

# A File Location Optimization for a Federated File System

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<p><b>THESIS DESCRIPTION</b></p> <p><b>Problem Statement:</b></p> <ul style="list-style-type: none"><li>• Access to files can be to distant locations</li><li>• Unmanaged number of replicated files</li><li>• There is no QoS for file store providers</li><li>• A minimum number of replicated files defined by user only</li></ul> <p><b>Conclusion:</b></p> <p>QoS for managing dynamic locations of replicated files is needed</p>	<p><b>OBJECTIVE / APPROACH</b></p> <p><b>Objective:</b></p> <p>Develop a framework for file location optimization that provides QoS and minimum number of replicated files</p> <p><b>Approach:</b></p> <ol style="list-style-type: none"><li>1. Conduct literature review and feasibility study</li><li>2. Define system requirements and use cases</li><li>3. Specify architecture and detailed design</li><li>4. Determine criteria needed to decide the location to move the file to</li><li>5. Develop the communication framework for the locator, replicator, and the sweeper</li><li>6. Deploy the framework in SORCER</li><li>7. Verify and validate the design and use cases</li></ol>
<p><b>SCHEDULE</b></p> <p>03/30/2007 - Literature Review and Feasibility Study</p> <p>04/13/2007 - System Requirements</p> <p>05/01/2007 - Specify architecture and detailed design</p> <p>12/15/2007 - Develop the framework</p> <p>01/18/2008 - Thesis proposal presentation</p> <p>02/25/2008 - Validation of Use Cases</p> <p>03/13/2008 - Thesis Defense</p>	<p><b>BENEFITS</b></p> <ul style="list-style-type: none"><li>• Faster access to locally stored files</li><li>• Increased reliability by a relevant minimum number of replicated files in the system</li><li>• Improves scalability by multiple instances of the framework service providers (locator, replicator, and sweeper)</li><li>• Increases productivity by providing intuitive and friendly, zero-install user agents</li><li>• Improves system performance by providing QoS for file store providers</li></ul>