

Personal Features

Alternate Numbers

Enables users to have up to ten 10 phone numbers and/or extensions assigned to them. Normal ringing is provided for incoming calls to the primary phone number and users have the option of enabling a distinctive ring for calls to their second and third phone numbers. For outgoing calls from the user, the user's primary phone number is the calling line identity.

Anonymous Call Rejection

Enables a user to reject calls from anonymous parties who have explicitly restricted their Caller ID. By activating the service via a web interface, callers without available caller identification are informed that the user is not accepting calls at that time. The user's phone does not ring and the user sees or hears no indication of the attempted call. This service does not apply to calls from within the group.

Authentication

Authentication is performed upon the registration of an IP phone. This ensures that the user of the device is authorized to gain access into BroadWorks. SIP invites may also be authenticated on an on-going basis at pre-defined intervals. Standard digest authentication is used. The authentication information is configured both in the phone and via the group web portal. All call originations from unregistered phones are denied.

Auto Callback

Enables users who receive a busy condition to monitor the busy party and automatically establish call when busy party becomes available. This service can only be activated when calling within the same group.

Automatic Hold/Call

Enables users to automatically hold and retrieve incoming calls without requiring the use of feature access codes. This feature is especially useful for attendants managing a large volume of incoming calls by enabling them to hold calls by simply transferring them to dedicated parking stations. The feature is made active on that dedicated parking station. When an incoming call is directed to that station, the call is automatically put on hold and provided any media on hold. When the attendant wants to address the call, he/she simply retrieves the call from the held station. A timer exists that automatically returns the call to the attendant following expiration. This also allows for holding calls where the user CPE does not have a flash key.

Barge-In Exempt

Users with this service assigned cannot have their calls barged in on by other users.

Blind Call Transfer

Enables a user to transfer a call unattended before or after the call is answered. Users can only execute blind call transfer from the CommPilot Call Manager.

Call Forwarding Always

Enables a user to redirect all incoming calls to another phone number. Users have the option to activate and deactivate the service by dialing a feature code or configuring the service via their web interface. If activated, a user must specify the forwarding number. A status indicator on the CommPilot Call Manager identifies whether this service is enabled.

Call Forwarding Busy

Enables a user to redirect calls to another destination when an incoming call encounters a

busy condition. Users have the option to activate and deactivate the service by dialing a feature code or configuring the service via their web interface. If activated, a user must specify the forwarding number.

Call Forwarding No Answer

Enables a user to redirect calls to another destination when an incoming call is not answered within a specified number of rings. Users have the option to activate and deactivate the service by dialing a feature code or configuring the service via their web interface. If activated, a user must specify the forwarding number and the number of rings before forwarding.

Call Forwarding Remote Access

Enables users to activate, deactivate and program their Call Forwarding Always service from any phone via their Voice Portal.

Call Forwarding Selective

Enables a user to define criteria that causes certain incoming calls to be redirected to another destination. If an incoming call meets user-specified criteria, the call is redirected to the user-specified destination. The user controls the service via a web interface, which provides the ability to set the forwarding destination address and the criteria sets for determining which calls require forwarding. A criteria set is based on incoming calling line identity, time of day, and day of week. Multiple criteria sets can be defined.

Call Forwarding Selective Enhancement

Enables users to apply different forward-to phone numbers for their various call forward entries. Previously, Call Forwarding Selective entries were restricted to use one common forward-to number.

Call Notify

Enables a user to define criteria that cause certain incoming calls to trigger an email notification. If an incoming call meets user-specified criteria, an email (or short message to a cell phone) is sent to the notify address informing the user of the details of the incoming call attempt. The user controls the service via a web interface, which provides the ability to set the notify email address and the criteria sets for determining which calls trigger a notification. A criteria set is based on incoming calling line identity, time of day, and day of week. Multiple criteria sets can be defined.

Call Return

Enables a user to call the last party that called, whether or not the call was answered. To call back the last party that called, the user dials the call recall feature code. The system stores the number of the last party to call, and connects the user to that party. Users can also execute call recall via the CommPilot Call Manager.

Call Screening by Digit Pattern

Enables users to specify digit patterns instead of individual phone numbers on the following selective services: Selective Call Forwarding, Selective Call Acceptance, Selective Call Rejection, Call Notification, and Priority Alert. Digit patterns consist of a sequence of digits followed by the * wildcard. For example, 240* would apply to any calls from phone numbers starting with 240. Users may also use the "?" wildcard character in specifying digit patterns. The "?" wildcard character represents any single digit (0 through 9) and can be used multiple times anywhere within a digit string. The "?" wildcard can be used with or without the "*" wildcard at the end of the digit string.

Call Trace

Enables users to request that a call they have received to be automatically traced by dialing a feature access code after the call.

Call Transfer with 3-Way Consultation

Enables a user to make a three-way call with the caller and add-on party before transferring the caller. To initiate call transfer with three-way consultation, the user depresses the flash hook and dials the add-on party. When the call is answered, the user depresses the flash hook and forms a three-way call with the add-on party and caller. To transfer, the user hangs up, causing the caller to be connected to the add-on party. Users can also execute call transfer with three-way consultation via the CommPilot Call Manager.

Call Transfer with 3rdParty Consultation

Enables a user to consult with the add-on party before transferring the caller. To initiate call transfer with consultation, the user depresses the flash hook and dials the add-on party. When the call is answered, the user can consult with the add-on party. To transfer, the user hangs up causing the caller to be connected to the add-on party. Users can also execute call transfer with consultation via the CommPilot Call Manager.

Call Waiting

Enables a user to answer a call while already engaged in another call. When a second call is received while a user is engaged in a call, the user is informed via a call waiting tone. To answer the waiting call, the user depresses the flash hook. The user connects with the waiting party and holds the original party. By depressing the flash hook, the user reconnects to the original party and holds the waiting party. The feature completes when any party hangs up. Users can also execute call waiting via the CommPilot Call Manager. Users can activate/deactivate the Call Waiting service for all incoming calls via their web interface. Users also have the option of canceling their Call Waiting on a per-call basis by dialing the respective feature code for Cancel Call Waiting per Call before making the call, or after a switch-hook flash during the call. Once the call is over, Calling Waiting is restored.

Call Waiting Enhancement

Enables service provider to control whether or not Call Waiting is assigned to a user, rather than being a default capability. Thus, service provider has the option to charge for this service.

Calling Line ID Blocking

Enables a user to block delivery of his/her identity to the called party. The user controls the service via a web interface, which provides the ability to activate and deactivate the service. If activated, all calls made by the user have the user's identity blocked. If this service is activated, users can still choose to allow the delivery of their Calling Line ID on a specific call by entering the respective feature code (*65 default) for Calling Line ID Delivery per Call. Once the call is over, Calling Line ID Blocking is restored.

Calling Line ID Blocking perCall

Enables users to block their outgoing caller ID on a per-call basis by dialing a feature code before making the call.

Calling Line ID Blocking Override

Enables users with this service assigned to always receive the Calling Line ID if available, regardless of whether or not it is blocked by the calling party. As an example, this capability could be used by law enforcement agencies in certain countries.

Calling Line ID Delivery

Enables the delivery of a caller's identity to a user via the CommPilot Call Manager and phone (if capable). Delivered information includes the caller's phone number and name. The information is delivered to the web interface and the phone (if capable) only if the information is available and has not been blocked by the caller.

Calling Line ID Delivery Enhancement

Enables service provider to control whether or not the two services below are assigned to a user, rather than being a default capability. Once this service is assigned, users have the ability to enable or disable the service. Internal Calling Line ID Delivery. External Calling Line ID Delivery

Calling Name Delivery

Provides the calling name for incoming calls by querying an external database for the information if it is not received in the call set-up messaging. Although BroadWorks' standard Calling Line ID Delivery provides the calling number and name for all calls within BroadWorks, calling name information is typically not passed with calls received from external parties (e.g., PSTN-originated calls).

CommPilot Call Manager

Provides a web-based tool for users to invoke their services, as an alternative to using feature codes or depressing the flash hook. The following features are included with the CommPilot Call Manager:

- Click-to-Dial – enables user to input and dial a number, dial directly from a dropdown Phone List (Personal, Group or Call Log) or Outlook tab, or click the Redial button.
- Answer Call – enables user who is already engaged in a call to answer another waiting call. When available, Calling Line ID is displayed with caller's name and number.
- Call Hold/Retrieve – enables user to place an existing call on hold for an extended period of time, and then retrieve the call to resume conversation. While the calling party is held, the user may choose to make a consultation call to another party.
- Call Transfer – enables user to redirect a ringing, active, or held call to another number or directly to voice mail. Before transferring the caller, the user may choose to consult with the third party first or establish a three-way consultation.
- Conference – enables user to establish a three-way call involving two other parties.
- Release Call – enables user to disconnect a call that has been answered.
- Configure Services – buttons are provided to enable user to turn on/off frequently used services such as Call Forwarding Always and Do Not Disturb. Alternatively, if CommPilot Express has been configured, the user may change their CommPilot Express status (e.g., Available, Busy, Unavailable) by choosing from a drop-down list.

CommPilot Express

Enables users to pre-configure multiple profiles for managing incoming calls differently based on the user's status:

- Available – In the Office
- Available – Out of the Office
- Busy
- Unavailable

Each profile includes preferences for managing the relevant incoming call functions (e.g., Call Forwarding (busy, no answer, always, selective), Voice Messaging, Simultaneous Ringing, Call Notify), which can be configured through a single easy-to-use web page. Users can also select their active profile via their CommPilot Call Manager, and/or an IVR menu. If a user elects to use CommPilot Express, it will take preference over all of other service settings associated with processing incoming calls.

CommPilot Personal

Web portal that allows end-users to activate and customize services.

Consultation Hold

Enables a user to put the caller on hold, and make a consultation call to another party. To initiate consultation hold, the user depresses the flash hook and dials the add-on party. When the call is answered, the user can consult with the add-on party. To drop the add-on party and reconnect to the original party, the user depresses the flash hook twice. Users can also execute consultation hold from the CommPilot Call Manager.

Custom Ringback

Enables a user to specify custom audio media files such as music or corporate greetings for ringback tones versus a standard system ring tone. Users can specify multiple profiles where each profile is associated with a set of incoming call criteria (i.e., phone numbers, time of day, etc.) and a custom media file. If criteria are not met, then the group's custom media file is used. If the group service is not provisioned or configured, the system ringback is provided. This feature is also called "color ringback" in certain markets.

Customer Ringback – Video

Enables a user to specify custom audio and video media files for ringback tones versus a standard system ring tone. Users can specify multiple profiles where each profile is associated with a set of incoming call criteria (i.e., phone numbers, time of day, etc.) and a custom media (audio & video) file. If criteria are not met, then the group's custom media file is used. If the group service is not provisioned or configured, the system ringback is provided. If the caller does not have a video client or video phone, only the audio media file is played.

Direct Inward/Outward Dialing

Users are assigned a 10-digit directory number that can be used to place or receive calls directly to this phone, without forcing access via a central number. Incoming and outgoing calls can be placed/received via the phone or the CommPilot Call Manager (except an initial incoming call, for which the phone must be taken off hook).

Directed Call Pick-Up with Barge-In

In addition to the ability to pick-up a call directed to another user in the same customer group, this version of the Directed Call Pick-Up service (listed below under Group Services) also enables the user to barge-in on the call if already answered, thereby creating a threeway call. Administrators can configure whether or not a warning tone is played when a barge-in occurs.

Distinctive Alert/Ringing

Provides a different call waiting tone (i.e., alert) or a different ringing cadence for intragroup calls versus calls received from outside of the group. This service is provisioned as part of the Priority Alert/Ringing service, so users must choose to enable either Distinctive Alert/Ringing or Priority Alert/Ringing (different tone/ring for user-specified phone numbers) at any given time.

Distinctive Alert/Ringing Enhancement

Service enhanced to also recognize calls from another group within the same multi-group enterprise as internal calls.

Diversion Inhibitor

Provides the option to prevent calls that are redirected by a user to be redirected again by the called party to their voice mail. It is especially useful for service such as simultaneous ring and sequential ring. If simultaneous ring is engaged, and one of the lines has voice mail pick up set for 2 rings, this feature will continue to ring all the lines past the two rings and not transfer the call to voice mail.

Do Not Disturb

Allows users to set their station as unavailable so that incoming calls are given a busy treatment. Users have the option to activate and deactivate the service by dialing a feature code or configuring the service via their web interface. A status indicator on the CommPilot Call Manager identifies whether this service is enabled.

Enhanced Privacy on Hold

Enables users to designate a held call as “privately held.” A privately held call can not be retrieved from another station. In Shared Call Appearance applications that require several steps to transfer a call, this feature keeps others in a common call group from retrieving the held call.

Extension Dialing

Enables users to dial extensions via their CommPilot Call Manager or phone to call other members of their business group.

Flash Call Hold

Enables users to hold a call for any length of time by flashing the switch-hook on their phone and dialing the respective feature activation code. Parties are reconnected again when the switch-hook is flashed and the feature activation code is dialed again.

Hoteling

Companies often reserve a set of cubicles and phones for mobile workers who come into the office from time to time. “Hoteling” enables mobile users to share office space and phones on an as-needed basis, like a hotel room. The BroadWorks Hoteling service supports this activity by enabling users with guest privileges to log into a host account via their web portal or voice portal. This enables the employee to use the host phone to make and receive their calls as usual, while retaining their own BroadWorks user profile.

IP Phone Support

SIP-based IP phones are supported by BroadWorks, in addition to basic analog phones or soft clients. Users with SIP phones and the CommPilot Call Manager can use either means of managing their calls in real-time (e.g., call hold, conference).

Last Number Redial

Enables users to redial the last number they called by clicking the ‘Redial’ button on their CommPilot Call Manager or by dialing a feature code (e.g., *66).

LDAP Directory Integration

Enables users to access contact names and phone numbers from an external LDAP (Lightweight Directory Access Protocol) directory using an additional tab on their CommPilot Call Manager. The LDAP tab enables users to click-to-dial a contact and perform searches by contact name. This service may be integrated with an enterprise’s own private directory or a public directory provided by the Service Provider.

Multi-Path Forwarding

Enables a user to have more than one forwarded call active at a time. There are no limitations on the number of simultaneous calls a user can forward. Calls are specified for forwarding via the web portal interface.

Outlook Integration

This service enables users to integrate their personal contacts in Microsoft Outlook with their CommPilot Call Manager. Using the Outlook Contacts tab in the Call Manager, users can perform a search of their personal Outlook contacts by name or company. Once the desired contact is located, users may click-to-dial one of the contact’s phone numbers, or the user may choose to display the contact’s v-card by clicking their name.

When receiving a call, the user's Microsoft Outlook contact database is searched for a match of the caller's phone number. If a number is matched, the user is given the option of clicking the icon next to the incoming calling name in their Call Manager window to open the caller's v-card. Users may also choose to have new Outlook journal entries automatically opened for incoming and/or outgoing calls.

Personalized Name Recording

Enables users to record their name to be played back to incoming callers in conjunction with multiple services, including Voice Messaging and Auto Attendant. A .WAV file is recorded and uploaded via phone and respective CommPilot Personal web screen.

Phone List – Group

This phone list enables users to dial any other member of their business group by selecting from a list of names on their CommPilot Call Manager. The list also serves as a searchable company directory, listing names, numbers and email addresses. Each user added to the group is automatically added to this list. Also included are the extensions for reaching the Auto Attendant(s), Hunt Group(s), and the Voice Portal, when applicable. Group Administrators can add additional phone numbers to the Group Phone List by either adding them individually via their web portal or by importing them from a file.

Phone List – Personal

Enables users to dial frequently called numbers by selecting from a searchable list of names on their CommPilot Call Manager. Each user can add, delete, edit, and re-order numbers in their Personal Phone List, which serves as a personal speed dial list. Users can add multiple numbers to this list by uploading them from a flat file.

Phone List – Call Log

The Call Log enables users to view and dial from the following lists of stored numbers: missed, received, and dialed. The call log is accessed through the CommPilot Call Manager and includes the most recent numbers registered for each category, as well as the respective call times and dates.

Printable Group Directory

Enables users to view and print a directory listing of all the business group members and their respective contact information (e.g., extension, mobile phone number, e-mail address). The information is displayed in one of two formats: "Summary" or "Detailed". The Group Directory is accessible from the CommPilot Group Portal or via each user's CommPilot Call Manager.

Priority Alert/Ringing

Enables a user to define criteria to have certain incoming calls trigger a different call waiting tone (i.e., alert) or a different ringing cadence than normal calls. The user sets the criteria (e.g., incoming calling number, time of day, day of week) for determining which calls require priority notification via their CommPilot Personal web interface. Multiple criteria sets, or profiles, can be defined.

Push-to-Talk (Intercom)

Enables user-to-user intercom service across an enterprise. When a user dials the respective feature access code followed by the called party's extension, the system will request that the called station answer automatically. Users and administrators can define accept and reject lists, which may include wildcards.

Remote Office

Enables users to access and use their BroadWorks service from any end point, on-net or off-net (e.g., home office, mobile phone). This service is especially useful for tele-workers and mobile workers, as it enables them to use all of their CommPilot features while working

remotely (e.g., extension dialing, transfers, conference calls, Outlook Integration, directories, etc.). In addition, since calls are still originated from BroadWorks, the service provides an easy mechanism for separating personal and business phone expenses, as well as keeping alternate phone numbers private. This service must be set up by the group administrator.

Residential Voice Portal

Enables providers to setup a new level of voice portal than spans all groups in a service provider without requiring a public phone number for each group voice portal. In addition, a user can be configured to use the service provider voice portal or the group voice portal. If a carrier is using the service provider voice portal, a user is assigned a service provider voice mailbox, which is unique for the service provider.

Residential Call Restrictions

Enables an administrator to specify the maximum call time in minutes for answered (and unanswered) calls. Maximum call time can be specified on a system, service provider/enterprise, group, and user basis. If an answered call exceeds the maximum call time allowed, then the call is released by the system. This helps to prevent fraud and also provides a mechanism to cut off calls that have accidentally been left off-hook.

Ring Splash

Enables users to have a short ring burst played on their phone when the following services are triggered: Call Forwarding Always, Call Forwarding Selective, and Do Not Disturb. Ring Splash can be enabled for each of these services individually and serves as a reminder that the respective service is active.

Selective Call Acceptance

Enables a user to define criteria that causes certain incoming calls to be allowed. If an incoming call meets user-specified criteria, the call is allowed to complete to the user. All other calls are blocked and the caller is informed that the user does not wish to receive the call. The user controls the service via a web interface, which provides the ability to establish the criteria sets for determining which calls are allowed to complete. A criteria set is based on incoming calling line identity, time of day, and day of week. Multiple criteria sets can be defined.

Selective Call Rejection

Enables a user to define criteria that cause certain incoming calls to be blocked. If an incoming call meets user-specified criteria, the call is blocked and the caller is informed that the user is not accepting calls. The user controls the service via a web interface, which provides the ability to establish the criteria sets for determining which calls require blocking. A criteria set is based on incoming calling line identity, time of day, and day of week. Multiple criteria sets can be defined.

Selective Services Enhancements

Enables users to specify call treatments based on the added criteria of a PRIVATE or UNAVAILABLE incoming calls.

Sequential Ring

Enables users to define a “find-me” list of phone numbers that are alerted sequentially for incoming calls that match specified criteria. While the service searches for the user, the calling party is provided with a greeting followed by periodic comfort announcements. The caller can also interrupt the search to leave a message by pressing a DTMF key.

Shared Call Appearance

Allows for incoming calls to ring on up to 35 additional phones simultaneously, connecting the first phone to be answered. If one of the phones is already hosting an active call under

the line ID, incoming calls are delivered to the active phone and any outgoing calls from another phone using the same line ID are blocked. Certain IP phones can present the following states across their lamps: idle, progressing, alerting, active, and held. Certain IP phones can also support the hold/retrieve function, whereby calls on shared lines can be held on one device and retrieved from another registered device. Example applications of this service include setting up a second line for an executive assistant or creating a hosted key system solution with multiple lines being shared across multiple phones in an office.

Simultaneous Ring

Simultaneous Ring enables users to have multiple phones ring simultaneously when any calls are received on their BroadWorks phone number. The first phone to be answered is connected. For example, calls to a user's desk phone could also ring the user's mobile phone, in case the user is not at his/her desk.

Soft Client Support

The Microsoft Messenger soft client may be used as an alternative to analog or IP phones for making and receiving calls, while still having access to all of the features of BroadWorks.

Speed Dial 8

Enables users to dial single digit codes to call up to eight different numbers, such as frequently dialed numbers or long strings of digits that are hard to remember.

Speed Dial 100

Enables users to dial two-digit codes to call up to 100 frequently called numbers. Entry of the two-digit code is preceded by a configurable prefix: 0-9, A-D, *, or # (default). Users can program the numbers in their directory via the Speed Dial 100 page in their CommPilot Personal web portal, or directly through their phone using the respective feature access code (*75 default).

Three-Way Calling

Enables a user to make a three-way call with two parties, in which all parties can communicate with each other. To initiate a three-way call while engaged in a regular two-party call, the user depresses the flash hook and dials the third party. Before or after the third party answers, the user depresses the flash hook and forms a three-way call with the two parties. To drop the third party, the user depresses the flash hook and is reconnected with the original party in a regular two-party call. If the user hangs up, all parties are released. Users also have the ability to execute three-way calls using the CommPilot Call Manager.

Video Add-On

Enables the use of video media in conjunction with regular audio media. If a user's primary device does not support video, this service can be used to configure a video-capable device to deliver the video portion of their call. BroadWorks "splits" the multimedia call, directing the audio portion to the primary device and the video portion to the video add-on device. All services continue to operate as they would for a regular audio call.

Voice Portal Calling

Enables users to make calls from the voice portal, as if making calls from their desk. Calls are still made on the user's account but can be made from any phone.

Web Portal Call Logs

A new page in the CommPilot Personal Portal provides users with call logs for received, missed, and placed calls. This service is deployed in conjunction with the BroadWorks Call Detail Server.

Wireless and Residential Dialing

Enables an administrator to force all calls to query the Network Server on a system, service provider/enterprise, or group basis. With this feature engaged, all calls from a group are directed to the Network Server (usually, only inter-group calls query the Network Server).

Furthermore, in order to support residential and enterprise users on the same system, it is important to be able to designate groups to have calling line identity restrictions enabled or disabled. For enterprise groups, they should be disabled (default) and for residential groups, they should be enabled. This feature allows an administrator to specify if calling line identity restrictions are enabled or disabled for a group on a system, service provider/enterprise, or group basis. When incoming calls are received, this feature is checked to determine if calling line identity restrictions are enforced or not.

All of the configuration parameters are provided in a hierarchical manner. There are identical parameters at the system, service provider/enterprise, group and user (if applicable) layers. The user has the highest precedence, and the system has the lowest precedence. On a per call basis, the system selects the parameter to use based on the precedence. Thus, the user parameter is used if it is configured, otherwise the group parameter is used if it is configured, otherwise the service provider/enterprise parameter is used if it is configured, and lastly the system parameter is used if all other layers are not configured.

Group Features

Account Codes

Enables the tracking of calls made to outside of the group by prompting users for an account code. This service does not validate the codes entered (see Authorization Codes), so calls are not blocked. Account codes are managed by the Group Administrator and can be 2 to 14 digits long. Please note that groups cannot have this service and the Authorization Codes service enabled at the same time. Account Codes can also be implemented on a per-call basis in which users have the option to enter an account code by dialing a feature code before the call, or by flashing the switch-hook during a call and then dialing the feature code (for example, to register an incoming call from a client).

Attendant Console

The web-based Attendant Console enables a user (for example, receptionist) to monitor a configurable set of users within their business group. The Attendant Console window is also integrated with the CommPilot Call Manager, thereby enabling the attendant to perform functions such as click-to-transfer or click-to-dial.

The Attendant Console graphically displays users' status (busy, idle, do not disturb), as well as detailed call information. A variety of options are provided for managing the display, including: sort list of monitored users by name, department or title; filter user list by these categories; enter multiple letters of name to be displayed via automatic scrolling; select which column should appear, and in which order (for example, name, title, department, number, extension, mobile, pager, status, e-mail); and option to view duration of monitored users' calls, as well as name and number of parties they are talking to.

Authorization Codes

Performs an authorization of calls made to outside of the group by prompting users for an authorization code. Calls will not be connected unless a valid code is entered. Authorization codes are managed by the Group Administrator and can be of 2 to 14 digits in length. Please note that groups cannot have this service and the Account Codes service enabled at the same time.

Auto Attendant

The Auto Attendant serves as an automated receptionist that answers the phone and provides a personalized message to callers with options for connecting to the operator, dialing by name or extension, or connecting to up to nine configurable extensions (e.g., 1 = Marketing, 2 = Sales, etc.). Configuration via the CommPilot Group web interface also allows for hours of operation to be modified, with different options available for hours that the company is open or closed. Group Administrators use their voice portal to record auto attendant greetings. For example, a message may be left remotely to indicate that the office has been closed due to inclement weather. In addition, users have the ability to record their name for play back when a caller dials by name or extension.

A group can have multiple Auto Attendants configured, either individually (e.g., customer service with separate business hours) or integrated into a multi-level Auto Attendant (e.g., enterprise's main Auto Attendant is configured to seamlessly route to the Auto Attendant of a particular department or location).

Auto Attendant Enhancements

The following enhancements have been added to the Auto Attendant service:

- Immediate Extension Dialing – enables callers to dial an extension through the first level of the Auto Attendant without having to first select the extension dialing option
- Dial by First Name – name dialing is enhanced to consider both the first and last name, instead of only the last name
- Holiday Schedule – enables administrators to set the after-hours menu for selected dates (e.g., recurring holidays)
- Business Hours Support – enhancement enables administrator to set different business hours for different days of the week.

Video Auto Attendant

BroadWorks Auto Attendant can be configured to support uploading and playback of video greetings. All the other functions of Auto Attendant remain the same.

Business Trunking Licensing

Enables service providers to define a maximum number of simultaneous calls that can be handled by a selected group of users who are behind premises-based equipment such as PBXs, IP PBXs, and Key telephone systems (KTSS). These users are referred to as Trunk Group users. This new framework provides better support for network connectivity services for intelligent CPE while still allowing BroadWorks services to be offered as an overlay for end users. Trunk Group users are enabled for individual and group features

Busy Lamp Field Support for Attendant Console

Enables a user to receive the call state information on monitored users. This information supports busy lamp field operation for IP attendant console phones and devices. The list of monitored users is managed by the group administrator level and above.

Call Centers

Enables business groups to set up a basic call center with incoming calls received by a single phone number distributed among a group of users, or agents. The following functionality is supported:

- Agent login and logout
- Uniform distribution of incoming call to the available agents
- Queuing of the incoming calls that cannot be answered immediately
- Overflow to a given destination when the group is unable to accept calls
- No Answer Policy to redirect call to next agent if not answered in a specific number of

- rings by previous agent
- Deflection to a given destination outside of business hours
- Music on Hold

A variety of statistics are provided to monitor the performance of call centers, such as Average Number Agents Busy and Average Hold Time Before Call Loss. Statistics are also provided to track individual agent performance, such as Average Time Agent Spends on Calls and Amount of Time Each Agent Logged On and Idle. A statistics report is generated at the end of each day and sent to one or two e-mail addresses.

Call Center Enhancement

Option to append Caller ID prefix for calls distributed by Call Center service, thereby enabling call center agents to distinguish from direct incoming calls. For example, "Support – John Smith".

Call Center Enhancement

Enables the Priority Alert/Ringing service (listed above) to be assigned to a Call Center, rather than assign the service to each agent individually.

Call Center Enhancement

The following new call distribution policy is available for Call Centers:

- Weighted Call Distribution – enables calls to be distributed to agents according to a pre-defined weighting. Each agent is assigned a weight corresponding to the percentage of incoming calls they should receive.

Call Intercept

Enables group administrators to intercept calls routed to a non-working internal line with informative announcements and alternate routing options. The service may be assigned to an individual user's phone number (e.g., when they have left the company) or it can be assigned to all the members of the group.

Call Park

Enables a user to hold a call and to retrieve it from another station within the group. To park a call, a user depresses the flash hook and dials the call park feature code. The call is parked and the caller is held. To retrieve the call, the user goes to any phone in the group and dials the call retrieve feature code, followed by the user's extension. The call is retrieved and connected to the retrieving user. Users can also execute call park via the CommPilot Call Manager.

Directed Call Park

Enables a user to hold a call against a specific extension and to retrieve it from another station within the group. To park a call, a user depresses the flash hook and dials the directed call park feature code followed by the extension to park against. The call is parked and the caller hears silence. To retrieve the call, the user goes to any other phone in the group and dials the call retrieve feature code, followed by the extension to which the call was parked. The call is retrieved and connected to the retrieving user.

Call Pickup

Enables a user to answer any ringing line within their pick up group. A pick up group is a group administrator-defined set of users within the group, to which the call pickup feature applies. To pick up a ringing call, a user dials the call pick up feature code. The user is then connected to the caller. If more than one line in the pick up group is ringing, the call that has been ringing the longest is answered. Users can also execute call pickup via a web interface.

Directed Call Pickup

Enables a user to answer a call directed to another phone in their group by dialing the respective

feature access code followed by the extension of the ringing phone.

Calling Group ID Delivery

Provides the name and number of the group (or company) for outgoing calls from users in the group, rather than providing the user's own name and number. The group number may be defined on a per user basis, which is often appropriate for multi-location groups.

Calling Plan – Incoming

Enables administrators to block specified incoming calls to their company, department and/or individual users. For example, some users may be prevented from receiving calls from outside the company, or collect calls. The Incoming Calling Plan is configured via the CommPilot Group web interface. In addition to being able to configure which types of calls each user is restricted from receiving (e.g., intra-group), group administrators may regulate incoming calling by restricting specific digit patterns. For example, users may be prevented from receiving calls from a competitor's number or a particular area code or country code. If a profile has not been configured for a particular user, the default set of incoming call privileges for the department or group is applied.

Calling Plan – Incoming Enhancements

Additional call types added to Incoming Calling Plan:

- “Calls From Within Group” – allows calls to be received from other users within the group
- “Restricted Calls From Within Group” – similar to “Calls From Within Group” call type, but does not allow another user from within group to transfer or forward a call to the user

Calling Plan –Outgoing

Enables administrators to block users from making certain types of outgoing calls, such as long distance, toll, or premium numbers. The Outgoing Calling Plan is configured via the CommPilot Group web interface. In addition to being able to configure which types of calls each user is restricted from making, group administrators may regulate outgoing calling by restricting specific digit patterns. For example, users may be prevented from calling a competitor's number or a particular area code or country code. If a profile has not been configured for a particular user, the default set of outgoing call privileges for the department or group is applied.

Calling Plan –Outgoing Enhancement

Additional call type added to Outgoing Calling Plan:

- “Restricted Group” – allows calls to other users in group, but (unlike “Group” call type) does not allow a called user within the group to transfer or forward the user's call

Calling Plan – Outgoing (EOCP)

Enhanced version of the basic Outgoing Calling Plan provides administrators with a greater degree of control over outgoing calls made from within their group. In addition to “blocking” or “allowing” given call types and digit strings, administrators have the following options for configuring the outgoing calling profile of their group, department, and individual users:

- Authorization Codes – Selected users can be prompted for an authorization code to allow specified call types or digit strings. Administrators can pre-configure one or multiple authorization codes to be entered by users. Use of this feature within the Enhanced Outgoing Calling Plan takes precedence over the standalone Authorization Code service.
- Sustained Authorization Codes – users have the option to enter a Sustained Authorization Code to unlock calling from their phone. When the feature is enabled, users will not be prompted for an authorization code every time they make a call that requires an authorization code, as defined by the EOCP. Separate feature access codes are used

- to turn this feature on and off.
- Call Transfer – Specified outgoing call types and digit strings can be automatically transferred to one of up to three transfer destinations that administrators can pre-configure. For example, international calls made from a conference room may be transferred to a company operator who will validate the user's identity and their purpose for making an international call. Existing configurations are retained when Enhanced Outgoing Calling Plan is assigned to replace the basic version of the service.

Calling Plan – Forwarded/Transferred

Enables administrators to prevent specified users from forwarding or transferring calls to certain types of numbers, such as long distance, toll, or premium numbers. This capability is especially useful for preventing fraudulent calling, such as company employees calling their office number at night or on the weekend to make personal calls to international destinations. Calling plans are configured via the CommPilot Group web interface. If a profile has not been configured for a particular user, the default set of incoming call privileges for the department or group is applied.

CommPilot Group

Web portal that empowers a business group administrator to provision services to users and manage group-related activities.

Configurable Calling Line ID

Enables the group administrator to configure each of the displayed user names and calling numbers. This information is visible to users in their profiles as read-only.

Configurable CallingLine ID Enhancement

Option to select whether configurable Calling Line ID should be used for regular (nonemergency) calls, emergency calls, all calls, or no calls.

Configurable Extension Dialing

Provides the ability to map directory numbers (DNs) within a group to unique extensions. The extensions can be of any length (2 to 6 digits) as defined by the group administrator and dialed via a web interface or by phone. All extensions within a group must be of the same length.

Configurable Feature Codes

Provides each group administrator with the option to specify the feature codes (a.k.a. star codes) associated with their services (e.g., Last Number Redial, Call Return) via the CommPilot Group web portal. Users can see, but not edit, the feature code associated with each service at any time by referencing their CommPilot Personal web portal.

Group administrators have the option to configure two different feature access codes for the same service. For example, *69 and #81 could both be used to enable Call Return.

Configurable Feature Code Prefix

Enables each business group to define up to two different prefixes to precede their feature codes. Each prefix may include 1-2 characters, with the default being a single star (*).

Configurable Time Zones

A default time zone is specified for each business group. The respective time zone is used for all services requiring date/time stamps, such as Voice Messaging, Auto Attendant, and Selective Call Forwarding. Users have the option of individually changing their own effective time zone in cases where it differs from the group's default.

Department Support

Provides group administrators with the option of establishing an additional department layer of administration (for example, Sales, Engineering) to which users would be associated. This capability is especially useful for larger enterprises that want to distribute responsibilities for

day-to-day administration. Group administrators have the option of establishing default calling plans (incoming, outgoing) for each department. In addition, name dialing within an Auto Attendant can be restricted to the users within a department.

Department administrators can be created to manage the following tasks within their respective departments:

- Add, modify, and delete users within a department
 - Assign, modify, and remove personal services for users within a department
 - Configure the following group services, if they have been assigned to the department: Call Centers, Hunt Groups, Account Codes, Authorization Codes, Series Completion, Call Pick-Up, and Attendant Console
- Users can sort and search their group phone list in the CommPilot Call Manager by department.

Department Support Enhancement

Music on Hold audio source can be configured at the department level. If an audio source has not been specified for the department, the group-defined audio source is used by default.

Device Inventory

Enables group administrators to inventory their Integrated Access Devices (IAD), Trunking Gateways and IP Phones via their CommPilot Group web interface. Devices may be easily added, deleted and modified. In addition, group administrators can assign users directly to a device and/or a port on a device. The location and default aliases for a user are automatically generated.

Group Resource Inventory Reporting

Enables Group Administrators to generate reports on the resources used in their group and, if applicable, in each of their departments. Information includes phone numbers, devices, services, users and departments. The reports are generated on a web page in CSV format (comma separated value), so they can be easily imported into a spreadsheet for sorting and archiving.

Hunt Groups

Allow users within a group to be included in a specified sub-group to handle incoming calls received by an assigned Hunt Groups phone number. Group administrators can choose from any of the following “hunt” schemes, each of which rings the specified phones in a different manner:

- Circular sends calls in a fixed order. The call is sent to the first available person on the list, beginning where the last call left off.
- Regular sends calls to users in the order listed by an administrator. Incoming calls go to the first available person on the list, always starting with the first person on the list.
- Simultaneous rings all of the users in the group simultaneously; the first user to pick up the ringing phone is connected.
- With Uniform, as a call is completed, the user moves to the bottom of the call queue in a shuffling fashion. The next incoming call goes to the user who has been idle for the longest. If a user receives a call that was not directed to them through the hunt group, the call will not be included in the receiving order for Uniform calls.

Group administrators can also establish a No Answer Policy to redirect calls to the next agent if not answered in a specific number of rings by the previous agent. If all idle phones have been visited once without answer, there are two options for handling the call: forward call to an external number, or give the call a Temporarily Unavailable treatment, which can trigger a service such as Voice Mail.

Hunt Groups Enhancement

Option to append Caller ID prefix for calls distributed by Hunt Groups service, thereby enabling users to distinguish from direct incoming calls. For example, "Support – John Smith".

Hunt Groups Enhancements

The following services may be assigned to Hunt Groups:

- Priority Alert/Ringing – assign service to entire Hunt Group, rather than to each individual line.

Hunt Group Enhancement

The following new call distribution policy is available for Hunt Groups:

- Weighted Call Distribution – enables calls to be distributed to agents according to a pre-defined weighting. Each agent is assigned a weight corresponding to the percentage of incoming calls they should receive.

Instant Group Call

Enables a user to call a number that provides group of members with an instant conference bridge. When the user dials the specific group call number, the system alerts all members in the group and, as the members answer, they are joined into a multi-way conference. If the originating user uses the Push-to-Talk feature, then the attributes of the Push-to-Talk feature are used (one-way or two-way broadcast, auto-answer, access control list). This use of Push-to-Talk added to Instant Group Call equates to "group intercom" functionality. The Push to Talk or forced-off-hook functionality is engaged are when a member receives a Push-to-Talk group call. An administrator defines a virtual group composed of a list of member users. These members can be part of the same group or enterprise (specified by user name, extension or location code + extension) or can be external users (specified by a phone number or SIP URI).

Loudspeaker Paging

Enables users to access an intercom paging system by dialing an extension within the group. The paging system is simply configured in BroadWorks as a user and inter-connected via a standard two-wire interface.

Multiple Call Arrangement

Enables a user to make and receive multiple calls simultaneously on their different Shared Call Appearance (SCA) locations. This feature provides better support for the manager/administrative assistant scenario by presenting incoming calls to all locations, regardless of ongoing call activity. Also, enables all end point locations to originate a call even if another location is busy. This feature overlays the SCA feature.

Music on Hold

Enables group administrators to upload an audio file (.wav file containing music, advertising, etc.) onto the system to be broadcast to held parties. This service can be used in conjunction with the following services: Call Centers, Call Hold, and Call Park.

Music on Hold Enhancement

Music on Hold audio source can be configured at the department level. If an audio source has not been specified for the department, the group-defined audio source is used by default.

Music on Hold Enhancement

RC Enables users to enable/disable Music on Hold on a per call or persistent basis by either using the respective feature access code or their web portal. This service is especially useful for users are participating in a conference call.

Video on Hold

Enables uploading and playback of video for held and parked calls. All the other functions remain same as for Music on Hold.

External Source for Music on Hold

Enables enterprises to play live audio to held parties directly from an external audio source that is controlled by the enterprise and is typically located on their premises. The external audio source is comprised of a gateway with an analog audio line-in jack. A radio, CD player, or any other audio device connects into the audio line-in jack. Music from an external audio source can be used for calls that are put on hold by call waiting, call hold, or call park, but not calls waiting on a call center queue.

Series Completion

The Series Completion service can be assigned to a selected series of lines to forward calls on a busy condition. It is a form of “hunting” in which the next line in the group is tried in a prearranged order, without any limit on the number of sequential forwards.

This service is used to support Key System functionality. Key Systems typically ring all available lines in a specified order for incoming calls, regardless of the number dialed to reach the company. For example, when calling a tech support hotline, the user dials 1-800-555-HELP. That number attempts to ring line 1 of company. If line 1 is busy, it will attempt to ring line 2. If line 2 is busy...and so on. If all lines are busy, the call can be sent to Voice Messaging or another assigned service of the group. Similarly, if all lines or users of this company were assigned to a Series Completion group, BroadWorks acts just like a Key System.

Voice Portal

The Voice Portal provides an entry point for end-users to access, use, and configure the following services via any phone interface: Voice Messaging, Call Forwarding Remote Access, CommPilot Express, and Personalized Name Recording. The Voice Portal can also be used to record Auto Attendant greetings remotely. The Voice Portal can be reached from any phone. Each party uses their own configurable passcode to access their respective menu of services.

Service providers and/or group administrators can customize (or “brand”) the voice portal entry greeting heard by users who are logging into the Voice Portal. When both a service provider message and a group message are provisioned, the group message is played.

Business groups also have the option of enabling a Voice Portal Wizard to run the first time users log into their Voice Portal. The wizard guides users through the following steps: change default passcode to a personalized passcode, and record personalized name.

Web Conferencing Enhancement

The following capability added to the conferencing service:

- Out-Dialing – enables calling of participants to be added to conference

Enterprise Features

Enterprise Layer of Administration

Provides option for additional layer of administration above the group layer to facilitate the management of large enterprises spanning multiple groups and sites. This enterprise layer is parallel to the service provider layer. Thus, system administrators have the option to create service providers and/or enterprises, each of which is administered separately.

Enterprise administrators can use this administrative layer to create a private dialing plan shared

across multiple groups and sites, thereby enabling users to call one another using location codes and extensions instead of full phone numbers.

Enterprise-Wide Department

Enables departments to span across multiple groups within an enterprise to reflect the organizational structure. Enterprise-wide departments can be used for bulk provisioning of directories and enterprise-wide services, thereby streamlining the management of large volumes of users. Departments can be configured in a multilevel hierarchy (e.g. Engineering – Montreal, Engineering – Washington).

Enterprise-Wide Directory

Directories can be configured to span across multiple groups within an enterprise. Users would continue to access their directories via their CommPilot Call Manager or third-party client, and administrators could continue to supplement the directory with frequently dialed numbers. The web portal also includes a search mechanism that enables users and administrators to search by name.

Enterprise-Wide Group Services

Enables the following group-based services and policies to be deployed across multiple groups within an enterprise:

- Hunt Groups
- Call Centers
- Voice Portal
- Messaging
- Push-to-Talk
- Hoteling
- Rules for defining Extension Dialing, Passwords, Digit Collection,

Feature Access Codes, LDAP Configuration

Enterprise-Wide Voice Portal

Multi-group enterprises have the option of creating an Enterprise Voice Portal to enable all users within their enterprise to call into a common directory number to access their voice portal. The called voice portal automatically redirects each user to the voice portal of their business group to begin the login process.

Enterprise-Wide Voice Portal Enhancement

Voice Portal enhanced to enable users who were identified by their extension to also be identified by their location code plus extension for such activities as logging-in to the voice portal. Messaging capabilities also enhanced to allow users to employ compose/forward/reply functions and distribution lists across multiple groups within their enterprise.

Enterprise Network Gateway Routing

This policy enables enterprises to utilize PSTN gateways that are located on their own premises. Enterprises can use the policy to define which off-net calls should be sent to the PSTN through the enterprise-hosted network gateway for specified users. Thus, one application of this service would allow service providers to serve customers in service areas where the service provider does not have local PSTN connections. In this case, all off-net calls originating from users at such sites would be routed to the PSTN through an enterprise-based network gateway.

Feature Access Code Service Chaining

Enhances the validation performed on the phone number entered on the configuration page of various BroadWorks services to allow for entering feature access codes and speed codes in addition to phone numbers and extensions. For instance, this allows for configuring the Auto

Attendant to go directly to a user's voice mail by prefixing the destination number by the "Direct Voice Mail Transfer" feature access code.

Force Use of Uncompressed Codec

Enables an administrator to force the use of an uncompressed codec on a system, service provider/enterprise, group, or user basis. For all calls to or from a user with this feature enabled, the codec is forced to G.711, and all appropriate features are disabled. This is needed for some CPE where it is not possible to configure ports to use different codecs. This feature is helpful for setting up ports for fax machines or modems that require the use of a clear channel and an uncompressed codec.

PBX Dialing Transparency

System providers or group administrators can enable users to dial a digit to access an outside line (e.g., 9+ dialing), thereby standardizing dialing practices across a company that is using a combination of BroadWorks and a PBX.

Voice VPN

Enables multi-location enterprises to configure their private dial plans for on-net call routing. Using simplified dial patterns, users within an enterprise can call each other by dialing the appropriate location code and extension. Thus, Voice VPN integrates the "islands" of user groups across an enterprise into one unified private dial plan. Multi-location enterprises with non-homogeneous equipment can be easily supported, including any combination of BroadWorks Application Servers, PBXs, and even PSTN switches. Access to specified third parties (e.g., partners, customers, etc.) can also be integrated within the dial plan, thereby providing an "extranet" type of functionality. The Voice VPN service is configured directly by the enterprise through the CommPilot Enterprise web portal.

Conferencing

Administrator Restrictions for Ongoing Conferences

Provides new functionality on the Conferencing Server to check whether a conference is ongoing before allowing an edit. If ongoing, the conference is not allowed to be edited and an error indication is returned to the user.

Auto-delete "Expired" Conferences

Provides new functionality on the Conferencing Server that allows a system-wide expiration time for conferences to be set via the Conferencing Server administrative interface. On a pre-defined interval, the system purges all expired conferences older than the specified time (e.g., 30 days).

Auto-delete Expired (or Aged) Recording

Provides a new policy on the Conferencing Server that allows a system-wide expiration time for recording files to be set via the Conferencing Server administrative interface. On a pre-defined interval, the system purges all recording files older than this time (e.g., 30 days). This feature clears old media files server storage.

Enhanced Outside Dialing from the Conferencing Application

Enables a Conferencing Server cluster act as a pooled resource for multiple Application Server pairs. With this enhancement, conferencing server resources are deployed more efficiently, supporting an entire BroadWorks deployment. This feature changes the Conferencing Server so that dialed digits are sent to the Application Server "as is" and that the Application Server will not apply any translations to the digits.

Prevent Deletion of Ongoing or Expired Conferences

Provides new functionality on the Conferencing Server to check whether a conference is ongoing

or already expired before deletion. If ongoing or already expired, the conference is not deleted and an error indication is returned to the user.

Messaging

Voice Messaging

Enables users to record messages for incoming calls that are not answered within a specified number of rings, receive busy treatment, or are transferred directly to voice mail. Incoming callers are given the options to review and change their message and will get a warning tone if their message is about to reach the maximum configured length.

Users can configure the service via their personal web portal or by calling into their voice portal from any phone. The personal web portal enables users to control whether their voice mail messages are to be delivered to their e-mail account as .WAV attachments and/or to the voice messaging system repository for retrieval from a phone. Users can also set their password and elect to give callers the option of connecting to an attendant by pressing 0.

By accessing the Voice Portal from any phone, users can listen to, save, and delete each message, as well as move to the previous or next message. During the playback of a message, users have the option of skipping forward, skipping back, or pausing. Replies to message senders can be sent, and messages can be forwarded with an introductory message to one or more group members, or to the entire group. Messages can also be composed and sent to one or more users in the group, or the entire group. Users have the option of marking a message as Urgent or Confidential. Users can also pre-configure lists of users to whom voice messages may be sent. The Voice Portal also enables users to record their name and multiple personal greetings for busy and unavailable. Users also have the option to enter a feature code on their phone to clear their message-waiting indicator (MWI).

Video Messaging

BroadWorks Messaging can support video greetings, message recording, and message playback. All the other functions of Voice Messaging remain the same.

IMAP Mailbox Cleanup

This feature replaces the IMAP LOGOUT with an IMAP CLOSE and IMAP LOGOUT. This added step provides an automated mechanism to expunge messages marked for deletion.

Immediate Voice Mail

Provides an “always on” voice mailbox. For the designated user account, the “number of rings before greeting” parameter is set to 0, immediately providing the user’s no-answer greeting and the user’s device is not alerted. The feature itself changes the “number of rings before greeting” range from 2-6 to 0-6.

Increased Parameter Ranges

Increases the maximum message length from five minutes to 10 minutes, increases the maximum mailbox limit from 100 minutes to 900 minutes, and increases the number of distribution lists from 10 to 15.

Message Configuration per

Enables the “from” header to be configurable on a service provider basis instead of a system basis when sending an e-mail for message deposit and message notification.

Service Provider

Outgoing Message Waiting Indication(MWI)

Enables BroadWorks to control the MWI status of users with BroadWorks voicemail who have their access lines on a PBX, a Class 5 switch, or another IP-based application server. BroadWorks supports this service through an outgoing SIP NOTIFY MWI. For legacy-based users on a PBX or Class 5 switch, an MWI converter and terminal server are required to convert the SIP NOTIFY MWI message to SMDI TCP MWI and SMDI RS-232 MWI messages, respectively.

Third Party Voicemail MWI

Third-Party Voicemail Message Waiting Indication (MWI) enables the receipt of MWI status for users whose voicemail service is hosted on a third-party system. Thus, even without using BroadWorks' own integrated voicemail, users can still be notified of messages via their phone lamp and stutter dial tone.

This feature supports the receipt of SMDI-based message waiting indication (MWI) from TDM-based voicemail systems (terminal server required), as well as SIP-based MWI notification from other IPbased voicemail systems (no terminal server required).

Third-Party Voicemail Support

Facilitates the integration of a third-party voicemail platform with BroadWorks and its services. Busy and unanswered calls can be forwarded to a phone number or URL configured at the group level by the service provider. The number of rings before considering a call unanswered is defined at the user level. The Send to VM button on the CommPilot Call Manager is still visible and enabled for users with Third-Party Voicemail.

Third-Party Voicemail Support Enhancement

Option to deploy CommPilot Express with an external voicemail system other than BroadWorks voicemail.

Voice Messaging Configuration

System Providers have the following capabilities in configuring Voice Messaging service for individual groups:

- Message Aging – Enables service providers to set a maximum duration for the storage of saved messages by each group
- Multiple Mail Servers – Enables service providers to specify a different POP3 mail server or IMAP (including Exchange 2000) mail server for each group or user
- Variable Mailbox Sizes – Enables service providers to set a different maximum mailbox size for each group or user

Voice Messaging Enhancement

New feature access code enables user to send incoming calls directly their mailbox or VM of any other user within group.

Voice Message Call Back

Enables users to automatically call back the person who left them a message by hitting an option during or after listening to the message. This feature works if the caller's line ID is available; otherwise, the call back is denied.

Voice Message Callback Enhancement

Enables user to revert back to voice mail menu within Voice Portal after calling back party who left message.

Voice Message Waiting Indication

A stutter tone is provided via the telephone when new messages reside in the user voice mailbox.

A visual indicator on the phone is also provided.

Voice Messaging Notification

Enables a user to be informed of new voice messages. The notification is in the form of an email (or short message to a cell phone) or an indication on the user's station. The user controls the service via a web interface, which provides the ability to activate and deactivate email notification as well as the email notification address.

Voice Messaging to Email

Enables users to have their voice messages delivered to a specified email address in the form of an e-mail message with a .WAV file attachment. If available, the caller's name and number are also included in the e-mail subject line.

Voice Mailbox Integration

Enables users to configure their single BroadWorks voice mailbox to also support a secondary non- BroadWorks line (e.g., mobile phone, PBX), in addition to their primary BroadWorks line. Thus, a BroadWorks user can eliminate the need for maintaining and possibly paying for separate voicemail service (e.g., for their mobile phone) by also having those unanswered calls routed to their BroadWorks voice mailbox.

To enable this service, a user must simply register their secondary phone number via the CommPilot Personal web portal and configure their secondary phone service with Call Forward Busy and Call Forward No Answer to route to the respective BroadWorks voice portal. Calls received by the group voice portal from this secondary number will be automatically recognized and prompted with the user's voice mailbox greeting.

Voice Portal Autologin

Enables the user an option to "auto-log in to voice portal if calling from the user's own phone". If set to "yes" then when a user calls in to the voice portal from the user's own phone, the user is not prompted for a passcode but immediately given access the voice portal menu. If set to "no" then the existing functionality is used and the user is prompted for the passcode.

Voice Portal Customization

Enables system providers to customize the keys and prompts that are used to navigate through the voice portal menus and submenus. A key is either 1 digit (0 through 9), *, or #. Administrators can choose from a list of valid keys that are free to use. If no key is chosen for an optional menu selection, the menu option is disabled. The association of keys to actions (choices of each menu) is configurable for most menus and submenus. The system introduces one announcement per menu option and one announcement per key value. Typically, prompts will be automatically constructed to list the options and their matching keys.

Regulatory

Lawful Intercept

Enables the following necessary functions for lawful intercept (e.g., CALEA event monitoring):

- Administration – Enables a system provider or law agency to assign and configure surveillances against particular users. Up to five surveillances can be assigned to one user
- Event Monitoring – Generates call events for users under surveillance and delivers to the law agencies requesting the surveillance
- Media Monitoring – Mixes the media of all parties of a call under surveillance and

delivers to the corresponding law agencies based on the delivery IP address

BroadWorks can be customized in order to provide a compliant solution in countries that adhere to the ETSI standard. Although BroadWorks itself is not Lawful Intercept ETSI-compliant, it can be deployed in conjunction with a mediation platform to provide an ETSI-compliant solution.

Lawful Intercept Enhancement

The following capabilities have been added to the Lawful Intercept service:

- Subject-Initiated Dialing and Signaling – enhances service to report signals initiated by the user. For example, a message will be sent to law enforcement agency when a user flashes to toggle between two calls.
- Dialed Digit Extraction – enhances service to report digits dialed by user after call is connected.

Lawful Intercept Enhancements

BroadWorks Lawful Intercept has been enhanced with the following:

- Party Hold/Drop/Join – support of party hold/join/drop punch-list item enhanced to notify the law enforcement agency (LEA) of the parties involved in a subject-initiated conference call
- In-Band and Out-of-Band Signaling – support of in-band and out-of-band signaling punch-list item; informs LEA when a network message with call-identifying information (e.g., busy, reorder, ringing, alerting, call waiting) is sent to a subject using the facilities under surveillance.
- Address Registration/Deregistration Events – *ServingSystem* message introduced to report changes or attempted changes in the intercept subject's addressing information for personal mobility (e.g., registration/deregistration)
- T1.678 Standard Compliance – documented compliance with the T1.678 lawful intercept standard

Lawful Intercept Enhancements for Intra-site Calls

For Lawful Intercept, this feature provides the option to disable media intercept for calls for which both parties are collocated (on the same site).

Malicious Call Trace

Allows a system provider to trace any call terminating to a user that has been assigned this service. Incoming calls trigger the generation of a report (or trace) that is delivered to the system provider in an SNMP trap. The report contains information about the calling party (number and name), the time and date that the call was received and other relevant information (for example, redirection information).