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Epics Security Technical Plan

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A presentation of the 2 years implementation plan primarily undertaken by Osprey DCS, SLAC and ORNL and funded by the US Department of Energy

The plan wll update PVXS (C++) and core-pva (Java, in CS-Studio/Phoebus) to support secure network connections based on the industry standard Transport Layer Security (TLS) technology. PVA clients that search for PV names will be able to indicate support for TLS authenticated and encrypted communications. PVA servers that support TLS will be able to accept such search requests and initiate the creation of a secure communication session. PVA servers that support secure connections will prefer TLS over regular unsecured connections. Server authentication will be accomplished by providing an X.509 certificate and optional client authentication will be achieved in the same way.

The updated pvAccess protocol will provide robust authorization in an end-to-end encrypted, fully authenticated, efficient and manageable framework for control systems access. The implementation is planned to be completely backward compatible, with secure and non-secure clients and servers interoperating seamlessly.

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