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Developing an EPICS IOC in LabVIEW

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Developing an EPICS IOC in LabVIEW

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**Original System**
- Apple II computers read dewar data and relayed information to a computer running LabVIEW
- This data is sent to a soft IOC running on Linux

**Proposed System**
- Dewar information is read by Programmable Logic Controllers (PLCs) then relayed to a Cisco switch
- Data is then read using soft IOCs through LabVIEW and caLabs

**Our Task**
- Prove data can be passed from server to client over a TCP/IP connection using Windows LabVIEW and caLabs
- Test reliability of data transfer
- Develop UI for testing soft IOCs

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**Initial Proof of Concept**
- This LabVIEW program acts as a softIOC server
  - Process Variables (PVs) are given a name and a value (via string input) and broadcast over the network on port 5065

**Initial Proof of Concept**
- This LabVIEW program acts as the softIOC client
  - It searches the network for PV names given in list format
  - Displays the PV values for the names listed (Test input displayed above)

**Block Diagrams**

**Proof of Concept**

**UI Demo**

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**In Conclusion**
Our concept has proven that LabVIEW, caLabs, and EPICS can be served over a Windows platform and over a network.

In the future, these findings will serve as a basis for Jefferson Labs to move forward in their implementation of this system on their network.