

The aim of this work is to compare XML processing abilities of standard software solutions and hardware accelerated scenarios using a new generation of XML processing appliances. The emphasis is put on the speed of processing XML documents and on the demandingness of various operations over XML data. Firstly, we describe the used XML technologies and corresponding implementations in Java. Consequently, we characterize the core parts of our testing frameworks - IBM WebSphere DataPower Integration Appliance XI50 for hardware accelerated and IBM WebSphere Application Server 6.1 for standard XML processing. Further, the testing hierarchy involving two distinct testing suites - "Flat" and "Onion"- and tens of testing scenarios are defined. The "Flat" testing suite covers parsing, validating, transforming, and securing operations over XML data applied individually to a wide range of testing data, without bothering with concurrency. On the other hand, the "Onion" testing suite is a stress test combining several operations together. Both testing suites are executed on our testing framework and several measures (such as throughput) are collected and analyzed using n-dimensional OLAP cubes. The results show under which circumstances the appliance for hardware accelerated XML processing is worth using on and quantify the gain, which can be reached when incorporating such appliance to a network.