Peter Hicks' Blog

The personal blog of Peter Hicks

Securing an HP LaserJet printer with LetsEncrypt

Installing a TLS (or SSL) certificate on a HP LaserJet printer

The fantastic and free [Let's Encrypt](#) service lets you issue TLS (SSL) certificates to as many devices as you want. It's perfect for a home or small office environment.

The Let's Encrypt service needs to validate that you are in control of the device you've requested a certificate for. Most of the time, it's fine to serve up a single file from your server. What if you can't actually serve arbitrary files from your device?

There is a way around this – you can use a TXT (text) record in DNS to authenticate the device, and that's what I did.

Photo by [Alex Furr](#) from [FreeImages](#)

I've used [certbot](#) to generate my certificate:

```
certbot -d host.example.com --manual --preferred-challenges dns
certonly
```

Note down the TXT record that appears and add it to your DNS server, and you're done.

My printer wants the certificate and private key in a [PKCS#12](#) bundle, a bit like a 'zip' or 'tar' archive. This isn't obvious, but it can be done with this command:

```
openssl pkcs12 -export -out certificate.pfx -inkey
```

```
config/live/host.example.com/privkey.pem -in
config/live/host.example.com/cert.pem
```

You'll be asked for a passphrase, and the key and certificate will be in *certificiate.pfx.* You can load this in to the printer by hand, or [automatically with a single command](#).

Peter Hicks / Thursday 27 April 2017 / Printers, Security

8 thoughts on "Securing an HP LaserJet printer with LetsEncrypt"

Jonathan

Wednesday 30 May 2018 at 03:52

Thanks for writing this. I'm trying to install a LE cert on my hp printer as well. but…. uh oh. How did you get around the password requirement? My hp printer says "You must provide the password that was used to encrypt the private key." I never provided a password anywhere in the certbot config. All of the above steps worked great and I made the .pfx file.
also, how are you handling the certificate renewals?
Thanks again!

Lars Düsing

Tuesday 12 June 2018 at 10:02

Normally the openssl-command asks for an export password – and this works.

Bijan

Saturday 7 July 2018 at 14:47

This approach does not seem to work if you'd simply like to access your HP printer from within the network using https. Let's Encrypt/Certbot will not generate a certificate for a domain name such as "HPCLJM451dw.local". Do you have any idea what one could do in such a scenario?

Peter Hicks 👤

Saturday 7 July 2018 at 16:23

You'll need to use a domain name where you have control over DNS records – .local is used mainly by zeroconf services (see https://en.wikipedia.org/wiki/.local).

Ry Jones

Saturday 7 September 2019 at 13:59

Thank you, this is exactly what I needed.

Gareth

Sunday 24 May 2020 at 16:23

I've been using this guide every 3 months for the last two years like clockwork. 3 months is just long enough to forget how to do it and still need a guide! Thanks so much for taking the time to write it up.

Peter Hicks 👤

Sunday 24 May 2020 at 16:40

Have you seen the follow-up post at
https://blog.poggs.com/2020/03/18/printer-security-installing-tls-
certificates-on-hp-printers-automatically/, where I've documented how to
automate installation?

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gar Gareth

Sunday 24 May 2020 at 22:31

I have not! I have some time off work booked in the next few weeks. I think
I've found my new project! Thanks again for sharing!

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