN.

Note:

See Analog connection specifications on page 122 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for more information.

Inbound phone lines

The following checklists provide inbound phone line configuration information for digital or analog line types.

Digital inbound phone line checklist

Provide ___ inbound-dedicated channels for receiving inbound calls.

	Inbound lines should be configured as hunt group on (PBX or PSTN). A cyclic hunt type of Round Robin or Least Used is recommended on the hunt group.
	If switch type is Meridian, inbound lines can be configured as E&M Winkstart or Loopstart (lineside T)
	If switch type is Meridian and line side T1s (Loopstart) are used, Option 125 for the Meridian must be purchased
	If switch type is Avaya G3, inbound lines must be configured as Loopstart
	The system will busy out all inbound lines until an agent logs onto a blend or inbound job, therefore, (PBX or PSTN) configuration for off-hours call handling should be arranged

Analog inbound phone line checklist

Provide ___ inbound-dedicated channels for receiving inbound calls.

	Install a total of (# Inbbound/24) 25-pair cables for inbound calls to be routed to the agent via the system
	Configure analog inbound lines as Loop Start or Ground Start
	Inbound lines should be configured as hunt group on (PBX or PSTN). A cyclic hunt type of Round Robin or Least Used is recommended on the hunt group
	Provide login and logout sequence to the Avaya Project Manager if (PBX or PSTN) does not support auto logon feature for ACD Agents
	The system will busy out all inbound lines until an agent logs onto blend or inbound job, therefore, (PBX or PSTN) configuration for off-hours call handling should be arranged

Note:

See Analog connection specifications on page 122 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for more information.

Call transfer phone lines

Digital call transfer phone line checklist

Provide a total of ___ transfer-dedicated channels for call transferring via the system.

	Configure transfer trunks as E&M Winkstart or Ground start
	Does not allow transfer between agents that are both logged on to the system

Or, provide for call transferring via hookflash functionality.

	Configure both outbound and inbound lines as Loopstart with Hookflash transfer functionality
	Verify hookflash configured as 500 millisecond duration at (PBX or PSTN)

Analog call transfer phone line checklist

Provide for call transferring via hookflash functionality.

	Configure both outbound and inbound lines as Loopstart with Hookflash transfer functionality
	Verify hookflash configured as 500 millisecond duration at (PBX or PSTN)

Or, provide a total of ___ transfer/24-dedicated lines for call transferring via (PBX or PSTN).

	Order or install ___ transfer/24 cables for use by agents to transfer either inbound or outbound calls
	Verify hookflash configured as 500 millisecond duration at (PBX or PSTN)

Note:

See Analog connection specifications on page 122 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for more information.

Important:

If you are not using transfer trunks and transfer functionality is desired, outbound and inbound lines must be configured for hookflash transfer.

Headsets

Digital network-attached headsets

Provide ___ headset-dedicated channels for headset lines from PBX to the system.

	Headset connections are tie line/tie trunks to the PBX. These agents will not be logged in to an ACD queue during participation in blend campaigns.
	An agent line will be offhook (nailed-up) to the PBX while the agent is logged on to the system. The system uses the T1 agent headset tie lines to establish this connection.

Note:

For more information on different switch types, see Blending and ACDs on page 143 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*.

Analog network-attached headsets

Provide ___ headset-dedicated channels for headset lines from PBX to the system.

	Provide a total of ___ headset/24, 25-pair, twisted cables for headset connections for supervisor and calling agents to handle outbound and inbound calling
	An agent line will be offhook (nailed-up) to the PBX while the agent is logged on to the system. The sytem uses the T1 agent headset tie lines to establish this connection

Analog direct-attached headsets

Note:

OLIC headset connections are not supported in the PG230 or CTI deployment options.

See Telephony on page 85 of *Avaya Proactive Contact Planning and Prerequisites* for additional information on analog cabling specifications and pinouts of amphenol connectors.

Provide ___ headset-dedicated headset lines through the distribution panel to the system. Provide cabling from the distribution panel to each agent workstation location.

	Cable type is shielded, 25-twisted pair Telco, 26 gauge or larger
	Provide one cable for every 12 headset lines
	Label each cable with: Port, voice connection type, and agent location
	Terminate each cable with male, 50-pin, 90 degree Amphenol connector at distribution panel. Terminate at headset with appropriate connector based upon model selected.
	Use 4-wire cabling, connecting two pair of wires for each headset line
	Use of RJ21X (4-wire, 4-row, connectorized) punch down block for termination of analog lines at distribution panel
	Cables running from the distribution panel to the agent headsets are hardwired directly in to the punch down block at the distribution panel.
	Maximum cable length from the system to any headset location may not exceed 3000-ft. (900 m)
	Leave at least 9-ft. (3 m) of slack for each cable terminating at the system

Modem line checklist

Provide the following dedicated modem lines for the system and components. All modem lines must be installed prior to the site preparation due date.

	1 modem line must terminate at the Avaya PC 3.0 cabinet location. This modem line will serve as the primary point of entry for supporting your system.
	1 modem line must terminate at each Supervisor workstation location
	1 modem line must terminate at a selected workstation for VLTerm Cut & Paste development/ testing. This modem line will be utilized during development and can be disconnected upon project completion.
	Modem lines should be standard analog Direct Inward Dial (DID), capable of two-way calling and long-distance dialing outbound (i.e. - POTS line)
	Modem lines should be configured without any PBX features such as call waiting
	Provide at least 10 ft of slack cable and a MALE RJ-11 termination at each device location

Network checklist

Avaya provides a PCI Ethernet card with 10/100 Mbps auto-detect network connection. You need to provide a network connection at the system terminated as a male UTP (RJ-45).

	1 static IP Address for the CPU, which must be configured on your network and routing table, if applicable.
	Supply a default router address if the system needs to communicate with any network node not on the same subnet. The system components must be on the same subnet as the default router. Provide the subnet mask to your Avaya Project Manager.
	Assign IP addresses for: • Supervisor(s) • Network printer If these IP addresses are dynamic (DHCP), provide the DNS name for each machine to your Avaya Project Manager.
	Provide the network Domain Name (if applicable)
	Provide the DNS server name and IP address (If applicable)

Note:

For more information, see Data transfers on page 81 of *Avaya Proactive Contact Planning and Prerequisites*.

File transfer checklist

The file transfer method is direct connect or anonymous FTP using TCP/IP. Further details will be identified with the Avaya Project Manager. If you will use anonymous FTP, the following login information should be used for downloads and uploads:

```
login name: anonymous
password: anonymous
cd public
```

	Each file uploaded and downloaded requires a unique filename. Naming convention for download files are: • rcvfile1.raw • rcvfile2.raw, etc. Naming convention for upload files are: • xmtfile1.xfr • xmtfile2.xfr, etc.
	Download file transfer will be initiated by (customer name or Avaya), and will be scheduled for days and hours as specified by your Host contact.
	Upload File Transfer (if applicable) will be initiated by (customer name or Avaya), and will be scheduled for days and hours as specified by your Host contact.

Note:

For more information, see Data transfers on page 81 of *Avaya Proactive Contact Planning and Prerequisites*.

Administrator console checklist

Obtain and dedicate a PC as the Administrator console. Please provide a PC that meets the minimum Administrator console requirements. See Administrator console (customer provided) on page 68 of Avaya Proactive Contact Planning and Prequisites.

	Locate the Administrator console according to the following requirements: • Minimum of 2 ft x 3 ft (0.6 m x 0.9 m) table or computer stand space • Maximum of 10 ft (3 m) from the system cabinet • Minimum weight of 19.5 lbs (9 kg)
	If you place the Administrator console and the printer on the same table, use the following guidelines: • Table: the table dimensions must be 4 ft x 2 ft (1.3 m x 0.6 m) • Weight: the table must support 50 pounds (18.65 kg) • Distance: the table must not be more than 8 ft (2.66 m) from the system cabinet
	The PC must have an available RS-232 serial port for connection to the remote access hardware. Avaya will supply a 15 foot RS232 serial cable terminating in a DB9 or DB25 connector. An alternative is to use an available USB port in conjunction with a USB to Serial Adapter. You must provided the cabling for either solution.
	Provide terminal emulation software that supports VT100 terminal emulation on the PC.
	Assign IP addresses for: • Administrator console • Network printer Verify network connectivity from Administrator console address to the system and to network printer. If these IP addresses are dynamic (DHCP), provide the DNS name for each machine to your Avaya Project Manager.

Supervisor workstation checklist

Identify and dedicate workstation facilities for each Supervisor application license purchased. Location of the Supervisor workstation varies based upon your organizational requirements. Avaya will provide the Avaya Proactive Contact Supervisor software. Please provide a PC that meets the minimum Supervisor workstation requirements. See Supervisor workstations (customer provided) on page 69 of Avaya Proactive Contact Planning and Prequisites.

	Allocate one IP address per Supervisor. Supply the IP address or DNS name to your Avaya Project Manager.
	Verify network connectivity from Supervisor address to the system and to network printer.
	Assign IP addresses for: • Supervisor(s) • Network printer If these IP addresses are dynamic (DHCP), provide the DNS name for each machine to your Avaya Project Manager.

Agent workstation checklist

Provide ___ network Agent workstations. See Agent workstations (customer provided) on page 70 for PC specifications.

	Agent workstation PCs are network-connected to the system
	Agent PC operating system: _____
	If using VLTerm: • Host emulation software: _____ • System emulation software: _____ • System emulation session type: (Must be VT100)_____
	If using Avaya Proactive Contact Agent API application, ensure that the host emulation session supports DDE.
	If will have Avaya create a cut and paste solution to your host: • Provide the host emulation software name (for example, Reflections) and the host emulation software type (for example, VT100 or 3270). • Identify one Agent workstation for use by Avaya in the development and testing of your desktop Cut and Paste solution. Avaya recommends selection of a workstation, which will be reassigned upon completion of your new system installation. • Workstation hardware/software must be installed and configured at least two weeks prior to the scheduled installation date, or earlier based on custom solution requirements. • Workstation must be configured with full production functionality, and associated Agent headset telephone facility. • Verify installation of analog, DID modem line to this workstation location. • Provide this modem number, along with a Host login and password. A temporary login and password can be provided for security reasons. • Install Symantec PC Anywhere, version 10.x on • Provide a production telephone for use during the development/testing period • Allocate one resource person per organization, each with Host familiarity, for development work with Avaya resource (resource usually required for 4 hours total per cut and paste solution).
	If using Avaya Proactive Contact 3.0 Agent application, it must support the following: • Customer network must support TCP/IP • Supports socket connection to the system • Microsoft Windows 2000 SPK 4 or Windows XP SP2. (See Agent workstations (customer provided) on page 70 of *Avaya Proactive Contact Planning and Prerequisites*.) • Symantec PC Anywhere version 10.x for dial in access to Avaya API test bed (if purchased) • 56 KBPS V.32 internal or external modem for test bed connection

Note:

If using Windows 2000 and VLTerm as your Agent workstation solution, please consult with your Avaya Project Manager for DDE communication requirements.

Printer checklist

The system requires at least one network printer for printing reports.

	Please purchase a laser printer that has either an internal or external HP Jet Direct Card. (This printer must be able to communicate PCL 4, which is HP's Printer Control Language version 4.0.)
	The printer must have network access via TCP/IP. Please provide either the static IP address or DNS name to be entered into the Avaya hosts table.

Internet Monitor checklist

	Allocate 4 MB disk space on corporate web server. Disk space varies depending on system usage i.e. 10 jobs and 168 agents = 4 MB of disk space
	Confirm web server supports NFS and long file names.
	Provide the Web Server's IP address
	Browsers used to connect to Internet Monitor must be Netscape 2.0 or later or Microsoft IE 3.0 or later
	Verify Web Server has a CD-ROM to load Internet Monitor software
	Internet Monitor transfers approx. 40 KB of data from the system to web server every 15 seconds
	Create a home directory on your web server for the Internet Monitor HTML files
	Provide the pathname to the above directory to your Avaya Project Manager
	Verify that the home directory has global read/write/execute privileges
	Export the home directory to allow the system to NFS mount it

Pod checklist

	Designate one of the systems to be the primary system in the pod. This system will serve as the statistics collection location for the entire pod.
	Supply the primary system IP address and DNS name to your Avaya Project Manager
	Supply the secondary system(s) (maximum of three) IP addresses and DNS names to your Avaya Project Manager.
	Determine whether the primary and secondary systems will be configured with shared features.  **Tip:** Avaya recommends that the configuration be identical between systems in a pod for redundancy.

Appendix B: Avaya Proactive Contact PG230 Site Preparation Checklist

These sample checklists describe tasks that you need to perform before the installation of the Avaya Proactive Contact PG230 or PG230RM system begins. Your Avaya Project Manager will provide you with a checklist customized for your environment.

These checklists are provided for the Avaya Proactive Contact PG230 or PG230RM deployment option:

- Electrical checklist
- Space checklist
- Environmental checklist
- Phone line configuration and cabling checklists
- Modem line checklist
- Network checklist
- File transfer checklist
- Administrator console checklist
- Supervisor workstation checklist
- Agent workstation checklist
- Printer checklist
- Internet Monitor checklist
- Pod checklist

Electrical checklist

The PG230 and PG230RM cabinets are equipped with IEC-320 C14 electrical connectors. Use one separate, dedicated circuit with the appropriate receptacle for the system cabinet. See Electrical connections on page 61 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*.

	20 amp circuit with 20 amp circuit breaker
	• One Earth-grounded, three-wire, single or double outlet within 9 ft of the cabinet • North America: Use the provided 3 prong grounded, NEMA 5-20 plug or • Europe, South America, and Japan: Provide the appropriate power cord, locking plug, and receptacle for the electrical cord. See Avaya Proactive Contact with PG230 specification on page 51 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*.
	Provide wire to connect the system chassis to building Earth ground Use minimum 10 gauge wire (.1019" / 2.6mm) ground conductor (green insulated wire with at least 1 yellow stripe)

Space checklist

The PG230 and the PG230RM implementations have no requirements for an enclosure to house all of the other support equipment (CPU, modems, access servers, UPS, etc.). You can house some or all of the equipment in an enclosure, but you must comply with the cable length and environmental requirements.

	Access and entry ways (including doors, hallways, stairs, elevators, and lifts) must be at least 43 inches x 36 inches x 32 inches to accommodate the crated system cabinet
	Allow for the following cabinet space: • PG230: (H x W x D) 33.75 in x 23 in x 26 in (0.86 m x 0.58 m x 0.66 m) • PG230RM: (H x W x D) 28 in x 17.5 in x 25.5 in (0.71 m x 0.44 m x 0.65 m)
	Reserve at least 3 ft (0.92 m) of workspace at front and back of the cabinet to allow the doors to open fully.
	Provide proper ventilation: • PG230: Reserve at least 2.34 ft (0.75 m) along each side of the cabinet to allow proper ventilation • PG230RM: Ensure that the ventilation slots on each side of the cabinet are not blocked, and adequate airflow is also provided. Typical rack spacing will ensure adequate airflow.
	Minimum of 5 feet (1.5 meters) from air-conditioning or heating ducts
	Locate one 4 ft x 2 ft (1.3 m x 0.6 m) or larger table that will support 50 lbs (18.65 kg), located no more than 8 ft (2.66 m) from the cabinet. This table will support the Administrator console and printer (optional). The Administrator console cable extends from the cabinet approximately 10 ft (3.3 m).
	Tile or concrete floors are preferred in computer room. If static free floor is not available, provide static mat. • PG230: Raised floors must support 165 lbs (75 kg) for each system cabinet • PG230RM: Rack must support 135 lbs (62 kg) for each cabinet and can be a two or four rail rack (see details below): - The bare enclosure (with rack mount ears installed, front door removed and no switch cards or adapter modules/cables) with a non-redundant power supply weighs 70 lbs. - The bare enclosure (same as above) with a redundant power supply weighs 85 lbs. - The front door weighs 6 lbs and has lift-off hinges, so this is easy to remove (and must be removed) before installation. - If switch cards and adapter modules/cables are left in the enclosure, the weight will increase. Most switch cards are 1.7 lbs, so a system with eight Quad-T1 cards and the other standard cards (ENBC, two LPVC2s, two DSP2s) adds 22 lbs to the total weight. Adapter modules and cables add another 6 lbs. Total weight of the system with a non-redundant power supply (with the front door) is 104 lbs. - Four installation guide pins are provided to make installation easier. You can lift the enclosure and slide it over the pins to hold it until the rack mount screws are installed. Then remove the guide pins and replace with normal screws.

Environmental checklist

ELECTROSTATIC ALERT:

Prepare cabinet location to meet these environmental requirements to avoid component failure due to temperature, moisture, static, and air quality.

	Maintain the temperature between 45 and 80 degrees F (7 to 26º C). Ideal temperature is between 65 and 75 degrees F. **CAUTION:** Temperature must be maintained in this range at all times. The system produces up to 5500 BTUs of heat per hour. In a small room lacking air conditioning, this heat can raise the temperature above the operating limits of the system.
	Maintain the humidity between 8% and 80% non-condensing
	Keep the system cabinet at least 5 ft (1.7 m) from any air conditioning or heating ducts
	Keep the system away from direct sunlight
	Do not place system cabinet under an overhead sprinkler or in an area near water (such as a damp basement) **Important:** If sprinkler placement cannot be changed, Avaya's warranty is limited.

Phone line configuration and cabling checklists

T1 digital line assignment

The table below illustrates the T1 utilization. Each T1 will use 24 channels) for your system, please review it carefully for discrepancies.

ID	Channels	Line Type
1	# - #	Outbound calls via PBX or PSTN (signaling type)
2	# - #	Overflow inbound calls via PBX or PSTN (signaling type)
3	# - #	Call transfer via PBX or PSTN (signaling type)
4	# - #	Agent headset connection via PBX or PSTN (signaling type)
	# - #	Channels remain unused

Tip:

Label and number each cable with its circuit ID, cable assignment, sequence of lines, and function. For example: #1/01-24Out, #2/25-48Inb, #3/1-12Trans, #4/1-24Head.

ISDN-PRI digital line requirements

North American ISDN requirements

1. Avaya Proactive Contact can support the custom (N1) protocol for your switch or the national (N2) ISDN protocol.
2. ISDN circuit must use the E.164/E.163 ISDN/Telephony numbering plan
3. If your are not using NFAS (Non Facility Associated Signaling), each ISDN circuit must have its own D-Channel on channel 24.
4. If the outbound circuits go from the Avaya Proactive Contact directly to the CO, the digital switch is configured as the *user* side, the CO must be configured for *network* mode.

   If the outbound circuits go from the Avaya Proactive Contact through your PBX, the system will be configured as the *network* side and the customer PBX should be configured as the *user* side.
5. ISDN signaling uses ESF format, B8 zero substitution (B8ZS), clear channel signaling.

Additional NFAS requirements

1. The switches to which system can interface with NFAS are:
   - DMS100
   - DMS250
   - 5ESS
   - 4ESS
2. If using NFAS, you will need two ISDN/PRI spans (primary and backup) with D-Channel per NFAS group.
3. For DMS-type CO, the group should be limited to 192 ports (8 T1 spans), including the primary and backup ISDN/PRI spans.
4. For ESS-type CO, the group should be limited to 240 ports (10 T1 spans), including the primary and backup ISDN/PRI spans.
5. Inbound and outbound lines must be in separate NFAS groups.
6. All the T1 spans, except the two D-Channel spans, should be ordered as ISDN T1 without D-Channel.
7. If the ISDN T1 spans go to different COs, then the configuration will require two ISDN spans with D-Channel for each different CO.

Using ISDN on Meridian (Nortel) PBX

When a customer's Meridian (Nortel) PBX receives it's inbound calls via ISDN, the inbound lines to the system cannot be E&M. The Meridian can not change an ISDN call to a non-ISDN call using a trunk interface like E&M.

Use one of the following solutions:

- Lineside T1 (loop start signaling) or analog loop start lines between the Meridian and Avaya Proactive Contact, configured in an ACD group on the Meridian:
  - Option 125 is required on the Meridian
  - No ANI/DNIS digits can be passed
- ISDN from the Meridian to the Avaya Proactive Contact system:
  - Circuits configured using #5ESS protocol on both the system (network) end and the Meridian PBX (user) end
  - ANI and DNIS digits are available

T1 digital line configuration and cabling

Tip:

Avoid delays in your installation by completing the cabling one week prior to the installation engineer's arrival. If you have questions about the cabling, call your project manager as questions arise, rather than wait for the installation to begin. If you have a contractor construct the cables, arrange for the contractor to be available during the installation of the Avaya Proactive Contact System to handle any unexpected cabling problems.

	For (all, or outbound, and/or inbound, and/or headset and/or transfer) T1s must be configured as (signaling type): • Superframe • D4 channelized • Robbed-bit signaling • Alternate Mark Inversion (AMI) or Extended Superframe (ESF) format • B8ZS
And/or	
	For (all, or outbound, and/or inbound, and/or headset and/or transfer) T1s must be configured as (ISDN or ISDN/NFAS): • ESF format • B8ZS • Clear channel signaling
	Provide a Channel Service Unit (CSU) for each T1. A CSU is *required* for circuits going directly to the CO, and *recommended* for circuits going to your PBX. Provide cable for each T1 from the CSU to the system.
	• 4-wire shielded, 2 twisted pair, 26 gauge or larger, teflon or PVC coated
	• Maximum cable length 655 ft. (199.6 m).
	• Terminate as MALE DB-15 (straight) connector at the system. The system is not compatible with cabling terminated with a 90-degree cable hood.

	• Leave at least 9 ft (3 m) of slack at the system
	• DB-15 pin configuration: 1 (tip), 9 (ring) for transmit; 3 (tip), 11 (ring) for receive as noted below: - Transmit Tip, Pin #1 to Receive Tip, Pin # ___ - Transmit Ring, Pin #9 to Receive Ring, Pin #___ - Receive Tip, Pin #3 from Transfit Tip, Pin #___ - Receive Ring, Pin #11 from Transmit Ring, Pin #___ **Important:** Avaya Proactive Contact T1s are DTE devices. Ensure pins are configured to connect properly to transfer and receive correctly. See Telephony on page 85 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for additional information on digital cabling specifications.

Analog line assignment

The table below illustrates the phone cable utilization. Please review it carefully for discrepancies.

ID	Channels	Line Type
1	# - #	Outbound calls via PBX or PSTN (signaling type)
2	# - #	Overflow inbound calls via PBX or PSTN (signaling type)
3	# - #	Call transfer via PBX or PSTN (signaling type)
4	# - #	Agent headset connection via PBX or PSTN (signaling type)
	# - #	Channels remain unused

Tip:

Label and number each cable with its circuit ID, cable assignment, sequence of lines, and function. For example: #1/01-24Out, #2/25-48Inb, #3/1-12Trans, #4/1-24Head.

Analog line configuration and cabling

Provide cables from the system to a punch down block at the distribution panel.

	Provide one cable for every 24 (2-wire) lines (outbound, inbound, transfer, network-attached headset) or for every 12 (4-wire) lines (direct-attached headset)
	Cable type is shielded, 25-twisted pair Telco, 26 gauge or larger

	Terminate the system end of each cable with male, 50-pin, 90 degree Amphenol connectors • If 2-wire cabling, connect one pair of wires for each line • If 4-wire cabling, connect two pair of wires for each line (direct-attached headsets only)
	Use an RJ21X (4-wire, 4-row, connectorized) punch down block for termination of analog lines at distribution panel
	Maximum length from punch block to the system is 150 ft (46.15 m)
	Please leave at least 9 ft (3 m) of slack for each cable terminating at the system

Note:

See Telephony on page 85 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for additional information for additional information on analog cabling specifications and cabling pinouts of amphenol connectors.

E1 digital line assignments

The table below illustrates the E1utilization (each E1 uses 30 channels). Please review it carefully for discrepancies.

ID	Channels	Line Type
1	2-16, 18-32	Outbound calls via PBX or PSTN (signaling type)
2	# - #	Overflow inbound calls via PBX or PSTN (signaling type)
3	# - #	Call transfer via PBX or PSTN (signaling type)
4	# - #	Agent headset connection via PBX or PSTN (signaling type)
	# - #	Channels remain unused

Available E1 Calling Circuits are:

- ISDN - DPNSS
- ISDN - DASS2 (UK only)
- CAS with MFCR2
- CAS with DTMF
- ISDN - NET5 signaling

Of the 32 channels on an E1, channels 1 and 17 on each E1 are reserved for signaling.

Note:

Please label and number each cable pair (Transmit and Receive) with it's cable assignment, sequence of lines, and function. For example: #1/01-30Out, #2/31-60Out, #5/1-30Head.

E1 digital line configuration and cabling

Install a total of (# E1) E1 cables, with 1 Receive (Rx) and 1 Transmit (Tx), for each 30 telephone lines between the system and an NTP/NE1 or another PBX at the distribution panel.

	Leave 3 m of slack on each each cable terminating at the system cabinet
	Clearly label each E1 cable pair (50 meter maximum run length). • Label outbound E1 cables **Outbound** and indicate **Rx** and **Tx** at the appropriate ends of the cable • Label agent voice E1 cables with the voice connection type and agent location
	For 75 ohm E1 circuits, cables should be coaxial with BNC connectors
	For 120 ohm E1 circuits, cables should be 4-wire, shielded, twisted-pair with DB15 connectors

Note:

See E1 connection specifications on page 108 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for additional information on digital cabling specifications.

Line type configuration checklists

Outbound phone lines

The following checklists provide outbound phone line configuration information for digital or analog line types.

Important:

Unless the outbound lines you purchase from your carrier are configured to allow toll-free dialing, Avaya Proactive Contact will not be able to dial toll-free numbers during outbound campaigns. To dial toll-free numbers using Avaya Proactive Contact, order service such as AT&T Digital Link (ADL) on your outbound lines. Please contact your long distance carrier for more information.

Digital outbound phone lines

Provide ___ outbound-dedicated channels for outbound calling.

	Provide sufficient capacity from (PBX or PSTN) if new or additional lines are being installed **Note:** Outbound calling volume may be disrupted if there are not enough outbound lines to accommodate dialing speed.
	Does not allow transfer to occur between two agents that are both logged on to the system
	If switch type is Avaya G3 and the ANI Outpulse feature is being used, the outbound lines through the G3 must be configured as ISDN

Analog outbound phone lines

Provide ___ outbound-dedicated channels for outbound calling.

	Install a total of (# Outbound/24) 25-pair cables for use by the system to place outbound calls to customers
	Configure analog outbound lines as Loop Start or Ground Start. (If Loop Start is used and the switch type is Meridian, Option 125 must be purchased.)
	Provide sufficient capacity from (PBX or PSTN) if new or additional lines are being installed (outbound calling volume may be disrupted if the system is line-starved)
	Does not allow transfer to occur between two agents that are both logged on to the system
	If switch type is Avaya G3 and the ANI Outpulse feature is being used, the outbound lines through the G3 must be configured as ISDN.

Note:

See Analog connection specifications on page 122 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for more information.

Inbound phone lines

The following checklists provide inbound phone line configuration information for digital or analog line types.

Digital inbound phone line checklist

Provide ___ inbound-dedicated channels for receiving inbound calls.

	Inbound lines should be configured as hunt group on (PBX or PSTN). A cyclic hunt type of Round Robin or Least Used is recommended on the hunt group.
	If switch type is Meridian, inbound lines can be configured as E&M Winkstart or Loopstart (lineside T)
	If switch type is Meridian and line side T1s (Loopstart) are used, Option 125 for the Meridian must be purchased
	If switch type is Avaya G3, inbound lines must be configured as Loopstart
	The system will busy out all inbound lines until an agent logs onto a blend or inbound job, therefore, (PBX or PSTN) configuration for off-hours call handling should be arranged

Analog inbound phone line checklist

Provide ___ inbound-dedicated channels for receiving inbound calls.

	Install a total of (# Inbbound/24) 25-pair cables for inbound calls to be routed to the agent via the system
	Configure analog inbound lines as Loop Start or Ground Start
	Inbound lines should be configured as hunt group on (PBX or PSTN). A cyclic hunt type of Round Robin or Least Used is recommended on the hunt group
	Provide login and logout sequence to the Avaya Project Manager if (PBX or PSTN) does not support auto logon feature for ACD Agents
	The system will busy out all inbound lines until an agent logs onto blend or inbound job, therefore, (PBX or PSTN) configuration for off-hours call handling should be arranged

Note:

See Analog connection specifications on page 122 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for more information.

Call transfer phone lines

Digital call transfer phone line checklist

Provide a total of ___ transfer-dedicated channels for call transferring via the system.

	Configure transfer trunks as E&M Winkstart or Ground start
	Does not allow transfer between agents that are both logged on to the system

Or, provide for call transferring via hookflash functionality.

	Configure both outbound and inbound lines as Loopstart with Hookflash transfer functionality
	Verify hookflash configured as 500 millisecond duration at (PBX or PSTN)

Analog call transfer phone line checklist

Provide for call transferring via hookflash functionality.

	Configure both outbound and inbound lines as Loopstart with Hookflash transfer functionality
	Verify hookflash configured as 500 millisecond duration at (PBX or PSTN)

Or, provide a total of ___ transfer/24-dedicated lines for call transferring via (PBX or PSTN).

	Order or install ___ transfer/24 cables for use by agents to transfer either inbound or outbound calls
	Verify hookflash configured as 500 millisecond duration at (PBX or PSTN)

Note:

See Analog connection specifications on page 122 of *Planning and Prerequisites for Avaya Proactive Contact 3.0* for more information.

Important:

If you are not using transfer trunks and transfer functionality is desired, outbound and inbound lines must be configured for hookflash transfer.

Headsets

Digital network-attached headsets

Provide ___ headset-dedicated channels for headset lines from PBX to the system.

	Headset connections are tie line/tie trunks to the PBX. These agents will not be logged in to an ACD queue during participation in blend campaigns.
	An agent line will be offhook (nailed-up) to the PBX while the agent is logged on to the system. The system uses the T1 agent headset tie lines to establish this connection.

Note:

For more information on different switch types, see Blending and ACDs on page 143 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*.

Analog network-attached headsets

Provide ___ headset-dedicated channels for headset lines from PBX to the system.

	Provide a total of ___ headset/24, 25-pair, twisted cables for headset connections for supervisor and calling agents to handle outbound and inbound calling
	An agent line will be offhook (nailed-up) to the PBX while the agent is logged on to the system. The sytem uses the T1 agent headset tie lines to establish this connection

Analog direct-attached headsets

Note:

OLIC headset connections are not supported in the PG230 or CTI deployment options.

See Telephony on page 85 of *Avaya Proactive Contact Planning and Prerequisites* for additional information on analog cabling specifications and pinouts of amphenol connectors.

Provide ___ headset-dedicated headset lines through the distribution panel to the system. Provide cabling from the distribution panel to each agent workstation location.

	Cable type is shielded, 25-twisted pair Telco, 26 gauge or larger
	Provide one cable for every 12 headset lines
	Label each cable with: Port, voice connection type, and agent location
	Terminate each cable with male, 50-pin, 90 degree Amphenol connector at distribution panel. Terminate at headset with appropriate connector based upon model selected.
	Use 4-wire cabling, connecting two pair of wires for each headset line
	Use of RJ21X (4-wire, 4-row, connectorized) punch down block for termination of analog lines at distribution panel
	Cables running from the distribution panel to the agent headsets are hardwired directly in to the punch down block at the distribution panel.
	Maximum cable length from the system to any headset location may not exceed 3000-ft. (900 m)
	Leave at least 9-ft. (3 m) of slack for each cable terminating at the system

Modem line checklist

Provide the following dedicated modem lines for the system and components. All modem lines must be installed prior to the site preparation due date.

	1 modem line must terminate at the Avaya PC 3.0 cabinet location. This modem line will serve as the primary point of entry for supporting your system.
	1 modem line must terminate at each Supervisor workstation location
	1 modem line must terminate at a selected workstation for VLTerm Cut & Paste development/ testing. This modem line will be utilized during development and can be disconnected upon project completion.
	Modem lines should be standard analog Direct Inward Dial (DID), capable of two-way calling and long-distance dialing outbound (i.e. - POTS line)
	Modem lines should be configured without any PBX features such as call waiting
	Provide at least 10 ft of slack cable and a MALE RJ-11 termination at each device location

Network checklist

Avaya provides a PCI Ethernet card with 10/100 Mbps auto-detect network connection. You need to provide a network connection at the system terminated as a male UTP (RJ-45).

	1 static IP Address for the CPU, which must be configured on your network and routing table, if applicable.
	Supply a default router address if the system needs to communicate with any network node not on the same subnet. The system components must be on the same subnet as the default router. Provide the subnet mask to your Avaya Project Manager.
	Assign IP addresses for: • Supervisor(s) • Network printer If these IP addresses are dynamic (DHCP), provide the DNS name for each machine to your Avaya Project Manager.
	Provide the network Domain Name (if applicable)
	Provide the DNS server name and IP address (If applicable)

Note:

For more information, see Data transfers on page 81 of *Avaya Proactive Contact Planning and Prerequisites*.

File transfer checklist

The file transfer method is direct connect or anonymous FTP using TCP/IP. Further details will be identified with the Avaya Project Manager. If you will use anonymous FTP, the following login information should be used for downloads and uploads:

```
login name: anonymous
password: anonymous
cd public
```

	Each file uploaded and downloaded requires a unique filename. Naming convention for download files are: • rcvfile1.raw • rcvfile2.raw, etc. Naming convention for upload files are: • xmtfile1.xfr • xmtfile2.xfr, etc.
	Download file transfer will be initiated by (customer name or Avaya), and will be scheduled for days and hours as specified by your Host contact.
	Upload File Transfer (if applicable) will be initiated by (customer name or Avaya), and will be scheduled for days and hours as specified by your Host contact.

Note:

For more information, see Data transfers on page 81 of *Avaya Proactive Contact Planning and Prerequisites*.

Avaya Proactive Contact System CPU and related hardware checklists

You must provide a Hewlett Packard C8000 dual-core processor CPU to run the Avaya Proactive Contact system software. This CPU has the following specifications:

- PA-8800 dual-core microprocessor with an operating frequency of 900MHz/1GHz, 32Mb L2 cache
- Up to 16 GB PC2100 registered ECC DDR-266 (8 DIMM slots)
- Up to 32 GB when 4 GB DIMMs are available
- 1 AGP-8X pro slot
- 150 watts max power including auxiliary power connector
- 6 PCI slots:
  - 4 full-length (1 64-bit/133 MHz PCI-X, 2 64-bit/66 MHz PCI-X, 1 64-bit/33 MHz PCI)
  - 2 half-length (32-bit/33 MHz PCI)

The minimum configuration should include the following:

- 2 GB RAM (an additional 2 GB RAM is required for primary system in a pod)
- 146 GB 10K rpm) Ultra 320 SCSI Internal Hard Drive
- Integrated 10/100/1000 Mbps Base-T Ethernet, Wake-on-LAN
- Secondary 100/1000 Mbps Base-T Ethernet PCI Interface Card installed in PCI slot

Additional information is available at: http://www.hp.com/workstations/risc/c8000

Remote access hardware checklist

Avaya Support Services must be able to remotely obtain system console and network access. Such access is traditionally provided by what is known as a secure console server. The secure console server must have 4 asynchronous serial ports.

	Provide a Lantronix SCS400 and the appropriate cables **Note:** This unit does not have a built in modem. Secure Console Servers leverage your existing IP network or a modem connection to provide remote access. • ACCESS SERVER 4 PORT LANTRONIX SCS400 • CABLE LANTRONIX-ADM TERM DB9F-DB25M 15FT • CABLE LANTRONIX-MODEM DB9F-DB25M 15FT • CABLE LANTRONIX-CPU DB9F-DB9F 3FT • CABLE LANTRONIX-SWITCH DB9F-DB25M 4FT Standard Network and Serial cables are provided with the Lantronix SCS400 For additional information, go to: http://www.lantronix.com/pdf/SCS100-200-400_UG.pdf

Ethernet switch checklist

	Provide an Ethernet switch that supports 10 Mbit half-duplex (3 ports minimum) to support the network interface between the workstation, the PG230 and the remote access server Avaya recommends the Hewlett Packard J4090A Option ABA (8 port, 10BaseT) **Note:** No other network connections shall be made to the port than the three mentioned items.

Tape device checklist

	Provide an external DDS tape drive for system and application backup
	Connectivity accomplished via a PCI-based SE-SCSI card • HP A4974A, PCI Ultra SCSI-2 SE interface card (Required) • HP C1556D Opt ABA, DDS SureStore Tape Drive with cable (Recommended)

Administrator console checklist

Obtain and dedicate a PC as the Administrator console. Please provide a PC that meets the minimum Administrator console requirements. See Administrator console (customer provided) on page 68 of Avaya Proactive Contact Planning and Prequisites.

	Locate the Administrator console according to the following requirements: • Minimum of 2 ft x 3 ft (0.6 m x 0.9 m) table or computer stand space • Maximum of 10 ft (3 m) from the system cabinet • Minimum weight of 19.5 lbs (9 kg)
	If you place the Administrator console and the printer on the same table, use the following guidelines: • Table: the table dimensions must be 4 ft x 2 ft (1.3 m x 0.6 m) • Weight: the table must support 50 pounds (18.65 kg) • Distance: the table must not be more than 8 ft (2.66 m) from the system cabinet
	The PC must have an available RS-232 serial port for connection to the remote access hardware. Avaya will supply a 15 foot RS232 serial cable terminating in a DB9 or DB25 connector. An alternative is to use an available USB port in conjunction with a USB to Serial Adapter. You must provided the cabling for either solution.
	Provide terminal emulation software that supports VT100 terminal emulation on the PC.
	Assign IP addresses for: • Administrator console • Network printer Verify network connectivity from Administrator console address to the system and to network printer. If these IP addresses are dynamic (DHCP), provide the DNS name for each machine to your Avaya Project Manager.

Supervisor workstation checklist

Identify and dedicate workstation facilities for each Supervisor application license purchased. Location of the Supervisor workstation varies based upon your organizational requirements. Avaya will provide the Avaya Proactive Contact Supervisor software. Please provide a PC that meets the minimum Supervisor workstation requirements. See Supervisor workstations (customer provided) on page 69 of Avaya Proactive Contact Planning and Prequisites.

	Allocate one IP address per Supervisor. Supply the IP address or DNS name to your Avaya Project Manager.
	Verify network connectivity from Supervisor address to the system and to network printer.
	Assign IP addresses for: • Supervisor(s) • Network printer If these IP addresses are dynamic (DHCP), provide the DNS name for each machine to your Avaya Project Manager.

Agent workstation checklist

Provide ___ network Agent workstations. See Agent workstations (customer provided) on page 70 for PC specifications.

	Agent workstation PCs are network-connected to the system
	Agent PC operating system: _____
	If using VLTerm: • Host emulation software: _____ • System emulation software: _____ • System emulation session type: (Must be VT100)_____
	If using Avaya Proactive Contact Agent API application, ensure that the host emulation session supports DDE.
	If will have Avaya create a cut and paste solution to your host: • Provide the host emulation software name (for example, Reflections) and the host emulation software type (for example, VT100 or 3270). • Identify one Agent workstation for use by Avaya in the development and testing of your desktop Cut and Paste solution. Avaya recommends selection of a workstation, which will be reassigned upon completion of your new system installation. • Workstation hardware/software must be installed and configured at least two weeks prior to the scheduled installation date, or earlier based on custom solution requirements. • Workstation must be configured with full production functionality, and associated Agent headset telephone facility. • Verify installation of analog, DID modem line to this workstation location. • Provide this modem number, along with a Host login and password. A temporary login and password can be provided for security reasons. • Install Symantec PC Anywhere, version 10.x on • Provide a production telephone for use during the development/testing period • Allocate one resource person per organization, each with Host familiarity, for development work with Avaya resource (resource usually required for 4 hours total per cut and paste solution).
	If using Avaya Proactive Contact 3.0 Agent application, it must support the following: • Customer network must support TCP/IP • Supports socket connection to the system • Microsoft Windows 2000 SPK 4 or Windows XP SP2. (See Agent workstations (customer provided) on page 70 of *Avaya Proactive Contact Planning and Prerequisites*.) • Symantec PC Anywhere version 10.x for dial in access to Avaya API test bed (if purchased) • 56 KBPS V.32 internal or external modem for test bed connection

Note:

If using Windows 2000 and VLTerm as your Agent workstation solution, please consult with your Avaya Project Manager for DDE communication requirements.

Printer checklist

The system requires at least one network printer for printing reports.

	Please purchase a laser printer that has either an internal or external HP Jet Direct Card. (This printer must be able to communicate PCL 4, which is HP's Printer Control Language version 4.0.)
	The printer must have network access via TCP/IP. Please provide either the static IP address or DNS name to be entered into the Avaya hosts table.

Internet Monitor checklist

	Allocate 4 MB disk space on corporate web server. Disk space varies depending on system usage i.e. 10 jobs and 168 agents = 4 MB of disk space
	Confirm web server supports NFS and long file names.
	Provide the Web Server's IP address
	Browsers used to connect to Internet Monitor must be Netscape 2.0 or later or Microsoft IE 3.0 or later
	Verify Web Server has a CD-ROM to load Internet Monitor software
	Internet Monitor transfers approx. 40 KB of data from the system to web server every 15 seconds
	Create a home directory on your web server for the Internet Monitor HTML files
	Provide the pathname to the above directory to your Avaya Project Manager
	Verify that the home directory has global read/write/execute privileges
	Export the home directory to allow the system to NFS mount it

Pod checklist

	Designate one of the systems to be the primary system in the pod. This system will serve as the the statistics collection location for the entire pod.
	Supply the primary system IP address and DNS name to your Avaya Project Manager
	Supply the secondary system(s) (maximum of three) IP addresses and DNS names to your Avaya Project Manager.
	Determine whether the primary and secondary systems will be configured with shared features.  **Tip:** Avaya recommends that the configuration be identical between systems in a pod for redundancy.

Appendix C: Avaya Proactive Contact with CTI Site Preparation Checklist

These sample checklists describe tasks that you need to perform before the installation of the Avaya Proactive Contact with CTI deployment begins. Your Avaya Project Manager will provide you with a checklist customized for your environment.

These checklists contain tasks that need to be completed for each of these types of computer-telephony integrations:

- ASPECT CallCenter 6.0 integration checklist
- Avaya DEFINITY G3i/G3r with G3V3 integration checklist
- Lucent 5ESS with PINNACLE 5E9 integration checklist
- Meridian 1 PBX with Generic X11 R19 integration checklist

ASPECT CallCenter 6.0 integration checklist

The Avaya Proactive Contact system receives inbound call information from the ASPECT CallCenter via your network. Ensure that the following items are configured on your ASPECT system:

	Obtain licenses and install ASPECT CallCenter optional software packages: • Application Bridge • Event Bridge
	Prepare for the connection between your network and the Avaya Proactive Contact system. See Network communications and data transfers on page 73 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*.
	Communications protocol supports TCP/IP, standard only.
	Configure your Bridge/Router table to allow communications from Avaya PC 3.0 to the ASPECT CallCenter.
	Configure your CallCenter to enable event monitoring (your ASPECT representative must create a file that acts as a flag or indicator to the Aspect that you wish to allow event monitoring).

Avaya DEFINITY G3i/G3r with G3V3 integration checklist

The Avaya Proactive Contact system receives inbound call information from the DEFINITY G3i/G3r with G3V3 (or newer) ACD via your network. Ensure that the following items are configured on your DEFINITY system:

	Provide a Definity LAN Gateway for the Definity, along with CentreVu CTI version 3.x (hardware and software).
	Prepare for the connection between your network and the Avaya Proactive Contact system. See Network communications and data transfers on page 73 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*.
	Verify that MAPD or MFB is installed in Definity G3 chassis.
	Set up the CentreVu CT Telephony Server up with a T-Link to the Avaya Proactive Contact system. • Configure the T-Link as a CSTA link • Provide T-LINK ID (i.e. AVAYA#DSIG3#CSTA#AVAYA)
	Provide IP address, host name and password to CentreVu CT server so Avaya Proactive Contact can gather all required call events.
	Define and provide all VDNs that Avaya Proactive Contact will be required to monitor. At a minimum provide an inbound, and acquisition VDN.

Lucent 5ESS with PINNACLE 5E9 integration checklist

The Avaya Proactive Contact system receives inbound call information from the PINNACLE MIS workstation via your network. Ensure that the following items are configured on your PINNACLE system:

	Configure your Bridge/Router table to allow communications from the Avaya Proactive Contact system to the PINNACLE MIS workstation. • Maximum 600 ft. (185 m) from the MIS workstation to the Avaya Proactive Contact system cabinet • Communications protocol supports TCP/IP standard only
	Prepare for the connection between your network and the Avaya Proactive Contact system. See Network communications and data transfers on page 73 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*.
	If a firewall is used, CentreVu CT must reside on the Avaya Proactive Contact side of firewall.
	Configure your ACD to send the appropriate OSPS or BRCS messages.

Meridian 1 PBX with Generic X11 R19 integration checklist

The Avaya Proactive Contact system receives inbound call information from the Meridian 1 PBX with Generic X11, release 19 (or newer) ACD via your network. Ensure that the following items are configured on your Meridian system:

	Prepare for the connection between your network and the Avaya Proactive Contact system. See Network communications and data transfers on page 73 of *Planning and Prerequisites for Avaya Proactive Contact 3.0*. This configuration must include a name and a password for the Avaya Proactive Contact system.
	Prepare a physical connection (RS 232 serial data cable) between the Meridian MAX port of the Meridian switch and the proposed location of the Avaya Proactive Contact system cabinet. • Terminate with a male DB-25 connection to MERIDIAN MAX at one end and a with a female DB-9 connection to Avaya Proactive Contact system at other end. Terminate cable using the appropriate pin assignments. See chart below for details.[1] • Provide 10 ft (3 m) of slack at the Avaya Proactive Contact system cabinet.
	Provide a network connection from the Meridian Link CallPath Server to the Avaya Proactive Contact system including the physical cabling connection.
	Provide a serial cable from Meridian Link to the CallPath Server. Test the network route between the Meridian Link and the CallPath CPU to insure stability and functionality. Verification should include calling up the monitoring session on the CallPath Server to observe calling activities on the switch.
	Provide an appropriate sized CPU loaded with the latest version of operating system appropriate to the CPU type. The CPU may be a PS/2 or RS6000.
	Provide the CallPath hostname, IP address, and root superuser password.

1.

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DB-9 Pin	DB-25 Pin
1	8
2	3
3	2
4	20
5	7
6	6
7	4

DB-9 Pin	DB-25 Pin
8	5
9	22

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