

A SMART PHONE CONFIGURATION FOR AVOIDING ROBOCALLS

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ROBOCALLS ARE A PERVASIVE PROBLEM

- The estimated robocall volume in March 2019 was **5.2 billion**, also expressed as 5,200,000,000 or $5.2 * 10^9$.
- This was reported by the Washington Post in April 2019.
- March included 2.6 million seconds, so **the robocall rate per second** was about **2,000**.

ROBOCALLS ARE A PERVASIVE PROBLEM

The FBI produces an annual Internet Crime Report.

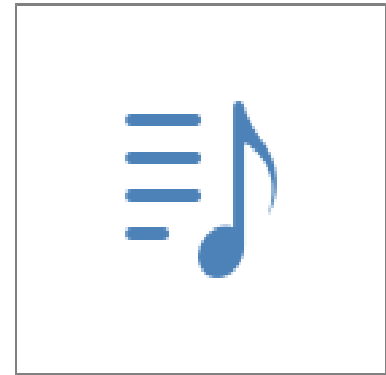
CNN.com reported on 10/27/2019 that, according to the Internet Crime Report for calendar year 2018:

- 26,379 people reported falling for **phishing**, meaning attempts to convince you (falsely) that the caller has a legit need for your SSN, DOB, account ID and password, et cetera.
- Those people lost nearly **\$50 million** to phishing, about \$1,900 on average per person.
- Losses can include stolen IRS refunds, unauthorized withdrawals from your bank accounts and stock brokerage accounts, et cetera.

EXAMPLES OF ROBOCALLS

EXAMPLE #1

Received July 2019, from Caller ID Unknown Caller



Transcript:

This recorded message is to notify you that we have got an order to suspend your Social on immediate basis because your Social has been found suspicious for further legal activities.

It is very time sensitive and urgent that I do hear back from you before we proceed further with suspension of your Social and assets.

Please press 1 to speak to the Officer; I repeat, speak to the Officer right away. Thank you.

EXAMPLE #2

Received mid-March 2020, from Caller ID Dominion Power

Transcript:

Press 2.

Your satisfaction is very important to us.

So please avoid being disconnected.

Thank you for choosing our service.

Have a wonderful rest of your day. Good bye.



PAST METHODS TO COMBAT ROBOCALLS

What is Telezapper?



Telezapper was a 1990s commercial product for landlines, intended to prevent robocallers from disrupting your day or evening.

For every incoming call, it played the famous **3 tones** indicating that your line is disconnected.

Back when my home landline was called by scammers every night at dinnertime, I activated the product at dinnertime.



What is DoNotCall.gov?

This web site, created by the Federal Trade Commission (FTC), allows US consumers to identify themselves and their phone numbers. If you choose to do that, then any **cold call**, from a business having no prior business relationship with the call recipient, subjects the cold caller to a fine of \$11,000 *per call*.

It relied on the call recipient to use Caller ID or the return number stated by the caller on an answering machine.

It worked for a few years.

**Why the past methods
do not work anymore**

Robocallers now evade DoNotCall.gov and other US law enforcement

Three evasion methods:

1. **Offshore locations**, outside of US jurisdiction
2. **Spoofing**, which is sending an incorrect caller ID
3. Entering the phone network through **Voice over IP** (the Internet)

What is Spoofing?

Spoofing is a technique that robocallers use to remain anonymous and untraceable. So The FTC cannot find them.

The result is the phone number displayed by Caller ID is ***not the number from which the robocaller system actually dials.***

This capability is built into the telephone company switching system servers. It had a benign business purpose when introduced in the 1960s.

But it also has no security. Anyone with sufficient info, including you, can use that switching system server feature.

Some of the spoofed numbers are actual real phone number belonging to others.

Web sites enable *anyone* to spoof their own Caller ID

The image shows a screenshot of the SPOOFTEL website. At the top left, the logo reads "SPOOFTEL" in white and orange, with the tagline "THE WORLD'S LEADER IN CALLER ID SPOOFING" below it. To the right of the logo is a login form with fields for "username" and "password", a "go" button, and a "forgot password" link. Below the login form is a navigation menu with links for "Free Call", "Rates", "FAQ", "Apps", "Developers", "Contact", and "Sign Up". The main content area features a large image of a baby with a black mustache and a blacked-out face, holding a rotary phone. To the left of the baby, the text "CALLER ID SPOOFING" is displayed in large, bold, black letters, with "JUST GOT WAY EASY." underneath. Below this text are six red circular icons labeled "phone", "fax", "sms", "sound boards", "voice change", and "record". At the bottom of the page, a dark blue footer contains a left-pointing arrow, the text "Caller ID Spoofing", a "sign up" button with a right-pointing arrow, and a right-pointing arrow.

SMART PHONE CONFIGURATION

How I came across this smart phone config

- **Paul Brandus, a Marketwatch.com columnist**, asked his readers to send in their own personal fixes for robocalls. Then he published the most interesting reader responses in September 2019.
- Some were humorous; some were useful.
- **One struck me as practical and expense-free**, similar to a technique used by robocall blocking apps YouMail and Nomorobo.
- Brandus did not publish instructions for the technique.
- **I have figured out how to do the practical fix on both my Android phone and my iPhone.** I have not tested it on my corporate iPhone.

Summary of the configuration

- Set your smart phone to **Do Not Disturb** mode
- Your smart phone allows you to specify *exceptions* for Do Not Disturb
- **Set this exception: Contacts**, meaning everyone in your smart phone Contacts list. Those calls will ring your phone.
- All other calls *do not ring your phone, but go to your voicemail*. You can listen and respond if the caller leaves a legitimate voicemail.

Summary of the configuration

- Your smart phone Settings app has a **Do Not Disturb On/Off Switch**, so you can turn off Do Not Disturb easily when you need to do so. A typical reason to do so is when you expect a call from a business or individual who is not in your Contacts.
- Your smart phone allows you to **set a *Schedule*** for Do Not Disturb. I set start 10:00 PM and end 9:59 PM, effectively 24/7.
- The **advantage of a schedule** is:
If you do turn off Do Not Disturb manually, using the switch, and forget to turn it on later, then your smart phone will turn on Do Not Disturb ***automatically at the next start time.***

Summary of the configuration

- This is a **Pure Whitelist** type of fix. That means your phone will ring *only* for calls from numbers in your Contacts.
- Think of the entire range of possible callers as falling into three groups: **Contacts, Unwanted robocalls, and other calls.**
- A **Pure Blacklist** type of fix would exclude known robocall numbers, but allow unknown robocalls and other calls. ***No blacklist is complete.*** I used this approach for about six months via the Verizon Call Filter app. It blocked maybe 75% of the robocalls.

Limits of the Pure Whitelist

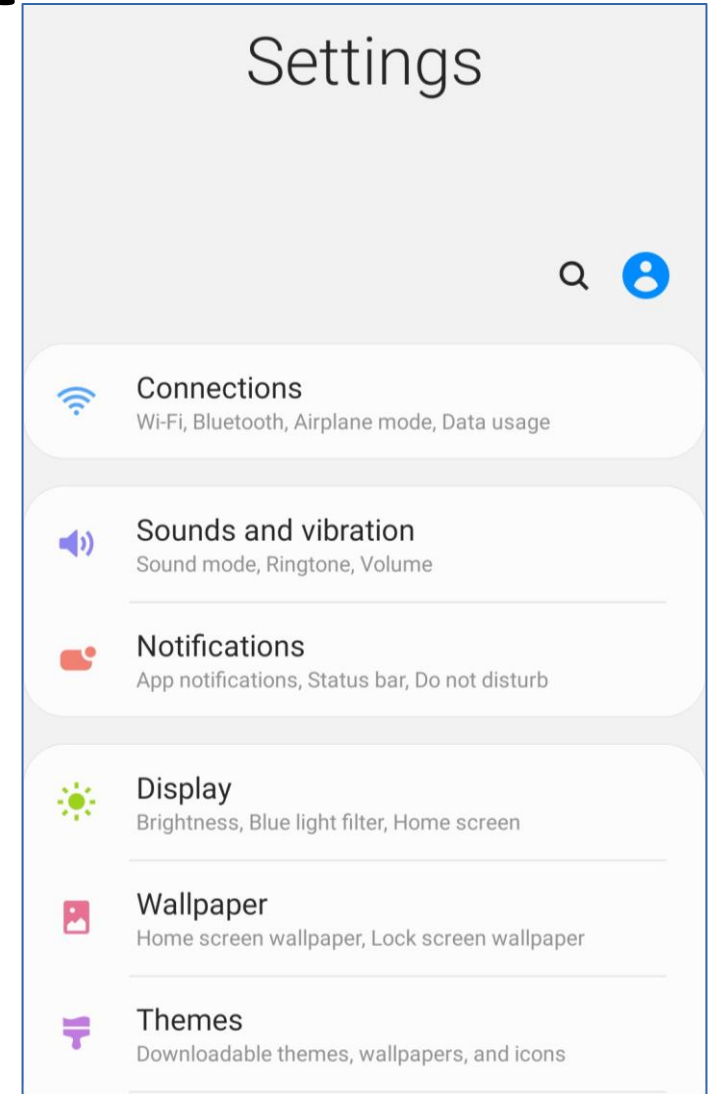
config

- One reader reported that he got a robocall and the Caller ID was his *own phone number*. This also happened to my daughter.
- This is an extreme example of spoofing.
- Since I have my own phone number in Contacts, such a spoofed call would ring my phone. **It is of course easily recognized as a lame spoofed caller ID.**
- I took a cat to the vet, and I was supposed to wait for the vet to call when done.
- I remembered an hour later that I did not have the vet in my Contacts list. I turned off Do No Disturb so the vet call would ring my phone.

Configuration for Android phones

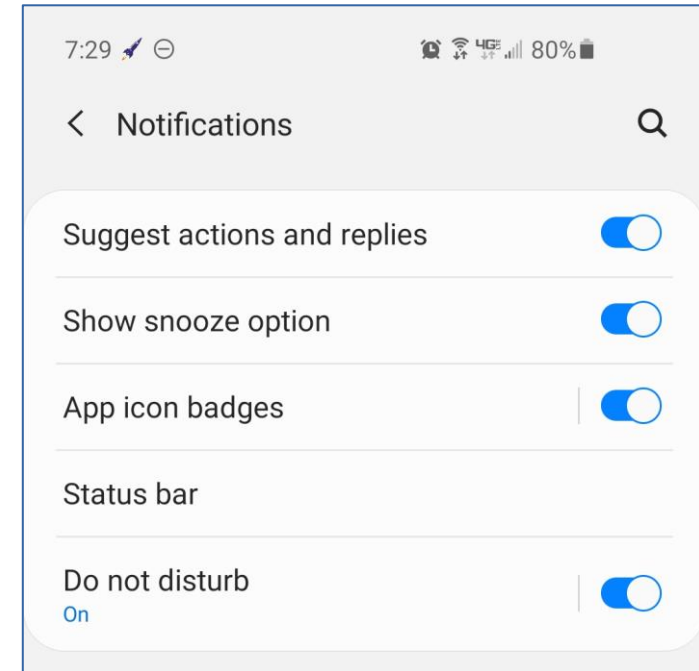
The Android 10 technique

- Open the Settings app
- Tap **Notifications**. The Notifications screen opens.



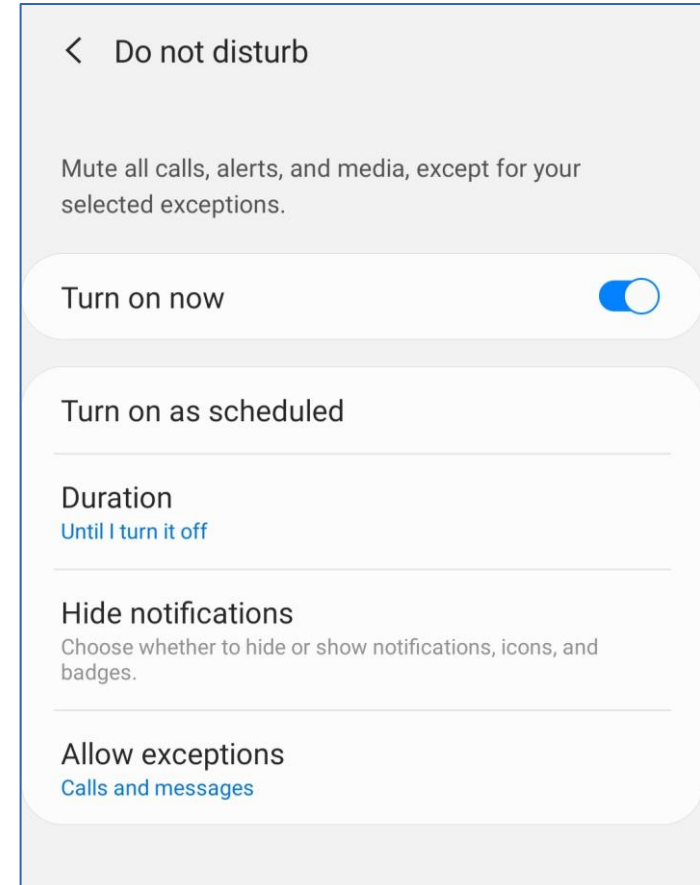
The Android 10 technique

- On the Notifications screen, scroll down to **Do Not Disturb**, and tap that item. *Do not tap the switch!*
- The Do Not Disturb screen appears.



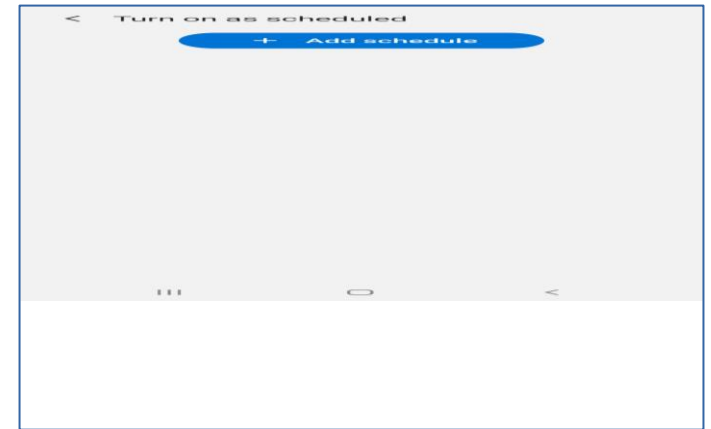
The Android 10 technique

- In the Do Not Disturb screen, tap the label **Turn On As Scheduled.**



The Android 10 technique

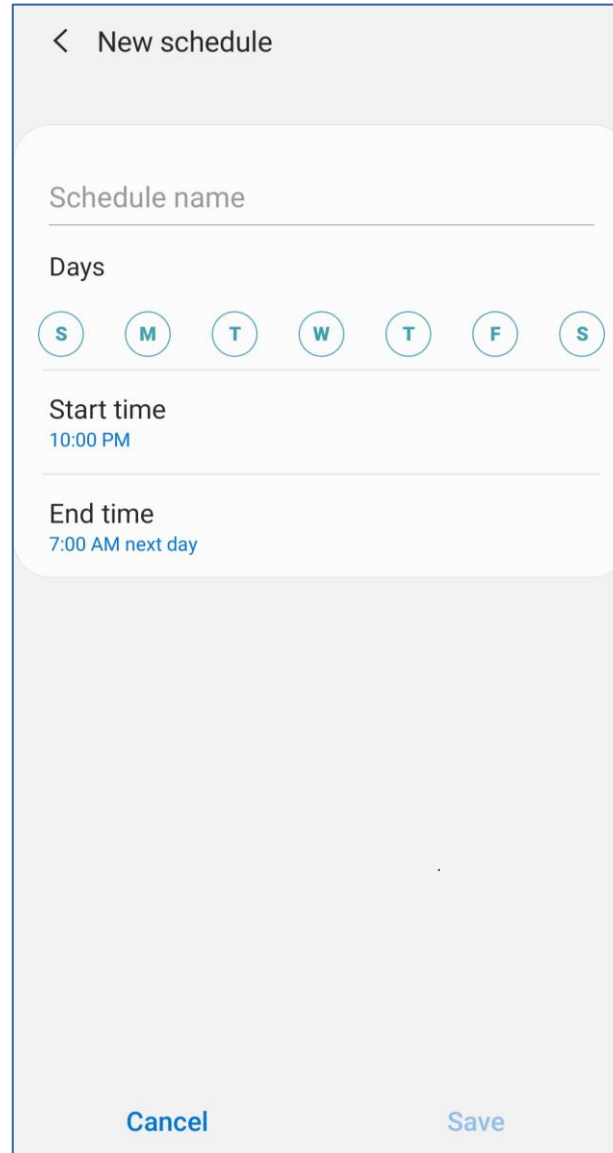
- This is **new in Android 10**: the ability to create *multiple schedules* for automatically activating Do Not Disturb.
- Tap the Add Schedule button to create a schedule.
- The New Schedule screen opens.



The Android 10 technique

In the New Schedule screen, you can type a Schedule Name, select days of the week, and specify a start and end time for each day. Default start and end times are given. Tap on the End time and change it to 9:59 PM.

At the bottom of the screen, tap the Save button.



< New schedule

Schedule name

Days

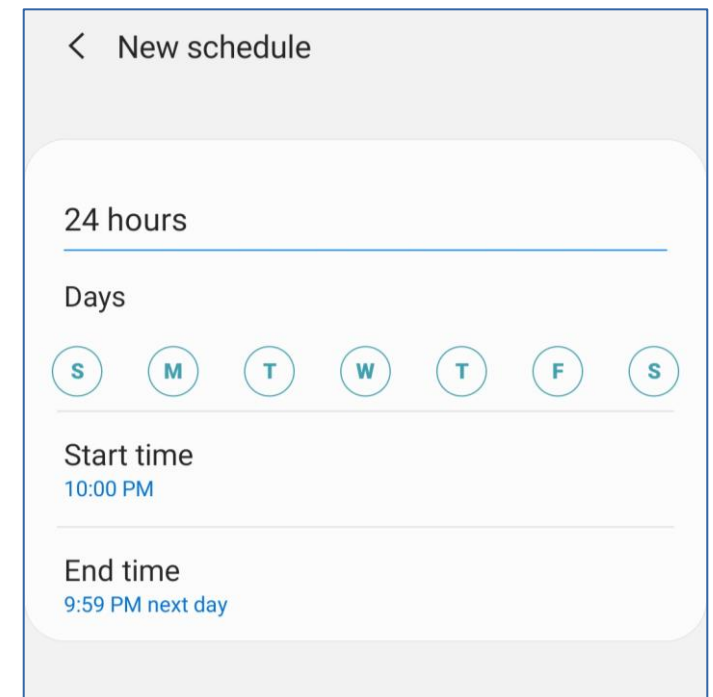
S M T W T F S

Start time
10:00 PM

End time
7:00 AM next day

Cancel Save

An example of a completed schedule



< New schedule

24 hours

Days

S M T W T F S

Start time
10:00 PM

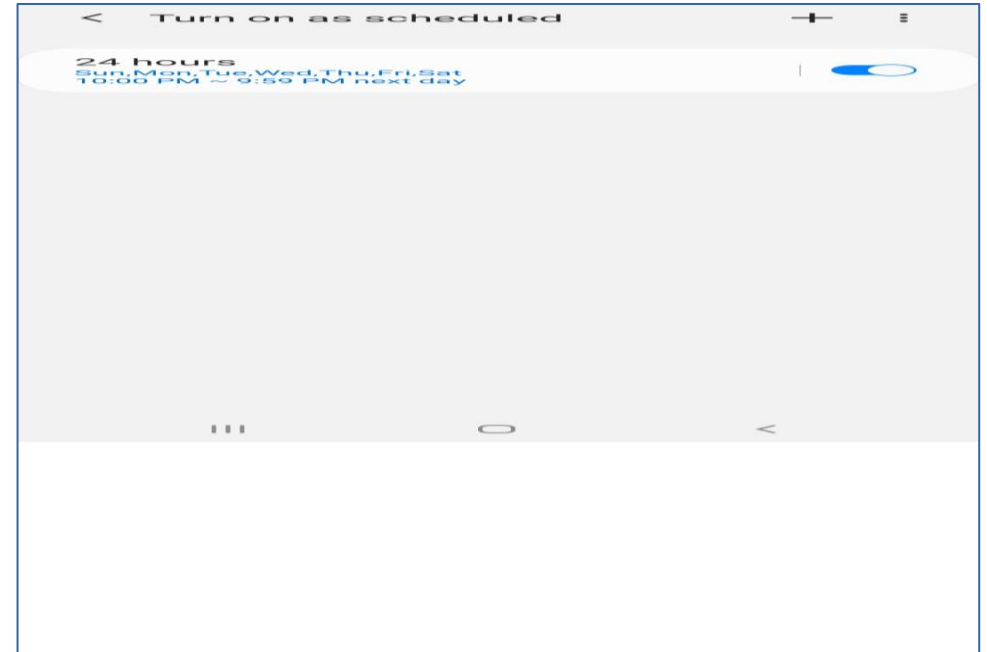
End time
9:59 PM next day

The Android 10 technique

After you Save your schedule, the Turn On As Scheduled screen looks like this.

If your schedule is not correct, then you can tap it to edit it, and then save it again.

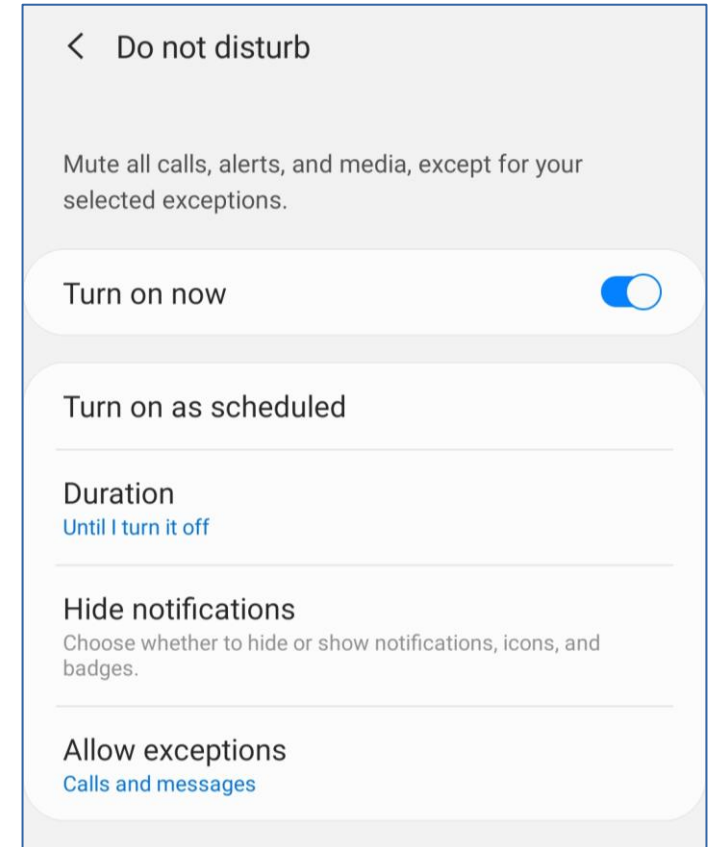
When your schedule is correct, tap the left arrow at the top left of the screen, to return to the Do Not Disturb screen.



The Android 10 technique

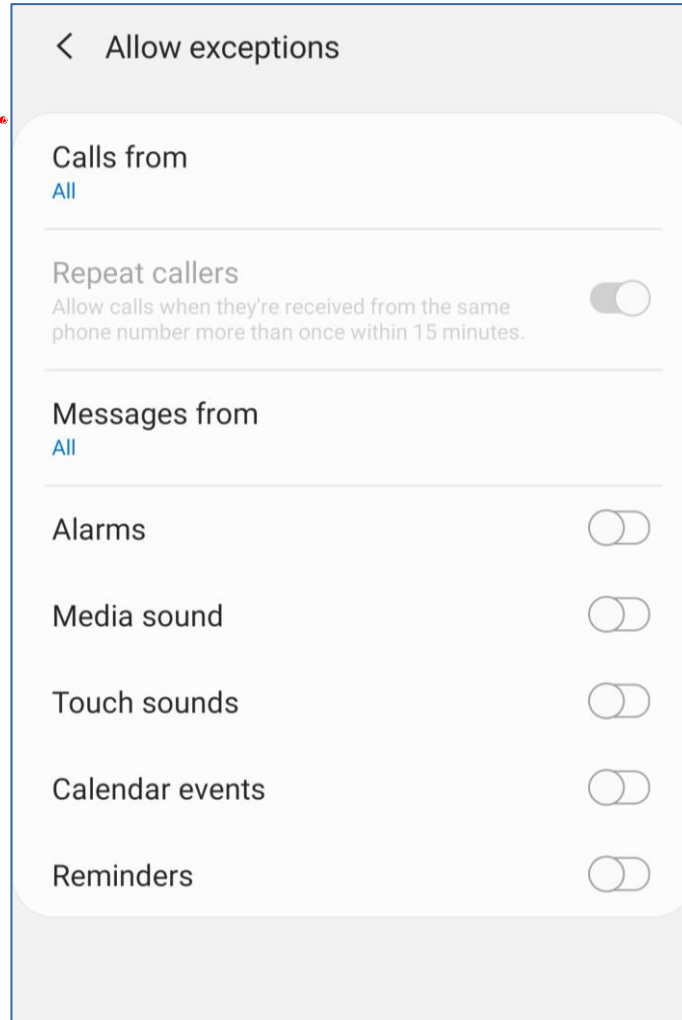
Back in the Do Not Disturb screen,
tap on **Allow Exceptions**.

The Allow Exceptions screen opens.



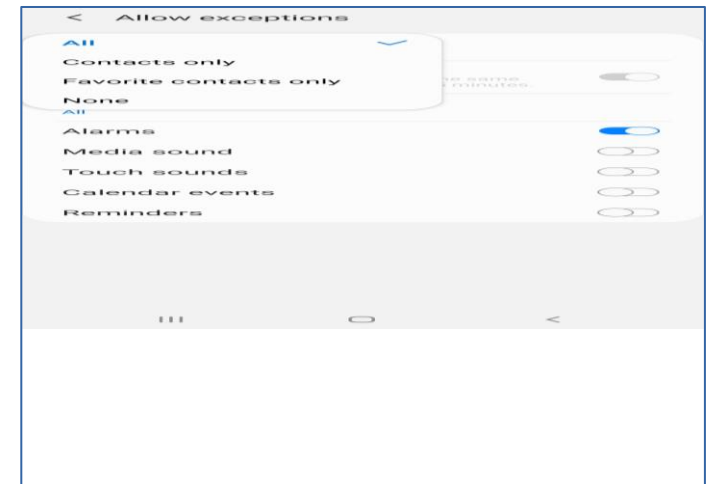
The Android 10 technique

In the Allow Exceptions screen, tap on Calls from.



A pop-up menu appears.

In the menu, select Contacts Only.



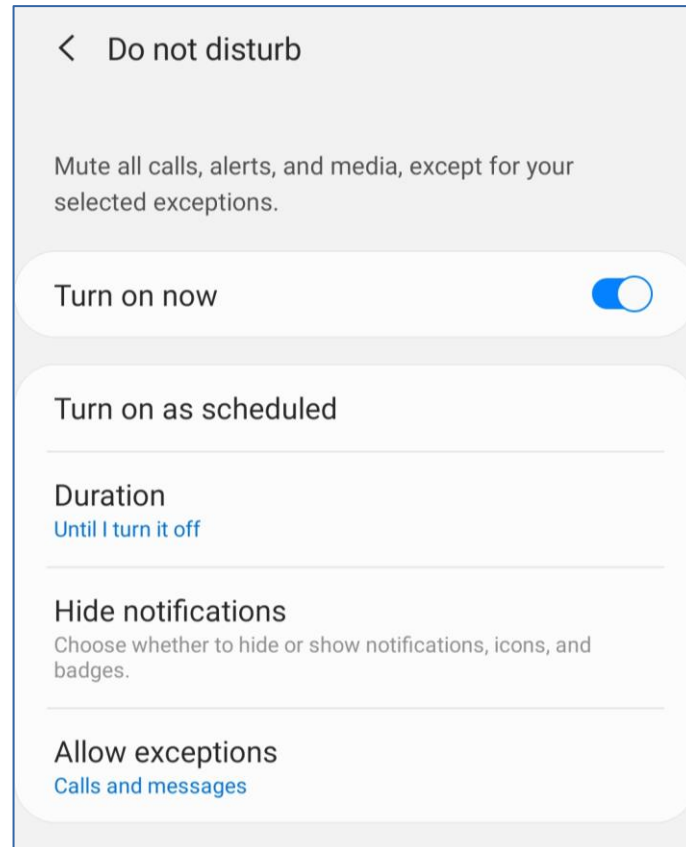
I thought that was enough, but ...

- While my son and I were shopping (separately) at Wegman's, which is a big store, my son called me.
- My phone screen was off and the phone was in my pocket.
- **The phone rang but the screen stayed dark!** I saw no buttons to tap to accept or ignore the call!

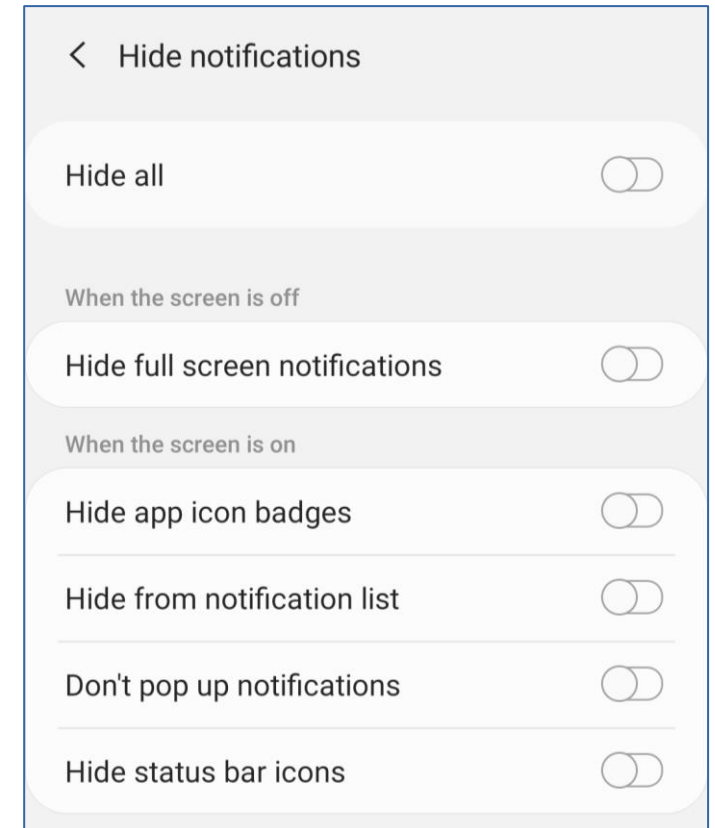
The Android 10 technique

In the Do Not Disturb screen,
tap on **Hide Notifications**.

The Hide Notifications
screen appears.



In the Hide Notifications
screen, ***turn off every
switch.***



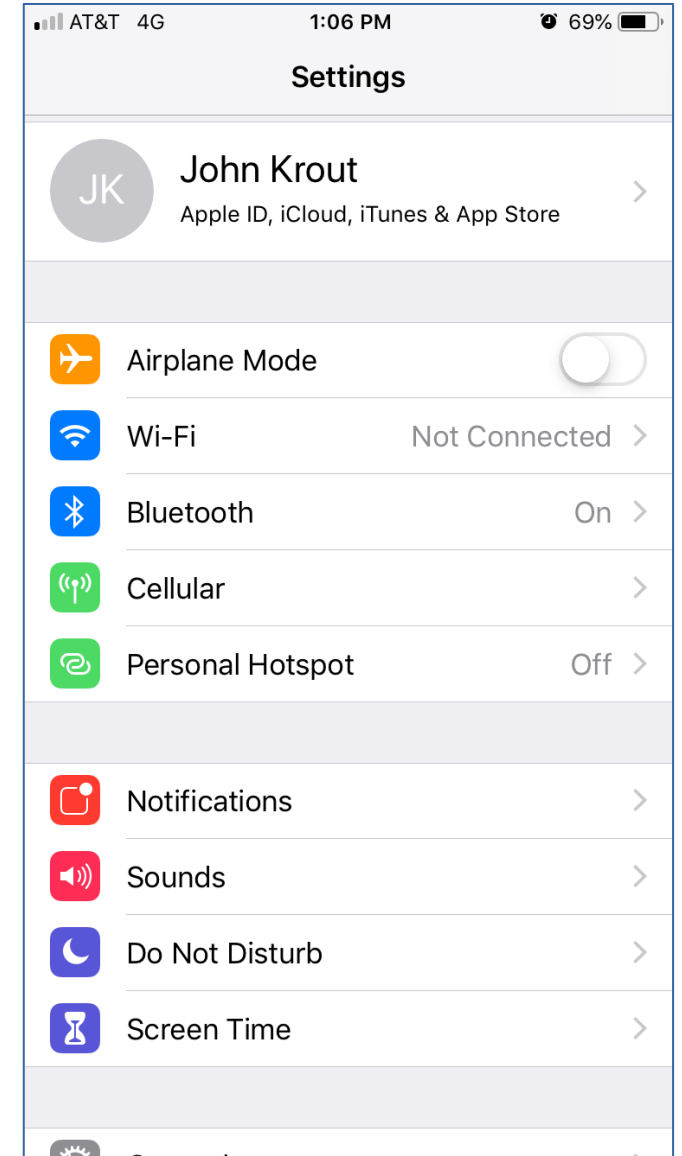
The Android 8 technique

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- Use this as the starting point, instead of Notifications:
Settings -> *Sound and Vibration* -> Do Not Disturb
- You can also find Do Not Disturb by using the Settings Search capability.

Configuration for iPhones

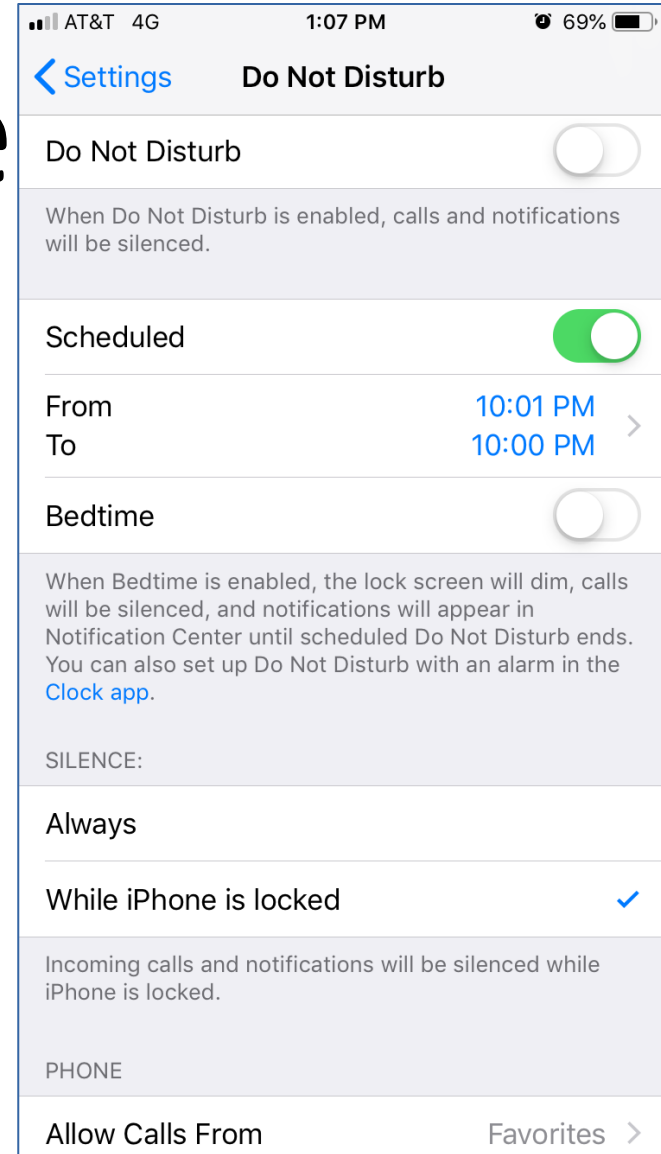
The iOS 12.4 technique

- Open the Settings app.
- On that screen, scroll down to the **Do Not Disturb** item.
- Tap that item. The Do Not Disturb screen opens.



The iOS 12.4 technique

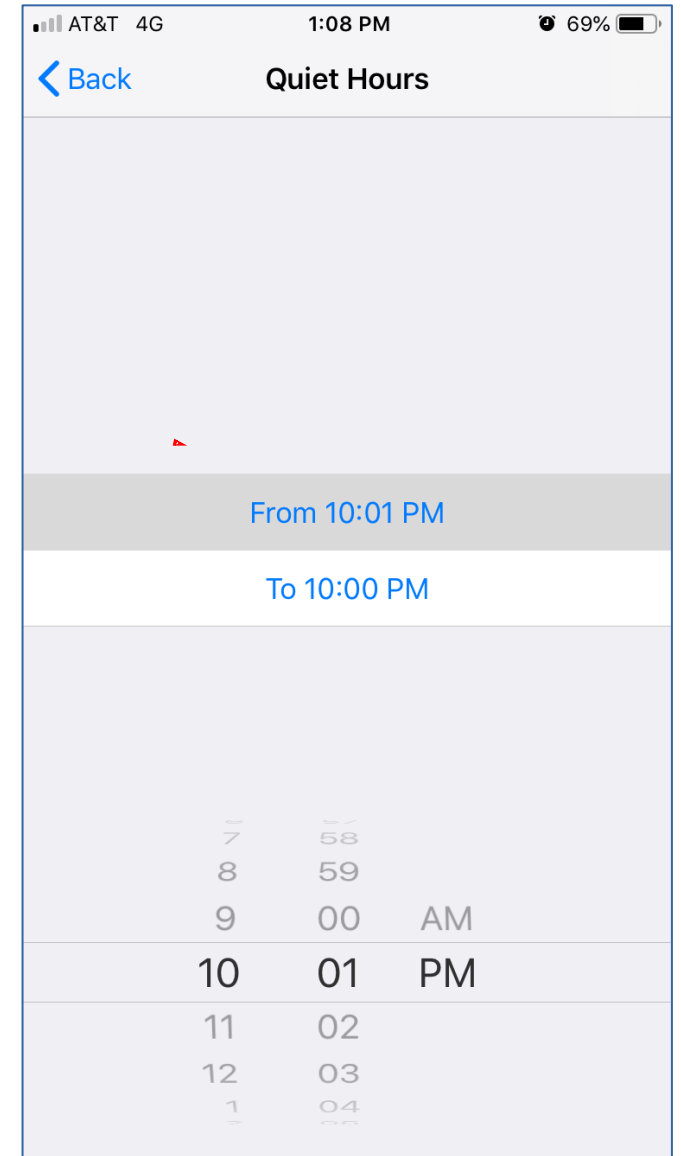
- In the Do Not Disturb screen, turn on the **Scheduled switch**. The From and To times appear below the switch.
- Tap the From and To times. The Quiet Hours screen appears.



The iOS 12.4 technique

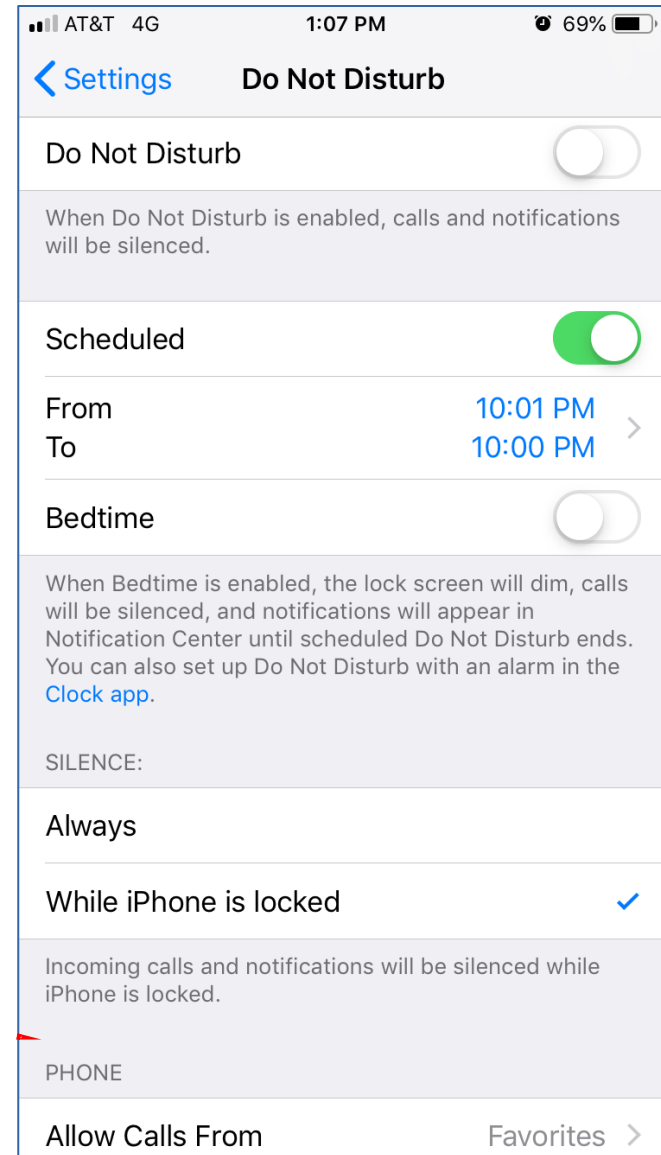
- In the Quiet Hours screen, **tap the From heading**, and set the desired start time using the scrolling selector below the headings.
- **Tap the To heading**, and set the To time to be one minute *before* the From time, i.e., 23 minutes 59 seconds later.
- Tap the Back button in the upper left corner

Scrolling
Time
selector



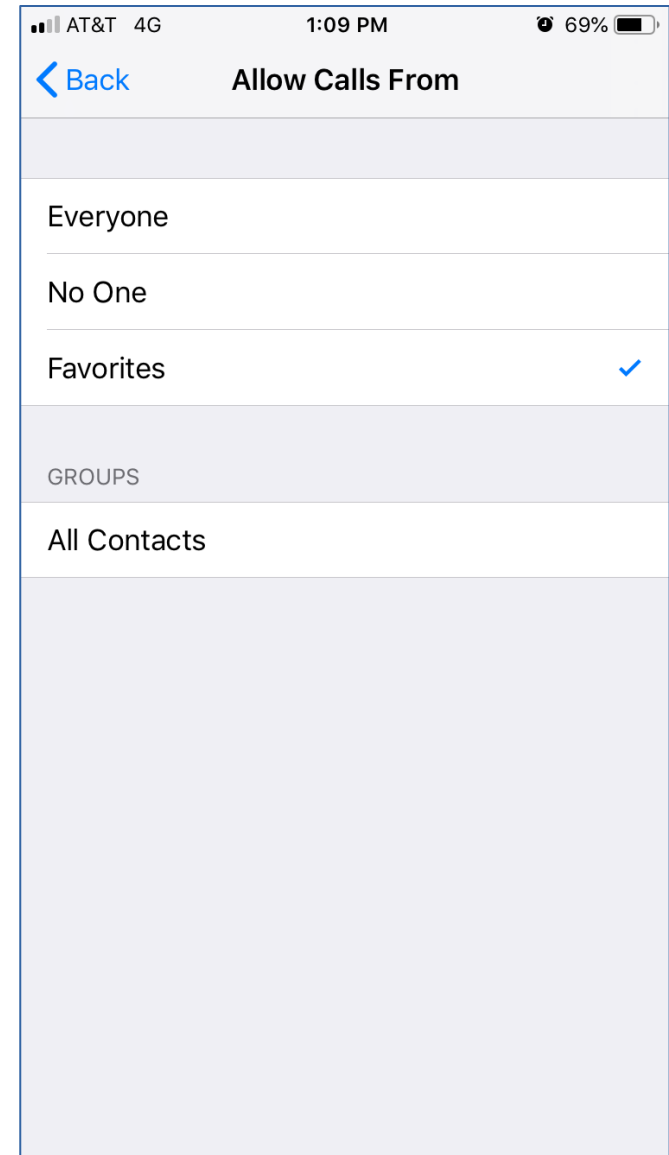
The iOS 12.4 technique

- In the Do Not Disturb screen, scroll down and tap **Allow Calls From**. The Allow Calls From screen opens.



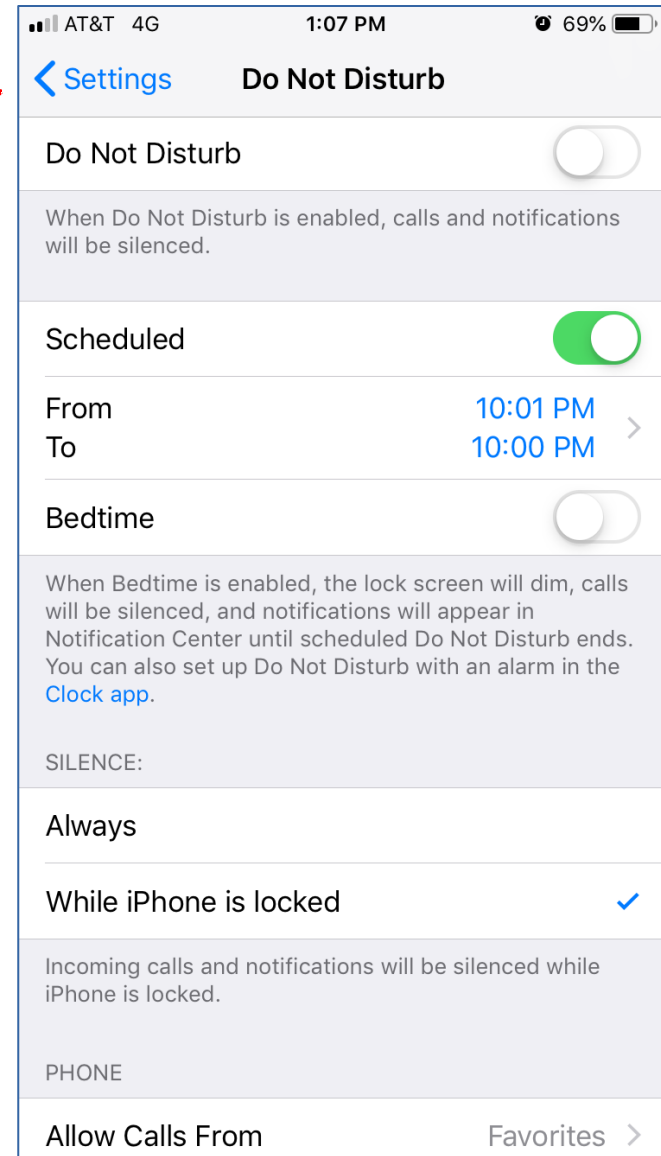
The iOS 12.4 technique

- In the Allow Calls From screen, tap **All Contacts**.
- Tap the Back button in the upper left corner.



The iOS 12.4 technique

- In the Do Not Disturb screen, the **Do Not Disturb switch** allows you to turn on and off the Do Not Disturb feature whenever you need to do that.
- Recall this phrase mentioned previously:
“I have not tested this on my iPhone”.



Keep your Contacts up to date

- Here are some examples of numbers you might not yet have in your Contacts:
- Your kids' schools (especially the automated school closure calls)
- Your doctors
- Your lawyers
- Your veterinarian
- Your stock brokers
- Your bankers
- Your travel agency
- Publishers Clearinghouse

Robocall blocking apps

- **Nomorobo**, \$2 per month or \$20/year. Claims to update its blacklist of known robocallers every 15 minutes. Not much info on its web site describing how it does what it does.
- **YouMail**, free. Probably supported by ads. Redirects your incoming calls to their server.
 - Enforces its Blacklist and plays the **Not In Service tones** to blacklisted callers.
 - Requires you to give YouMail your Contacts. Calls from your Contacts are redirected back to your phone.
 - All voicemails are saved on YouMail servers, and are transcribed and sent to you as text messages. You can listen to those voicemails.

Some other “solutions” sent to Paul Brandus

All of these assume you know the caller is ***not*** in your Contacts list.

- Answer the phone with an **air horn**. Do not try this at work!
- Answer the phone with this phrase: “**Federal Fraud Division, how may I help you?**”
- Answer the phone with this phrase: “**Can’t talk now, the police are coming, blood’s all over the floor.**” Then hang up.

The Final Slide: HOW ABOUT A CUSTOM VOICEMAIL GREETING?

