Akraino IEC Type 4 Use Case

Mixed VR remote rendering

Presentation at Akraino IEC

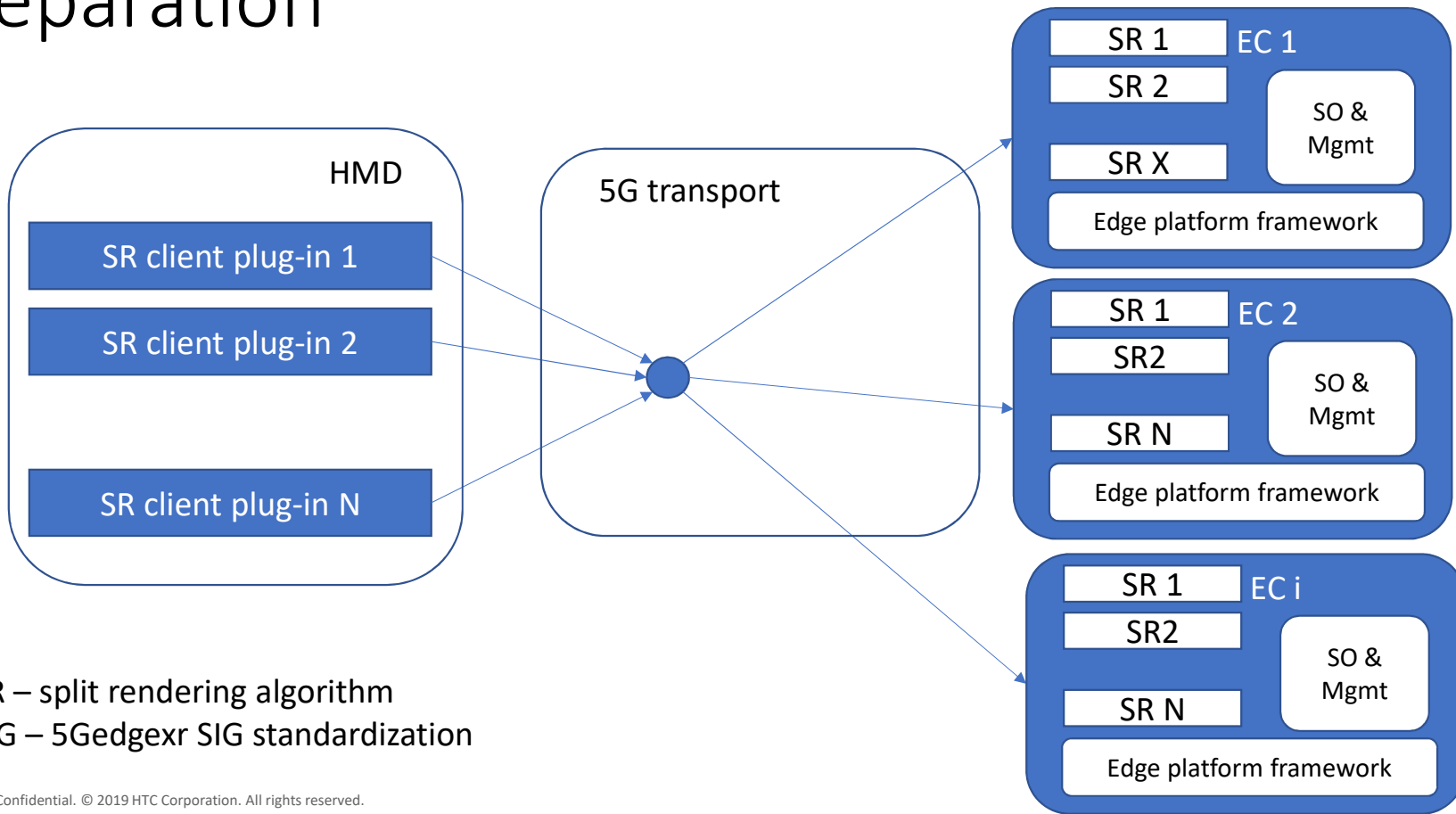HTC VIVE

hTC

Use Case #3

- **5.3   Use Case #3**

- **5.3.1   Description**

- Bob is wearing a 5G-capable HMD to play a processor- and GPU-intensive first-person-shooter online game with high degree of user interaction. While main scene is rendered on an edge server and streamed to the HMD, Bob enjoys the same interactive intense VR gaming experience even when the wireless connection quality varies due to 5G network condition changes.

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Use Case #3

- **5.3.2   Preconditions**
- A client-side renderer is installed on the local device (HMD)
- Edge server renders parts of the scene while the local (device) renderer renders the remaining scene.
- HMD blends both client-side generated scene and reprojected server-side generated scene to form a complete scene.
- When the wireless connection quality varies, the local (device) renderer continues to render client-side scene based on real-time user interaction and pose changes while the blender combines the reprojected server-side scene to maintain interactive gaming experience.

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Split Rendering and Edge+Transport Separation

HMD

- SR client plug-in 1
- SR client plug-in 2
- SR client plug-in N

5G transport

EC 1
- SR 1
- SR 2
- SR X
- SO & Mgmt
- Edge platform framework

EC 2
- SR 1
- SR2
- SR N
- SO & Mgmt
- Edge platform framework

EC i
- SR 1
- SR2
- SR N
- SO & Mgmt
- Edge platform framework

SR – split rendering algorithm
SIG – 5Gedgexr SIG standardization

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Mixed remote rendering (merged split rendering block as common framework)
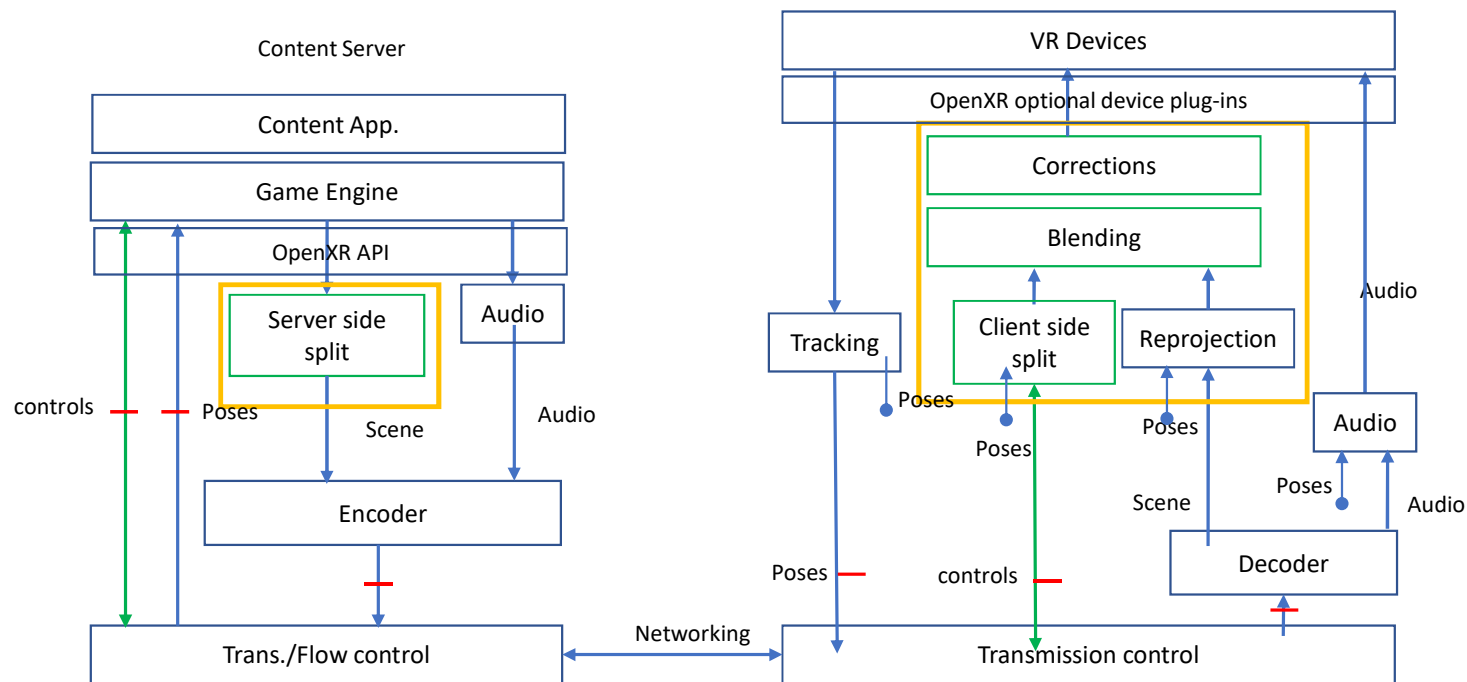
Transmission stream interfaces