Improving ICE Interface Selection Using Port Control Protocol (PCP) Flow Extension

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Problem Statement - ICE

- Host with multiple network interfaces. Each interface may have different link characteristics.
- How to choose the best interface for media streams?
- ICE Agent does not have any info to prioritize candidates from multiple interfaces.
PCP FLOWDATA OPTION

• Signal the application's network requirements to the access network
  – So certain network flows receive different service than other network flows
• Signal access network’s ability to accommodate the flow
Algorithm Overview for ICE

- On Network attach, determine if the network supports PCP
- On Session setup, query link characteristics of each interface
- Prioritize the ICE candidates accordingly
Algorithm overview for ICE

- Alice
- PCP
- Wifi Network
- Mobile Network
- Bob
- Media Session
- PCP
- INTERNET
- SIP Server

ICE Interface Selection using PCP
Multiple Interfaces for media streams

PCP

Alice

Wifi Network

Bob

Mobile Network

Video Stream

Audio Stream

INTERNET

SIP Server

ICE Interface Selection using PCP
Availability of New Interfaces

ICE Interface Selection using PCP
QUESTIONS ?