

Prospectus of the Transparent Cloud Computing Consortium (T-Cloud Consortium)

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1. Objective

Computing models have greatly changed in recent years. High speed and high quality networks, and dramatic improvements in computer processing capabilities, have greatly changed the nature of applications and made the saving and processing of data on the network commonplace. These technological reforms have changed the data processing model not only for computers and smartphones, but also for all information devices.

In 2006, the phrase “cloud computing,” introduced by Eric Schmidt (Google CEO at that time), rapidly penetrated the market and has been used in a variety of scenarios. The essence of this concept is that information and applications are suitably processed in a global environment via the network. On the technical side, data is “stored” and “processed” not by specific servers and OS, but by the network. Especially, the key of the change is the fact that the network itself is seen as the computing space.

We can feel a part of this technological revolution closely in smartphones and tablets. In other words, from the user while it appears that the application is running on the terminal, it seems perfectly natural that the saving and processing of data is performed in a global environment via the Internet. We are now in an age when the network itself is saving and processing data.

We can easily imagine that in the near future even more terminals and information equipment, that is to say devices, will apply the same computing model. Android, which is one of the main smartphone OSs, is suited to use on embedded devices. There are already a large number of information devices using Android, such as various information terminals, car navigations systems and CATV next-generation STB (Set Top Boxes). Moving forward, there are high expectations that Android (or a similar OS) will operate in even more devices and that this will lead to the market known as M2M.

At this consortium, we conduct research activities into changes in the computing model as a result of collaboration between “device” and “cloud” and the creation of new value and markets through organic data processing. Specifically, we are researching the creation of information with new value through the saving/sharing of data from a huge number of devices via the network, and cloud-type big data processing, from the twin perspectives of technology and business. Furthermore, we have defined the three main technologies that will create these new markets as device applications, platforms and big data, and aim to promote and investigate the technical development and business potential in each field and contribute to the creation of next-generation device-centric markets.

2. Technical Area

In the consortium, we define three main technologies that will create these new markets as device applications, platforms and big data, and are investigating the technical development and business potential in each field. Themes we will focus on in each field are as follows.

Device applications:

This includes applications for retrieving, processing and registering information and performing device control not only on smartphones and tablets, but all devices that handle information and devices such as sensors. In addition to applications aimed at smartphones and tablets, this is expected to be applied in a large number of markets in the M2M area, such as a wide range of sensor information for automobiles, smart buildings, healthcare, and in agriculture and the marine products industry. We are promoting practical uses, in consideration of the potential of these applications from the twin perspectives of technology and business.

BigData processing:

A huge number of devices are connected to the network in a semi-permanent way and continue to generate data. Data processing technology, using parallel distribution technology that utilizes a large number of computing resources, has been referred to as “big data” in recent years, and big data provides valuable “information” by giving meaning to a huge volume of data or looking for relationships in many different types of data that at first sight seem unrelated. We focus on data processing technology and statistics/analysis technology that gives meaning to data and investigate the development of technology and business based on a theoretical background.

Platform:

These are application platforms for saving and processing data obtained by devices. By 2020 there will be several hundred billion to several trillion devices connected to the network. A global platform, in which all environments are connected, regardless of time and place, is required. We consider technology for building a platform with huge computer resources and frameworks, operation models and business models to save and process data in an efficient way.

3. Outline of Activities

At this consortium, the activity structure will be that of conducting technical development and verification testing as projects, and sharing the progress and results of each of these projects at an all-hands meeting held periodically. Projects will be inaugurated from the market perspective and participants are invited to join projects in the respective fields, such as smartphones/tablets, smart cars, smart buildings and smart meters, in order to plan and promote technical development, verification testing and feasibility studies.

Those businesses related to the 3 main areas described above will participate in some form in these projects. We investigate the technical development and business model based on the collaboration model and application models for each area.

4. Activities

In the consortium, we will have several meetings and activities, such as:

General meeting:

This will be held once a year in order to report the activities of the consortium and decide important items.

All-hands meeting:

This will be held approximately once every six months with the aim of reporting activities and sharing information. There will be a report on the activities of the consortium as a whole and the progress/results of each project.

Study groups:

These will be concentrated research meetings held approximately once a year in the form of a camp in order to discuss in more detail the practical/commercial uses of the technical development in which the consortium is involved.

Project meetings:

These will be held individually for each project.

5. Expected Participants

We welcome the participation of researchers, research institutions and companies related to the three main fields of device applications, platforms and big data and related technologies/related markets.

This consortium aims to contribute to the practical use of applications for a new model where devices and the cloud collaborate and new businesses are created. Participants should read carefully and agree with the purport of this prospectus.

6. Activity Period

The activities will start in April 2012 and the activity plan shall be revised every year. Hereafter, these activities will be continued as long as they are considered to be necessary as a result of the resolution of the general meeting.

End.