Zanzibar: Google’s Consistent, Global Authorization System

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Storage System for Access Control Lists (ACLs)

"Video X is public."

"Group Y manages Cloud Project Z."

Google
Authorization Engine

"Can Alice view video X?"

"Can Bob create a VM under Cloud Project Z?"
Zanzibar is Designed to Be ...

- Correct: Respects **causal** ordering of updates
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- Correct: Respects causal ordering of updates
- Flexible: Supports rich variety of access control policies
- Scalable: $O(\text{trillion})$ ACL entries, $O(\text{million})$ authorization checks/second
- Fast: $< 10\text{ms @ 95\%}, <100\text{ms @ 99.9\%}$
- Available: 99.999\% over the past 3 years
Track 1
"Real-World Deployed Systems"
11:20 - 12:40
July 10, 2019