There are a variety of specifications associated with web services. These specifications are in varying degrees of maturity and are maintained or supported by various standards bodies and entities. These specifications are the basic web services framework established by first-generation standards represented by WSDL, SOAP, and UDDI. Specifications may complement, overlap, and compete with each other.

*// Messaging WS*

SOAP (abbreviation for Simple Object Access Protocol) is a messaging protocol specification for exchanging structured information in the implementation of web services in computer networks. Its purpose is to provide extensibility, neutrality and independence. It uses XML Information Set for its message format, and relies on application layer protocols, most often Hypertext Transfer Protocol (HTTP) or Simple Mail Transfer Protocol (SMTP), for message negotiation and transmission. WS-Addressing is a standardized way of including message routing data within SOAP headers. Instead of relying on network-level transport to convey routing information, a message utilizing WS-Addressing may contain its own dispatch metadata in a standardized SOAP header. The network-level transport is only responsible for delivering that message to a dispatcher capable of reading the WS-Addressing metadata. Once that message arrives at the dispatcher specified in the URI, the job of the network-level transport is done.

*//Metadata Exchange WS standard*

JSON-WSP (JavaScript Object Notation Web-Service Protocol) is a web-service protocol that uses JSON for service description, requests and responses. It is inspired from JSON-RPC, but the lack of a service description specification with documentation in JSON-RPC sparked the design of JSON-WSP.

*//Security WS standard*

WS-security

*//Resource WS standard*

Including WS-transfer and its extension WS-fragment.

Resources, which are entities addressable by an endpoint reference that provide an XML representation. These standards define a mechanism for acquiring XML-based representations of entities using the Web service infrastructure. Specifically, it defines two operations for sending and receiving the representation of a given resource and two operations for creating and deleting a resource and its corresponding representation.

*//Transaction WS standard*

a Web Services specification developed by BEA Systems, IBM, and Microsoft. The WS-Transaction specification describes coordination types that are used with the extensible coordination framework described in the WS-Coordination specification. It defines two coordination types: Atomic Transaction (AT) for individual operations, and Business Activity (BA) for long running transactions. Developers can use either or both of these coordination types when building applications that require consistent agreement on the outcome of distributed activities.

*//Other WS standards*

The **Web Services Business Process Execution Language** (WS-BPEL), commonly known as BPEL (Business Process Execution Language), is an OASIS standard executable language for specifying actions within business processes with web services. Processes in BPEL export and import information by using web service interfaces exclusively.

**WS-Management** (Web Services-Management) is a DMTF open standard defining a SOAP-based protocol for the management of servers, devices, applications and various Web services. WS-Management provides a common way for systems to access and exchange management information across the IT infrastructure.