Wonderful : A Terrific Application and Fascinating Paper

Your N. Here
Your Institution

Second Name
Second Institution

Abstract

Your Abstract Text Goes Here. Just a few facts. Whet our appetites.

1 Introduction

As large-scale unified storage systems evolve to support next-generation hardware and meet the requirements of an increasingly diverse set of applications, *de jure* approaches of the past—based on standardized interfaces—are giving way to ad-hoc co-design strategies that embrace domain-specific interfaces and optimizations.

fixed storage apis force applications to use external data management, or duplicate complex error prone processes when the system doesnt meet their needs. fear of vendor lock-in is beginning to subside with open-source. by exposing internal services applications can compose existing services to support application requirements. also we may see entirely new sotrage system based on apsecific cases, often based on consitency requirements.

data is the most critical component, but interfaces are just as critical because they define access. how do we manage this trend?

its hard because the design space is quite large. afterall, how long have we been dealing with blocks and files. the reason we wanted to move away from standard storage apis in the first place is because the storage system wants to evolve. so we cant advocate a fixed api. domain specific knowledge of both applications and storage systems is needed then to optimize any particular instance of co-design.

Malacology [1] is a recently proposed *programmable* storage system that exposes common sub-systems found in distributed storage systems for reuse by applications, avoiding duplication of complex error-prone services.

Malacology demonstrates a set of prinicples for exposing services, and demonstrates with real world examples. While the exact form of these services is not well-defined, we argue in this paper that in order for storage systems to continue to evolve, managing interface change must be a fundamental component of programmable storage.

Declarative specification is the way to go here.

References

[1] SEVILLA, M., WATKINS, N., JIMENEZ, I., ALVARO, P., FINKELSTEIN, S., LEFEVRE, J., AND MALTZAHN, C. Malacology: A programmable storage system. In *Eurosys 2017*. To Appear.