

ABSTRACT

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DESIGN OF PROTOCOL FOR DATA CLASSIFICATION SYSTEM FROM OUTPUT OF DVB-S RECEIVERS

(xiii + 107 pages : 33 figures; 6 tables; 1 appendixes)

ElysonArray is an array of distributed devices whose function is a data classification system from output of DVB-S receivers. The array consists of four functions: MasterArray as array controller, FrontGate as DVB-S reception point, ArchGate as data classification and information retrieval, Storage Server as the repository. A protocol is needed to ensure the system works properly. Elyson Protocol, which controls the relationship between array's members, is the protocol of ElysonArray.

This paper focuses on design of Elyson Protocol as an application layer protocol. The protocol uses TCP/IP as transport layer and network layer protocol. Elyson Protocol defines the message between array's members. The protocol defines message for membership management, sending members' parameter, filter management in ArchGate, pipe transferring between FrontGate and ArchGate, raw stream distribution in ArchGate, distributing result of filtering from ArchGate to Storage Server. The protocol also defines a table for storing array structure and tables for distribution process.

Elyson Protocol is designed for highly secured and highly reliable network. The protocol does not have security mechanisms and UDP has been used for pipe transferring between FrontGate and ArchGate. When implementing the protocol, good threading design guarantees effectiveness of the protocol. Abstract file systems can be implemented for generic-file-operation messages. This abstraction will enable the use of other file-exchange protocols instead of FTP.

References: 44 (1995-2007)