

# Streaming Chunked Files in a Federated File System

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## THESIS DESCRIPTION

- No streaming is implemented in either Silenus or Ficus which is useful in areas such as multimedia streaming
- Due to the fact that most streaming is done from a single source, the stream is interrupted if the node goes down
- There is no replication for chunked files implemented within the FICUS framework

## Conclusion

- A service provider is needed to facilitate connectionless and connection-oriented streaming of chunked files in a metacomputing environment

## OBJECTIVE / APPROACH

### Objective

- A framework for streaming chunked files distributed over a federated file system using both a connectionless and connection-oriented protocols

### Approach

- Review literature and analysis of other streaming solutions
- Develop system requirements and use cases
- System framework analysis for federated streaming framework and chunk replication
- Implement framework for the streaming of chunked files and the replication of chunks
- Deploy framework in SORCER and validate through the streaming of chunked multimedia files

## SCHEDULE

Literature Review Report	10/04/06
Use Cases Diagrams	09/21/07
Architecture and Detailed Design	09/28/06
Thesis Proposal Presentation	10/04/07
Framework Implementation	11/16/07
Framework Validation	11/30/07
Thesis Defense	12/06/07

## MISCELLANEOUS SUPPORTING DATA

### Benefits

- Lowered bandwidth costs on individual nodes through the distribution of the chunks between a number of different nodes
- Increased reliability in accessing files due to the chunks being replicated across the multiple byte stores
- Faster access to files through parallelized downloading from multiple sources
- Decreased interruptions of streams as a file is no longer streamed from a single location
- Improved scalability by using the Silenus federated file system when used in applications such as a multimedia streaming server