Authenticated SMS

A*SMS

Enhancing SMS Legitimacy at Scale

June 25, 2019

Phil Gordon
Founder and CEO
Chatbox.com

ABSTRACT

Chatbox offers a patent-pending method for the definitive authentication of ownership of SMS and voice phone numbers. An SMS keyword, ID, is introduced. Consumers that send the "ID" text message to an authenticated phone number receive a link and authentication code that can be used to definitively prove ownership and authenticity of the text messages and voice calls to and from the given phone number.

SCAMS, SPAM, SPOOFING, and IMPERSONATION via SMS

Businesses and political campaigns are increasingly relying on SMS messaging for critical communication with customers and constituents. Businesses use SMS for sales, service, marketing, simple notification, and two-way conversation. Political campaigns use SMS to drive awareness, donations, and get out the vote.

As SMS has increasingly become a channel of choice for these use cases, hackers and bad actors have taken notice. SMS is a viable attack vector. The U.S. Federal Trade Commission calls SMS attacks a "Triple Threat." There is even a moniker for these attacks – Smishing [1]– a clever combination of the phrases "SMS" and "Phishing" (soliciting private information via electronic means)*.

Here are some recent examples:

- In the 2018 Texas Senatorial campaign, bad actors infiltrated the Beto O'Rourke campaign and used their access to SMS records and texting apps to spread damaging misinformation to voters via SMS.

- In early 2019, mobile phone users in Australia received spoofed SMS messages from Apple trying to get users to click on a link (presumably which would be used to try to defraud customers).

- A Knoxville, Tennessee cancer survivor was "smished" into sending $500 by scammers touting a government insurance benefit.

It is not hard for a criminal or bad actor to set up an SMS channel and start spoofing. In five minutes, an attacker can set up an account on any number of SMS developer tools. Provisioning a few phone numbers and

---

[1] Smishing credited to McAfee blog post, 2006

anonymously text messaging anyone they choose while impersonating any entity is now possible by almost anyone with the time and inclination. Leading SMS providers even tout simple tutorials that outline the process.

| Impersonation for Fraud	Voter Suppression	SMiShing
Hi, Carol. I found this amazing government program where you can get $50k for your recent medical bills refunded. Our friend Debbie did it and it worked. The application costs just $500 and so far 100% of applicants have been approved. Do you want more information? It really is an amazing program. You should try it.	Hello, this the Jack Smith campaign for Governor. I just want to let you know that due to a terrorist threat, polling stations near your house will be closed on Tuesday but will be open on Wednesday.	Hello. This is Apple Computer. Your account has been compromised. Please verify the email address associated with your account.

Examples of Fraudulent SMS

Carriers (ATT, Verizon, T-Mobile) attempt content-filtering for bad actors. They have even introduced AI and machine learning techniques to help combat unsavory messages. Despite these efforts, individuals receiving text messages from an unknown number have no recourse but to "guess" as to whether the message is from a legitimate source or if the message is spammy or scammy. Many fall prey. Worse, due to the publicity surrounding these types of attacks, consumers may become wary of interacting with legitimate businesses and campaigns via text.

INTRODUCING AUTHENTICATED SMS (A*SMS)

To attempt to address this problem, Chatbox has developed a patent-pending solution called Authenticated SMS (A*SMS) – a simple way for recipients of SMS messages and voice calls to definitively verify the originating source.

For phone numbers that have enabled this technology, any consumer receiving an inbound text from that number can text the keyword **ID** to verify the message originating source. For A*SMS-enabled phone numbers, any consumer texting the keyword **ID** will immediately be sent an automated message verifying the source of the message, a link to the sender's website, and an unhackable authentication code that can be entered on the sender's website.
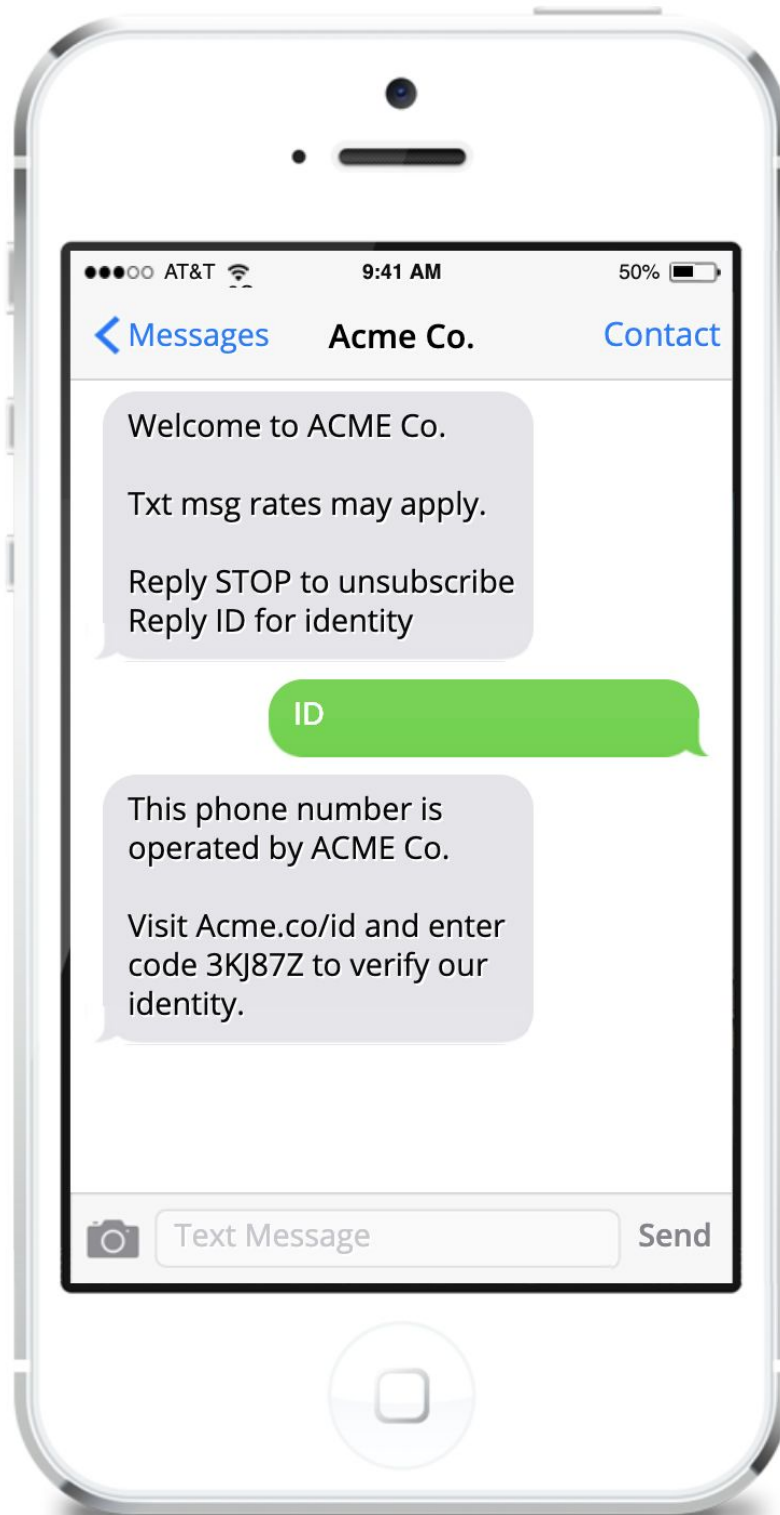
Example Use of Authenticated SMS

After navigating to the website provided (often a direct extension of the main brand's website such as mycompany.com/id) and entering the code provided, the individual will see confirmation that the SMS came from the business or political campaign:

- The business or entity name
- The outgoing phone number the SMS was sent from
- The individual's phone number
- The timestamp (to the second) that the last text message was sent on that SMS number

Source Information:	VERIFIED ✔
Verified Owner:	XYZ Corp
Outgoing Phone Number:	+1 (206) 397-1625
Customer Number:	+1 (310) 365-XXXX
Last Message Sent:	3:32:00 PM

This will provide the consumer with comfort that the business or political campaign owns the number and purposefully contacted the individual on the given phone number. Consumers can now transact and interact via A*SMS or voice with higher confidence.

SUGGESTED BEST PRACTICES

Chatbox suggests these best practices for SMS-based communication:

- Select a vendor and/or message network operator that offers A*SMS.
- Implement A*SMS on all phone numbers for your business or campaign.

- Modify your first message to include instructions such as "Reply **ID** to verify our identity."
- If a customer questions the authenticity or origin of your messages, simply reply and tell them about the **ID** keyword.

DEMO

To see the power and ease of A*SMS, text **A*SMS** to 206-397-1625. You will immediately receive a welcome message augmented with instructions for the ID keyword. Reply **ID** to that message to receive the automated A*SMS message containing the website link and six-character authentication code. Visit the Chatbox website (chatbox.com/id) and enter the code. The timestamp will correspond to the last text message sent to your phone.

NEXT STEPS

The Chatbox platform facilitates the setup and operation of A*SMS in under five minutes. If you are interested in protecting your customers and constituents with A*SMS, please email sales@chatbox.com or text SALES to 206-397-1625.

CHATBOX

The Enterprise Texting Platform