

GT4 Component Fact Sheet

Extensible Input/Output (XIO)

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General Component Description

Globus XIO is an extensible input/output library for the Globus Toolkit®. It provides a single POSIX-like API (open/close/read/write) that supports multiple wire protocols, with protocol implementations encapsulated as “drivers”. The XIO drivers distributed with GT4 include TCP, UDP, file, HTTP, GSI, GSSAPI_FTP, TELNET and queuing.

In addition, Globus XIO provides a driver development interface for use by protocol developers. This interface allows the developer to concentrate on writing protocol code rather than infrastructure, as XIO provides a framework for error handling, asynchronous message delivery, timeouts, etc.

The XIO driver-based approach maximizes the reuse of code by supporting the notion of a “driver stack”. XIO drivers can be written as atomic units and stacked on top of one another. This modularization provides maximum flexibility and simplifies the design and evaluation of individual protocols.

What's New in GT4?

The following new features will appear in GT4:

- Dynamically loadable drivers
- GridFTP driver
- Mode E driver

Backward Compatibility Statement

- Full backward compatibility with the XIO protocol in GT 3.2
- Full backward compatibility with the XIO API in GT 3.2
- Full backward compatibility with the globus_io API (GT 3.2, 3.0, 2.4)

Technology Dependencies

- Globus XIO depends on the pre-WS libraries globus_common and globus_core
- Some XIO drivers depend on GT4's pre-WS Authentication and Authorization component