NODE.DPWS

Efficient Web services for the Internet of Things

Abstract:

Lets admit it Internet of Things has been one of the most talked conversation at colleges, and outsides, honestly IOT has a huge potential to impact technology in our every day life and could very well be the next big thing in this era of technology, no wonder all new developments are centric around IOT. The four authors take a deep dive at one of the potential platform that may turn into an efficient web service platform for IOT, NODE.DPWS is a paper trying to explore current DPWS tools using the Node platform as a possible candidate to be used for writing web services for IOT.

Introduction:

Its new, and that’s why its going to be tough for the end users to get used to it as not all share the same attitude and friendliness towards changing technology, do you remember how hard it was to let go off your Windows XP skills and get used to the all new Windows 8 and onwards :), Today I have around 11 devices that are connected to with WIFI at home and even changing the WIFI password means making sure is spent the next half an hour in setting all up again. Imagine what the End user feeling would be when smart environment like IOT having gadgets and devices from various platform is needed to be setup individually. thus having something with seamless integration capability and scaling capacity is what needs to be explored, the paper introduces us DPWS its advantages and characteristics, it also introduces us to the market standards and alternatives available for NODE.DPWS. With a brief intro to the Node.js platform the paper compares NODE.DPWS performance in actual platforms along with other identical developments and at the end concludes with the scope in future.

Significance:

DPWS “Device Profile for Web Services” was introduced in 2004 which defines the least number of restriction on a device that need to be addressed before implementing the web service messaging, the SPWS along with NODE.JS platform is a solution that is promising and has a scope of further research and development to make it more hands to use as a reliable web service for IOT. the solution is much more scalable, with better performance compared to others.

Solution: The authors have compared between various available tool kits and based on the features decided to use WS4D-JMEDS being a platform that is most uptodate. the solution also needs the use node.js platform that has a advantages over I/O operations, capable of being scalable. they do expose the security at large however they are not something which could not be avoided by good coding techniques, the platform was able to answer multiple questions for the development it was a good choice for their deployment and tests. In the implementation the changes were introduce to a service “GetTemprature” for the end users, using the suggested solution the changes were introduced for the feature to be executed whenever the service is invoked. based on the performance review between “node.dpws”, “WS4D.JMEDS CDC” and “WS4D-JMEDS SE”

Future Research:

Based on the findings of the researchers, they were able to validate that the DPWS solution on NODE.js platform has potential and capacity to improve, and the research is worth the time and exploration for a web service solution in reference to IOT. though the solution is not a silver bullet to address all the gaps node.dpws could be an excellent catch for further research. with a potential to ease of use for the end customers and capabilities of being able to perform better compared to other market solution the concept needs to be explored further on case by case basis.