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SPACE STORAGE AS BACKUP FOR CRITICAL OR PERSONAL INFORMATION

Abstract

Today, there exist many services for information storage. Some of them offer continuous on-line access whereas other require a timeout to occur for the data package to be delivered. When the time between storage and delivery is long, databases need to be stable enough to keep the data regardless all contingencies that may happen along years, being this achieved by continuous replication.

But what about a persistence of a full century? Is there a media able to ensure the information recovery after one hundred years? Experience says that maybe the paper is still the most reliable support for long-term data. But this results very expensive in terms of custody and protection from environment.

From the beginning of the space conquer, aerospace engineers have faced problems that may help to enhance the reliability of information storage systems: fault tolerant systems, redundancy, protection against environment, etc. Moreover, space debris, what today is a problem for the mission developers, proves that once in space the satellites tend to stay very long.

In the recent days, a new end-to-end service has been setup to provide space storage as backup for critical or personal information. Messages and gifts to sender's descendants and DNA codes for future use in medical remedies are expected to be candidates for this service.

The service combines the ground facilities that are currently known to be more reliable with a space segment that stores the information in such a way that can be recovered even though the sender or the operating company do not exist any more.

The space segment is a hundred-year lifespan satellite, active but hibernating most of the time, and communicating its payload data in a very basic and conspicuous manner. The data will be uploaded as it is being generated by the users and, in case of catastrophic lost on ground, safely retained until the programmed timeout.

This paper summarizes the conceptual definition of the system and provides clues for the commercial exploitation.