Twitter Thread by Alex Birsan

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Dependency Confusion: How I Hacked Into Apple, Microsoft and Dozens of Other Companies

■Check the thread after reading for a few bonus

Scope:

Other than the mentioned .NET bug, only one other team said the finding was out of scope, using this as a reason to reduce the bounty from P1 to P2.

We've also purposely avoided reporting to at least one program that had "internal or development services" listed as OOS

Pytosquatting:

In Python, the 'install' name of a package can be different from the 'import' name. This allows for an unique type of typosquatting attack by uploading under unclaimed import names on PyPI, where it can be downloaded by developers, or even automated tools.

PyYAML Documentation

PyYAML is a YAML parser and emitter for Python.

Installation

Simple install:

```
pip install pyyaml
```

To install from source, download the source package *PyYAML-5.1.tar.gz* and unpack it. Go to the directory *PyYAML-5.1* and run:

```
$ python setup.py install
```

If you want to use LibYAML bindings, which are much faster than the pure Python version, you need to download and install LibYAML. Then you may build and install the bindings by executing

```
$ python setup.py --with-libyaml install
```

In order to use LibYAML based parser and emitter, use the classes `CParser` and `CEmitter`. For instance,

```
from yaml import load, dump
try:
    from yaml import CLoader as Loader, CDumper as Dumper
except ImportError:
    from yaml import Loader, Dumper

# ...

data = load(stream, Loader=Loader)

# ...
```

I tried this out against some Google open source projects and it actually got me inside two *.corp.google.com machines.

However, just like typosquatting, this mostly relies on one-off mistakes. Google did not accept it as a valid vuln, and I fully agree with their assessment.

Fun fact: those packages are long gone from PyPI but for some reason they are still up on some sort of Chinese mirror, and I still get various callbacks from China to this day.

FRI DEC 04 2020 23:14:30 GMT	CHINANET-BACKBONE No.31,Jin-rong Street	61.132.109.6	tensorflow_serving	object-detection-6454b7fcb5-ct4wk
SUN DEC 06 2020 06:46:10 GMT	CT-FOSHAN-IDC CHINANET Guangdong province network	14.152.40.70	tensorflow_serving	object-detection-f896cc99-jjjb2
SUN DEC 06 2020 17:57:20 GMT	CHINANET-BACKBONE No.31,Jin-rong Street	61.132.109.6	tensorflow_serving	object-detection-6454b7fcb5-ct4wk
SUN DEC 06 2020 19:09:31 GMT	CHINANET-BACKBONE No.31,Jin-rong Street	61.132.109.6	tensorflow_serving	object-detection-6454b7fcb5-m8xk7
SUN DEC 06 2020 19:56:15 GMT	CHINANET-BACKBONE No.31,Jin-rong Street	61.132.109.6	tensorflow_serving	object-detection-6454b7fcb5-m8xk7
MON DEC 07 2020 06:29:37 GMT	CHINANET-BACKBONE No.31,Jin-rong Street	221.228.15.78	tensorflow_serving	face-recognition-7b46b654d9-9s564
MON DEC 07 2020 06:30:19 GMT	CHINANET-BACKBONE No.31,Jin-rong Street	221.228.15.182	tensorflow_serving	object-detection-7db698448c-zz4tl
MON DEC 07 2020 06:42:17 GMT	CHINANET-BACKBONE No.31,Jin-rong Street	221.228.15.78	tensorflow_serving	face-recognition-8b9c7ff78-5hwlp
MON DEC 07 2020 11:00:57 GMT	CHINANET-BACKBONE No.31,Jin-rong Street	61.132.109.6	tensorflow_serving	object-detection-6454b7fcb5-275p2

Finally, a brief look at how each package hosting service responded after seeing the test packages:

* npm - initially deleted a few, stopped after my intentions were clarified
* PyPI - deleted all packages, made it clear that testing this is not allowed
* RubyGems - no reaction