

GAME SERVER ORCHESTRATOR

Guaranteed scalable resources and effortless server management, all while optimizing your expenses



How many players are going to play my game when it's launched? Will the player base continue to play it three months later? Do I have the capacity to host my players? These are questions every game developer will have to answer before launching their game. The answer is often a guess, an educated one, but still a guess. If addressed incorrectly, these issues can cost thousands, if not millions in lost sales, studio reputation, or through cash burnt on idle servers.

It does not end there, as **player count can be influenced by other promotions** or changes such as new DLCs, and then once again, you are answering the same questions. i3D.net's game server orchestrator was **built in collaboration with AAA/III and Indie game studios** that currently are taking advantage of **optimized infrastructure resource expenses**.

It alleviates player count forecasting errors by spinning up resources based on current player demand, guarantees physical resource availability and allows to scale into public clouds for additional resources. With its dynamic server deployment system, the orchestrator provides multiple tools for seamless game server management.



Multi-Cloud scaling

Scale into public clouds such as AWS, GCP, Azure and Tencent. You can also bring your own cloud account for any extra benefits you might have with the provider. If one provider is not enough, you can always **mix and match** to have the best performance-to-cost ratio.





Agnostic solution

The game server orchestrator is compatible with all **platforms and game engines.** It **works handin-hand with all of your game online services** from third-party providers, no strings attached. Leverage our **Unreal and Unity engine SDKs f**or seamless integration.

Efficient budgeting

The Game Server Orchestrator **utilizes inherently cheaper bare metal resources** for your base player capacity, and bursts into the public clouds for added capacity. Its scaler **ensures the exact number of instances are fired up or down**, saving you a fortune on resource costs, all the while keeping your game online and your community happy.







Fully customizable

The game server orchestrator is fully customizable. It accounts for the fact that every game is different, requiring custom setups. Create your fleets, define deployment regions and **select preferred cloud providers**, including resourceusage parameters. Define your scaling strategy for any kind of deployment size or infrastructure strategy.

Self-healing

The orchestrator was built with redundancy and resiliency in mind. The system **continuously scans for ill-performing resources**, substituting them with available health-checked resources, **maintaining high performance standards** for your gameplay.





Hands-off

Fully focus on what you do best — making awesome games! i3D.net's experts, building upon over 20 years of experience in the gaming industry, will provide you with personalized advice on your hosting strategy, while setting your hosting environment up for the best player experiences.

HOW DOES THE ORCHESTRATOR WORK?



To successfully start with the orchestrator, you need to **set up your hosting template parameters**, scaling mechanisms and deployment types by selecting:

- I. Bare metal instance types for the base layer player base
- II. Select regions for deployment
- III. Select **cloud providers for multi-cloud bursting** for additional capacity
 - a. Primary, secondary, tertiary cloud providers
 - b. Instance types to scale the additional capacity into
 - c. Locations for scaling
- IV. Select minimum and maximum amount of game instances per game server, as well as the buffer of free game servers.

Once your players start entering the servers:

- I. The **game client talks to the matchmaker of your choice** and sends game and server details to each other.
- II. The game client connects to the game server and disconnects once the round is done.
- III. The **game server sends information to the orchestrator** which acts accordingly to the set parameters and current player demand.

For full documentation please see: <u>https://www.i3d.net/docs/one/odp/</u>

THE ORCHESTRATOR OVERVIEW

Feature	Description
Automated scaling	Scale your game servers up and down depending on your preferred scaling strategy. It scales into your preferred cloud (AWS, GCP, Azure and Tencent) based on your chosen scaling strategy (round robin, cascading) and according to your configuration settings. With buffer values, we guarantee fully-automated scaling and game instance availability.
Semi- Automated scaling	Set minimum and maximum resource capacities without the need for buffers, reducing time-to-play for your players by foregoing the cloud instance creation process.
Guaranteed availability	We guarantee resource availability for any of your workloads. Combine, mix and match resources from different providers.
Resource optimization	Orchestrator moves game servers around, optimizing resource usage based on current player demand. You have full control over resources: the capacity template allows you to define game servers and game instances per server efficiently, utilizing the resources in full.
Automated deployments	With preset deployment rules, the game server orchestration software automatically takes care of your hosting environment based on the rules you set. It distributes the traffic across game servers preventing server overload.
Monitoring and logging	You have full visibility into the infrastructure resource usage, region and provider.
Self-healing	The orchestrator continuously monitors server performance and scales your resources to properly functioning machines, without any negative impact on your hosting environment.
Multi-Cloud support	Multi-cloud deployment strategies are supported for maximum availability and resilience. Burst from i3D.net's dedicated high-performance resources to hyperscalers: AWS, GCP, Azure and Tencent Cloud.
Third-party tool integration	Integrate the game server orchestrator with other tools and software such as matchmaking, analytics and cloud services.
Game build distribution	Game builds are distributed via i3D.net's Content Delivery Network (CDN) to the regions of your choice. It individually downloads the build archive from your build origin and caches it as close to your players as possible.
Patching mechanisms	Choose from 3 different patching strategies. Forced: update all game servers at the same time, within a maintenance window. Rolling: Update game servers as soon as they exit naturally or when they are empty and unallocated.
Unreal and Unity SDK	The Game Hosting SDK is available for Unreal Engine and Unity, and supports multiple programming languages such as C++, C# and Java.
Managed game hosting	We offer hands-off game hosting services, including Anti-DDoS protection, OS system management, infrastructure performance reports and patching, all whilst providing you with full visibility and advice.

THE ORCHESTRATOR REQUIREMENTS

For the game server orchestrator to do its job to the full extent, we require our customers to integrate our in-house built **Arcus management protocol** for communication between the orchestrator and the game servers. We also support the **standard Steam query protocol A2S** in our Game Hosting SDK.

In addition to the management protocol, we require our customers to provide:

- 1. Players per game session
- 2. CPU usage per game session
- 3. RAM usage per game session
- 4. Bandwidth usage per game session
- 5. Bare Metal server size (please find our **Bare Metal Server offering here**)
- 6. Preferred Public Cloud provider(-s)
- 7. Public cloud server (instance) type
- 8. Preferred cloud data center location
- 9. Expected amount of players on launch
- 10. Expected player peak amount (CCU)

i3D.net enables game studios and enterprises to safeguard their business-critical applications online. We provide high-performance, low-latency networking solutions through a vast, privately-owned global infrastructure.

As game sector veterans, we convert our game hosting innovations into scalable tools for enterprise and IT. With thousands of servers spread over six continents, we can provide you with an unmatched low-latency network, and expert individualized support.

We'd love to get you in direct contact with our team to provide you with a fitting solution.

Contact us here!

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