

Use DCE to monitor the DCO PUE

Addition to Schneider Electric StruxureWare for Data Centers

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Developed using Data Center Operations (DCO) 8.2.7 and Data Center Expert (DCE) 7.4.3, but should be OK for recent previous and future releases. Uses the same SNMP extension feature that is used to get DCO information to DCE

DCO PUE dashboard figure can be viewed over time. This facility may be disrupted by any future SE DCO or DCE release. Probably suitable only for small companies with a single data centre / server room. If you're a bigger organisation who has multiple rooms and as you already own DCE and DCO, you might consider a more robust and fully featured PUE solution such as the StruxureWare Energy Efficiency (EE) add-on to DCO

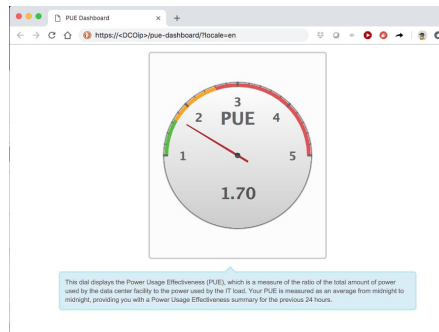
You need

- root or sudo access on DCO server
- the ability to create or modify system files, e.g. ssh and vi or similar
- adjust /etc/snmpd/snmpd.conf
- add /etc/snmpd/getPUE.sh
- familiarity with snmp
- assumes you have already discovered the DCO server on DCE

Ed can provide paid remote support if you need assistance

### Steps on DCO Server

1. configure the PUE dash board value and check the value is properly displayed



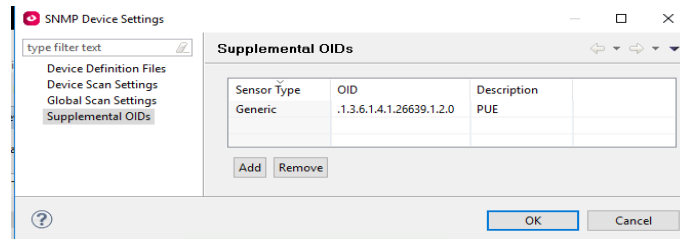
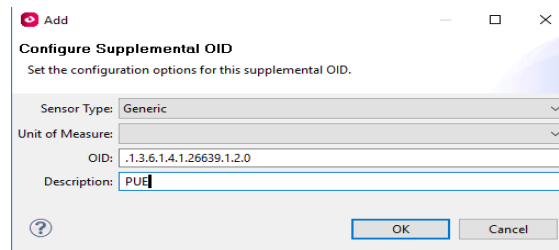
2. create /etc/snmp/getPUE.sh either copy the file or create using your fav editor from
3. adjust permissions to 755
4. adjust snmpd.conf. After the line ...  
pass .1.3.6.1.4.1.318 /etc/snmp/snmpdhandler.sh  
add the line ...  
pass .1.3.6.1.4.1.26639 /etc/snmp/getPUE.sh
5. restart the snmp daemon ...  
kill -HUP `ps -A | awk ' (\$4=="snmpd") {print \$1}`

The DCO server SNMP agent now has a new OID .1.3.6.1.4.1.26639.1.2.0 showing the PUE value. You can check this ...

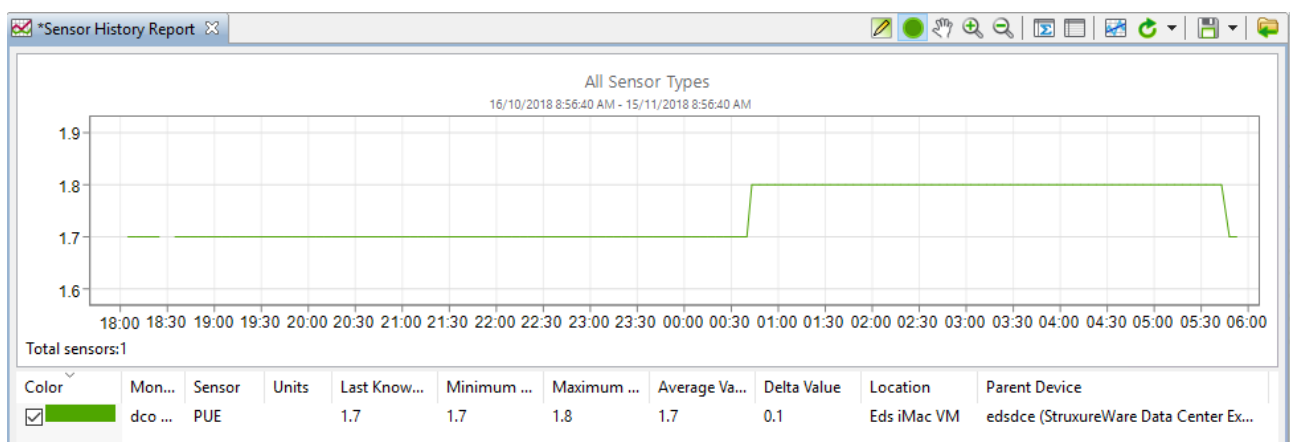
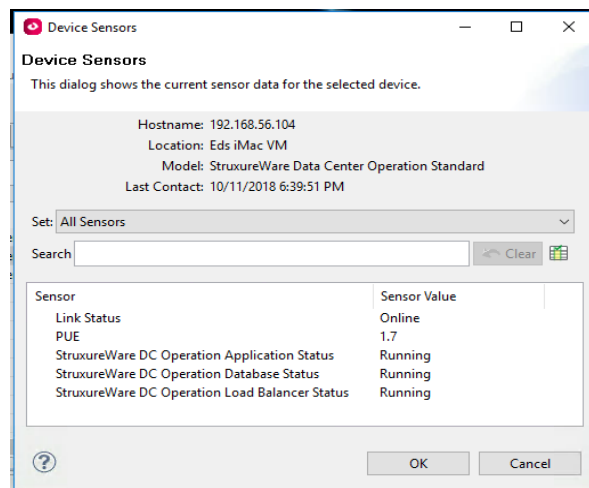
```
> snmpwalk -v 1 -c public <DCOip> .1.3.6.1.4.1.26639.1.2.0
SNMPv2-SMI::enterprises.26639.1.2.0 = STRING: "1.8"
```

## Steps on DCE Server

Device → SNMP Device Communications Settings → Supplemental OID...



Under Monitoring (Device or Map view) right click on DCO Server and select “Request Device Scan”. Wait a few seconds then “View Device Sensors” – you should now see PUE



## getPUE.sh

```
#!/bin/bash

# by Ed Tarento etarento@gmail.com Nov 2018 from SE's snmphandler.sh
# So DCE can monitor DCO PUE

# for deployment to Schneider Electric StruxureWare Data Center Operations server
# reads the DCO PUE dashboard number and delivers via SNMP to any SNMP manager, especially DCE, that calls for it
# to be called from an adjusted /etc/snmpd/snmpd.conf

pue=0

DCOip=`/bin/hostname -I`

operation=$1
oid=$2

get_pue() {
    pue=`/bin/curl -ks https://"$DCOip"/rest/pue-v1/instantPueData| awk -F":" '/1/ {print $2}'|awk -F"," '/1/ {print $1}' `
    status=$?

    echo ".1.3.6.1.4.1.26639.1.2.0"
    echo "String"
    echo $pue
}

# SNMP Set
if [ $operation == "-s" ]; then
    echo not-writable
fi

# SNMP Walk
if [ $operation == "-n" ]; then
    if [ $oid == ".1.3.6.1.4.1.26639.1.1.0" ]; then
        get_pue
        exit 0
    fi
fi

# SNMP Get
if [ $operation == "-g" ]; then
    if [ $oid == ".1.3.6.1.4.1.26639.1.2.0" ]; then
        get_pue
        exit 0
    fi
fi
```