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Author(s)	瀧島, 和則
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Description	Supervisor:篠田 陽一, 先端科学技術研究科, 修士(情報科学)

防災 IT システムの耐災害化に関する研究

2010106 Takishima Kazunori

Natural disasters have become more frequent in recent years. In order to deal with disasters and reduce damage, disaster prevention systems using IT are in operation. The disaster prevention IT system is required to operate normally even in the event of a disaster. However, some parts of the system may be destroyed by a disaster. Therefore, we need to make it resilient to disasters.

As a method of improving disaster resistance, strengthening the components constituting the system is used. However, when the disaster prevention IT system does not operate normally, there is an event that it is not caused by the failure of the component. In other words, it is necessary to improve disaster resistance in consideration of the entire system. Based on the results, we propose a method to verify the phenomena that can occur in the system in the event of a disaster by simulation. This makes it possible to study disaster resistance when constructing a disaster prevention IT system.

The proposed method was implemented for the evacuation order system. As a result, an unsafe event was discovered. In addition, the reproduction was confirmed by simulation. Furthermore, it was shown that by making the simulator compatible with other systems, verification can be performed while interlocking with other systems that are operating.