SCALABLE MICROSERVICE BASED ARCHITECTURE FOR ENABLING DMTF PROFILES

DIVYANAND MALAVALLI
SIVAKUMAR SATAPAN
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AGENDA

- Traditional approach to architecting manageability application
  - Benefits & drawbacks
- Approach to architecting management application with microservices
  - Architecture benefits & drawbacks
  - Guidelines implementing DMTF profiles
  - Benefits to management application
TRADITIONAL MANAGEMENT APPLICATION ARCHITECTURE

Benefits
- Simplicity
- Single process
- Easy to build, test
- Open to refactoring

Drawbacks
- Update is difficult
- Code complexity
- Not open to scaling
- Application failure
- Partial feature
MICROSERVICES PROPOSAL FOR MANAGEMENT APPLICATION

Benefits
- Update any profile
- Withstand failure
- Scale based on demand
- Low cognitive load

Drawbacks
- Network reliability, latency
- Design, setup complexity
- Operation automation

Proposed design for enabling DMTF profiles
SUGGESTED MICROSERVICES GUIDELINES FOR DMTF PROFILES

- Each DMTF profile is service
- Each service is self-contained & decentralized
- Each service is smart, inter-connected via HTTP API calls
- Service deployment & monitoring is automated
- Services support semantic versioning
- Organization structure, culture shift

Image: Microservices, Martin Fowler
SUPPORT FOR SOAP AND REST

▲ SOAP protocol
  – Security, messaging

▲ REST style
  – Client-Server
  – Stateless
  – Cacheable
  – Uniform Interface
  – Layered System

▲ Microservice architecture
  – Support SOAP & REST together
BENEFITS OF MICROSERVICES FOR MANAGEMENT APPLICATION

- Each profile can be released independently
- Scaling based on demand for a profile
- Lower cognitive load on developers
- Practice of continuous delivery (observe, orient, decide, act)
- Large team management is easy
- Solution is language agnostic
- Embrace change faster
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