ECE5658: Operating Systems Design – week12 critique

2019710204 노대연

1. All File Systems Are Not Created Equal: On the Complexity of Crafting Crash-Consistent Applications

(1) Applications use complex update protocols to persist state. And these protocols are highly dependent on subtle behaviors of the underlying file system that vary in crash-related behavior which called persistence properties. Persistence properties have two classes; atomicity and ordering.

As a result of the experiment performed in the paper, applications should not rely on persistence properties in file system study. ALICE(Application-Level Intelligent Crash Explorer) proposed in the paper is tool to find crash vulnerabilities of an application. As a result, ALICE is an efficient FS design with safety validation.

(2)

(+): ALICE is validate tool for persistence properties

(3) How does ALICE work with the F2FS file system?

2. TxFS: Leveraging File-System Crash Consistency to Provide ACID Transactions

(1) Applications need crash consistency. Because crash consistency ensures that the application can recover to a correct state after a crash. TxFS(Texas Transactional File System) provides reuse file system journal, develop techniques to isolate transactions, and simple API with strong crash consistency. So, TxFS can easy to implement, data safe, and high performance.

(2)

(+): TxFS is easy to use, and data safe