

QoE Assurance for Enterprise Video Conference

Qiangzhou Gao (gaoqiangzhou@huawei.com)

Mar.21 2024, IETF119 Enterprise Network Side Meeting, @Brisbane

Background: video conference QoE assurance is a key requirement for modern enterprises

- Video conference often meets quality issues
 - Blurring
 - Stuttering
 - Connection lost
- Important meetings need strong QoE assurance
 - Vital internal meeting: project review, live leadership speech etc.
 - Remote conference: SDO meetings, industry summits etc.



General Requirements for video conference QoE Assurance

- **Recognition:** traffic from high priority meetings could be automatically recognized by the network
- **Strong assurance:** the network could assure constant clear picture and zero stuttering through approaches such as resource reservation or queue scheduling etc.
- **Fault detection:** when failures happening, it could be automatically detected by the network

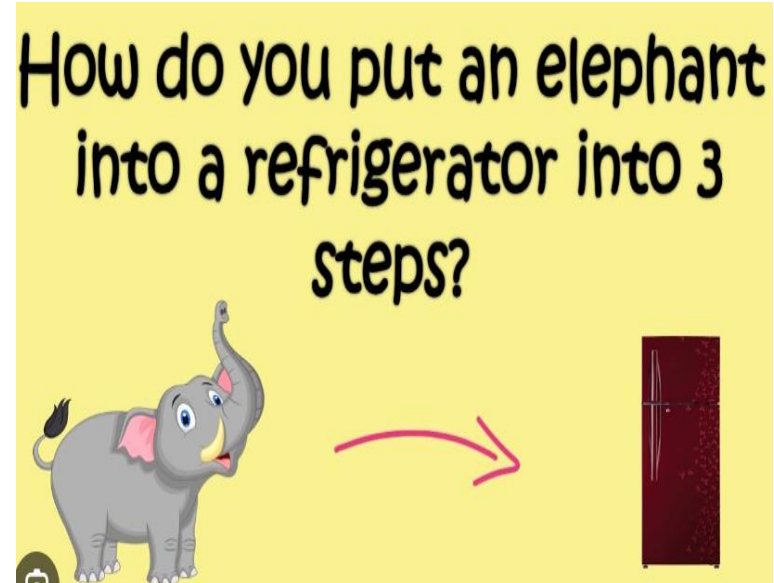
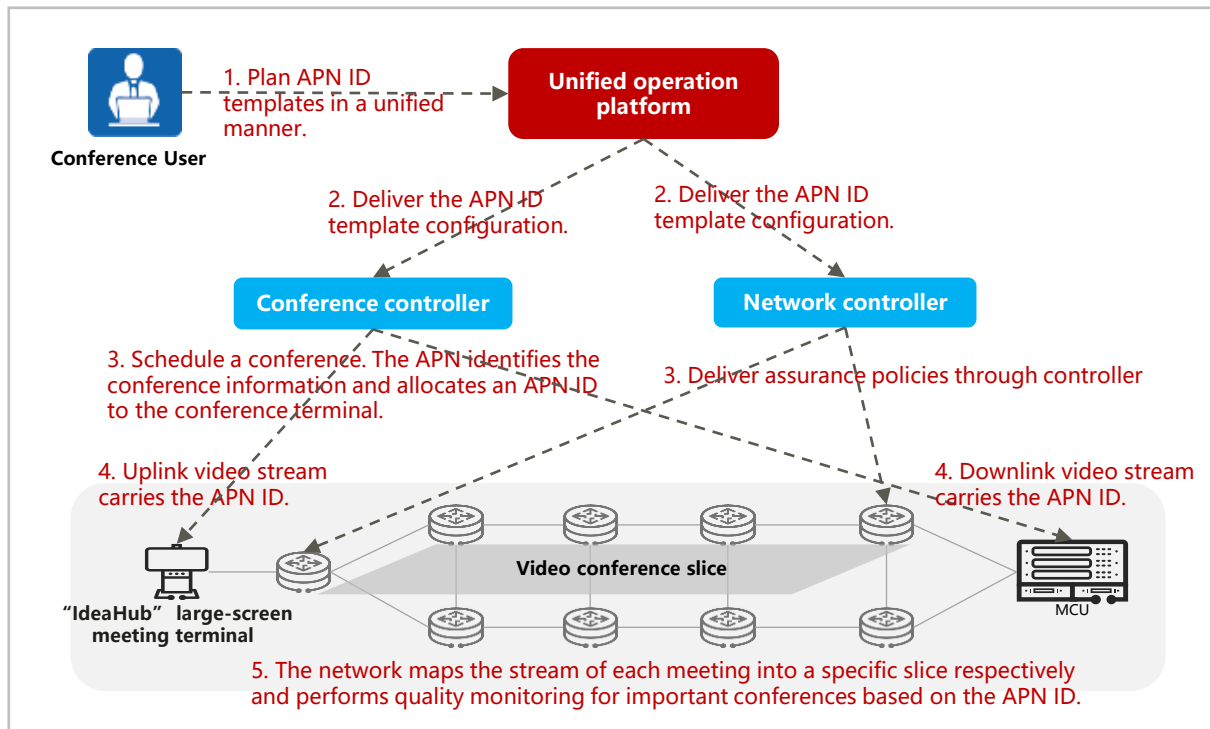


Image from YouTube

APN-based commercial deployment case in production network

Endpoint-Network collaborative video conference QoE assurance



Problems:

- Frame freezing and blurring in 40% video conferences.
- Conference traffic is invisible, and O&M is difficult. The average fault locating time is hours.

Solution:

- Unified operation platform plans APN ID templates and delivers them to conference/network controllers
- Video conference controller sets the service level, stream type, and conference ID (after hash) according to the APN ID templates.
- Network controller deploys policies based on the APN ID, including OAM behaviors
- Network devices (routers) enforce policies and monitor the quality of important conferences.

Future Work

- More commercial deployment in various industries
- Extended APN use cases
 - QoE assurance for other applications (collaborative working etc.)
 - Fine-grained network access control

Thank you!