# Introduction to Web Services

Web services are one of the major hypes in today’s Internet world. But what is so special about Web services? To answer this question let’s look at two definitions. The first one gives a statement about the problems, Web services promised to solve two years ago [3].

“A Web service is a collection of functions that are packaged as a single entity and published to the network for use by other programs. Web services are building blocks for creating open distributed systems, and allow companies and individuals to quickly and cheaply make their digital assets available worldwide.”

Companies, that want to make their “digital assets” available to other companies, customers, or to roaming employees, need a new paradigm for the creation of open distributed systems. They need new kinds of “open interfaces” or standards for specific business domains and they need a better infrastructure for the development, operation, and usage of distributed systems. In short, Web services promised to simplify the syntactical and semantically interworking of programs in a distributed and heterogeneous environment that is operated by different, autonomous companies. Let’s now look at the current definition from the W3C [6]:

“A Web service is a software system identified by a uniform resource identifier URI, whose public interfaces and bindings are defined and described using XML. Its definition can be discovered by other software systems. These systems may then interact with the Web service in a manner prescribed by its definition, using XML based messages conveyed by Internet protocols.”

This more technical definition restricts the definition and usage of Web services to the application of XML based techniques [11]. The definition of the syntax and semantics of a Web service is restricted to the abilities of XML; they are invoked conveying XML messages by Internet protocols. The most important conclusions from this definition are the following.

Web services are supporting the following bindings:

|  |  |
| --- | --- |
| Name | Version |
| SOAP | 1.1 |
|  | 1.2 |
| REST | 1.0 |