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Data Management and Network Platform for CFETR

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The China Fusion Engineering Test Reactor (CFETR) is the next-generation facility in the roadmap for the realization of fusion energy in China, which is at the stage of concept design. During concept design, it is estimated that it will generate about ten million 3D components, 2D diagrams, project and design documents over the entire lifecycle of CFETR. To ensure the consistency of CFETR design and integration, it is important to provide a collaborative work environment for all the participants. How to store and manage CFETR design documents is a big challenge for CFETR IT team. This paper presents a description of the design and implements of the data management and collaboration network platform for CFETR. The design focused on the following major technical issues including data system structure, user management, data security mechanisms, disaster recovery & backup and network environment. CFETR members come from different research organizations and play different roles in the project. It is essential to provide user authorization and authentication to avoid data abusing. To protect data from destructive forces and from unwanted actions, some data security mechanisms, including access control, action monitoring and auditing, data encryption and disaster backup, have been deployed in the CFETR data management system. The collaboration design network environment is based on the WAN Optimization Controller network device. Built-in Virtual Private Network protocol will create a safe and encrypted connection over a less secure network. WAN optimization application will be used to provide data deduplication function and secure data transfer.

Minioral

No

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Yes

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