OAK RIDGE National Laboratory

PVA Gateway

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July 2026

ORNL is managed by UT-Battelle, LLC for the US Department of Energy

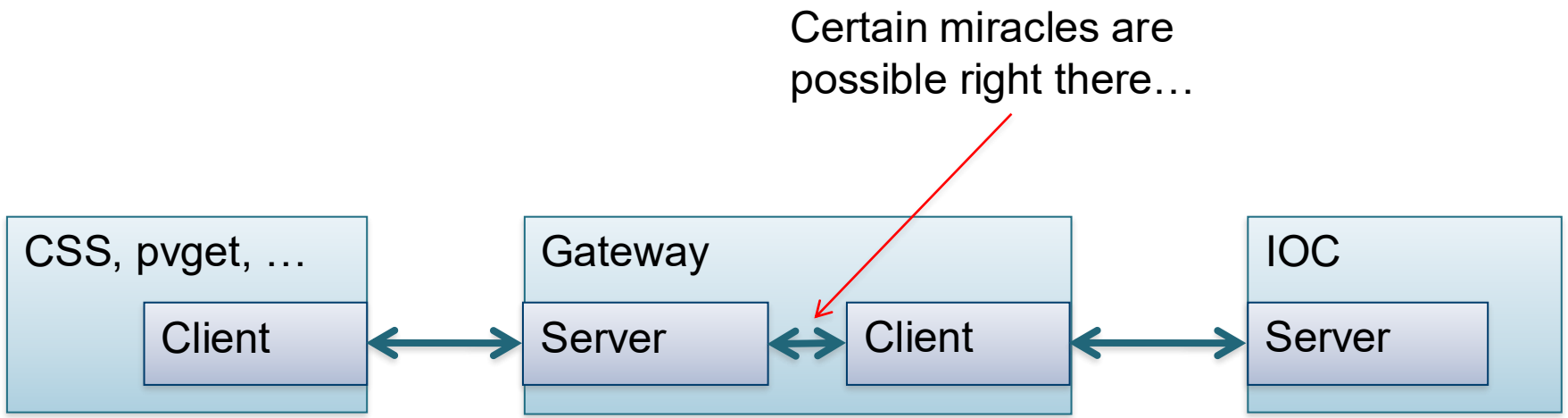
U.S. DEPARTMENT OF ENERGY

Examples will use the PV Access Gateway,
https://epics-base.github.io/p4p/gw.html

The Channel Access Gateway is similar,
https://epics.anl.gov/extensions/gateway/,

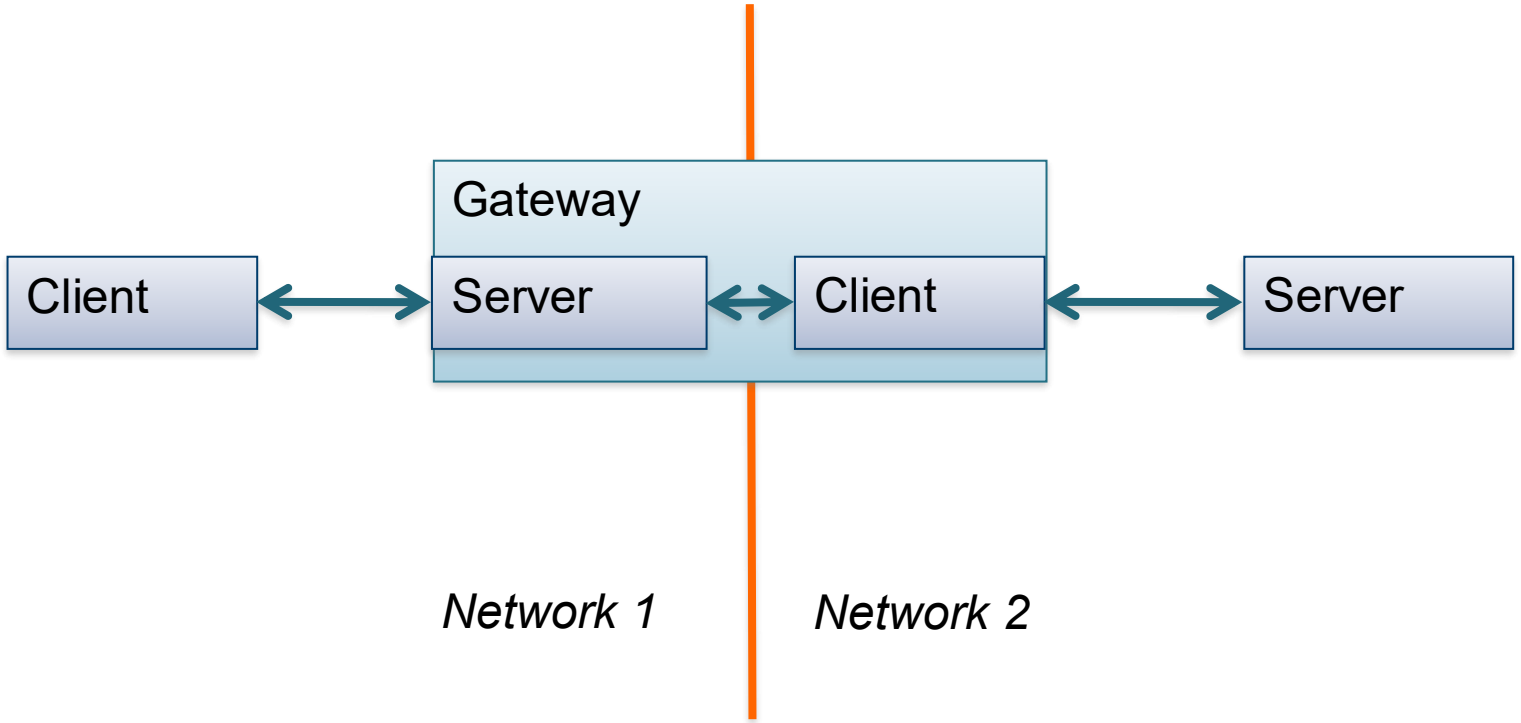
PV Access or Channel Access 101

Gateway Principle



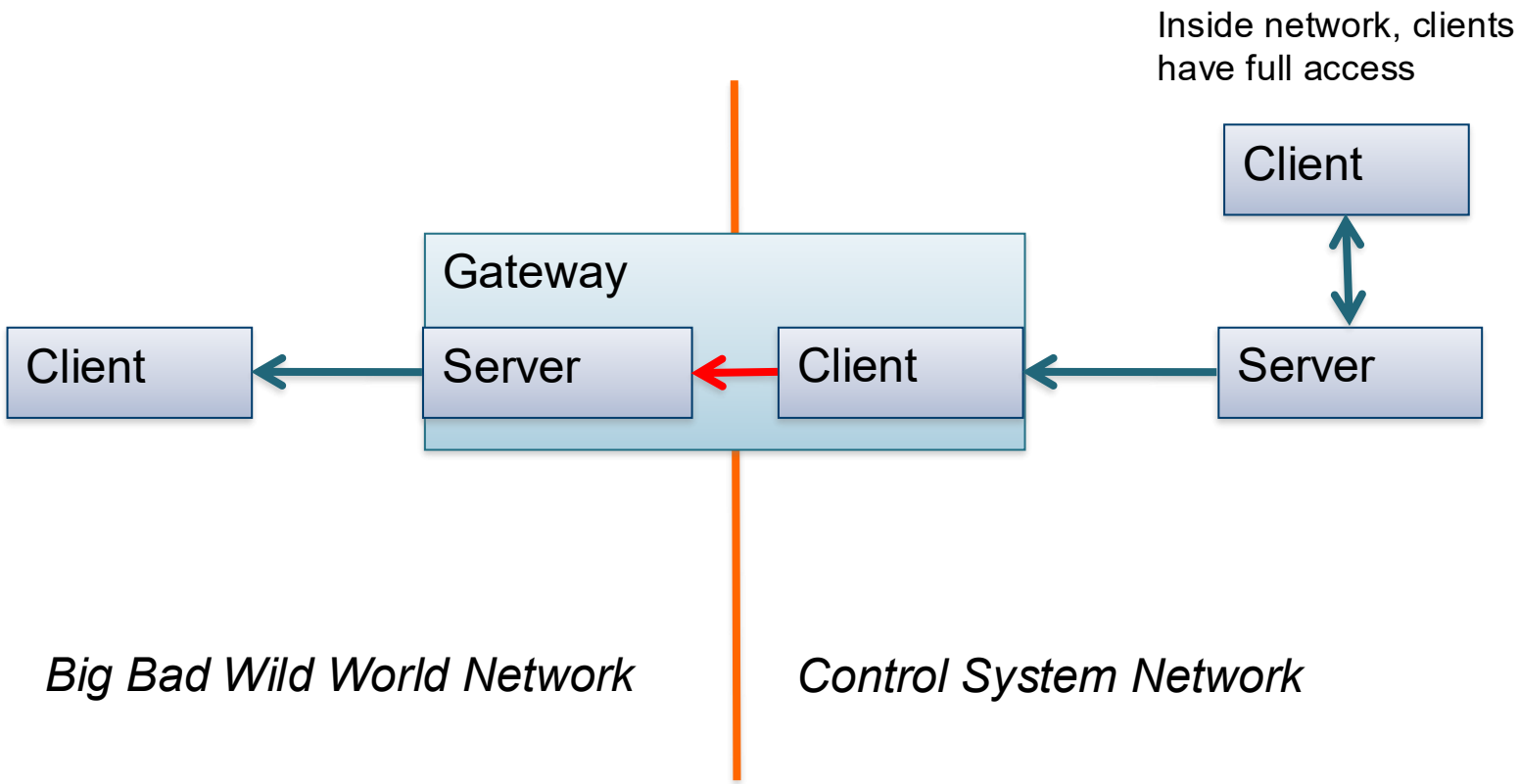
Why? Bridge Networks!

Gateway on computer w/ multiple network connections. Maybe in DMZ.



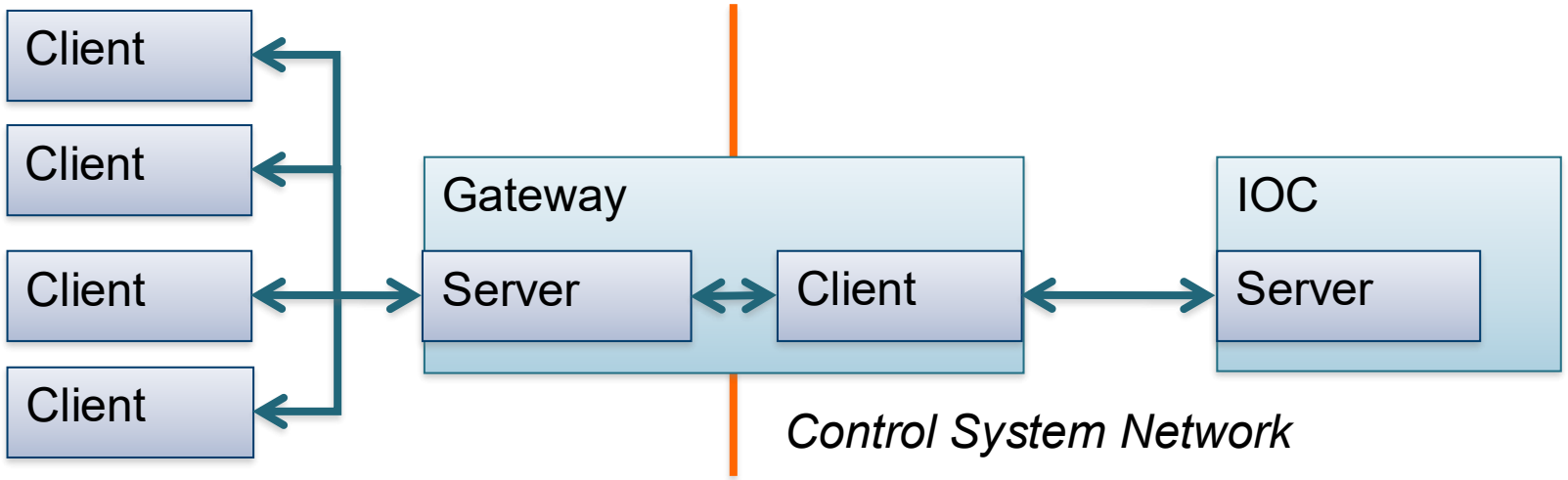
Why? Access Control!

Gateway often ‘read only’



Why? Reduce network load!

Gateway buffers connections and values.



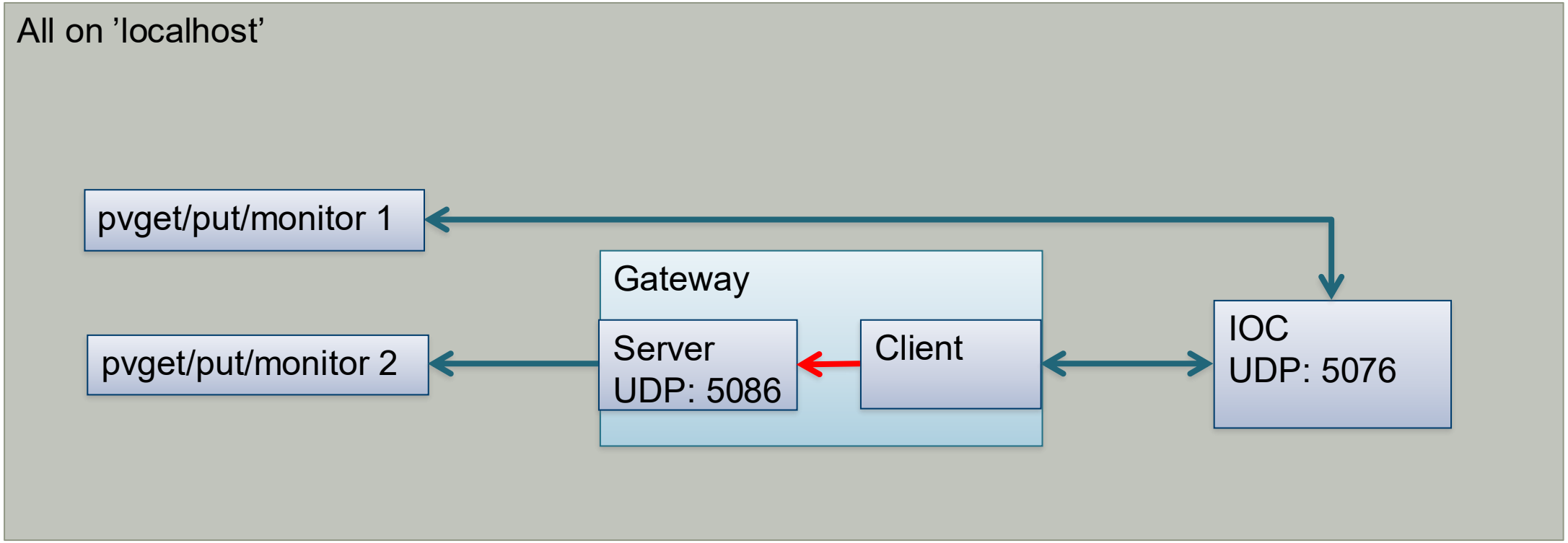
Clients disconnect from GW

→ GW keeps its connection for a little while.
Reduced search requests, IOC connects/disconnects

Configuration

- Read from where?
  - Like EPICS_CA_ADDR_LIST resp. EPICS_PVA_ADDR_LIST
- Serve to whom?
  - Network interfaces on which to run server
  - PVA/CA security
- Other
  - Publish GW status via extra PVs?
  - Transform PV names?

Example: Standalone Demo



Example

- Start a PVA server
```
cd /ics/examples/15_pvaccess
python 4_server.py
```
- Connect to it the normal way, note how it uses port 5076 to search for the PVA server
```
EPICS_PVA_DEBUG=100  pvget demo:value
```
- Read `gateway.conf`, start it
```
pvagw -v gateway.conf
```
- Try examples mentioned in gateway.conf
```
export EPICS_PVA_AUTO_ADDR_LIST=NO
export EPICS_PVA_ADDR_LIST=127.0.0.1:5086
pvmonitor demo:value
pvput demo:limit 40
```

More..

Everything you ever wanted to know

https://epics.anl.gov/extensions/gateway/index.php or

https://epics-base.github.io/p4p/gw.html