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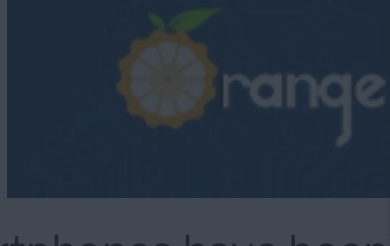
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AUGUST 14, 2018BY CNXSOFT

USB Charging a Laptop via



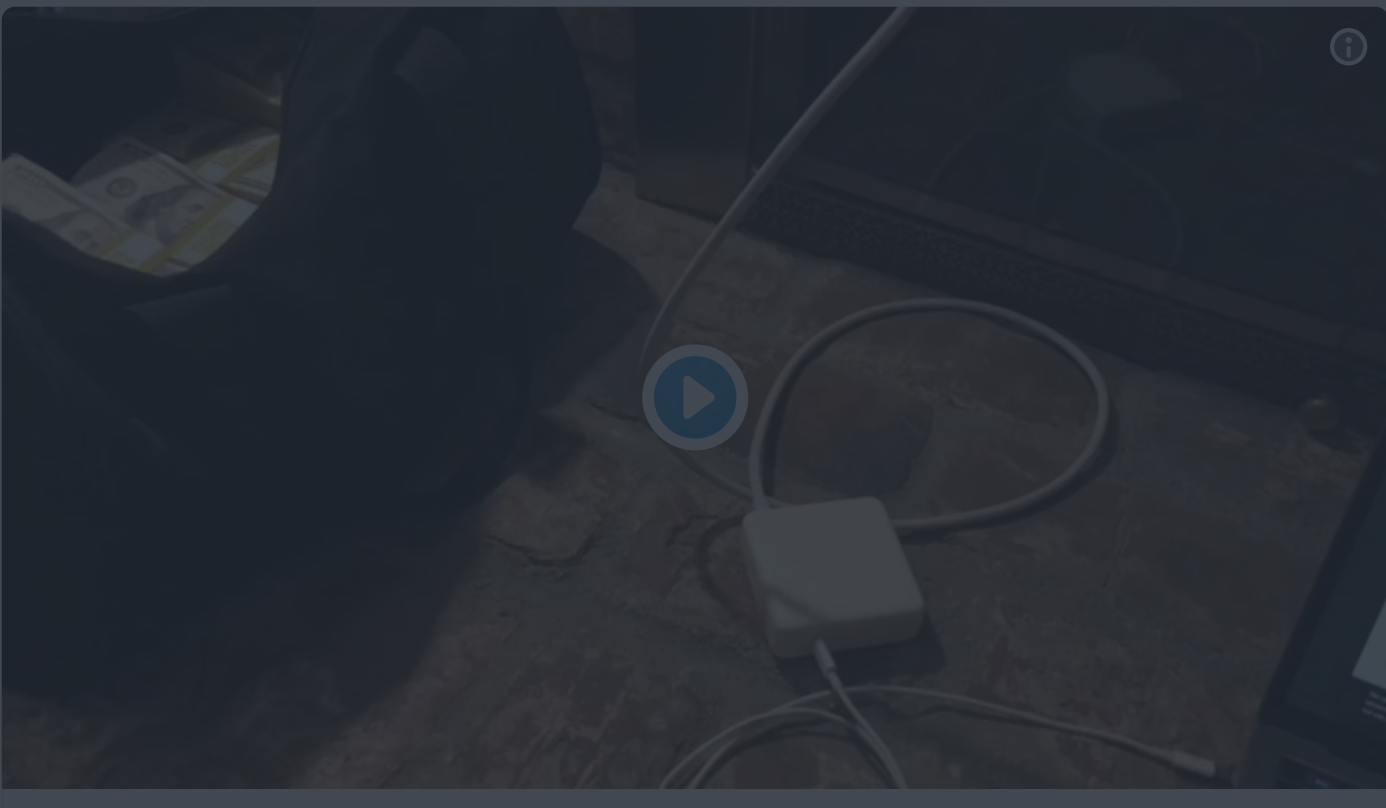
Smartphones have been charged over USB for many years, but with the advance of USB type-C now even laptops may be charged over USB, instead of the typical DC power barrel jack.

Why am I writing about that? That's because charging over a DC jack is normally safe, but after reading an [article on BBC website](#), I've just realized when you charge over USB you also give access to the data connection, and security researcher (MG) has found a way to hack the USB-C charger of an Apple laptop and show a login prompt to steal credentials (username / password).



Hacked USB Charger

The full details of the hack are no public, but it does require altering the hardware of the charger. So as long as you use the charger sold with your laptop, you should be safe. However, there's always a risk if you charge from public places, or buy a charger from a third party. It's a limited risk, but still worth keeping in mind. You can see the hack in action below.



MG
@_MG_

Demo of a work in progress. I'm looking for help with writing payloads. Come chat with me at [@defcon](#) if you'd like to collaborate.

Power adapter. Silent infection. Cross platform. Not just Apple hardware.

Project page with info: [mg.lol/blog/charger/](#)

1/n

3:45 PM - Aug 3, 2018

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As mentioned in the video and tweet, it works not only with Apple hardware but any laptop charging over USB-C. This type of hack is not really new, as "[Juice-Jacking](#)" – hacking phones over the USB connection at public charging sport – has been possible for several years, but in my case at least, data stored on my computer(s) is much valuable than the data stored on my phone. One obvious counter action is to not use your device while charging it in a public place or with a third party charger, but in case the hack can be made to work without user action, a trick is to power off your phone / laptop before charging it, then the data is not exposed **on certain devices**, i.e. not all. So it's a good idea to be aware that public USB charging may not be fully secure, and whenever possible, use your own cable and charger.

Thanks to Theguyuk for the tip.



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HARDWARE, VIDEO

HACK, SECURITY, USB

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Jim st

I've not seen Apple use any USB c. Not common, is it?

I've not seen any laptop scale device pulled up by USB, either.



-2



Reply

6 hours ago



Steve

All new models of Apple laptops use USB Type-C / Thunderbolt 3 ports for charging/power. The MacBook has had a USB Type-C since it was introduced, as have both the 13" and 15" MacBook Pro Retinas with Touch bar. These devices only come with USB Type-C (usually TB3 too) and 3.5mm jack interfaces – nothing else. (My MBP 15" with Touch bar has 4 Thunderbolt 3 ports (over USB Type-C) and a 3.5mm headphone/mic connector. Nothing else.

The older MacBook Air and 13" MacBook Pro Retina without Touch Bar designs still use Magsafe I think – but they are legacy designs that just get hardware bumps.



3



Reply

3 hours ago



Cyk

It seems that mankind is doomed to repeat the same dumb mistakes over and over again. Most phone manufacturers learned the lesson, and deactivate data transfer over USB by default, but it seems that notebook manufacturers didn't get the memo.



1



Reply

4 hours ago



pm7

In case of computers it is a matter of operating system, ie. Windows/Linux/Mac OS.



0



Reply

27 minutes ago



Raffaele

I wouldn't use any low quality/non-original Type C charger with my Dell XPS anyway for the fear of damaging it, as those chargers need somewhat complex and high quality circuits. However it's interesting to see how having an unique port for charging, video, networking etc. can turn into a threat if it's trusted by default. The fact that, for example, the base Macbook model has only one Type C port and needs a hub to be charged while anything else is connected makes it tricky, for example, to forbid anything that's charging the device from acting as a USB device. Having to authorize access every time a dongle is inserted doesn't sound great either.

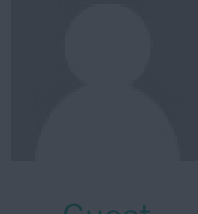


-1



Reply

4 hours ago



willy

I wondered how long it would take, apparently not that much 😊

With plug-and-play OSes it's really funny, you can present a USB-to-ethernet adapter into a USB connector, and sometimes the OS will even make a DHCP request there and present an IP address. You can sometimes expose a graphics interface, which, depending on how the machine was recently configured, may expose a copy of the current display. You can present a serial port that some OSes will detect and present you a login prompt. You can also present a second keyboard and mouse to inject keystrokes. It can also be a USB storage device hoping for the user to confuse it with another one and put his data there by accident. USB is limitless and it's a shame we're training people to plug it without thinking.

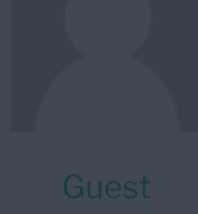


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Reply

2 hours ago



Ade

I still didn't fully understand what is the benefit of USB charging for laptops and I mostly see downsides : not only regarding security, but it adds cost since it requires a complex circuitry for handling various voltages, and even cables now have to be authenticated, and this usb-c connector is far less robust ans future-proof than legacy round DC connectors or magsafe... (Or maybe that's the purpose : having a weak connector that forces you to dispose and buy a new laptop every ~2 years ?)

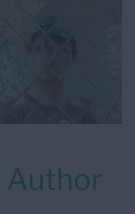


-2



Reply

2 hours ago



cnxsoft

It's just a bit more convenient. When you are back home you can connect the laptop using a [single USB cable](#) to access an external monitor, USB mass storage, maybe Ethernet, etc...

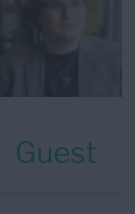


2



Reply

2 hours ago



CampGareth

Unification is a good reason to charge over USB. Remember how awful it was when every phone came with its own specific charging plug that in some cases was unique to the model let alone the brand? I got a high end PDA that included adapters for nokia barrel jacks (but only those of a specific voltage) which is ridiculous. When we standardised on micro-usb life was good.

Laptops are in much the same state, everybody has their own barrel jack that isn't compatible with anything else, they're mostly on 19 or 20V but even that isn't guaranteed. Some check their chargers for legitimacy so for instance you can't charge a dell with a non-official charger. Awful.

With USB-C the same charger can charge just about anything so long as the wattage rating is high enough, super simple.



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Reply

23 seconds ago

