

New secret dispersion technologies that protect against data falsification without needing extra disc capacity

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NEC Corporation announced today the development of secret dispersion technologies that safely and securely disperse and save confidential information, even in open environments such as cloud computing networks.

Secret dispersion technologies manage data by dispersing it into multiple parts and restoring the data based on specific requests. These technologies are expected to prevent data from leaking when saving important information.

In order for conventional technologies to identify when information changes due to such causes as a failed disk drive or tampering, they require secret information to be distributed, the retention of "check digit data" for confirming if secret information has been tampered with, and the distribution of key data that was used to make check digit calculations. However, practical implementation of these technologies is difficult since key data is more than 3 times the size of secret information, and requires a large capacity disk for saving data, despite check digit data being approximately the same size as the secret information.

These newly developed technologies help solve this issue by enabling key data to be restored by collecting a range of check digit data, which confirms when tampering takes place, then using an optimized

combination of error-correcting code technologies that correct communication and memory errors and conventional secret dispersion technologies. This enables tampering to be identified with only about 20 bytes of check digit data, which is nearly the same data size as secret information and doesn't require the maintenance of heavy key data used by conventional technologies.

This further enables secret dispersion technologies to be utilized for storing large-scale data, including cloud environments, by safely and securely saving important information without the need for high-capacity disks.

Looking forward, [NEC](#) aims to continue active development of technologies and products that further improve the security of cloud environments.

Provided by NEC

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