

Position Paper for W3C Workshop for Ubiquitous Web

Title: P2P Network and Web

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P2P Network is important to make a light weight network, especially it is useful to develop a home network for connecting various kinds of devices such as home appliances, printer, digital camera, TV set , mobile phone and so on.

We are now organizing a consortia called PUCC(P2P Universal Computing Consortium) to develop standards for the infrastructure for home network, mobile network as well as the ordinal internet. Basic architecture is shown in Figure 1. The overlay protocols are defined to connect various different kinds of home appliances, mobile phones and the internet.

It is also important to extend various kinds of applications over this kind of network as shown in Figure 2. Web service mechanism will be useful to connect different kind of service applications, and it is important to make use of web technologies to integrate these network structure and service applications.

In this situation, the web technology will play an important role, and the problems in this point of views are as follows:

(1) Web as User Interface

It is necessary to have a useful user interface in rather complex and various kinds of digital devices. The most reliable and easy-to-use interface is for the moment the web. How to realize web interface for various kinds of digital devices in a home network?

(2) P2P Web

P2P network is essentially different from server-client network which is a key to the current web system. It is necessary to avoid the heavy server system installation in the

light weight home network. Then, it is highly desirable to make the P2P style web system. How can it be realized?

(3) Rich Client Model

There is an idea to realize the rich client web in the current web technology. For the moment, it is rather difficult to harmonize the server-client model and the distributed concept, and the programming style becomes very difficult for web engineers? Can we find a new programming model for easy use ?

(4) Integration Mechanism

From now on, there are so many good digital devices manufactured, and there are so many new services innovated by IT business companies and IT users. Therefore, the integration is a key issue for developing really useful environment, both by horizontal and vertical integration. The central role for realizing these kinds of integration is taken by the web, and is there any missing mechanism of the current web to support this important role?

Figure1 PUCc Architecture

- Common P2P Protocol: Bridge existing NW
- Common Application Service Platform
- Common Metadata to discover/harmonize services

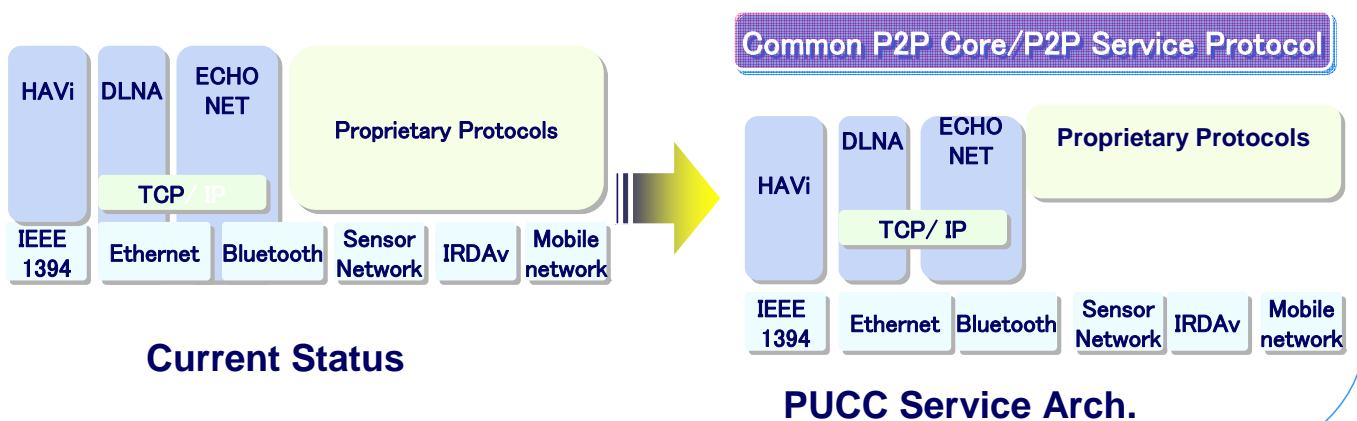


Figure 2

