

Job Submission Description Language (JSDL)

Purpose: Provide a language for describing the submission requirements of computational jobs to computing resources, as in, but not limited to, those found in grids.

Description: JSDL provides an XML-based language specifically for describing single job submission requirements. Since many different job management systems exist in distributed, heterogeneous computing systems, such as grids, a primary goal of JSDL is to provide a common language for describing job submission requirements. Hence, the JSDL vocabulary is informed by a number of existing job management systems such as Condor, Globus, Load Sharing Facility, Portable Batch System, Sun Grid Engine, and Unicore.

We emphasize that JSDL focuses on single job submission description and it must be combined with other specifications, from OGF or other standards bodies, to address broader requirements in job or workflow management. For example, JSDL is used with the OGSA Basic Execution Service, an OGF specification that provides a job submission and management interface. JSDL can also be used with BPEL as part of workflows. JSDL can also be combined with other scheduling, service agreement [WS-Agreement], or job policy languages. Attribute and element extensions are also allowed.

JSDL provides elements for:

- **Job identification.** This includes a JobName, a description (any string for human consumption), a JobAnnotation (any string that may contain information for machine consumption) and a JobProject to which the job belongs.
- **Application information.** This includes a name, description, and version number. This description can be extended with application-specific information. A normative extension for describing a POSIX application, including environment settings such as file size limit and core dump limit, is specified.
- **Resource requirements.** As to be expected, the possible resource requirements are extensive, including 27 main elements, such as OS types, CPU types, file system types, physical memory, disk space, network bandwidth, and more.
- **Data requirements.** The data requirement elements allow files to be identified that must be staged-in (to the remote host) prior to execution, and staged-out afterwards.

Further Information: [Link to the document](#) or contact one of the following: [Andreas Savva](#), [Darren Pulsipher](#), [Stephen McGough](#)