

PVAPY: Python API for EPICS PV ACCESS

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As the number of sites deploying and adopting EPICS Version 4 grows, so does the need to support PV Access from multiple languages. Especially important are the widely used scripting languages that tend to reduce both software development time and the learning curve for new users. In this paper we describe PvaPy, a Python API for the EPICS PV Access protocol and its accompanying structured data API. Rather than implementing the protocol itself in Python, PvaPy wraps the existing EPICS Version 4 C++ libraries using the Boost.Python framework. This approach allows us to benefit from the existing code base and functionality, and to significantly reduce the Python API development effort. PvaPy objects are based on Python dictionaries and provide users with the ability to access even the most complex of PV Data structures in a relatively straightforward way. Its interfaces are easy to use, and include support for advanced EPICS Version 4 features such as implementation of client and server Remote Procedure Calls (RPC).

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