<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiZ3eHz38P4AhUCRPEDHQibBvgQFnoECAQQAQ&url=https%3A%2F%2Fepics.anl.gov%2Fdocs%2FUSPAS2014%2F2-Tuesday%2FIOC_Overview.pdf&usg=AOvVaw3G2ECRcWY0Mm3CF2IKdx0Y>

What does an Input/Output Controller do?

● As its name implies, an IOC often performs input/output

operations to attached hardware devices.

● An IOC associates the values of EPICS process variables with

the results of these input/output operations.

● An IOC can perform sequencing operations, closed-loop control

and other computations.

‘Host-based’ and ‘Target’ IOCs

● ‘Host-based’ IOC

– Runs in the same environment as which it was compiled

– ‘Native’ software development tools (compilers, linkers)

– Sometimes called a ‘Soft’ IOC

– IOC is an program like any other on the machine

– Possible to have many IOCs on a single machine

● ‘Target’ IOC

– Runs in a different environment than where compiled

– ‘Cross’ software development tools

– vxWorks, RTEMS, Linux, iOS

– IOC boots from some medium (network, flash memory)

– IOC is the only program running on the machine

<https://epics-controls.org/>

COMPLEX SYSTEMS

EPICS is a set of software tools and applications which provide a software infrastructure for use in building distributed control systems to operate devices such as Particle Accelerators, Large Experiments and major Telescopes. Such distributed control systems typically comprise tens or even hundreds of computers, networked together to allow communication between them and to provide control and feedback of the various parts of the device from a central control room, or even remotely over the internet.