# Investigating the behavior of network aware applications with flow-based path selection.

**Authors:** Andrey Bobyshev (Fermilab), Matt Crawford (Fermilab), Vyto Grigaliunas (Fermilab), Maxim Grigoriev (Fermilab), Ron Rechenmacher (Fermilab).

**Abstract:**

To satisfy the requirements of US-CMS, D0, CDF, SDSS and other experiments, Fermilab has established an optical path to the StarLight exchange point in Chicago. It gives access to multiple experimental networks, such as UltraScience Net, UltraLight, UKLight, and others, with very high bandwidth capacity but generally sub- production level service. The ongoing LambdaStation project is developing an admission control system for interfacing production mass storage clusters with these experimental networks to enable bulk data movement. The goal is to design a system capable of doing per flow based forwarding. One of the important sidelights of this project is investigation of the behavior of end-node operating systems and applications in the presence of per-flow rerouting. This article will introduce our findings and current status of the research in this area. Our focus is on Linux as operating system, and SRM (Storage Resource Manager), GridFTP, and dCache as network aware applications.