The time Synchronization protocol for wide area sensor netowork

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February 9, 2010

Keywords: time synchronization, self-stabilize , wireless sensor network.

In there year, the wireless sensor network is the hot topic by the development of the wireless telecommunications technology and the lowering the cost of hardware. The science usages of a hazard assessment, crime prevention or a traffic control, It is an indispensable technology that composes the social infrastructure in the ubiquitous computing. It is a big problem to guarantee a time correspondence in many applications in that connected directly with the reliability of the system. However, It contains assumption of the time when each node cannot be referred to accurate time source, when thinking about this problem as a distributed system. This is the same problem in a real environment that the infrastructure for synchronized with of time such as rooms where the electric wave from the satellite doesn't reach physically and the moons where the satellite doesn't exist to begin with is not in order at the same time.

In this papar, we will consider the time synchronization protocol for wireless sensor network that does not depend on the external unit such as GPS. it is necessary to synchronize an internal clock of each node. However, to cause an inaccurate, changeable communication delay, the time of other nodes doesn't always show present time in a wireless communication with the sensor node. In addition, even if it is the same transmission delay, each internal clock is completely known no synchronization by ticking away the

time that is called a clock drift. Additionally, it is necessary to consider the occurrence of the breakdown of peculiar hardware at the wireless sensor network.

It is different how do the permission of the error margin at time according to the application. Our approach, the technique of the same period of time by a regular broadcast that improved SNTP and self-stabilize Leader Election protocol. And it proposed the self-stabilize protocol corresponding to the change in a dynamic topology due to the breakdown of the node. As a result, we will solve the efficient synchronization technique between two or more nodes in the large-scale environment, and loop error by the cycle. Finally, we analysis and investigate the characteristic of the error margin of time.