

A Label-Based File System

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Abstract. The growth of data on Internet is rapid and the demand of storage management increases day after day. In this paper, we present a storage system called Label Based File System (LBFS) which uses object based approach with label-based support. The LBFS provides mechanisms for users to attach meaningful metadata on the file objects. By using the metadata and object storage technique, the LBFS can provide users an efficient, scalable and flexible way on the management of the massive volume of data. We have implemented the LBFS core components on both the Linux and Windows platforms. The LBFS can provide multiple namespaces for the stored file objects by using the concept of labels, collections and categories. Compared to traditional file systems, the LBFS has advantages on the aspects of file searching, and namespace structuring.

Keywords: data management, object-based storage, file system, label

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