



WHITE
PAPER

The Increasing Importance of Accuracy and Speed in Detecting Outbound Call Responses

**Avaya Proactive Contact
continues to lead the way with
Enhanced Call Progress Analysis**

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In today's fast-paced, competitive, consumer driven world, more and more businesses struggle with the fact that they aren't reaching live customers with enough frequency or consistency. Proactive outbound communications strategies help contact center managers leverage their investments by making their employees as productive as they can be. This paper describes how to quantify the speed and accuracy of outbound dialing, and examines the results of third-party tests. We will discuss the Return on Investment (ROI) and regulatory implications of speed and accuracy, and describe the Enhanced Call Progress Analysis technology provided in Avaya Proactive Contact, which was designed specifically to improve agent productivity, while still enabling businesses to comply with increasingly strict regulations.

Consumers have spoken loud and clear: Call abandonment (dead air) is a nuisance that they will not tolerate. When used generically, a dialer can reach far more contacts than can actually be connected to available agents. The resulting abandoned calls, or dead air, customers experience when they answer their telephones, are a consequence that many countries have moved to remedy by imposing stiff penalties for exceeding specified limits.

Five years ago, the U.S. Federal Trade Commission responded with regulations limiting the number of abandoned calls. In the following year the U.K. Office of Communications ("Ofcom") enacted similar rules against silent calls, and other countries are following suit. This means businesses are under pressure from two opposite directions: On one hand they must have an outbound communications strategy in place that enables them to reach more live customers, and on the other they are being forced to meet more and more stringent regulations.

The reality is that outbound dialing is increasingly important to a contact center's success. No customer relationship strategy would be effective without the ability to proactively reach out to customers and prospects. Now, regulations and competition have increased the importance of speed and accuracy in detecting a live connect, while maintaining strict abandonment targets. A good, proactive, intelligent outbound communications solution increases the amount of time agents can spend speaking with live contacts, and reduces the time they spend waiting to reach a prospective customer. When done the wrong way, however, it can increase costs and damage customer relationships.

Section 1: What Is Call Progress Analysis?

When a person places a call, it meets with a response intended for human ears. An outbound call placed by a predictive dialing system meets with the same set of responses. How does an automated system know the difference between a live contact and voice mail?

A common technique known as "call progress analysis" (CPA) analyzes all available information – including the frequency and energy of the audio signal, and information from the telephone network – to interpret the response it receives. The ultimate test is how quickly and accurately CPA can differentiate a human "Hello" from an answering machine "Hello" and take the appropriate next step.

Section 2: Why Is Call Progress Analysis Important?

Call Progress Analysis reduces the possibility that the system will be fooled by good voice mail recordings or answering machines. This is important, as answering machine use is prevalent in the United States and Canada especially. Typical calling campaigns to residences reach an answering machine up to 80% of the time, depending on the time of day.

Lost agent time

Let's take a look at the benefit of automatically screening answering machines in a contact center that places 120,000 calls per day. (Details are shown in Table 1.)

Table 1: Calls Placed Per Day in Hypothetical Case

Calls placed per day	100%	120,000
Live voice connect	30%	36,000
Answering machines	60%	72,000
Busy, No Answer, SIT	10%	12,000

In this hypothetical case we will assume conservatively that the handling time for each answering machine passed on to the agent is 30 seconds. These 72,000 instances represent 36,000 minutes, or 600 hours of lost agent time per day. At 312 calling days per year, that's 187,200 hours of agent time annually.

Let's assume, for the moment, that no screening takes place. At \$10 per agent hour, this contact center would spend over \$1.8 million per year on handling calls answered by an answering machine. Reducing these unnecessary costs was the original driver behind CPA.

The effectiveness of answering machine screening varies widely among dialer vendors. Most non-Avaya outbound calling systems detect an average of only 85% of the answering machines. The remaining 15% – the undetected answering machines – cost this imaginary contact center more than \$280,000 in lost agent time per year. But the wasted time handling answering machines is only part of the cost of poor screening.

Opportunity cost

Instead of being connected to answering machines, those agents could be doing valuable work, talking with live customers, collecting payments and/or generating revenue. This time spent interacting with answering machines has a quantifiable cost.

Consider another example: A contact center engaged in a sales campaign has 50 agents making outbound calls. According to Erlang C calculations, averaging 4 minute calls they can complete 2,500 daily connects. Assuming each sale generates \$250 in revenue, and there is a 10% conversion rate, every percentage increase in voice detection accuracy drives an additional \$228,000 annually in increased revenues. Thus, a 5% increase in voice detection accuracy would result in over \$1.1 million in additional contact center revenue per year!

Compliance and the nuisance call

Dialers are designed to initiate calls before agents are available to handle them, with the intention of having each new connection coincide with the end of a previous call. In striving for full agent utilization, outbound campaigns can sometimes get ahead of agent availability. The impact is an excess of call connections without agents to handle them, a situation that violates regulations in the United States, throughout Europe, and around the world, that limit nuisance calls.

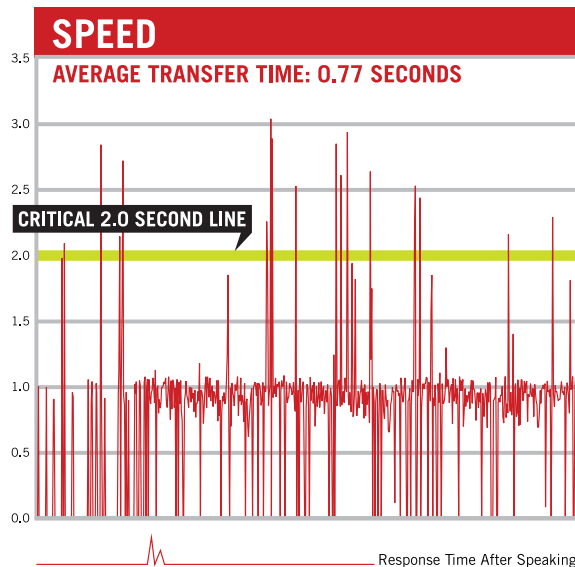
Regulations in many countries set limits on the number of calls that do not have a live agent on the line within two seconds of a live answer. Violating the limits can be quite costly, amounting to thousands of dollars per call in fines posed by the regulatory agencies that monitor complaints and ensure compliance.

Section 3: Why Is Avaya Enhanced Call Progress Analysis Better?

It is a delicate balancing act to optimize agent productivity while complying with increasingly strict regulations. Contact center managers might be timid about opening the throttle on an outbound campaign, for fear of generating excess nuisance calls and incurring fines.

Figure 1: Proactive Contact Performance in the IQ Services Outbound Dialer StressTest™

Independent testing (see sidebar) measured the time required for Proactive Contact to transfer a live connect to an agent on 685 calls. In 98% of the live connects, Proactive Contact transferred the call to an agent in under two seconds, the critical limit established by law. The average transfer time was well under one second.



Speed of connection on a live contact – in one second or less – is the formula for maximizing campaign results. The faster an agent is connected to each live contact, the more productive and compliant the outbound campaign will be. The Enhanced Call Progress Analysis (ECPA) in Avaya Proactive Contact gives your contact center the most accurate and effective voice detection of any high-performance outbound calling system in the industry.

Proactive Contact applies the best technology to make answering machine screening as accurate as possible. Extensive independent testing has shown that the ECPA accuracy of Proactive Contact exceeds 98%.

Section 4: How significant is the detection difference between the average 85% and Avaya's 98.9%?

The superior ECPA accuracy provided by Avaya Proactive Contact can result in impressive, tangible cost savings in the contact center. In the 50 seat contact center example cited previously, every percentage increase in voice detection accuracy drives an additional \$228,000 annually in increased revenues. The improvement of 13 percentage points in accuracy provided by Avaya's Enhanced Call Progress Analysis, as outlined in the test results, thus enables an additional \$2.9 million in additional annual revenue. That's a significant, positive impact to the bottom line!

Conversely, if just 3% of the live connects in the example were to go unidentified for over two seconds, or were misidentified as non-live connects, the fines could amount to \$8.1 million. The potential cost of fines, far outweighing the other costs of inaccuracy, intensifies the importance of accuracy and speed in call detection.

About the IQ Services Outbound Dialer StressTest™

IQ Services is an industry leader in load testing and availability monitoring for contact center and communication systems. Since 1996, IQ Services has subjected hundreds of systems to high-volume, real-world traffic to assess whether the systems perform as expected. IQ Services developed the Outbound Dialer StressTest™ to verify the operation of outbound dialing systems. During the test, a vendor launches outbound calls from their predictive dialers. IQ Services captures data at each step of every call. Three critical pieces of information – recordings, response times, and results of every call – give the vendor accurate and detailed information about the performance of their system.

IQ Services test results: Avaya Proactive Contact is fast, as well as accurate.

The independent testing company IQ Services Inc. subjected Avaya Proactive Contact to a test. In the test, Proactive Contact placed 1,178 calls to 312 phone numbers. IQ Services configured each phone number for an undisclosed response – live answer, no answer, various voice mail systems, answering machines, and busy.

With ECPA enabled, Proactive Contact scored an overall accuracy of 98.9%. (Detailed results of this test are shown in Table 2.)

Table 2: ECPA Test Results

Activity	Total Calls	% of total calls	Number analyzed correctly	Correct categorization
Total Calls	1178	100%	1165	98.9%
Answered Calls	685	58%	684	99.9%
AMS & Voicemail	350	30%	330	94.3%
Ring No Answer	35	3%	35	100%
Busy	108	9%	108	100%

Just as important as screening is the ability to quickly detect a “hello” spoken by a live contact. IQ Services measured the time required for Proactive Contact to transfer a live connect to an agent. In 98% of the live connects, Proactive Contact transferred the call to an agent in under two seconds. (See Figure 1)

Note: Actual results will depend on factors such as the quality of the voice announcement recording coming from the telephone network, the type of Central Office telephone switch, the digital or analog transmission quality, and certain characteristics of call progress tones coming from the telephone network.

Interpreting ECPA test results

Proactive Contact’s speed of detecting and transferring a live contact helps to optimize agent utilization while preventing nuisance calls.

The combination of accurate categorization of all call types with rapid detection of the spoken “hello” while screening answering machines is a key differentiator of Avaya’s Proactive Contact solution.

IQ Services’ rigorous tests demonstrate Proactive Contact’s overall call detection accuracy, as well as Proactive Contact’s ability to transfer calls quickly to live agents

Section 5: How Do Call Progress Analysis (CPA) and Enhanced Call Progress Analysis (ECPA) Work?

CPA is a common process in dialers, determining how an outbound call is answered. CPA is designed to distinguish between various possible responses to a call placement. A dialer must categorize each call quickly and accurately.

Seven possible responses to an outbound call

Each of seven possible signals is intended for a human ear to hear and interpret. The telephone was originally designed for people, not computers. Dialers attempt to recognize a live voice connect (and avoid being hoodwinked by an answering machine) by interpreting these signals.

- 1. Ring No Answer** – The phone keeps ringing and no one answers. The Ring No Answer condition is user-defined in Proactive Contact. Users specify the number of ring cycles the system listens for, before hanging up.
- 2. Busy signal** – The busy signal tells you that someone is talking on the phone, or the phone line is occupied (perhaps in use by a modem) at the other end of the line.
- 3. Operator intercept** – This condition can occur for a variety of reasons – e.g., the number has been disconnected, or misdialed, or all circuits are busy – but the meaning is consistent: the call did not go through.
- 4. Special Information Tones** – A series of tones followed by a recorded message is technically an Operator Intercept, but the tones are known as Special Information Tones (SIT). Call progress analysis can readily recognize the tone frequency and duration.
- 5. Voice mail or answering machine** – Known collectively as an AutoVoice condition, this is a familiar response: An automated voice answers the line with no Special Information Tones.
- 6. Fax or modem** – When the phone is answered with a continuous tone, a fax machine or a computer modem has answered the phone.
- 7. Live connect** – The called party (a human) has answered the phone.

The heart of Proactive Contact's ECPA technology is advanced signal processing software. Its techniques are based on extensive field experience in accurately analyzing line signals. Powerful digital signal processing chips enable Proactive Contact to determine the outcome of each call with superior accuracy and speed.

Based upon the results of the ECPA analysis of a call, the line can be connected to an agent or any other appropriate handling method, such as voice self service. A sophisticated, supervisor-determined call strategy can define how Proactive Contact responds in certain situations. In addition to connecting calls to live agents, for example – Proactive Contact can connect the call to a voice self service application for an automated appointment reminder, or to provide customers with choices for cancelling or rescheduling for a more convenient time. Completion codes identifying the call type are recorded with the call data record for future reference.

The ECPA technology used today in Proactive Contact provides differentiated scalability for Avaya customers. This advanced technology allows Proactive Contact to process more simultaneous telephony channels with higher reliability than others – and is approximately 500 times more powerful than the technology used in earlier products. In addition, Proactive Contact is switch agnostic, allowing businesses maximum flexibility, and enabling them to leverage existing investments and resources.

Section 6: Summary

Avaya Proactive Contact is the most efficient outbound communications solution. Tests performed by IQ Services demonstrated that Proactive Contact with Enhanced Call Progress Analysis (ECPA) delivers the industry's highest accuracy rate – 98.9% overall – and fastest transfer speeds, for outbound communications and campaigns that are efficient, effective and compliant.

Avaya Proactive Contact provides a suite of hardware and software that enables intelligent, proactive management of customer relationships. Whether a business requires inbound, outbound or blended communications, it provides robust, proven and secure technology to meet the toughest demands. As discussed in this paper, Avaya Proactive Contact offers the highest efficiency call detection capability in the industry, thus providing the maximum number of live customer connects. A superior call pacing algorithm ensures the automatic control of service levels, which increases agent productivity and results in significantly higher ROI. More conversations with customers mean more business. It's as simple as that.

For more information on how Avaya can make your business more proactive and more productive, contact your Avaya Client Executive or Authorized Avaya BusinessPartner, or visit us at www.avaya.com

About Avaya

Avaya delivers Intelligent Communications solutions that help companies transform their businesses to achieve market-place advantage. More than 1 million businesses worldwide, including more than 90 percent of the FORTUNE 500®, use Avaya solutions for IP Telephony,

Unified Communications, Contact Centers and Communications Enabled Business Processes. Avaya Global Services provides comprehensive service and support for companies, small to large. For more information visit the Avaya Web site: <http://www.avaya.com>.

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