



5.8 All Appendices

Bright Pattern Documentation

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Agent Desktop Helper Application

Contact center agents, supervisors, campaign operators, and back-office (PBX) users access Bright Pattern Contact Center via the Agent Desktop application, which is a web application that runs in all [popular browsers](#). Although most of the Agent Desktop functionality is implemented using thin-client technologies, some of its capabilities require a software component that is installed on users' computers. This component is called the **Agent Desktop Helper Application**.

In the current version of Bright Pattern Contact Center, Agent Desktop Helper Application provides the following functions:

- [Softphone](#) (SIP/RTP endpoint)
- Screen-pop dialog
- Logging
- Indication of audio device changes
- Alerts on all audio devices
- Screen recording
- Screen monitoring
- Key-press detection for presence status updates
- Voice quality monitoring
- [Simplified .NET API](#) support

For more information about the application, see the *Agent Guide*, section [Agent Desktop Helper Application Quick Start](#), and section [Installing and Updating the Agent Desktop Helper Application](#).

Installation

The Agent Desktop Helper Application installer is available in both MSI and EXE formats:

- ADHelperApp-MultiUser_x64.msi (64-bit)
- ADHelperApp-MultiUser_x86.msi (32-bit)
- BPCClientSetup.exe

The MSI installer can be recommended for the installation via a coordinated IT effort. This installer supports over-the-network deployment using the [Group Policy](#) feature of your Windows OS. It also supports per-machine deployment, which makes the Agent Desktop Helper Application available to all users of computers where it is installed, thus enabling hot-desking. (Note that when the MSI installer is used, the aforementioned Chrome extension will be installed automatically as long as the Chrome Web Store is not blocked by your firewall.)

To obtain the MSI installer, contact your service provider.

Should an administrator need to install the MSI manually on an individual PC, note that it must be run with elevated privileges (i.e., double-clicking on the .msi file in the file explorer does not work).

To do this, take the following steps:

1. In Windows search, type **cmd**.
2. Right-click on the cmd icon and select **Run as administrator**.
3. From the Command Prompt application, type the MSI file name and hit **Enter**.

If the Agent Desktop Helper Application is not pre-installed via the coordinated IT effort as suggested, users will be prompted to download and install it when they start Agent Desktop on their computers for the first time and whenever a newer version of this component is available with a general solution upgrade. Note that in this case, the EXE installer will be used. Only the user whose account was used to install the Agent Desktop Helper Application in this manner will be able to access the application on the given computer.

Please Note

The computers of users of the Agent Desktop application must conform to a number of [system requirements](#).

Agent Desktop can be used with multiple browsers on the same computer; however, concurrent Agent Desktop sessions under different accounts in different browsers (or in the same browser) of the same computer are not officially supported.

Starting from Bright Pattern Contact Center version 5.3.12, macOS from Sierra and earlier are no longer supported for the Agent Desktop Helper Application; this is due to Apple introducing new rules of application signing. Earlier versions of the Helper Application can still be used on Sierra. If you are using macOS Sierra and older, consider not upgrading the Agent Desktop Helper Application. Please do not confuse Sierra with High Sierra, which is supported.

Enabling the Agent Desktop Helper Application for Various Browsers

Extensions

The Agent Desktop Helper Application is supported on Google Chrome, Microsoft Edge, Microsoft Internet Explorer, Mozilla Firefox, and Safari. Some browser extensions or other settings may need to be enabled, depending on the user's browser.

All extensions are deployed after downloading and running the Agent Desktop Helper Application installer. The procedure is described for each browser in the following section of this article.

Chrome

Bright Pattern Contact Center enables the Agent Desktop Helper Application for the Google Chrome browser using an extension called **Agent Desktop Chrome Extension**. This extension is compliant with the changes in Chrome plug-in policies that have been developed and registered via the [Chrome Web Store](#).

The Agent Desktop Chrome Extension has its own versioning that is not dependent on the Bright Pattern Contact Center platform version and does not follow the same version format.

Both the Agent Desktop Helper Application and, if necessary, the Agent Desktop Chrome Extension, can be pre-installed on all user desktops as part of the process of activating of your Bright Pattern-based contact center. This deployment method is also recommended during solution upgrades involving new versions of the application and extension. If any such changes are expected, your service provider will normally contact you prior to the upgrade and work with you to make sure that these components are updated on all of your Agent Desktop users' computers.

How to Install and Enable the Agent Desktop Helper Application for Chrome

1. Download and install the Agent Desktop Helper Application.
2. Add the Agent Desktop Chrome Extension from the [Chrome Web Store](#).
3. Enable it in Chrome Extensions.

For more information, see the *Agent Guide*, section [How to Enable the Extension for Chrome](#).

Edge

Bright Pattern Contact Center enables the Agent Desktop Helper Application for the Microsoft Edge browser using an extension called **Agent Desktop Chrome Extension**. This extension is the same as the extension for Chrome, as described above.

How to Install and Enable the Agent Desktop Helper Application for Edge

1. Add the Agent Desktop Chrome Extension from the [Chrome Web Store](#).
2. Enable the extension in Edge (i.e., in Edge settings, go to *Manage Extensions*).
3. Download and install the Agent Desktop Helper Application (*BPClientSetup.exe*).

For more information, see the *Agent Guide*, section [How to Enable the Extension for Edge](#).

Firefox

Starting with Bright Pattern Contact Center version 3.15 and later, NPAPI technology is not supported for Mozilla Firefox. In response to Firefox disabling NPAPI support in version 52 and completely removing NPAPI support in version 53 and later, the Agent Desktop Helper Application is enabled for Firefox version 53 and later through the use of an extension called **Agent Desktop Extension**.

How to Install and Enable the Agent Desktop Helper Application for Firefox

1. In Agent Desktop, when prompted by a warning message, follow the instructions:
 1. Click the **downloading** link to download the Agent Desktop Helper Application (Mac: *bpclient_mac.pkg*, Windows: *BPClientSetup.exe*).
 2. Run the installer, and follow all the instructions given on your screen.
 3. Click the **Agent Desktop Extension** link in the warning message to install the Agent Desktop Extension. Doing so will bring up a Firefox dialog asking you to allow the Agent Desktop Extension to be installed as an add-on. Click **Continue to Installation**.

2. Make sure that the extension is enabled in Firefox Add-ons.
3. Return to the Agent Desktop application and refresh the page.

For more information, see the *Agent Guide*, section [How to Enable the Extension for Firefox](#).

Internet Explorer

For Microsoft Internet Explorer, an Active X control is used, so an extension is not required. These components are installed along with the Agent Desktop Helper Application itself and appear in the add-on lists of the aforementioned browsers under the same name (i.e., Agent Desktop Helper Application).

Although no extension is needed for IE, Agent Desktop users who are on IE 11 or higher must disable the browser's Enhanced Protected Mode in order for all Agent Desktop application logs to appear in the same folder (e.g., "`C:\Users\<UserName>\AppData\Local\Temp\logs`").

How to Install and Enable the Agent Desktop Helper Application for IE

1. Download and install the Agent Desktop Helper Application.
2. Make sure the browser's Enhanced Protected Mode is disabled:
 1. Click **Tools** (Alt+X) and select Internet options.
 2. Click the **Security** tab, and deselect the **Enable Enhanced Protected Mode** checkbox.
 3. Click **OK**.

For more information, see the *Agent Guide*, section [How to Disable Enhanced Protected Mode](#).

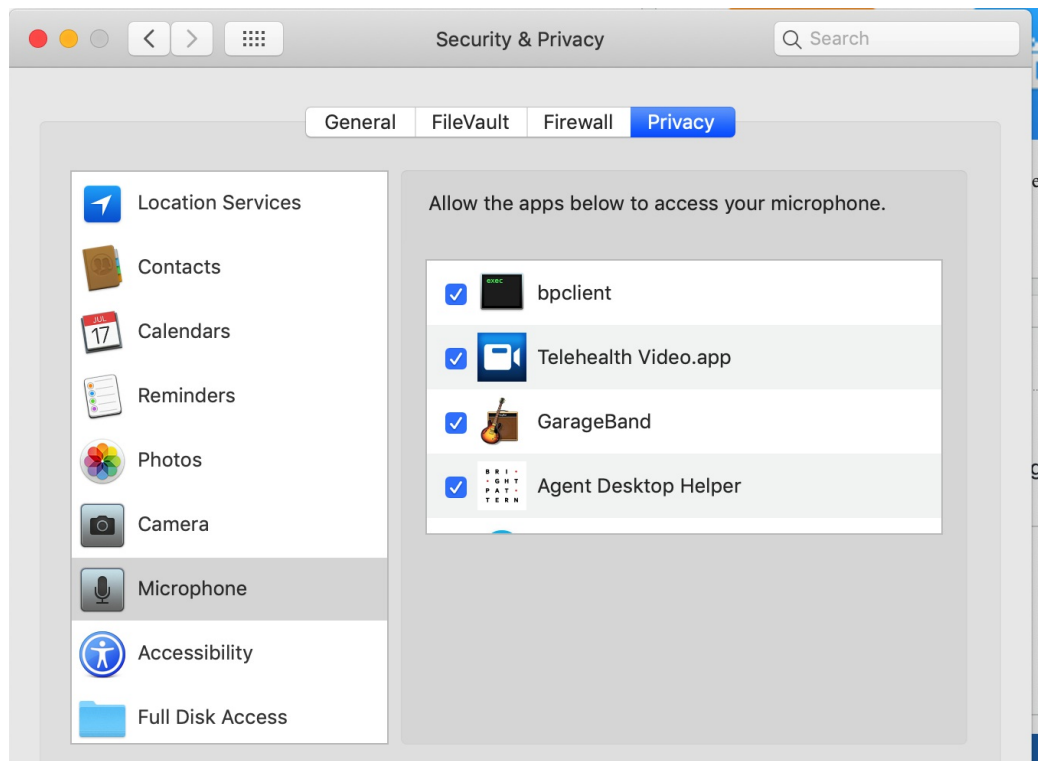
Safari

Starting with Bright Pattern Contact Center version 5.3 and later, NPAPI technology is not supported for the Safari web browser. In response to this, the Agent Desktop Helper Application is enabled for Safari 10, 11, and 12 on Mac OS X 10.12 (Sierra) and higher through the use of an extension, which is packaged in the Agent Desktop Helper Application installer (*bpclient_mac.pkg*). The installer will detect the OS X version your system is running on and will install the extension only if it runs on Mac OS 10.12 and later.

Users need only download and run the installer to get Agent Desktop to run properly. For more information, see the *Agent Guide*, section [How to Enable the Application for Safari](#).

Mac Security/Privacy Settings

In addition to all the aforementioned steps for installing/updating the Agent Desktop Helper Application, Mac users must also review their privacy settings and allow both "Agent Desktop Helper" and "bpclient" apps to use the microphone. Mac users must do this no matter which web browser they are using.



Example of allowing apps to use the microphone in Security & Privacy > Privacy

Tutorials

- [How to Manage Custom-Granted Domains for Agent Desktop Access](#)

Bring Your Own Carrier (BYOC)

Bright Pattern Contact Center software makes it possible for you to use your preferred telephone carrier for voice services. In order to do this, your service provider will need to create a Bring Your Own Carrier (BYOC) trunk.

If you are considering the BYOC option, Bright Pattern has the following preferred trunking requirements:

- SIP: UDP
- Port 5080 (on the Bright Pattern side)
- Codecs: G.711 A-law and mu-Law
- DTMF signaling: RFC-2833 out of band
- Capability to round-robin between multiple endpoints and fail-over to next endpoint when a provisional response is not received

It is important to check with your preferred carrier that they can meet the preferred BYOC trunk requirements. If there are any special requirements from your carrier, they can be discussed with your service provider.

Note: If you wish to add SMS from your preferred carrier, note that they will need to support SMPP protocol.

Countries, Calling Codes, and Time Zones

The table below contains the list of countries for which adjustment of calling hours to the local time zone of the destination number is currently supported. For each country, the table specifies its calling code and the time zone which will be used for adjustment. You can get more detailed information about each time zone, including the current UTC and UTC DST offsets, from [Wikipedia](#).

Note that for all countries on this list, except the USA, Canada, Brazil, Mexico, Russia, Indonesia, and Australia, there is a one-to-one correspondence between the country calling code and the time zone that will be used to adjust the calling hours. If a country has territory in multiple time zones (e.g., Portugal), the most populous time zone is selected for conversion.

If a number in the calling list begins with a calling code other than one of the codes specified in this table, it will only be dialed if the campaign calling hours for the corresponding phone type are set to 24/7 and the *Comply with State calling hours* checkbox is not selected. For more information, see section [Calling Hours](#).

Note: Toll-free area codes of the North American Dialing Plan (800, 844, 855, 866, 877, and 888) are associated with the *America/New_York* time zone.

Country	Country Abbreviation	Calling Code	Time Zone
Albania	AL	355	Europe/Tirane
Andorra	AD	376	Europe/Andorra
Argentina	AR	54	America/Argentina/Buenos_Aires
Armenia	AM	374	Asia/Yerevan
Australia	AU	61	* depends on area code
Austria	AT	43	Europe/Vienna
Azerbaijan	AZ	994	Asia/Baku
Bangladesh	BD	880	Asia/Dhaka
Belarus	BY	375	Europe/Minsk
Belgium	BE	32	Europe/Brussels
Belize	BZ	501	America/Belize
Bolivia	BO	591	America/La_Paz

Bosnia and Herzegovina	BA	387	Europe/Sarajevo
Brazil	BR	55	* depends on area code
Brunei	BN	673	Asia/Brunei
Bulgaria	BG	359	Europe/Sofia
Cambodia	KH	855	Asia/Phnom_Penh
Canada	CA	1	* depends on area code
Chile	CL	56	America/Santiago
China	CN	86	Asia/Shanghai
Colombia	CO	57	America/Bogota
Cook Islands	CK	682	Pacific/Rarotonga
Costa Rica	CR	506	America/Costa_Rica
Croatia	HR	385	Europe/Zagreb
Cuba	CU	53	America/Havana
Cyprus	CY	357	Asia/Nicosia
Czech Republic	CZ	420	Europe/Prague
Denmark	DK	45	Europe/Copenhagen
East Timor	TL	670	Asia/Dili
Ecuador	EC	593	America/Guayaquil
El Salvador	SV	503	America/El_Salvador
Estonia	EE	372	Europe/Tallinn
Falkland Islands	FK	500	Atlantic/Stanley
Federated States of Micronesia	FM	691	Pacific/Pohnpei
Fiji	FJ	679	Pacific/Fiji
Finland	FI	358	Europe/Helsinki
France	FR	33	Europe/Paris
French Guiana	GF	594	America/Cayenne
French Polynesia	PF	689	Pacific/Tahiti
Georgia	GE	995	Asia/Tbilisi
Germany	DE	49	Europe/Berlin
Gibraltar	GI	350	Europe/Gibraltar
Greece	GR	30	Europe/Athens
Guadeloupe	GP	590	America/Guadeloupe
Guatemala	GT	502	America/Guatemala
Guyana	GY	592	America/Guyana

Haiti	HT	509	America/Port-au-Prince
Honduras	HN	504	America/Tegucigalpa
Hong Kong	HK	852	Asia/Hong_Kong
Hungary	HU	36	Europe/Budapest
Iceland	IS	354	Atlantic/Reykjavik
India	IN	91	Asia/Kolkata
Indonesia	ID	62	* depends on area code
Ireland	IE	353	Europe/Dublin
Italy	IT	39	Europe/Rome
Japan	JP	81	Asia/Tokyo
Kiribati	KI	686	Pacific/Tarawa
Kosovo	XK	383	Europe/Belgrade
Laos	LA	856	Asia/Vientiane
Latvia	LV	371	Europe/Riga
Liechtenstein	LI	423	Europe/Vaduz
Lithuania	LT	370	Europe/Vilnius
Luxembourg	LU	352	Europe/Luxembourg
Macau	MO	853	Asia/Macau
Macedonia	MK	389	Europe/Skopje
Malaysia	MY	60	Asia/Kuala_Lumpur
Malta	MT	356	Europe/Malta
Marshall Islands	MH	692	Pacific/Majuro
Martinique	MQ	596	America/Martinique
Mexico	MX	52	* depends on area code
Moldova	MD	373	Europe/Chisinau
Monaco	MC	377	Europe/Monaco
Montenegro	ME	382	Europe/Podgorica
Nauru	NR	674	Pacific/Nauru
Netherlands	NL	31	Europe/Amsterdam
Netherlands Antilles	AN	599	America/Aruba
New Caledonia	NC	687	Pacific/Noumea
New Zealand	NZ	64	Pacific/Auckland
Nicaragua	NI	505	America/Managua
Niue	NU	683	Pacific/Niue
North Korea	KP	850	Asia/Pyongyang

Norway	NO	47	Europe/Oslo
Palau	PW	680	Pacific/Palau
Panama	PA	507	America/Panama
Papua New Guinea	PG	675	Pacific/Port_Moresby
Paraguay	PY	595	America/Asuncion
Peru	PE	51	America/Lima
Philippines	PH	63	Asia/Manila
Poland	PL	48	Europe/Warsaw
Portugal	PT	351	Europe/Lisbon
Romania	RO	40	Europe/Bucharest
Russian Federation	RU	7	* depends on area code
Saint-Pierre and Miquelon	PM	508	America/Miquelon
Samoa	WS	685	Pacific/Apia
San Marino	SM	378	Europe/San_Marino
Serbia	RS	381	Europe/Belgrade
Singapore	SG	65	Asia/Singapore
Slovakia	SK	421	Europe/Bratislava
Slovenia	SI	386	Europe/Ljubljana
Solomon Islands	SB	677	Pacific/Guadalcanal
South Korea	KR	82	Asia/Seoul
Spain	ES	34	Europe/Madrid
Suriname	SR	597	America/Paramaribo
Sweden	SE	46	Europe/Stockholm
Switzerland	CH	41	Europe/Zurich
Taiwan	TW	886	Asia/Taipei
Thailand	TH	66	Asia/Bangkok
Tokelau	TK	690	Pacific/Fakaofu
Tonga	TO	676	Pacific/Tongatapu
Turkey	TR	90	Europe/Istanbul
Tuvalu	TV	688	Pacific/Funafuti
Ukraine	UA	380	Europe/Kiev
United Kingdom	GB	44	Europe/London
United States	US	1	* depends on area code and, optionally, zip code
Uruguay	UY	598	America/Montevideo

Vanuatu	VU	678	Pacific/Efate
Vatican City	VA	379	Europe/Vatican
Venezuela	VE	58	America/Caracas
Vietnam	VN	84	Asia//Ho_Chi_Minh
Wallis and Futuna	WF	681	Pacific/Wallis

Glossary

A

abandoned call

A call that has been presented to an agent, but the remote party disconnected before speaking with the agent. For an inbound call, it may be that the called party got tired of waiting in queue. For an outbound call, it may be that the predictive or automated dialer reached a live contact and had the call available for presentation to an agent, but no agent was available to accept the call.

Note that FCC uses the term "abandoned" to refer to predictive calls that are answered by customers and not connected to agents within a compliance time (2 seconds). To avoid ambiguity, in Bright Pattern Contact Center, such calls are referred to as *unattended calls*.

access number

A telephone number of a contact center that can be accessed from the public telephone network. External [access numbers](#) are typically used as access points in dial-in scenario entries; however, some of these numbers can be instead associated directly with specific extensions to provide a DID function for those extensions.

access point

A point where the processing of service interaction attempts is initiated. For calls, an access point is usually either an access number or an extension dedicated to the automated processing of calls. For chats, an access point is usually a web page from which chat requests are initiated. The logical entity that defines the processing of interactions arriving at a specific access point is called a scenario entry.

ACD

See *automated call distribution*.

ACW

See *After Call Work*.

After Call Work

[After Call Work](#) (ACW) is an agent state indicating that the agent is unavailable to accept service interactions because the agent is currently processing information related to an interaction that the agent previously handled. This state is assigned from the moment the interaction is terminated and until the agent exits After Call Work either manually or by a system timeout.

agent

A user providing contact center services to customers. An agent is usually one party in a service interaction, and the other party is a customer.

agent capacity

An [agent's capability](#) to handle more than one interaction at a time, by either filling gaps in text conversations, such as chat or SMS, or by overriding one interaction with another, such as by interrupting email processing with an incoming voice call.

Agent Capacity Model

In a multimedia contact center, an [Agent Capacity Model](#) is a method to determine an agent's availability to handle an interaction that takes into account how much capacity is occupied by a single interaction of each media type, how much spare capacity the agents must have to be delivered an interaction of any given media type, and the relative priority of media types.

agent state

A real-time condition of an agent that determines the agent's availability to handle service interactions. For states that indicate unavailability, the [agent state](#) also provides a specific reason.

ANI

See *Automatic Number Identification*.

ASA

See *average speed of answer*.

automated call distribution

Automated call distribution (ACD) is a technology to improve customer satisfaction and maximize agent utilization by introducing fair automatic agent selection and a short wait time for incoming calls. Bright Pattern includes this functionality in [omnichannel blended ACD](#).

Automatic Number Identification

Automatic Number Identification (ANI) is a telephone company service providing a calling party with a number of the calling party. It is often used instead of "calling party number."

audio treatment

A [prerecorded audio message](#) that the system plays to the listener in a specific situation (e.g., while a call is waiting in queue or on hold).

automatic campaign

Also known as an [IVR campaign](#), a type of campaign where the system automatically dials numbers from the associated calling lists, monitors call progress, and connects successful (answered) call attempts to a prerecorded IVR message. Agents are not involved in campaigns of this type.

auxiliary skill

A [skill](#) that is not directly associated with any configured services but may be necessary for a complete description of a service request. For example, a customer may request a service in a specific language. In this case, in addition to the default service skill, a language skill is defined and assigned to the agents who can provide the requested service in this language.

average speed of answer

Average speed of answer (ASA) is the key performance indicator of inbound call center performance. It reflects the average time a customer has to wait in queue until the call is answered. ASA is usually measured against a target metric value. (See also *service level*.) One of the ways to maintain target ASA is with correctly predicted staffing. Calculate staffing online at the specific average speed of answer with the [Contact Center Calculator](#).

B

beep tone

A tone that plays periodically during a call to remind the parties that the call is being [recorded](#). It may also be used as an alert to an agent that a call is about to be presented.

BPO

See *business process outsourcer*.

BPO client

A company that outsources its contact center operations to a [business process outsourcer \(BPO\)](#).

business process outsourcer

A [business process outsourcer \(BPO\)](#) is a company that performs contact center tasks for other organizations.

Busy

An [agent state](#) indicating that the agent is unavailable to accept service interactions because the agent is currently handling one or more service interactions (e.g., a call or a maximum number of chats). For inbound service interactions, this state is assigned from the moment the interaction is accepted and until it is terminated or transferred. For outbound service interactions, it is assigned when the interaction is initiated (i.e., for calls, it includes the dialing phase).

C

calendar

A set of days, defined as days of the week and/or specific dates of the year, when a contact center service has the same hours of operation. A set of [calendars](#) with specified hours of operation form the schedule of a contact center service.

call

A voice interaction.

callback

An automated outbound call made upon the customer's request. A [callback](#) can be part of the voice callback function.

call center versus contact center

Typically, a call center is focused on processing telephone calls, whereas a contact center expands on this to handle engagement channels beyond the telephone, such as web chat, social media, online video, etc.

calling list

A [list](#) that contains destination data for campaigns. One list can be used in many different campaigns. Each list record typically contains information about a single customer and includes the customer's name, at least one telephone number, and other information specific to the campaign purpose. For example, lists used in a satisfaction survey campaign may include information about products purchased by the customers.

call progress analysis

Call progress analysis (CPA) is the process of automatic detection of the result of a call attempt via analysis of the audio signals during call setup. CPA is used in [predictive outbound calling campaigns](#).

call recording

A telephone conversation recorded and stored in a digital audio file format. [Call recordings](#) are used for quality management (QM) and compliance purposes.

campaign

A type of [service](#) where the contact center proactively initiates interactions with customers for a specific reason, such as for surveys or telemarketing, using destination data in the associated calling list(s).

Capacity Model

See *Agent Capacity Model*.

case

An instance of customer service that is created to track all communications related to a specific customer issue (e.g., request, order, complaint, problem, etc.) and is maintained while the issue is being worked on, and is closed when it is resolved. In general, a case may involve multiple communications via different media channels. In Bright Pattern Contact Center version 3.7 and later, [cases](#) are used to track email communications only. (See also *email thread*.)

chat

A web interaction involving the real-time exchange of text messages.

chat scenario entry

A [messaging/chat scenario entry](#) for chats.

cloud-based contact center

A [cloud-based contact center](#) is a *software-as-a-service* model of providing contact center technology, where a technology provider hosts and manages the call center hardware and software on behalf of its customers who access the platform remotely over the Internet or a private line service.

consultation

An [auxiliary call](#) made with respect to a primary call while the primary call is waiting on hold.

CPA

See *call progress analysis*.

CPA recording

The audio signals exchanged during the setup phase of an outbound call recorded and stored in a digital audio file format. CPA recordings are used for the analysis of call progress analysis (CPA) accuracy in [predictive outbound campaigns](#).

CRM

Customer Relationship Management (CRM). Software used to maintain and manage your company's interactions and/or relationships with customers or potential clients.

D

data directed call routing

The use of [caller-provided information](#), collected either via touch-tone or voice recognition, to perform a data dip on a database to help determine where to route the call.

Dialed Number Identification Service

Dialed Number Identification Service (DNIS) is a telephone company service providing the called party with a [number that was dialed](#) by the calling party. It is often used as a shorthand for "called party number."

dial-in scenario entry

A [scenario entry for calls](#).

dial-out entry

An association between a prefix of a [dialed outside](#) telephone number and a service.

DID

See *direct inward dialing*.

direct inward dialing

Direct inward dialing (DID) is a feature of a private telephone network allowing an outside caller to reach a certain [extension](#) directly by dialing a full telephone number dedicated to that extension, as opposed to using an operator, an IVR, or an automatic call distributor.

disposition

A recorded result of an interaction attempt. A [disposition](#) may indicate that the requested service was provided or suggest a specific reason for why it was not provided. [Dispositions](#) are stored in [interaction records](#) and can be used in reports and custom queries for the evaluation of service quality and efficiency.

DNC

Do not call. (See also *DNC list*.)

DNC list

A [Do-Not-Call \(DNC\) list](#) that contains phone numbers that may not be dialed during a campaign.

DND

Do not disturb. A presence status indicating that the user does not wish to be contacted at the moment.

DNIS

See *Dialed Number Identification Service*.

DTMF

See *dual-tone multi-frequency*.

dual-tone multi-frequency

Dual-tone multi-frequency (DTMF) refers to telephone touch-tones. An inband signaling method that allows the transmission of numeric information (numbers from 0 to 9, as well as symbols # and *) from telephones to other communication devices, such as IVR.

E

email

An interaction via electronic mail. An inbound [email interaction](#) includes an original email sent from a customer to a business and the first meaningful response. (Auto-acknowledgment is not considered a meaningful response.) Any subsequent follow-up [email sent by the agent](#) is considered an outbound email interaction within the same email thread. Any subsequent email with the same subject sent by the customer is considered a new inbound email interaction within the same email thread.

email thread

A [group of emails](#) related to the same case.

enterprise

The traditional contact center [architecture](#) where both the technology platform and contact center resources belong to and are managed by the same organization.

Erlang

A unit of measurement (named after Agner Krarup Erlang) in telecommunications systems to quantify offered or carried call load on circuits or telephone switching equipment.

estimated wait time

Estimated wait time (EWT) is a real-time interaction metric indicating the time that a service interaction is likely to spend in queue before being distributed to an agent. EWT can be used to determine interaction processing steps and/or it can be provided to waiting parties via IVR prompts.

EWT

See *estimated wait time*.

extension

A telephone destination within a private telephone network. An [extension](#) is identified by a number, which is unique within the private network only.

G

grade of service

A unit of measurement intended to quantify the probability of an individual call being blocked when presented to a circuit group.

H

handle time

The total time of the call from the beginning, through the conversation, past disconnect and including any agent wrap-up time to disposition the call, record notes, etc.

handled call

A call that is presented to an agent and answered. Contrast this to an *abandoned call*.

hardphone

A [hardphone](#) is a telephony device designed specifically for handling telephone calls. Unlike softphones, whose extensions are defined by users who are currently logged on, hardphones have their own extension numbers permanently assigned to them.

Health Insurance Portability and Accountability Act

The Health Insurance Portability and Accountability Act (HIPAA) is a United States law which, in particular, enforces a set of security measures related to electronic healthcare transactions.

HIPAA

See *Health Insurance Portability and Accountability Act*.

HOP

See *Hours of Operation*.

Hours of Operation

[Hours of Operation](#) (HOP) are a combination of calendars, with hours of operation specified for each. Schedules are typically associated with services and are used to determine, at any moment of any day of the year, whether such services are open for business.

Hunting Groups

Line hunting (or a *Hunt Group*, a service) in telephony is the method of distributing phone calls from a single telephone number to a group of several phone lines; it refers to the algorithm or process used to select which line will receive the call. Some PBX (computer telephony) phone systems support hunt groups. In PBX, a hunt group is still a group of extensions organized to process specific calls; when answering a call, the PBX ACD may transfer the call based upon the caller's DNIS, ANI, or extension.

Hunt groups differ from phone queues in that agents in queues have priority ranking and the ACD will route calls to them based on those ranking, not just by availability or predetermined order. Agents can log themselves out from a queue so their priority is not considered by the ACD. Hunt groups differ from pickup groups in that in a hunt group the call will be delivered automatically, while in a pickup group the user has to press a button or dial a number to pick up a call; both groups still have phone calls that are distributed to one phone after another (in a list or longest idle) or to all the phones at once.

I

inbound interaction

An interaction initiated by an outside party. In contact centers, most of such interactions are initiated by customers seeking specific [contact center services](#).

interaction

A communication session between two or more parties involving one or more media types. Bright Pattern Contact Center currently supports the processing of interactions of the following media types: [call](#), [SMS](#), [chat](#), and [email](#).

interaction attempt

An act of initiating an interaction. An interaction attempt may or may not result in an interaction depending on the condition of system resources and the status of the destination party.

interaction record

A database entry containing details of a single [interaction](#), such as its start time and duration, requested service, and participants. Interaction records are used for reporting and quality management (QM) purposes.

Interactive Voice Response

Interactive Voice Response (IVR) is a technology for the automation of common or frequently performed telephone transactions by means of a computer application interacting with a human through the use of prerecorded voice prompts and dual-tone multi-frequency (DTMF) tones of the phone keypad. IVR is typically used for [service selection](#), data collection, announcements, and self-service.

internal interaction

An interaction between two extensions.

IVR

See *Interactive Voice Response*.

IVR campaign

See *automatic campaign*.

K

KB

See *Knowledge Base*.

Knowledge Base

[Knowledge Base](#) (KB) is a repository of articles that help agents quickly find answers to customer inquiries and improve response times via using predefined/approved text in text-based communications.

KPI

Key Performance Indicator (KPI).

L

List

A [list](#) of destinations that should or should not be contacted during a campaign. (See also *calling list* and *DNC list*.)

M

Messaging/Chat Scenario Entry

A [scenario entry for mobile interactions](#). Previously known as *Mobile/Web Scenario Entry* prior to Bright Pattern Contact Center software version 3.16.

mobile interaction

A [service interaction](#) where the customer communicates with the contact center via a mobile application on the customer's smartphone.

Mobile/Web Scenario Entry

See [Messaging/Chat Scenario Entry](#).

MMS

Otherwise known as "multi-media messaging service" Whenever you send a text with an attached file, like a picture, video, emoji, or a website link, you're sending an MMS.

Multi-tenant

See *SaaS*.

N

nailed connection

A physical [phone](#) connection established during one call and used for the handling of subsequent calls within an agent's login session. This capability can be useful, for example, for home-based agents who wish to use their regular (PSTN) phone lines for voice delivery while using their Agent Desktop application for call and agent state control.

Not Ready

An [agent state](#) indicating that the agent is unavailable to accept service interactions because the agent is on a break or occupied with other tasks. This state may also be applied automatically by the system (e.g., upon login or in the *No-Answer* condition).

Not Ready reason

An optional modifier of the standard *Not Ready* state that may indicate more precisely the [reason](#) for an agent to be in that state (e.g., no-answer, mandatory after-call break, lunch, or team meeting).

O

outbound interaction

An interaction initiated from an extension to an outside telephone number. In contact centers, such interactions are typically made either to offer services to customers or for consultations related to inbound interactions.

P

Payment Card Industry Data Security Standard

The Payment Card Industry Data Security Standard (PCI-DSS) is an information security standard for organizations that handle branded payment cards from major card companies such as Visa, MasterCard, and American Express.

PCI-DSS

See *Payment Card Industry Data Security Standard*.

predictive campaign

A type of [campaign](#) where the system automatically dials numbers from the associated calling lists, monitors call progress, and connects successful (answered) call attempts to available agents. The dialing rate is adjusted in real-time to achieve maximum agent occupancy based on a prediction of the percentage of answered calls relative to all attempted calls.

predictive dialer

A software or hardware device that monitors agent call duration and connect history to algorithmically dial two or more telephone lines in advance of an agent being available, to ensure that at least one line has connected to a real person and is presented to the call center agent.

presence

Indication of a user's current availability and willingness to communicate. Unlike *Agent State*, presence applies to all types of users and does not affect the system's ability to deliver interactions to those users.

preview campaign

A type of [campaign](#) where the calling records from associated lists are submitted to the agents participating in the campaign. The agents review record information, manually dial destination numbers, and monitor call progress.

privilege

A user's [permission](#) to access specific functionality within Bright Pattern Contact Center (e.g., to generate and view reports).

Pull

A method of [email distribution](#) where incoming emails are delivered by the system to a service queue, from which the agents are expected to [retrieve](#) them for processing manually.

Push

A method of [email distribution](#) where incoming emails are delivered by the system directly to [agents' desktops](#) based on the agents' skill set and availability (i.e., in the same way as calls and chats).

Q

QM

See *quality management*.

quality management

Also known as *quality monitoring*, [quality management](#) (QM) is the process of recording and storing agents' conversations and chats with customers and the subsequent evaluation of agents' work based on reviewing such call recordings and chat transcripts.

quality monitoring

See *quality management*.

queue

A series of calls lined up, typically in chronological order according to arrival, that is waiting for an available agent. Typically callers hear recorded "on hold" music or prerecorded messages. In some cases, they may hear a message telling them their estimated wait time (EWT) as well.

R

Ready

An [agent state](#) indicating that the agent is available to accept service interactions.

Real-time Transport Protocol

Real-time Transport Protocol (RTP) is a data transfer protocol that provides end-to-end delivery services over IP networks for data with real-time characteristics, such as interactive audio and video. RTP is widely used in combination with SIP in modern VoIP systems and networks.

recording

See *call recording*.

regex expression

A regex expression is a formula used to search within bodies of text; a search formula is composed of a sequence of characters with specific meanings. For example, where the character ^ represents "match the beginning of the line or string of characters", a regex expression ^yes would return the result of any line or string of characters that begin with yes. Regex expressions can be used to configure [custom case fields from email subject lines](#) in the Contact Center Administrator application.

remote agent

An agent that works in a location away from the primary contact center physical location. Agents may work from their home or from a satellite office. In modern call centers, they often connect to the primary contact center over the Internet.

requested skill combination

A combination of skills, with the minimal acceptable [level specified for each skill](#), which are necessary in order to deliver a requested service.

rich contact experience

A number of contact center features to improve communication with connected customers using a company website or mobile app, resulting in increased customer satisfaction and cost savings.

ringing

A [desktop function](#) that alerts an agent of an incoming interaction. *Ringling* is also an [agent state](#) indicating that the agent is unavailable to accept service interactions because one service interaction is already being delivered to the agent.

role

A [combination of privileges](#) usually reflecting a certain personnel function or position within a contact center organization.

RTP

See *Real-time Transport Protocol*.

S

SaaS

See *Software as a Service*.

scenario

A script that defines the [logic of automated processing of interactions](#) satisfying some specific criteria (e.g., inbound interactions arriving at a specific access point).

scenario entry

An [association](#) between an access point and a scenario.

scheduled callback

A set time in the future for an agent to call a contact, typically as a [follow-up](#) to a previous engagement.

screenpop

A window that autonomously appears on the desktop and displays information for a call sent to the agent's telephone.

self-service

A type of service that can be provided without agent involvement (i.e., entirely via an IVR application with TTS functions, such as a customer's current account balance).

service

A specific reason for customers to initiate an interaction with a contact center, or, in the case of outbound dialing, for a contact center to initiate an interaction with a customer. [Services](#) play a key role in the design of interaction processing logic, evaluation of contact center efficiency, and workforce management.

service interaction

An interaction between a customer and a contact center initiated in order to get, or to offer, a service.

service level

Service level (SL) is a key [performance indicator](#) for an inbound contact center. Service level reflects a share of queued calls answered before a target threshold. It is usually displayed as percentage and a threshold value: 80%/20 sec. (See also *ASA*.) One of the ways to maintain service level is with correctly predicted staffing. Calculate staffing online at a specific service level with the [Call Center Calculator](#).

Service Level Agreement

A Service Level Agreement (SLA) is a commitment to provide service at the *presetservice level*.

service level threshold

See *service level*.

service skill

A default [skill](#) directly associated with a configured service. Service skills can be automatically assigned to the agents who are members of teams associated with corresponding services.

Session Initiation Protocol

Session Initiation Protocol (SIP) is a signaling protocol for controlling communication sessions such as telephone calls over IP networks. SIP is widely used in modern VoIP systems and networks.

short-abandoned call

A call that is abandoned within a [service level threshold](#).

Short Message Service

Short Message Service (SMS) is a text messaging service component of mobile communication networks. In Bright Pattern Contact Center, SMS refers to a media type for the text message exchange between agents and customers, where text messages are handled as [chat sessions](#) on the agent side and delivered to customers via SMS services of mobile communication networks.

Simple Network Management Protocol

Simple Network Management Protocol (SNMP) is a way for different devices on a network to share information. It is a networking protocol used for the management and monitoring of network-connected devices in Internet Protocol networks. SNMP provides a common mechanism for network devices to relay management information within single and multi-vendor LAN or WAN environments.

SIP

See *Session Initiation Protocol*.

skill

A [qualification](#) necessary to carry out specific tasks associated with fulfillment of one or more services.

skill group

A [set of related skills](#) (e.g., each skill in a language skill group can represent the ability to provide services in a specific language).

skill level

A relative measure of an agent's expertise in an assigned [skill](#).

skill match

A condition where an agent possesses all skills in a requested skill combination, with levels that are equal or higher than the levels of the corresponding skills in the requested skill combination.

skills-based routing

Logic that evaluates the context or transaction history of a customer or prospect and uses that information to [route a call or web chat](#) (or a session via another engagement channel) to an [agent best equipped to support the caller](#).

SL

See *service level*.

SLA

See *Service Level Agreement*.

SMS

See *Short Message Service*.

softphone

A software application for handling telephone calls using the networking and sound processing capabilities of a general purpose computer. In VoIP systems, a [softphone](#) application is associated with a user at the moment of login and is identified by the user's name and extension number for the duration of the login session.

Software as a Service

Software as a Service (SaaS) is a multi-tenant architecture where a single physical software installation, usually managed by a service provider, is used to serve multiple independent contact centers or tenants.

static entry

A telephone number of the public telephone network that appears in the directory of the Agent Desktop application. Usually these are the numbers that are frequently called by contact center agents (e.g., for consultation purposes).

supervisor

A user who [monitors and controls](#) agents' performance in real time.

T

TCPA

Telephone Consumer Protection Act (TCPA). The TCPA limits the use of automatic dialing systems, artificial or prerecorded voice messages, SMS text messages, and fax machines and specifies the technical requirements for fax machines, autodialers, and voice messaging systems.

team

A group of users with similar functions within a contact center organization. A [team](#) of agents is organized for optimal workforce management (i.e., training, scheduling, real-time supervision, reporting). If an agent team includes agents with similar qualifications, it may be associated with one or more services, which simplifies the process of assigning the corresponding service skills to such agents.

tenant

In a multi-tenant operation, a client organization whose contact center operations are enabled by a technology platform of a service provider. In an enterprise operation, the term "tenant" is equivalent to the term "contact center."

Text-to-Speech

Text-to-Speech (TTS) is a function of converting text messages into speech. TTS is used in self-service IVR applications. It also can be used in regular IVR applications to create temporary voice prompts at the test stage before replacing them with recorded voice talent in a production-ready application version.

Time Division Multiplexing

Time Division Multiplexing (TDM) is the technology behind traditional phone service. It is used for long-distance communication links as well as bearing heavy data traffic loads from end users. TDM works with both digital and analog signals.

thread

See *email thread*.

trunk

An interface between a private and a public telephone network.

trunk hold time

A unit of measurement that quantifies how long a trunk is occupied by a call from the moment the call arrives, through engagement, and until it is disconnected.

TTS

See *Text-to-Speech*.

U

unattended call

A call attempt made within a [predictive campaign](#) that is answered by a customer but cannot be connected to an agent within a compliance time (2 seconds in the United States). Some countries regulate the percentage of unattended calls and/or what happens to a call when it is unattended. Note that FCC refers to such calls as "abandoned." In Bright Pattern Contact Center, the term abandoned is used to refer to calls that are terminated by customers before they are answered by agents.

unavailable time

A measurement of the time that an agent is not able to engage with contacts due to scheduled breaks, meals, After Call Work, or other activities.

user

A [person who may need access to any functionality of Bright Pattern Contact Center](#) for any reason. Usually this includes all contact center agents and supervisors, as well as all contact center managers, administrators, and scenario developers who may need to use Bright Pattern Contact Center user-facing applications to perform their tasks. The exact set of functionality available to a particular user within any application is defined by the role(s) assigned to this user in the system configuration.

V

virtual contact center

Also known as a [virtual call center](#), a contact center where all agents are not necessarily physically located in the same building. Agents may be at satellite offices or working from home, but they work on a common contact center platform as if they were at the same location.

Virtual Queue

A [capability of ACD](#) to let a customer leave a call and do other things instead of actively waiting for an agent to become available. Bright Pattern implements this for voice and [in-app customer support](#), and this capability is inherently present in [SMS](#) and social messengers.

voice callback

A contact center feature that offers calling customers an option of requesting a [callback](#) instead of staying online while waiting for an agent response. The decision can be made based on the current estimated wait time in queue. If the Callback option is selected, the original inbound call will be disconnected while the position of this call in the service queue is preserved. The callback is made when it is the caller's "turn" to be routed to an agent.

Voice Over Internet Protocol (VoIP)

A set of technologies for delivery of voice and multimedia communications over IP networks. (See also [SIP](#).)

voice signature

[Voice signature](#) (VS) is the use of a customer's voice, by way of recording answers to a predefined set of questions, as a legal signature with respect to a policy or contract discussed on the call.

Voice Response Unit

Voice Response Unit (VRU) is a complete or part of hardware implementation of IVR.

VoIP

See *Voice Over Internet Protocol*.

VRU

See *Voice Response Unit*.

VS

See *voice signature*.

W

WFM

Workforce Management (WFM) is a strategy used to optimize productivity of employees. It is implemented in order to strategically optimize all resources. (I.E. The agents with the correct skillset are scheduled at the right time.)

wrap-up time

The time that contact center agents require after the agents disconnect from a call and before they are ready to accept the next call. Typically this time is spent recording information pertaining to the engagement. [Wrap-up time](#) contributes to *handle time*.

Information About Interaction Recording and Transcript Storage and Erasure

In Bright Pattern Contact Center, voice recordings, voice transcripts, screen recordings, chat transcripts, and other types of interaction content are stored locally for defined periods of time and also can be exported to a third-party storage system. Locally stored content is deleted after a predefined period of time. Sometimes, it also may be necessary for interaction content to be erased manually, for example, in order to comply with various security/privacy regulations and standards.

This article provides information about the ways in which your contact center's interaction recordings and transcripts can be stored and erased.

Where Interaction Content Is Stored

Depending on your contact center's configuration for data storage, interaction content can be stored on local machines; on external servers, where data is transmitted via FTP/SFTP and a [periodic export of recordings job](#) is scheduled; and/or in Amazon Web Services (AWS) S3 buckets, if an [Amazon AWS integration account](#) is configured and a [periodic export of recordings job](#) is scheduled.

When interaction content is stored locally or in S3, the recordings may be played back from Bright Pattern Contact Center interaction records. You can [search interaction records](#) to view and/or listen to the [call recordings](#), [screen recordings](#), and [chat transcripts](#) that have been captured from agent sessions.

How Interaction Content Is Erased

Agents who receive a customer request to erase a particular recording or transcript can easily [flag an interaction for content removal](#) by setting a disposition. Keep in mind that agents can request that interaction content be erased, but they cannot erase it themselves.

Interaction content can be deleted either manually by an administrator, via API by an administrator, or automatically by the system.

Manual deletion means that a user with the privilege to [edit and erase interaction records](#) erases voice recordings, transcripts of voice recordings, or screen recordings manually in the Contact Center Administrator application. Specific recordings may be erased manually in either section [Interaction Records Search](#) or section [Services > Results tab > Interactions Erasing](#).

API deletion is when a user with the privilege to [access the recording export API](#) uses the Bright Pattern Contact Center Interaction Content API's [Erase Call Recordings method](#) to delete a call recording.

Automatic deletion is when the system's retention period for storing content (e.g., the number of days or years to keep data) has expired and the interaction content is deleted from the system automatically during retention data cleanup. Limits for the storage of various types of interaction content are set by your service provider.

Voice Recordings

Voice recordings can be stored either locally (i.e., on the same platform that handled the voice connection) or externally via export to another storage system. There are two ways to export voice recordings: S3 and FTP/SFTP. The primary difference between these storage options is that when recordings are stored externally in S3, the recordings are still searchable and playable from Bright Pattern Contact Center [interaction records](#), whereas with FTP/SFTP, the recordings are not.

Voice recordings can be erased manually, via API, or automatically via retention data cleanup. If voice recordings are deleted by retention, the recordings are deleted automatically when the retention period expires. If, however, the voice recording is stored locally, it will be deleted. If, however, the voice recording is stored externally on S3 or FTP, nothing will happen and the recording will not be deleted.

See *Table 1* for details about the storage and erasure of voice recordings.

Table 1: Voice Recordings Storage and Erasure

Erasure Method	Content Location	Result	What This Means
Manual/API	Local	Deleted	If the voice recording was stored on a local machine and the recording was flagged to be erased either manually or via API, the voice recording will be deleted from the local machine.
Manual	S3	Deleted	If the voice recording was stored in an AWS S3 bucket and the recording was flagged to be erased manually, the voice recording will be deleted from the S3 bucket.
Manual	FTP/SFTP	No action	If the voice recording was stored on an external server (transmitted over FTP/SFTP) and the recording was flagged to be erased manually, the voice recording will not be deleted from the FTP location.
Auto (by retention)	Local	Deleted	If the voice recording was stored on a local machine and the retention period for storing recordings expired, the voice recording will be deleted from the local machine.
Auto (by retention)	S3	No action	If the voice recording was stored in an AWS S3 bucket and the retention period for storing recordings expired, the voice recording will not be deleted from the S3 bucket.
Auto (by retention)	FTP/SFTP	No action	If the voice recording was stored on an external server (transmitted over FTP/SFTP) and the retention period for storing recordings expired, the voice recording will not be deleted from the FTP location.

Screen Recordings

When screen recordings are stored locally or in S3, the recordings may be played back from Bright Pattern Contact Center interaction records. You can search [interaction records](#) to view the [screen recordings](#) corresponding to interaction handling. You can also search [Agent Timeline](#) for screen recordings of entire agent sessions.

Note that playback of screen recordings is only possible in the Bright Pattern Contact Center environment because screen recordings must be synchronized for playback with voice recordings, metadata about the call, and so forth.

See *Table 2* for details about the storage and erasure of screen recordings.

Table 2: Screen Recordings Storage and Erasure

Erasure Method	Content Location	Result	What This Means
Manual	Local	Deleted	If the screen recording was stored on a local machine and the recording was flagged to be erased manually, the screen recording will be deleted from the local machine.
Manual	S3	Deleted	If the screen recording was stored in an AWS S3 bucket and the recording was flagged to be erased manually, the screen recording will be deleted from the S3 bucket.
Auto (by retention)	Local	Deleted	If the screen recording was stored on a local machine and the retention period for storing recordings expired, the screen recording will be deleted from the local machine.
Auto (by retention)	S3	Deleted when the corresponding call detailed record is deleted	If the screen recording was stored in an AWS S3 bucket and the retention period for storing recordings expired, the screen recording will be kept for as long as the detailed record of the corresponding interaction is stored locally. (The reason it is deleted at that time is that the screen recording cannot be played back without call metadata.)

Chat Transcripts

Chat transcripts can be stored and erased in the same way as voice recordings. See section [Voice Recordings](#) for more information.

See *Table 3* for a breakdown of how chat transcripts are stored and erased.

Table 3: Chat Transcripts Storage and Erasure

Erasure Method	Content Location	Result	What This Means
Manual	Local	Deleted	If the chat transcript was stored on a local machine and the chat was flagged to be erased either manually or via API, the chat transcript will be deleted from the local machine.
Manual	S3	Deleted	If the chat transcript was stored in an AWS S3 bucket and the chat was flagged to be erased manually, the chat transcript will be deleted from the S3 bucket.
Manual	FTP/SFTP	No action	If the chat transcript was stored on an external server (transmitted over FTP/SFTP) and the chat was flagged to be erased manually, the chat transcript will not be deleted from the FTP location.

Auto (by retention)	Local	Deleted	If the chat transcript was stored on a local machine and the retention period for storing chats expired, the chat transcript will be deleted from the local machine.
Auto (by retention)	S3	No action	If the chat transcript was stored in an AWS S3 bucket and the retention period for storing chats expired, the chat transcript will not be deleted from the S3 bucket.
Auto (by retention)	FTP/SFTP	No action	If the chat transcript was stored on an external server (transmitted over FTP/SFTP) and the retention period for storing chats expired, the chat transcript will not be deleted from the FTP location.

Voice Transcripts

Voice transcripts can be stored and erased in the same way as voice recordings. See section Voice Recordings for more information.

See *Table 4* for a breakdown of how voice transcripts are stored and erased.

Table 4: Voice Transcripts Storage and Erasure

Erasure Method	Content Location	Result	What This Means
Manual	Local	Deleted	If the voice transcript was stored on a local machine and the call recording was flagged to be erased either manually or via API, the voice transcript will be deleted from the local machine.
Manual	S3	Deleted	If the voice transcript was stored in an AWS S3 bucket and the call recording was flagged to be erased manually, the voice transcript will be deleted from the S3 bucket.
Manual	FTP/SFTP	No action	If the voice transcript was stored on an external server (transmitted over FTP/SFTP) and the call recording was flagged to be erased manually, the voice transcript will not be deleted from the FTP location.
Auto (by retention)	Local	Deleted	If the voice transcript was stored on a local machine and the retention period for storing call recordings expired, the voice transcript will be deleted from the local machine.
Auto (by retention)	S3	No action	If the voice transcript was stored in an AWS S3 bucket and the retention period for storing call recordings expired, the voice transcript will not be deleted.
Auto (by retention)	FTP/SFTP	No action	If the voice transcript was stored on an external server (transmitted over FTP/SFTP) and the retention period for storing call recordings expired, the voice transcript will not be deleted from the FTP location.

Remote Assist Client Application Installation for Internal Users

If your contact center uses the Remote Assist feature to provide remote assistance to users within your organization, as a contact center and/or IT administrator, it is possible for you to preinstall the Remote Assist Client application (i.e., RAClient.exe) for your users who use the Windows OS. The process is similar to [installing the Agent Desktop Helper Application](#) (i.e., BPClient.exe).

Installation

The Remote Assist Client application installer is available in the MSI format (i.e., RAClientSetup.msi), and installs the application in the standard Windows installation directory (i.e., c:/Program Files/BrightPattern/Remote Assist Client) for all users.

The MSI installer can be recommended for the installation via a coordinated IT effort. This installer supports over-the-network deployment using the [Group Policy](#) feature of your Windows OS. It also supports per-machine deployment, which makes the Remote Assist Client application available to all users of computers where it is installed, thus enabling hot-desking.

To obtain the MSI installer, contact your service provider.

Should an administrator need to install the MSI manually on an individual PC, note that it must be run with elevated privileges (i.e., double-clicking on the .msi file in the file explorer does not work).

To do this, take the following steps:

1. In Windows search, type **cmd**.
2. Right-click on the cmd icon and select **Run as administrator**.
3. From the Command Prompt application, type the MSI file name and hit **Enter**.

System Requirements

To ensure normal operation of your Bright Pattern-based contact center, the computers of your Agent Desktop users and your data network shall conform to the following system requirements:

Resource	Requirement
CPU	<ul style="list-style-type: none">• 1 GHz min without video or screen monitoring/recording• Core i3/5/7 with video and/or screen monitoring/recording
Memory	<ul style="list-style-type: none">• 2 GB min

Network	<ul style="list-style-type: none"> • TCP/IP network required (hard-wired LAN recommended) • Voice bandwidth: 100 Kbps (G.711), 32 Kbps (G.729)^[1] • Screen monitoring bandwidth (estimated) 400 Kbps^[2] • Screen recording bandwidth (estimated) 400 Kbps^[3] • Video calling bandwidth (estimated) 600 Kbps • Outbound firewall open TCP ports 80 (HTTP), 443 and 8443 (HTTPS), 8444 (HTTP), and 8445 (HTTPS)^{[4][5]} • RTP audio stream, utilizes UDP, ports are dynamically allocated in the range 40,000 to 65,535 • Outbound firewall UDP port 5080 open for SIP signaling • On the client computer side, UDP port 5060 open for the SIP softphone^[6] • QoS router configurations recommended for UDP packets • QoS packet prioritization policies are recommended for RTP and SIP on client • Router/Firewall ALG/SIP Packet inspection disabled • Network latency < 240 ms round trip Bright Pattern data-centers (if using VoIP)^[7] • Jitter < 20 ms and packet loss < 2% over 100 most recent packets^[8]
Headsets	<ul style="list-style-type: none"> • Professional series headsets with USB connectivity^[9] • Recommend models: <ul style="list-style-type: none"> ◦ Plantronics Blackwire 500 and 5200 Series
Operating System ^[10]	<ul style="list-style-type: none"> • Windows 8.1 • Windows 10 • Windows 11 • Mac OS X 10.15 (Catalina) + • Ubuntu 20.04 • Chrome OS^[11] • Other^[12]
Browsers ^[13]	<ul style="list-style-type: none"> • Google Chrome 96.0 and later (recommended for Windows OS) • Microsoft Edge 13 and later (Windows 7, 8, and 10)^[14] • Mozilla Firefox 94 and later (recommended for Mac OS) • Safari 15.1 and later (recommended for Mac OS X) • Yandex Browser 19.10 and later
Additional Software	<ul style="list-style-type: none"> • "WebM Video for Microsoft Internet Explorer" for screen recording playback in Internet Explorer https://tools.google.com/dlpage/webmmf/

Other Requirements and Considerations

Resource	Requirement
IP Version	IPv4

Hardphones (if used)	SIP VoIP phones with Power over Ethernet if possible (recommended models: Polycom SoundPoint IP series)
FTP servers	Tested with FileZilla, Bitvise SSH, Microsoft Windows default FTP server, OS X built-in SFTP
Email servers	Tested with Postfix/Dovecot, Google.com, Yahoo.com, Outlook.com, Mail.ru, Yandex.ru

1. [↑](#) On the client side, the G.729 codec is supported for hardphones only.
2. [↑](#) Bandwidth varies greatly depending on the number of screens, screen resolution, intensity of screen changes, and some other factors. The estimate is provided for a single-screen computer with 1200 x 1600 screen resolution running typical office applications (low intensity of screen changes).
3. [↑](#) See the previous footnote.
4. [↑](#) For version 5.0, the default configuration for Agent Server has changed: HTTPS is enabled on 8445 by default, and HTTP is enabled on 8444 by default (this is for lab usage only without HTTPS). The default configuration template for Agent Server has changed to allow only HTTPS on 8445 (no unsecure HTTP).
5. [↑](#) The ports are not needed if nginx or other reverse proxy is deployed on server side. If internet access is not opened directly but requires outbound HTTP proxy configured in browser settings, some Agent Desktop Helper functionality, like customized alert sounds, may not be available.
6. [↑](#) The Agent Desktop Helper Application, which implements the SIP softphone function, will try to open this port automatically during installation. This attempt will normally succeed for the Windows native firewall. If a third-party firewall is used, this port may have to be opened manually.
7. [↑](#) The combination of the round-trip time of both call legs, as measured by ping utility, must be ideally under 300 ms (i.e., the delay becomes noticeable in conversation) and not more than 500 ms (i.e., the delay is unbearable, and parties keep talking on top of each other). Taking into account that in most of Bright Pattern's clusters PSTN trunks are less than a 60 ms round trip away from their servers, the round trip from agents to Bright Pattern's servers must be ideally under 240 ms and not more than 440 ms. If you are deploying your own carrier's trunks with Bright Pattern, take an effort to measure latency between the trunks and Bright Pattern's servers, then subtract it from the 300 to 500 ms figures above.
8. [↑](#) The Agent Desktop Helper Application periodically compares actual jitter and packet loss values with these thresholds. Whenever a threshold is exceeded, Agent Desktop displays the following text to the logged-in user: *A problem with voice quality is detected, please check your network connection.* The message is removed automatically when metric values go back to normal. The minimum duration of the message display is 5 seconds.
9. [↑](#) In general, Agent Desktop will work with any headset that is compatible with supported operating systems. However, neither analog (3.5 mm) nor wireless (Bluetooth) headsets can be recommended for a production contact center environment because of a higher probability of speech quality issues.
10. [↑](#) Starting from Bright Pattern Contact Center version 5.3.0, the Agent Desktop application with a logged-in user will prevent the computer from going into Sleep mode by the inactivity timeout. This feature does not affect the user's ability to put the computer in Sleep mode manually (e.g., via the Power menu option or by closing the laptop lid). The auto-logout prevention behavior is enabled by default and applies to all of your computers running Agent Desktop on both Windows and Mac OS. Your service provider can disable the auto-logout prevention behavior for your contact center.
11. [↑](#) Bright Pattern Contact Center software supports all Chromebooks with the [current auto-update policy](#); however, the Agent Desktop application might work on older machines. Some call center functions as well as web browsing may fail occasionally (e.g., calling is possible using the Samsung XE303-C12 version, but the Chrome web browser version on that device cannot be upgraded). We recommend testing devices you like

before deploying a particular Chromebook to agents.

Please note that it is not possible to install the [Agent Desktop Helper Application](#) on a Chromebook, therefore, the functions available via the Helper won't be available. These functions are:

- Screen monitoring (i.e., a user can monitor others, but they cannot be monitored)
- Screen recording
- The GUI popup for inbound interactions (i.e., outside of the web browser window)
- Client-side diagnostic logging (i.e., BPClient.log)
- Audio notifications through all audio devices (e.g., ringing on all devices)
- The [Simplified Desktop .NET API](#)
- Business user presence detection (i.e., system input activity tracking)
- The G.729 codec
- For Salesforce.com integrations, the CTI phone in Salesforce Classic

To handle calls with a Chromebook, use the [WebRTC](#) phone device option.

12. [↑](#) Bright Pattern Contact Center software up to version 5.3.16 supports the Ubuntu operating system versions from 18.04. Starting from version 5.5.0, we will begin supporting versions 18.04 to 19.10; however, we will stop supporting version 16.04. Screen recording and screen monitoring only works with the Xorg display manager; there is no support for Wayland display manager. If you plan to use this operating system, you may try it and contact Customer Success if you have further questions.
13. [↑](#) When running modern browsers, 4GB of RAM or more is recommended. We recommend performing testing with the actual applications in the course of agent workflow.

Variables

This section describes the variables that are used in Bright Pattern Contact Center [workflows](#) and [scenarios](#).

Variables are accessed using the common $$(varname)$ format. They can be used in [integer](#) and [string](#) expressions.

Common Variables

$$(user.id)$

$$(user.id)$ specifies the agent's ID if the workflow is started due to agent action.

$$(user.loginId)$

$$(user.loginId)$ specifies the agent's login ID if the workflow is started due to agent action.

$$(user.team)$

$$(user.team)$ is the name of the team to which the user is assigned.

$$(user.firstName)$

$$(user.firstName)$ specifies the agent's first name.

\$(user.lastName)

\$(user.lastName) specifies the agent's last name.

\$(item.caseId)

\$(item.caseId) specifies the case ID of the interaction, if available.

\$(item.caseNumber)

\$(item.caseNumber) specifies the case number of the interaction, if available.

\$(item.contactId)

\$(item.contactId) specifies the contact ID of the customer, if available.

\$(item.firstName)

\$(item.firstName) specifies the first name of the customer, if available.

\$(item.lastName)

\$(item.lastName) specifies the last name of the customer, if available.

\$(global_interaction_id)

\$(global_interaction_id) specifies the [Global interaction identifier](#). This variable is also known as *\$(item.globalInteractionId)*.

Note: This variable is available in scenarios.

For Voice

\$(LanguageAsked)

\$(LanguageAsked) specifies whether the customer asked for a specific language (e.g., "Yes").

\$(NPS_raw)

\$(NPS_raw) specifies the Net Promoter Score (NPS) value (e.g., "11").

\$(contact_satisfaction)

\$(contact_satisfaction) specifies the customer's contact satisfaction rating (e.g., "1").

\$(destination)

\$(destination) specifies the destination for the [Connect Call](#) block (e.g., "2042").

\$(first_call)

\$(first_call) specifies whether this voice interaction is the first placed call (e.g., "1").

\$(screenpopData)

\$(screenpopData) specifies the list of the screen pop data received or set by interactive voice response (IVR). An actual list of available screen pop data elements depends on the particular IVR and integration.

\$(item.ANI)

\$(item.ANI) specifies the Automatic Number Identification (ANI), a telephone company service providing a calling party with a number of the calling party. "ANI" is often used instead of "calling party number."

\$(item.DNIS)

\$(item.DNIS) specifies the Dialed Number Identification Service (DNIS), a telephone company service providing the called party with a number that was dialed by the calling party. "DNIS" is often used as a shorthand for "called party number."

\$(item.cnam)

\$(item.cnam) specifies the customer name.

\$(item.customerPhone)

\$(item.customerPhone) specifies the customer phone number. This variable enables passing customer phone information from scenarios of primary inbound and outbound customer calls to scenarios of the associated consultations and blind transfers.

- In scenarios launched for new incoming calls, its value matches the value of the *\$(item.from)* variable.
- In scenarios launched for new outgoing calls, its value matches the value of the *\$(item.to)* variable.
- In scenarios launched for consult calls and blind transfers, the value of the *\$(item.customerPhone)* is inherited from the scenarios of the associated primary calls.

\$(item.from)

\$(item.from) specifies the origination address (i.e., phone number or chat user display name). This variable is also known as *ANI*.

\$(item.interactionId)

\$(item.interactionId) specifies the interaction identifier.

\$(item.media)

\$(item.media) specifies the media type (e.g., "voice").

\$(outbound_data)

\$(outbound_data) contains data from calling lists and is available if the workflow is triggered from outbound campaign.

