Alcatel·Lucent

dit
UPM

Q4S: Quality for Service
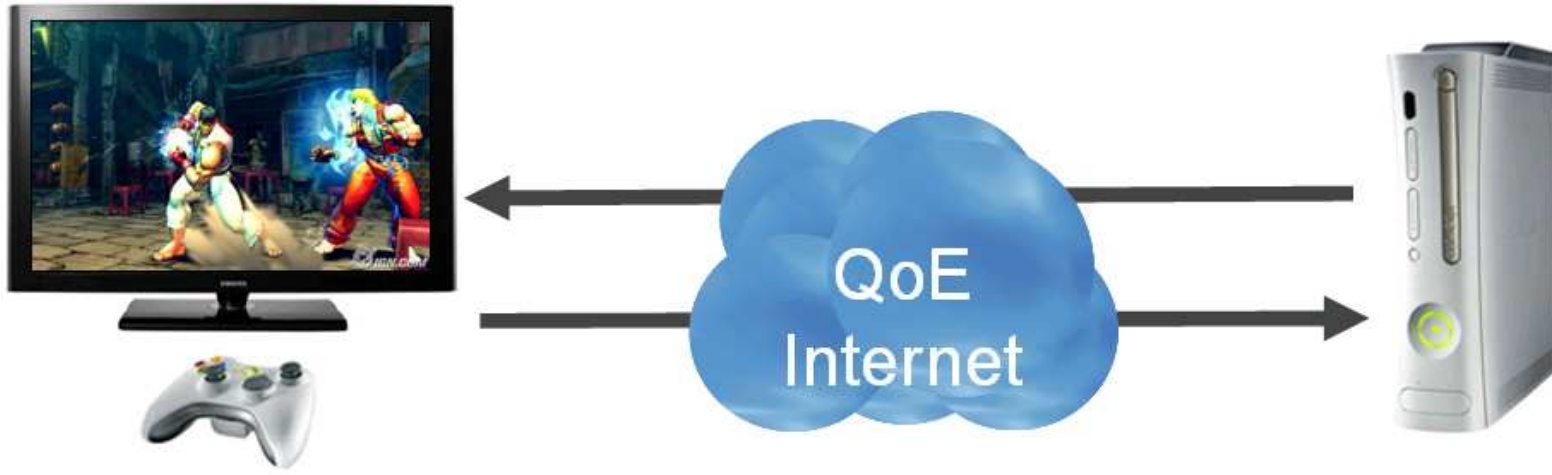(formerly Q-HTTP)

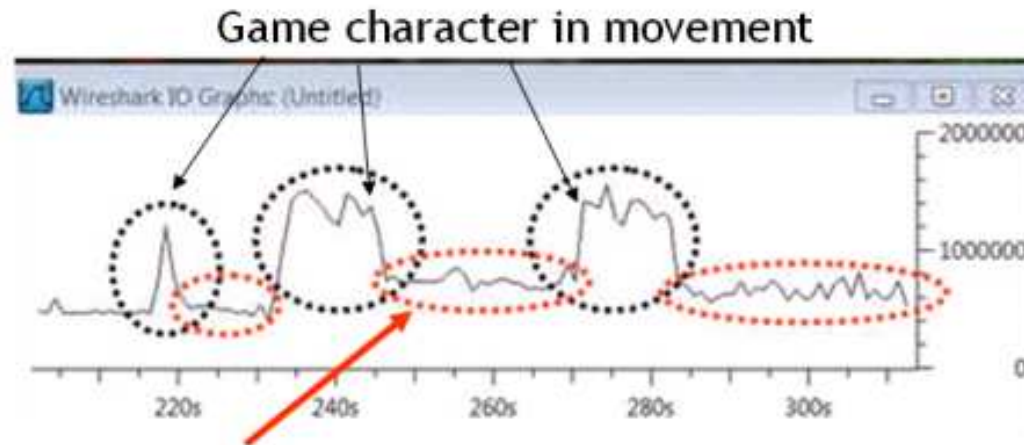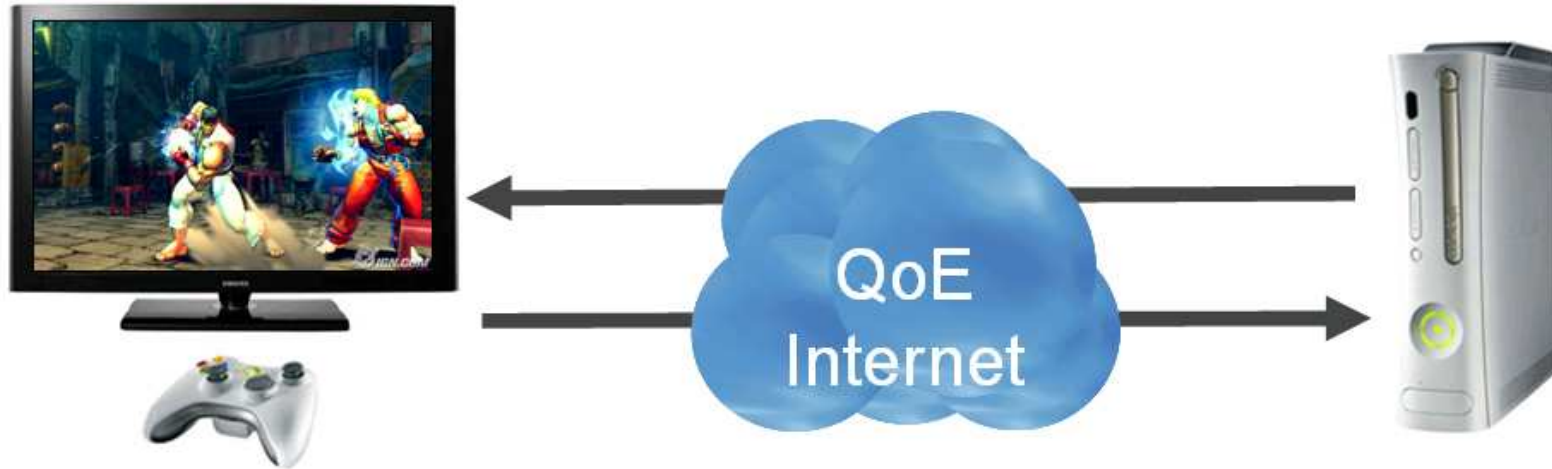How did we get here?

Problem statement: main use case

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Game character in movement

When SuperMario stops, downstream rate falls down dramatically

Problem statement :user

VS

- **Best-effort Web-dominated Internet**

- **Access connection requirements**
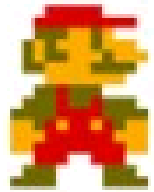
- **Static contract-based connection capabilities**

- **Differenciated services oriented-Internet**

- **E2E connection requirements**

- **On-demand-dynamic service-oriented connection capabilities**

Current approach: content/service provider

Today's approach

- Contents adapts to connection
  - adaptative encoding

- Oversize network

- Delivery close to subscriber
  - High deployment effort
  - Intra-provider QoS

VS

Why not?

Connection adapts to contents

- Dynamic triggering AQoS+NQoS

- Centralized delivery model
  - Less deployment effort
  - Inter-provider QoS

Current Tools for NQoS and QoS tracking

- **RSVP:**
  - Fixed network requirements VS. Checking actual conditions
  - Near-Static resources assignment
  - RSVP is not implemented in real world as e2e, and it is difficult to accomplish such due to **scalability** and interoperability issues across Internet
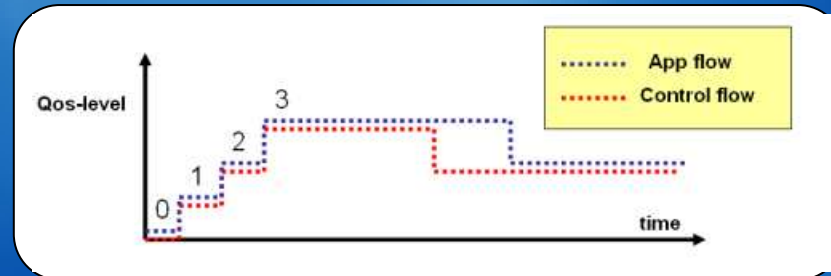
- **RTP/RTCP:**
  - Optimized for media contents, not an application independent solution
  - Network measurement is made inband with media flow: not optimal to multiple flows, and can not be applied to non-RTP application flows

A new approach: Q4S

- Dynamic quality: may shape up on the fly
    - Active during session lifetime
    - Active only for application flows
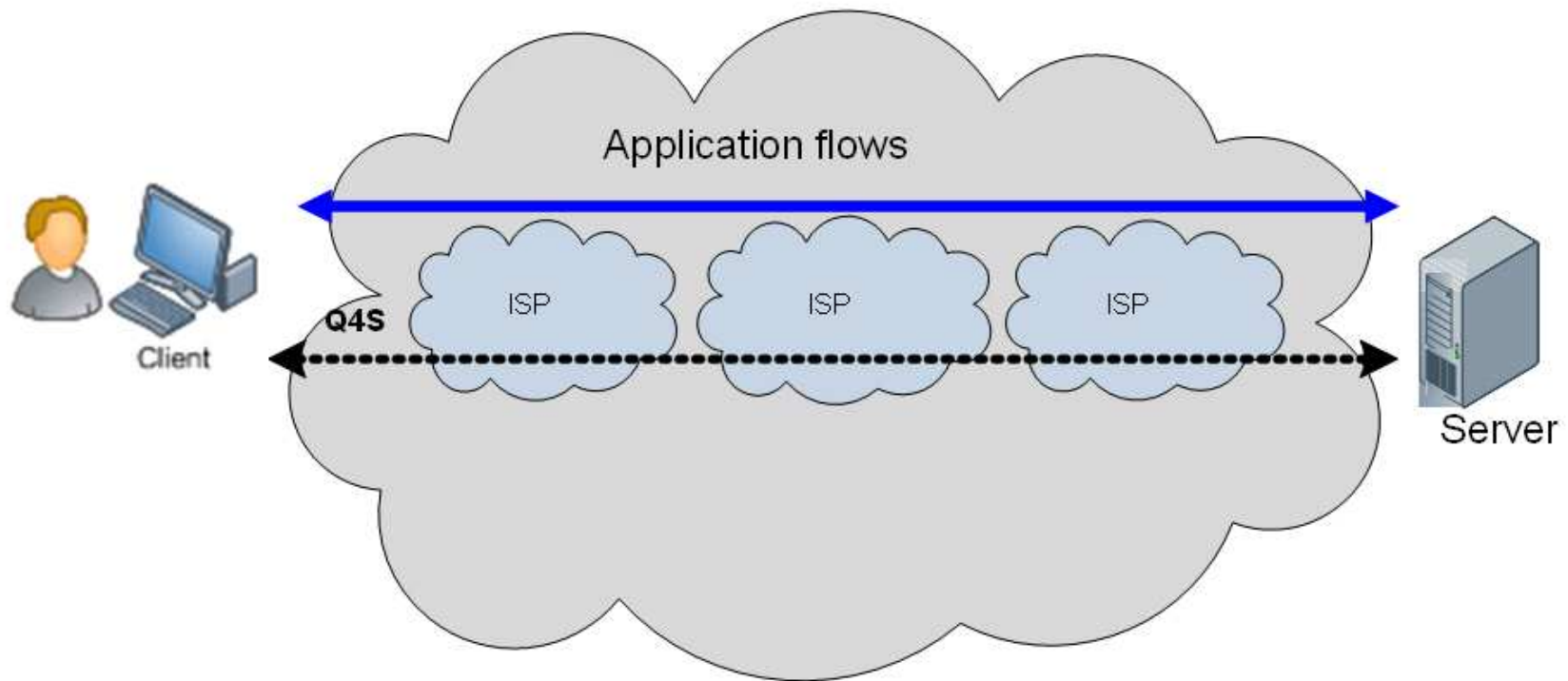

- Protocol/Application-independent E2E measurement method
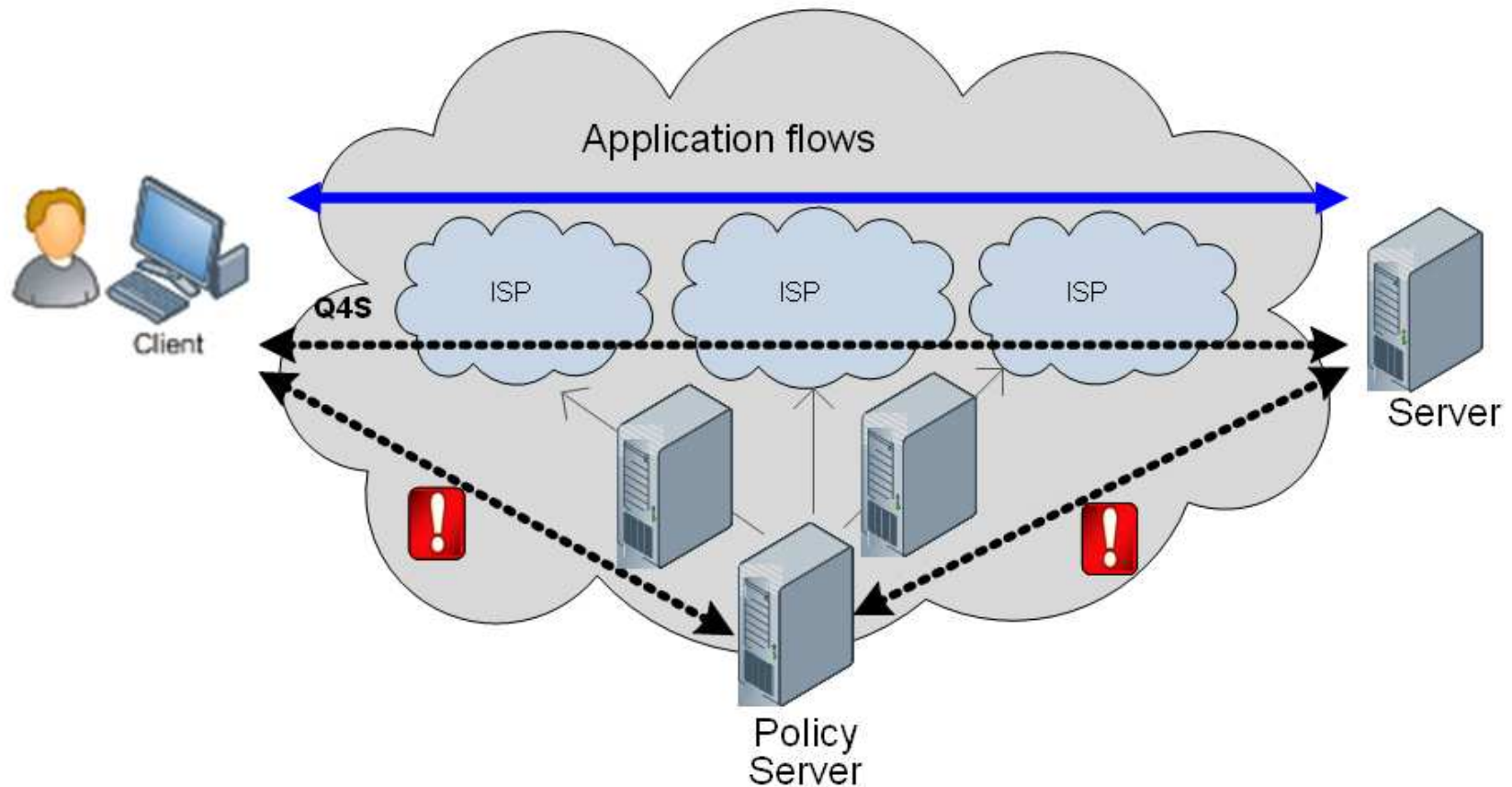   - Intra-provider , Inter-provider

- Technology agnostic: just ALERT if conditions are not met
    - Current approaches may be valid, all add up to final solution:
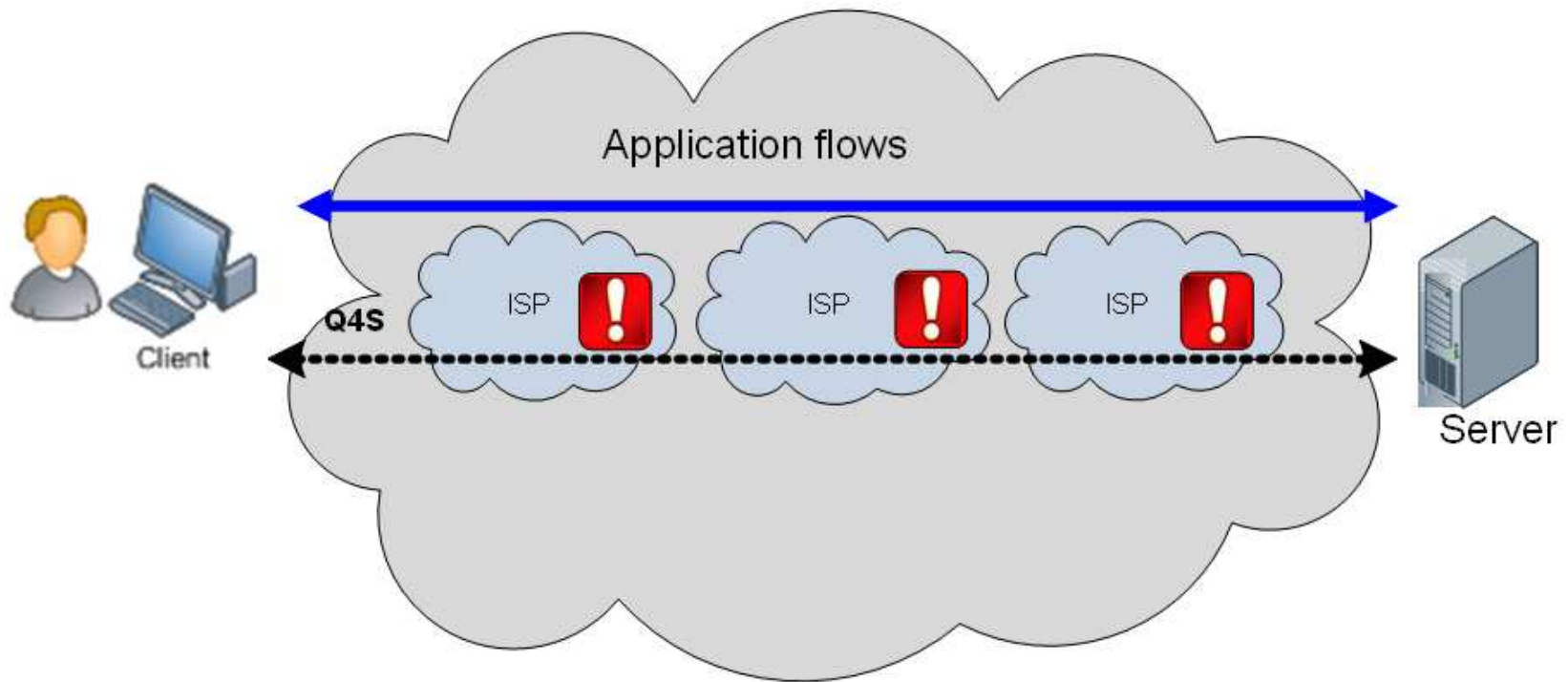   - **adaptative encoding, RSVP, DiffServ, …**
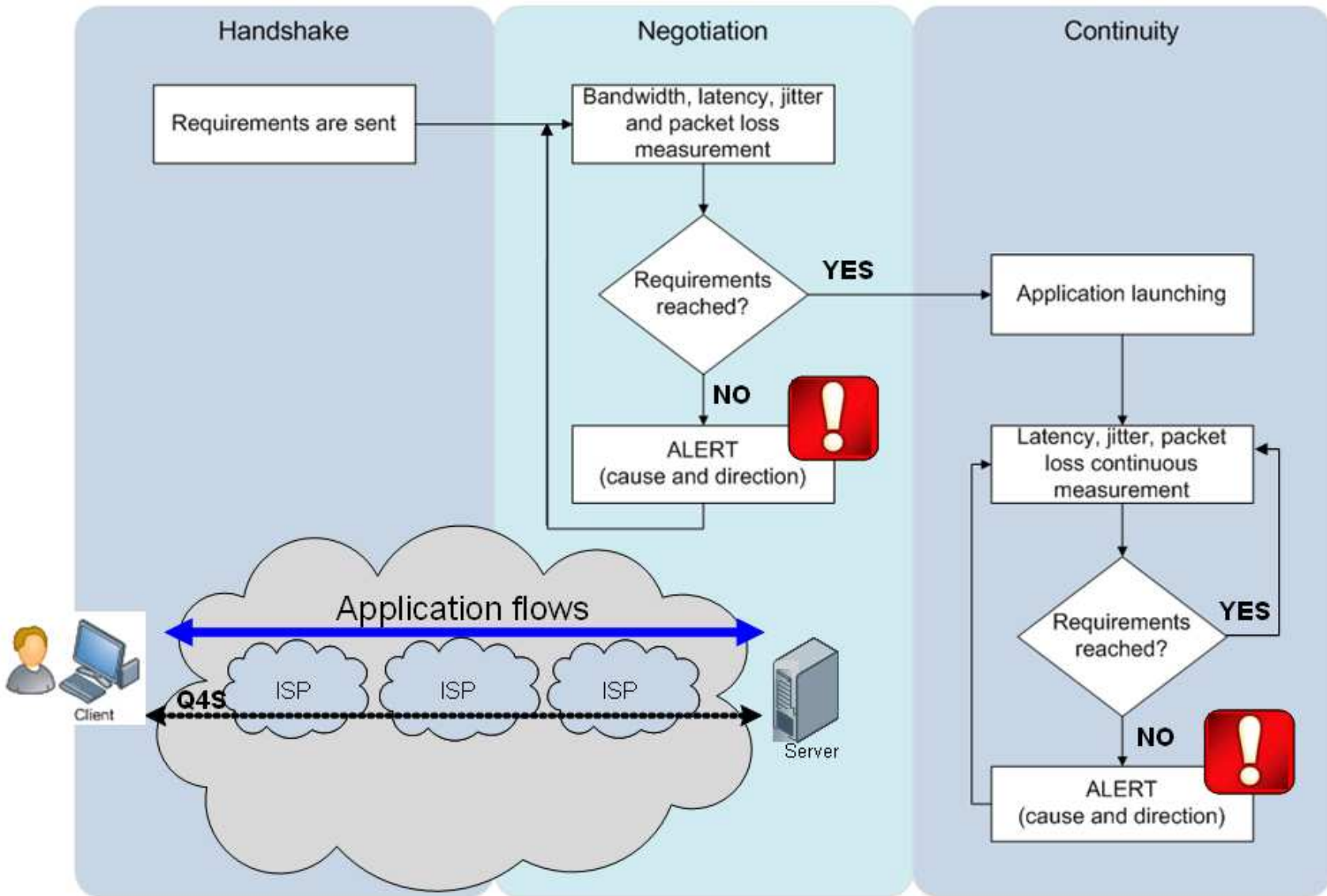
Q4S Session lifetime flowchart

Q4S Session lifetime flowchart

Q4S Session lifetime flowchart

Q4S Session lifetime flowchart

Q4S Questions & Answers

Dynamic

E2E

On-demand

Thanks for your attention❗
& for the WG ☺

QoS track

Tech-agnostic

Out-of-band

diffserv