



Capture



Encode



Network





Decode
& Deliver



User
Interface

Media/Session Orchestrator

developed by  Viaccess-Orca /  MOTION SPELL

The Orchestration framework brings to the Social VR Platform all the logics and intelligence to manage and connect multiple users in complex virtual environments. It simplifies the integration of live-photorealistic user representations into complex scenarios allowing to share virtual experience together.

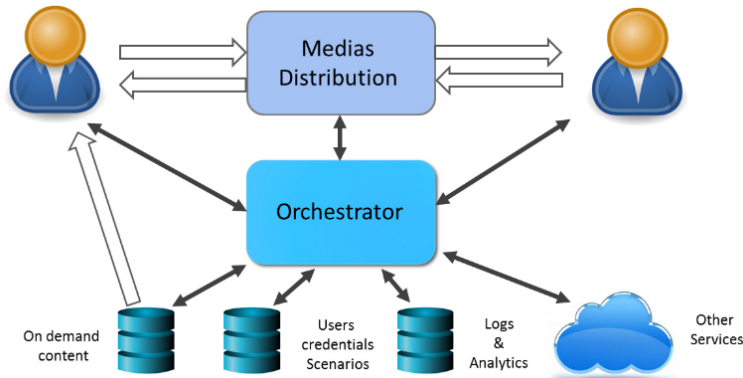


Key features

1. Automated configuration, coordination, and management of user sessions.
2. Schedules and controls the full execution of the platform components and communication layers between users.
3. Real-time communication over connected node
4. Management of virtual room services for SocialVR, Teleconferencing, MeetingRoom

Media/Session Orchestrator

The Orchestrator component is the heart of the complete VRTogether solution that schedules and controls the full execution of components and communication between users. The schema below shows the central role of the orchestrator component:



VRT orchestrator functionalities:

1. **Authentication and logging:** Validating credentials sent by the users and log them on the orchestrator.
2. **Session management:** Handling users into sessions and rooms according to scenarios and manage the execution of a scenario.
3. **Messages communication:** handle messages communication between users.
4. **Pilot and monitor delivery components:** instantiate media distribution component according to session and monitoring the streams management.
5. **Common time provider:** for helping synchronization of media on user side.
6. **Logs and Analytics framework:** the orchestrator provides full logging and analytic services to help developers to tune their user components.
7. **Media transmission backup layer:** orchestration includes some specific functions to provide backup generic streams transmission functions.

Technical description

- JavaScript API relying on the Node.js open-source platform
- C# client-side API
- Based JSON schemas to define the structure of client requests and server response









VRTogether

About VRTogether

VRTogether is an end-to-end system for the production and delivery of **photorealistic and Social Virtual Reality (Social VR) experiences**.

VRTogether enables Social VR experiences that allow a **natural interaction between remote users** immersed in a shared virtual environment in an affordable way and with photorealistic quality. The project's key exploitable components cover the whole Social VR pipeline:

-  Volumetric Capturing System
Simple Point Cloud Capture System
-  Point Cloud Encoding & Decoding
-  Scalable Ultra-Low Latency Volumetric Data Transmission
-  Media/Session Orchestrator
Live Presenter (MS)
Point Cloud - Multipoint Control Unit
Objective Metrics
-  Unity Player
-  Web-based Social VR Platform

Consortium



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