



IBM | Opensource Travel Recap IBM i

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Goal = get POWER server temperature

Create Early Warning Notification

collect data & give warning if above
"normal" range

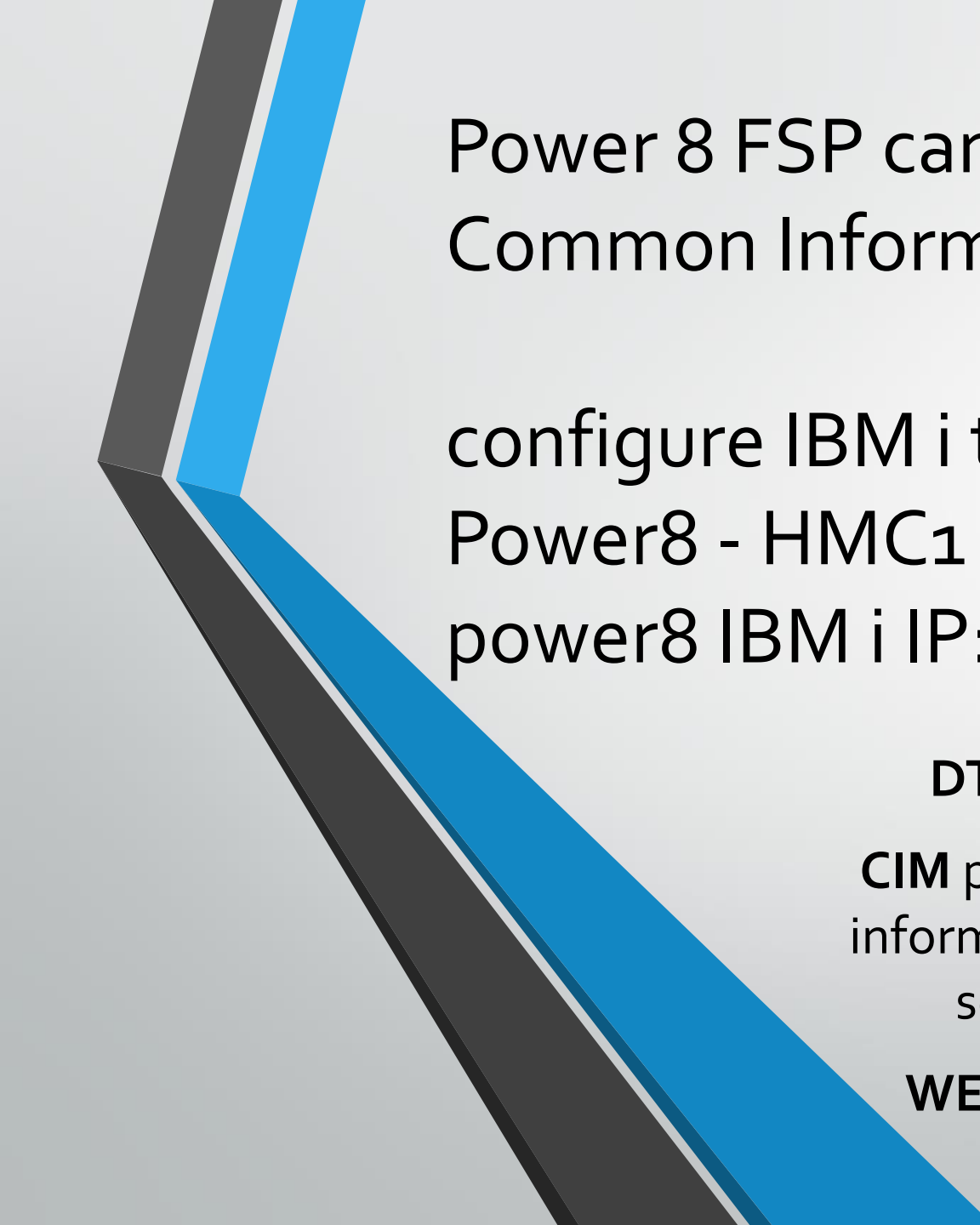


Power 7 and below:

LIC -> IBM i OS "shutdown too hot"

One way messaging

No query capability




Power 8 FSP can be “queried” using CIM
Common Information Model

configure IBM i to reach FSP HMC port
Power8 - HMC₁ interface (IP: 169.254.3.147)
power8 IBM i IP: 169.254.3.1

DTMF = Distributed Management Task Force

CIM provides a common definition of management information for systems, networks, applications and services, and allows for vendor extensions.

WEBEM = Web-Based Enterprise Management



“Easy way” Linux = use wbemcli
cli=client


Do we really need Linux?

<https://www.ibm.com/developerworks/ibmi/library/i-cim-ibmi-works/index.html>

CIM server available since v5r4!!!!

call qp2term

> cimcli ni IBM_EthernetPort



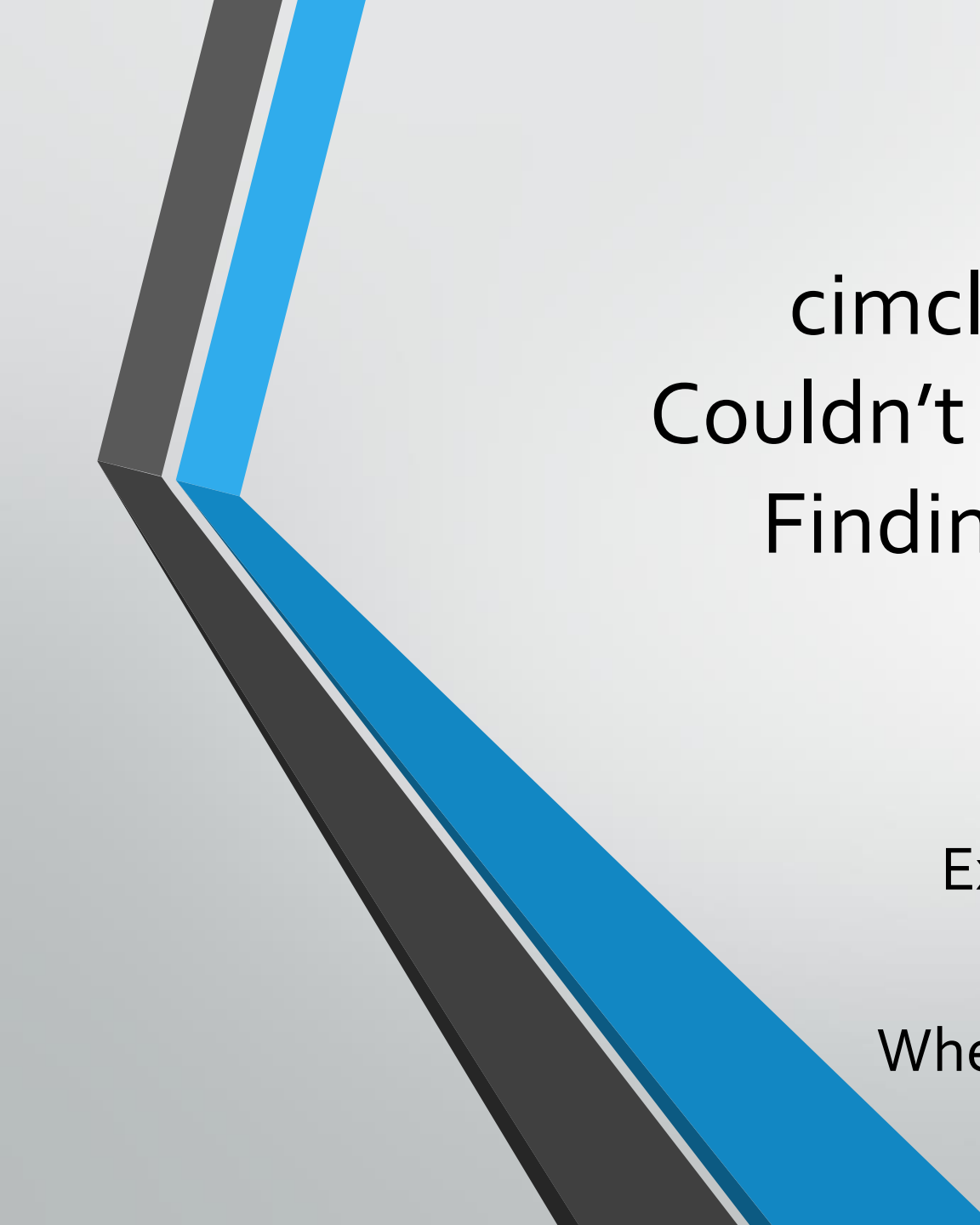
IBM Developer works – POWER 8, AIX
Temperature & Watts from FSP using wbemcli

[https://www.ibm.com/developerworks/community/blogs/aixp
ert/entry/power8_temperature_watts_from_fsp_via_the_wbe
mcli_command?lang=en](https://www.ibm.com/developerworks/community/blogs/aixp
ert/entry/power8_temperature_watts_from_fsp_via_the_wbe
mcli_command?lang=en)

Noted:

need to access namespace

/root/ibmsd

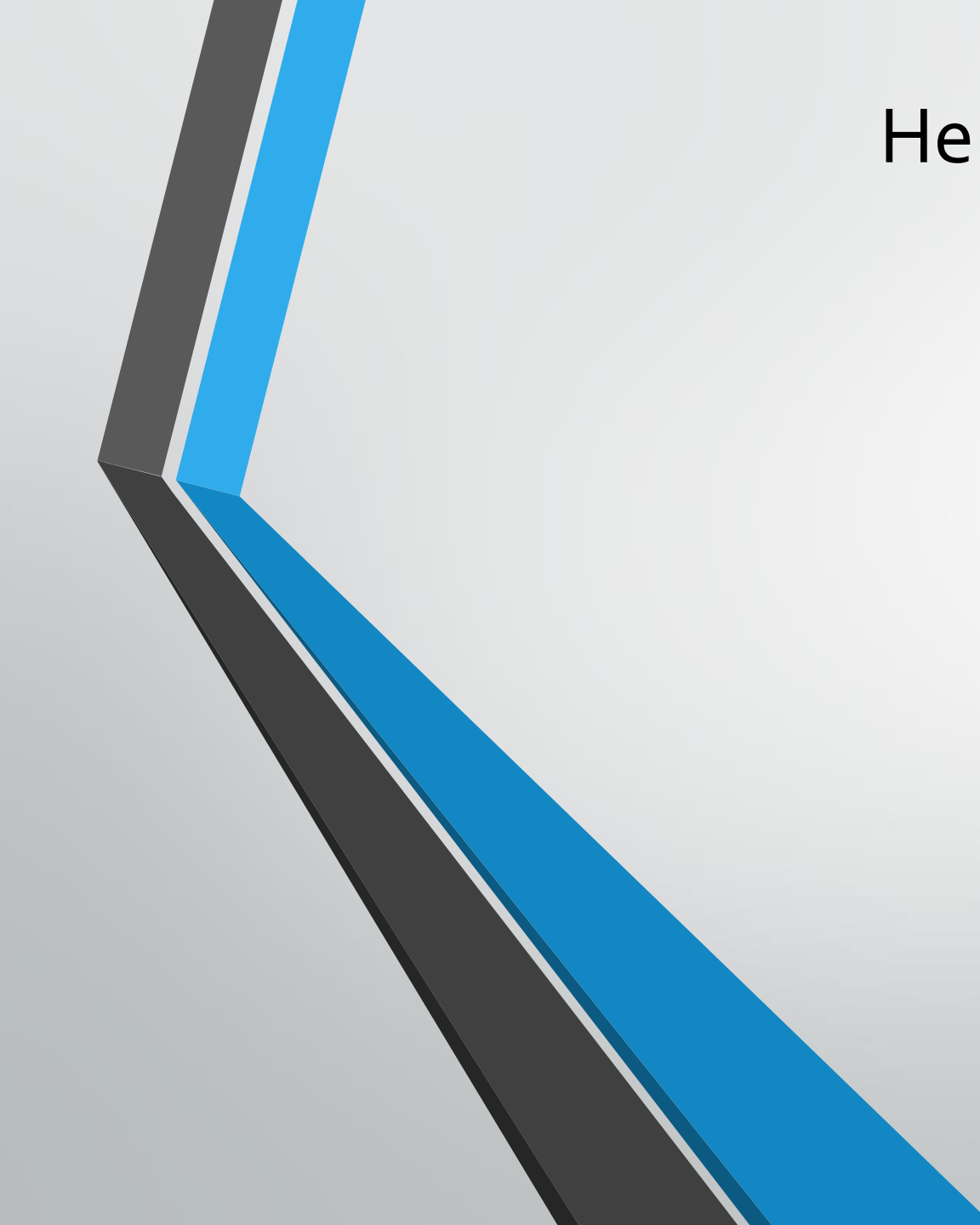


cimcli – finding only OS info!?
Couldn't see any socket connection!?
Finding: no network support ☹️

Explains why only OS info

Explains why can't reach name space:
root/ibmsd

Where temperature and Watts info resides



Hello Open Source on IBM i
v7r1 & up 5733-OPS

Python, GCC & PASE


pywbem – python version!

5733-OPS Python versions:

python = 2.6.8

python2 = 2.7.11

python3 = 3.4.4



chroot – root jail

Takeaways = create your own user environment

Easy to reset and start over (per user)



Python install = pip
Do we need GCC compiler?

Yes!

Take away = some opensource
installers require a compile – GCC is
required (includes node.js)



```
pip install pywbem
```

Successfully installed

M2Crypto-0.26.0

PyYAML-3.12

ply-3.10

pywbem-0.10.0

Take away = package installers powerful-
download & install from Internet



pywbem installed & ready to use in
python program

12 lines code!

```
import sys  
import pywbem
```



Add to opensource pywbem sample:

```
server_url = 'https://169.254.3.147:5989'
```

```
    user = 'admin'
```

```
    password = 'admin'
```

```
default_namespace='root/ibmsd'
```

EnumerateInstances('fips_thermalmetricvalue')

clip of CIM data results

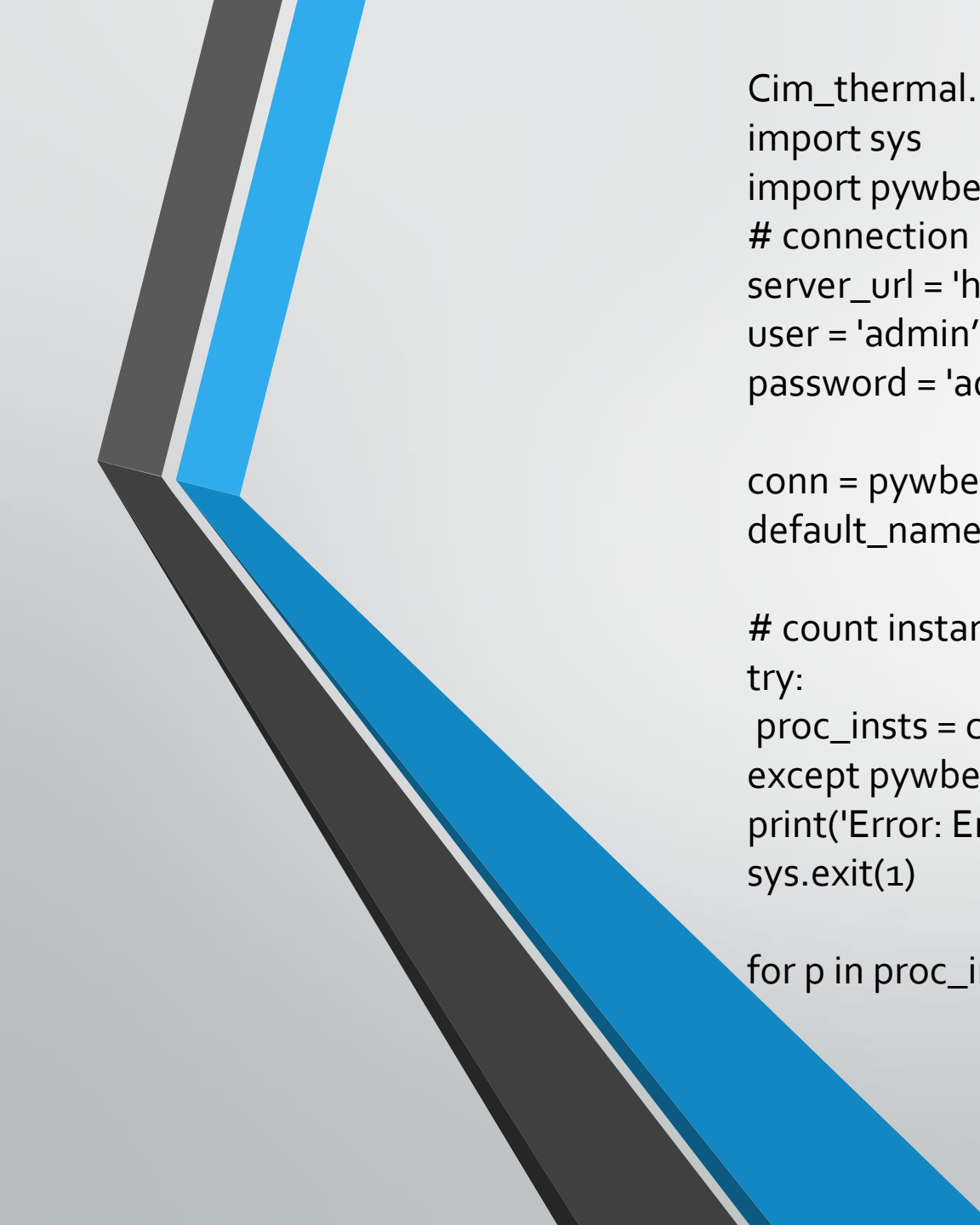
(u'MetricValue', u'2100')

u'IBM:InletAirTemp_U78C9.001.WZSoYLD-D1 00006000_403938')

(u'MetricValue', u'3000')

u'IBM:ExhaustAirTemp_U78C9.001.WZSoYLD 00001E00_403934')

MetricValue=3000 means it is 30 degree Centigrade



```
Cim_thermal.py (limited comments):
```

```
import sys
```

```
import pywbem
```

```
# connection info
```

```
server_url = 'https://169.254.3.147:5989'
```

```
user = 'admin'
```

```
password = 'admin'
```

```
conn = pywbem.WBEMConnection(server_url, (user, password),  
default_namespace='root/ibmsd', no_verification=True)
```

```
# count instances
```

```
try:
```

```
    proc_insts = conn.EnumerateInstances('fips_thermalmetricvalue')
```

```
except pywbem.Error as exc:
```

```
    print('Error: EnumerateInstances failed: %s' % exc)
```

```
    sys.exit(1)
```

```
for p in proc_insts: print p.items()
```



Goal Successfully met!

Takeaway = OPS gives us tremendous capabilities

Opensource is driving innovation and choice – leverage to your business advantage



Thank you

Now go back and start using 5733-OPS
on your IBM i