The CERN UNified Industrial COntrol System framework (UNICOS) with its Continuous Control Package (UNICOS CPC) is the CERN standard solution for the design and implementation of continuous industrial process control applications. The in-house designed communication mechanism, based on the Time Stamp Push Protocol (TSPP) provides event driven high performance data communication between the control and supervision layers of a UNICOS-CPC application. This poster presents the TSPP design, redundant architecture as well as a comprehensive evaluation of its performance for SIEMENS PLCs in different test scenarios.

**Performances**

- High performance, stability and robustness
- Transfer rates up to 250 KB/s
- Automated data analysis scripts
- High availability
- Permanent test bench for future versions validation

**PLC 57 400 H**

**Performance Tests**

- PLC 57 319-3 PN/DP
  - UNICOS-CPC application with 5000 objects
  - Simulation of values changes
  - Parameters:
    - Change interval
    - Number of values to change

- SCADA WINCC OA 3.8 SP2 (WINDOWS)
  - WinCC OA test application
  - Number of values selection
  - Change interval selection
  - Automatic test manager

- AUTOMATIC TEST ANALYSIS
  - Values received
  - Values lost
  - Connection errors
  - PLC cycle time
  - Average throughput
  - Max and min performance
  - Number of PLC cycles per transmission

**Diagram**

- TSPP PLC Manager
- TIME STAMP PUSH PROTOCOL (TSPP)
- Redundant architectures