



13th Global Congress on Manufacturing and Management, GCMM 2016

## The cloud technology double live data center information system research and design based on disaster recovery platform

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### Abstract

In the current information age, usually the data resources are much higher than the value of the computer equipment itself. In recent years, with the rapid development of network technology, the formation of a high concentration of data stored in the network environment, the simplified data management, improve operational efficiency, reduce the cost of investment at the same time, the data security is experiencing more severe test. As a kind of data disaster recovery data security technology, through a complete copy of the data in real time to the disaster recovery center, in order to keep a copy of the basic means of providing a last line of defense for the security of the data. Since the disaster recovery started, people have made a lot of research, but there are still some problems first, as the diversification of the storage subsystem structure of infrastructure, so to build a disaster recovery system need to do a lot of personalized treatment followed by a single, storage technology has been unable to meet the needs of various industries on the disaster intensity of third and if the security of the backup data cannot be guaranteed, for sensitive confidential data, even worse than no backup. To solve the above problems, this paper related to the key technology of disaster recovery data backup based on virtual storage research, the main work is as follows. Based on the characteristics of storage technology in disaster tolerant system in the analysis, choose to use the virtual storage technology support as the basis of disaster recovery system to realize data backup, and through in-depth analysis of the virtual storage technology and its application status in the disaster recovery system, pointed out that the current application of virtual storage technology in disaster tolerant system in the challenge and the starting point of this article. Analysis of the structure of the internal computer system with virtual memory and the disaster recovery system based on the needs of the design of a virtual network storage model and disaster tolerant architecture based on this model. The advantages and disadvantages of three virtual memory mapping mechanism at present, designed for disaster recovery system virtual memory mapping mechanism and cache mechanism. On the basis of this mapping mechanism is established on data disaster tolerance strategy can be realized, and the upper user language abstraction, form a complete set of disaster recovery mechanism. Through a detailed analysis of the virtual disk transparent encryption mechanism, proposed the use of the mechanism to realize the transparent protection of backup data, combined with the characteristics of backup data, and optimized the virtual disk transparent encryption mechanism, focus on strengthening the management of keys, the encryption mechanism is analyzed on how the role of disaster recovery system. Quasi double live disaster recovery storage based cloud computing data center technology problems of the equipment malfunction need to

manually switch the business system, business recovery time. In order to solve this problem, this paper uses Net App 3250 double live disaster recovery storage technology Metro Cluster to build a double live a real sense of cloud computing data center. When the double live data center reniyiyitai main memory based equipment malfunction, another main memory automatically and quickly take over the business, to achieve zero down live migration, to ensure the continued operation of the business system, provide a solid guarantee for the information construction unit.

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Peer-review under responsibility of the organizing committee of the 13th Global Congress on Manufacturing and Management

*Keywords:* Double live data; disaster recovery storage; virtual storage; transparent encryption; filter driver

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## 1. Introduction

With the process of informatization, the continuous application of cloud computing technology, application system is more and more large scale, scope of system failure effect is more and more widely, the customer to the system fault tolerance is also more and more low, universities to bring more loss. At present, a single cloud disaster recovery storage technology calculation of double live data center architecture has become the mainstream mode of university data center, but from the view of the practical application, this architecture has been unable to meet the needs of disaster recovery and the growing complexity of the information construction in Colleges and universities. In view of the above problems [1], to build a real safe, stable and efficient dual live data center to become an urgent need for cloud computing environment. This paper is mainly to build the double live cloud computing data center introduced by Net App 3250 double live disaster Metro storage technology Cluster. In the past 30 years, with the rapid development of information technology, people's demand for computer technology and network technology has been growing. Using the services on the Internet and the Internet, people can exchange letters, buy goods, arrange trips or make friends and chat, and information data plays a very important role in the social activities of human beings. People bring huge opportunities in information technology in the benefit at the same time, had to face a severe test of information security problems: without any measures to protect the data vulnerable to various natural disasters and man-made destruction, the consequences be unbearable to contemplate [2]. According to IDC statistics show that: online banking interruption cost per minute is \$7000, the enterprise resource management system for \$13000, while the call center is as high as \$27000! The United States in the past 10 years, years, the company had a disaster, there are 55% of the collapse, the remaining 45%, because the data is lost, there are 29% in the collapse of the two years, only 16% of the survival. In the face of natural disasters, the current enterprise information system is indeed very fragile. When more and more people have become accustomed to working and living in the Internet environment, the interruption of the operation of any key information system or data loss will lead to an immeasurable loss. Most recent examples of the most influential when the number of 9.11 events". The "9.11 incident" occurred, the world trade center has more than 40% companies out of business (these companies are the world famous company), and the reason is because these companies due to disaster recovery measures did not cross regional, resulting in the loss of customer information, business cannot continue [3]. To set up a disaster recovery system across the region, the price of expensive, non general units will be able to enjoy the world trade center, those unexpected collapse is a very good example. So it is significant to protect the data. Although the traditional backup technology in some cases can effectively protect the data, but in the occurrence of such large-scale disasters such as earthquake, war, terrorist attacks, often powerless. The main reason is because the traditional data backup technologies are usually not all copies of the data are kept separate effectively, that is to say, these technologies are not incapable of remote disaster recovery. The disaster recovery system has remote disaster recovery ability is an indispensable means of information technology to ensure the normal operation of the modern enterprise The relevant schematic diagram is shown in Figure 1.

The world has seen some major disaster recovery technology and products, more representative of the VERITAS company VERITAS Global Cluster Manager (GCM), VERITAS Volume Replicator (VVR) and VERITAS Cluster Server (VCS); IBM HAGEO, Geo RM, TSM, XRC, ESS PPRC and SHDF EMC; HP, MC/Service and Guard etc.. These products are more powerful, cross regional disaster, but generally need to set up the fiber line, and the remote backup center system requirements is very high, almost is to establish a set of information processing center and the local system completely in different needs as like as two peas, professional

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