

Battle-tested to win

Full stack online multiplayer infrastructure

i3D.net at a glance

i3D.net provides **infrastructure resources and bespoke software solutions** to build, host and manage multiplayer games and other real-time applications such as voice and video messaging. i3D.net currently has over 60 Points of Presence (PoPs), its own network which ranks as the **second most interconnected network globally** (AS49544), privately-held data centers and a range of software services that have been battle-tested by a broad variety of games since 2002.

Games are in our DNA

- **It all started in 2002** with consumer game services, followed by a pivot to a centralized model later. i3D.net now serves indies, AA, and AAA titles.
- **Our products are purpose-built and co-developed with game studios for the gaming industry**, providing both infrastructure as a service and software services all on one platform.

Full control

- **i3D.net fully owns and operates the entire infrastructure** stack. Our customers get compute and connectivity with a low-latency network and everything in-between – no middlemen, no hassle.
- **Keep your community online** by leveraging the cost advantage, the power of bare metal and the flexibility of cloud resources with our Game Server Orchestrator.
- **Protect your community** with our in-house Anti-DDoS solution and anti-cheat engine.

Best global gaming network

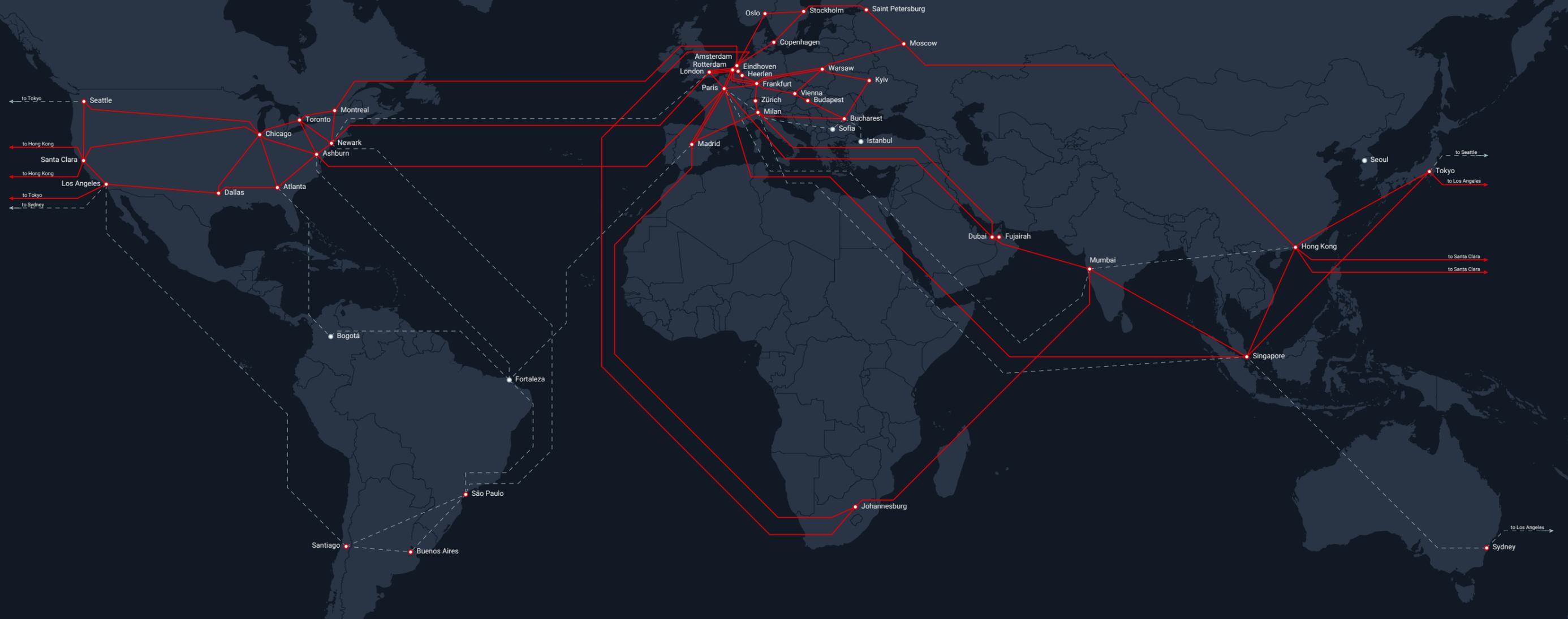
- **Our global low latency network** was purposely built for e-sports titles and first-person shooters, aimed at cutting latency on every corner, delivering the smoothest online gaming experiences.
- **We currently serve over 800 million MAUs** on our platform. i3D.net continues to scale up major applications on its network quickly and is on track to reach the goal of serving 1 billion users across its platform by 2025.

Trusted partner to market leading clients



Discord

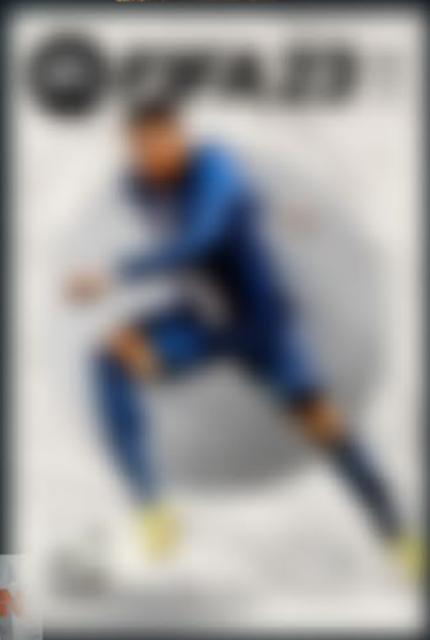
Network



Highlights

- **60+** PoPs with services on **6** continents
- **2nd** most peered network globally in terms of adjacencies
- Ranked **13th** company globally in IXP connections
- Peered with **6 of the top 10** ISPs
- **9000+** direct peering relationships
- **26+ Tbps** real-time data capacity

Battle-tested by multiplayer games



Full control

i3D.net offers an integrated front-to-back product offering, leveraging its deep knowledge of games and the best gaming network in the world.

The fundamentals of our product portfolio are our infrastructure services including data centers, connectivity and bare metal. These proprietary infrastructure services are all owned, operated and managed by i3D.net – no resellers in between. This provides maximum control and low latency, resulting in the high performance needed to run your games.

i3D.net has built bespoke software services that integrate perfectly into its infrastructure, such as the CDN for build and content distribution and our proprietary Global Low Latency Anti-DDoS (GLAD) solution that deals with external threats at the edge without adding latency.

We have also utilized our extensive experience hosting multiplayer games to build software such as a multi-cloud Game Server Orchestrator that spins up game sessions based on your CCU on both i3D.net resources and the public cloud, or an Anti-Cheat solution that is server-side and engine-driven to catch cheaters without visible impact.

Game adjacent services also leverage the i3D.net platform

i3D.net owns the entire infrastructure and software stack. Our services are highly scalable and available as stand-alone blocks. Game adjacent companies such as the examples below therefore also leverage our technology. Some customers just leverage our data centers and public Internet for low-latency connectivity to their end-users. Others use our

global bare metal deployment for their compute needs, while some of our customers utilize our entire platform to manage and interact with their online environments.

Game service providers



Cloud gaming & e-sports



Voice & video platforms



Platform



ONE Platform

Proprietary self-serviceable customer front-end for all i3D.net services



API/SDK integration

Enabling programmatically integrating i3D.net services

Software



Game Server Orchestrator

Multi-Cloud Orchestration for multiplayer games/game sessions based on CCU



FairFight Anti-Cheat

Server-side rule-based engine to detect cheating and inappropriate behavior



GLAD Anti-DDoS

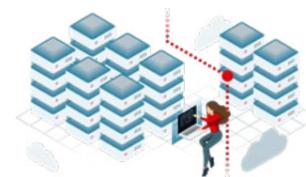
Prevent, detect and mitigate DDoS attacks at the edge without adding any latency



CDN

Content Delivery Network build on top of AS49544

Compute



Bare Metal

Single tenant, globally standardized instance types. Also available with customization options. Directly connected to AS49544

Network



MPLS VPN

Protected data transfers between Points of Presence over i3D.net's backbone



IP Transit

Access to AS49544 for routing your traffic. Leveraging the 9000+ adjacencies, backbone and peering agreements

Data center



Colocation

House your servers and network equipment in our privately-owned data centers with direct connections to AS49544 globally.

ONE Platform

All infrastructure and software services can be managed, ordered and reviewed within the ONE Platform. Built with an **API-first philosophy in mind**, all features are also available through API calls for integration within your own platform.

Key features

- **Proprietary customer front-end** combining i3D.net solutions onto a single platform
- Houses **software, compute, network and data center** products
- **Easy-to-use UI** for **clients** to manage workloads and visualize performance. **In-house developed Software Development Kits (SDKs)** for both **Unreal** and **Unity** game engines for **seamless integration** of i3D.net services in game development
- **All products and features** within the platform are **fully API manageable**, easing integration within customers' own portals
- Ability to handle **administrative tasks** such as billing and more

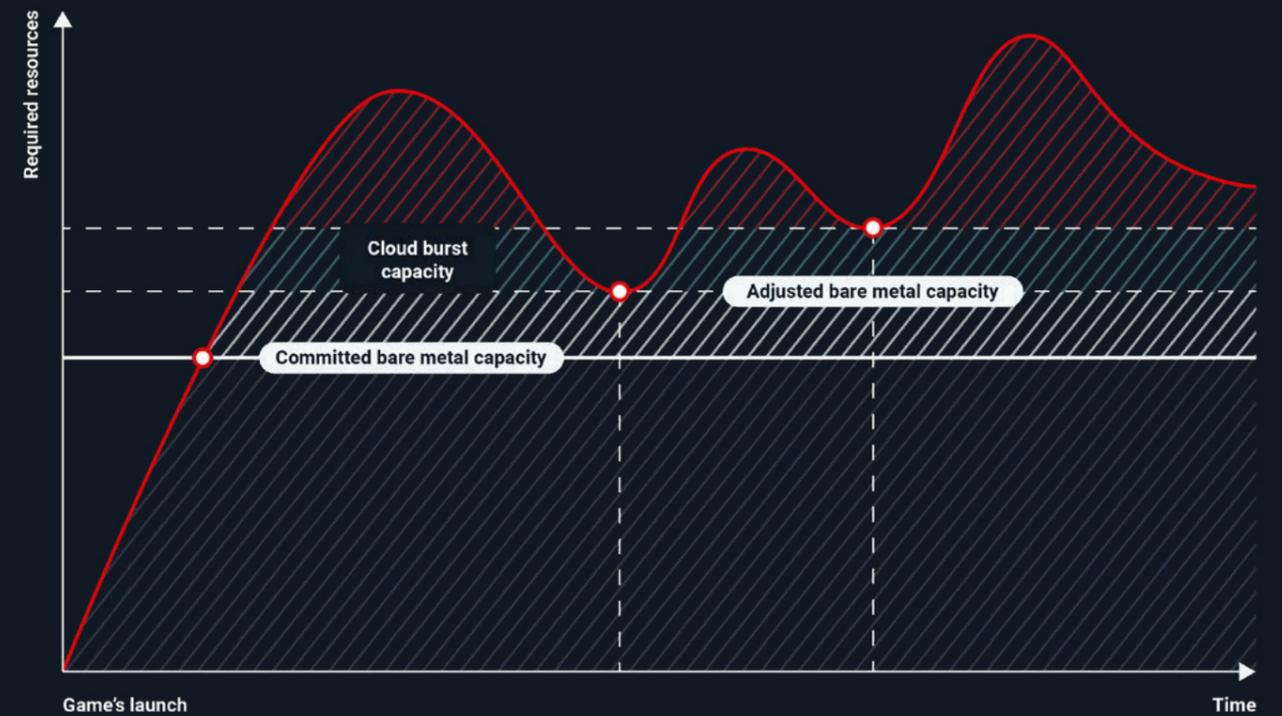


Multi-Cloud Game Server Orchestrator

The orchestrator is built in collaboration with game studios, combining the cost efficiency of bare metal with the flexibility of the cloud. **It prevents having to bank on unreliable forecasting of CCU and PCU**, as it spins up resources based on current player demand, thus, guaranteeing resource availability. The **Dynamic server deployment** system provides multiple tools for seamless game server management. SDKs are available for Unity and Unreal for ease of integration.

Key features

- **Multi-Cloud scaling** prevents vendor lock-in and gives you the autonomy to choose the infrastructure strategy that suits you. This means you can leverage multiple compute providers (i3D.net, Azure, GCP, AWS and Tencent Cloud) without having to manage them separately. We scale up based on your CCU with the providers you feel comfortable leveraging.
- **Make your game build scalable, automated and fully customizable** – after you've set up your deployment settings the software does the rest. Based on your game type and the resources needed, the orchestrator spins up and down game sessions, distributes the game builds and ensures your players never have to queue waiting for resources.



GLAD Anti-DDoS for games

Our Global Low Latency Anti-DDoS (GLAD) suite is a collection of tools, built in-house that can **prevent, detect** and **thwart** DDoS attacks. We've built it on top of our technology stack, fully integrated within our network, running at the edges of the internet to provide a low latency solution. GLAD has been **purposely built for TCP and UDP traffic** – which are leveraged by most real-time applications such as multiplayer games and RTC platforms.

Key features

Attack automation rules

Utilizes prediction models to block attacks at the edge by ranking networks by their DDoS attack riskiness and acts according to pre-set traffic limitation rules

Null routing

Dynamic response to large-scale DDoS attacks by silently discarding malicious incoming traffic and directing it to a route that goes nowhere

Byte matching

Identify and filter out malicious incoming network packets based on customer-tailored byte patterns, blocking the traffic before it enters the network

Default/custom ACL

Pre-set ACL rules that protect against attacks such as DNS and/or TCP/UDP, or customized ACL rules to protect specific ports, protocols and IP addresses

Use existing infrastructure

Leveraging i3D.net's extensive worldwide network, malicious traffic is blocked at the edge

Always online

Malicious traffic does not reach the customers' servers, ensuring uninterrupted and immersive online experiences for customers

Warden

Custom software that filters traffic on dynamic lists provided by the customer (blacklist, whitelist, grey list) including deep packet inspection

REST API

Allows customers to let GLAD interact with other services and integrate it into their own backend

Proprietary Content Delivery Network

We've built our CDN to speed up download and delivery of games – no fancy features, straight-up CDN. Backed by our own renowned ultra-efficient low latency network, we deliver your games and game builds more efficiently than ever. Leveraged by both game stores such as Ubisoft Connect and by multiplayer games directly for **build distribution in the i3D.net network or third-party clouds** for quickly scaling up game sessions and cloud gaming capabilities, the CDN will help you deploy your builds to your entire gaming community with ease.

Key features

- i3D.net's Content Delivery Network immediately distributes your game builds throughout all servers, as close to the end-user as possible, minimizing the disruption of DLC or post-installation downloads for your players, all while cutting costs.
- Built on top of the tech stack owned and operated by i3D.net, leveraging its global backbone as well as direct inter-connections with eyeball networks, our CDN delivers content with ultimate efficiency.
- i3D.net's CDN edge nodes are connected to multiple 100G access ports.



- Game build distribution
- Data relaying between origin and server
- JSON Web Token (JWT) support
- Geographic distribution (Anycast)
- IPv6/SSL/hotlinking prevention
- i3D.net Anti-DDoS protection

HI·REZ
VICTORY. TOGETHER.

"Multiplayer games need protection from DDoS attacks, but firewalls that slow traffic to protect users are not the answer. i3D.net's access list control rules ensure that the traffic of legitimate users is not interrupted while filtering out any unwanted queries. This dynamic and fully customizable solution geared towards fulfilling the customer's needs was one of the reasons for Hi-Rez's decision to partner up with i3D.net."

Darryl Lister

DIRECTOR OF SERVICES & CUSTOMER SUCCESS

FairFight Anti-Cheat software

FairFight is a **non-invasive, fully customizable, server-side anti-cheat software**, that uses **engine-agnostic technology** that operates in **real time**, leveraging its **proprietary rule engine and database structures** it evaluates players' **gameplay actions against multiple statistical markets** to identify cheating as it occurs.

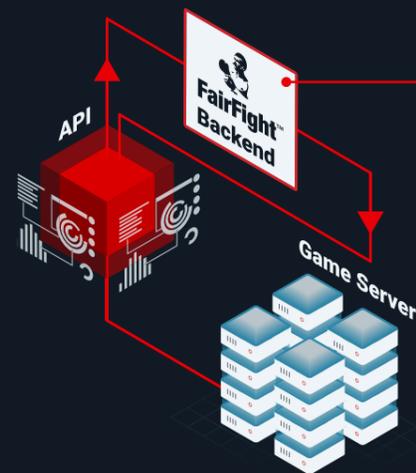
FairFight engine is the ultimate anti-cheat solution. Operating in real-time, it analyses the gameplay and allows for securing any gameplay event out there. At the core it is a **behavioural player detection platform by design**, allowing for it to be more than anti-cheat.

Key features

- Aim-bot and ESP detection, collision monitoring
- Motion detection and tracking
- HackPoint system with custom cheating punishment rules
- Chat monitoring, anti-toxicity, notifications and admin tools
- Protects any integrated APIs on PC, console and mobile
- Includes Unity and Unreal Engine plugins

How it works

1. Events are collected using the FairFight API and sent to the FairFight server
2. Events are processed, filtered and stored on the FairFight backend
3. Actions are sent back to the game



- FairFight Backend**
- Statistic and HackPoint system
 - Condition and analysis engine (aim-bot, illegal speed, etc)

Bare Metal Servers

i3D.net's bare metal servers serve as a great base capacity for your gaming compute resource needs. With a vast variety of gaming-optimized bare metal instances, you can serve your concurrent player base in **over 60 PoPs worldwide, allowing for rapid deployments and consistent online experiences globally.**

A broad range of globally-standardized instance types

- **Performance instance types** (newest generations)
- **Legacy instance types** (older generations)
- **High-core optimized** configurations
- **High-memory optimized** configurations
- **GPU instances**
- **Custom** instance types based on your needs

~2 new instance types per CPU generation are added. i3D.net selects the most prominent CPU types in their generation for its use cases

No noisy neighbours

Bare metal servers are exclusively assigned to a single tenant, avoiding performance degradation and traffic congestion.

Full control

In the absence of other tenants, you have full control over parameters, and API endpoints enable automation.

Rapid global deployment

A fully automated and configurable deployment system allows for efficient and optimal game server build distribution throughout i3D.net's global network.

Top-class performance

i3D.net has secured direct partnerships with Intel, AMD, and NVIDIA for the latest AAA hardware availability for our customers, optimized for various workloads, ensuring top-notch performance with 99.9999% documented uptime.

Cost-efficiency

Cost-efficient alternative to public clouds and virtual machines due to lower computing and traffic costs.

No virtualization

No complex virtualization overhead of traditional cloud builds, which consume a fair share of the computing power.

Ultra-low latency network

Integration into i3D.net's premium global network for optimal latency and connection to eyeball networks.

24/7 SLA and support

Follow-the-sun support system and ability to set specific service levels and objectives in line with each client's respective business requirements.



"Over the past six months, we've steadily ramped up our anti-cheat efforts, working closely with the FairFight team to detect and remove more cheaters than ever before. In October alone, we sanctioned over 8,500 accounts. Since then, instances of cheating have declined."



Connectivity

Connectivity is at the heart of i3D.net and brings all our services together. Our global backbone is also available as a stand-alone product for you to leverage, with connectivity from metro areas to edge locations, and 20+ years of peering relationships with both Tier 1 networks, as well as local interconnectivity, allowing i3D.net to reach your end-users with lower latency. Check our latency between PoPs on our network information page.

Our numerous Points of Presence provide opportunities for direct peering relationships, unlocking strategic agreements with both local ISPs and the larger global Tier 1 network providers. You can find out more about our peering relationships on PeeringDB.

Public Internet - IP Transit

Our IP Transit services provide you access to one of the best-peered networks worldwide by leveraging 20+ years of peering relations with the top global and regional ISPs and connect to over 100 IXPs, allowing you to reach your end-user with the shortest latency possible.

- i3D.net gives you full control of how IP prefixes are advertised to the internet, allowing you to steer traffic where you want.
- Avoid any unnecessary hops by keeping all routing local.
- 1G, 10G, 40G and 100G access ports are available, alongside the option for multiple ports bundled in LACP or dual VLAN.
- Over 9000 adjacencies and 20+ years of peering relationships with ISPs incumbent for the best latency from server to eyeball network.

Backbone Internet - MPLS VPN

With MPLS VPN services you gain access to our global backbone that spans the world, providing you with a private and protected transport route globally without having to tie various routes together, or use the public internet. This is perfect for transporting data from game servers to centralized back-ends or pushing game builds.

- Multiple diverse paths for full redundancy. Our self-healing network will reconverge your traffic over the shortest path available.
- Data transfers are isolated from other customers' domains and paths inside our network making it private to you.
- Point-to-Point and Point-to-Multipoint options are available. Depending on your needs your data can move between two, or between multiple points or presence for sending encapsulated data to several end destinations.



Global colocation

Through our privately-held commercial data centers in 4 locations and our global partnership with Equinix, we're able to provide colocation on a global scale, directly connected to our network with the ability to leverage our other services.



Smartdc, a privately-held data center brand, is a subsidiary company of i3D.net, with strategic locations in Rotterdam (NL), Heerlen (NL), Paris (FR) and Montreal (CA)



EQUINIX

Through our partnership with Equinix we achieve global reach, scalability, security and enrich ecosystems to deliver innovative solutions that help drive the growth of your business and IT infrastructure, all through a single point of contact.

Carrier-neutral

Directly connect with multiple large-scale carriers, transit providers and IXPs.

Access to the largest IXPs

Benefit from direct connections to some of the world's largest internet hubs such as AMS-IX and more.

i3D.net network

Direct access to i3D.net's premium network from all i3D.net top-tier colocation facilities.

Twin DC strategy

Interconnection allows for instant access and redundancy to minimize downtime risk.

Full control

Biometric access controls and extensive back-end to manage services remotely.

Private suites

Rent your own mini data center with dedicated cooling, fire prevention and connectivity, shielded from the rest of the data center.

Sustainability

Committed to becoming **carbon-neutral** by 2030

Powered by **95% renewable** energy

Heat pumps in Rotterdam DC turning residual heat into energy, saving gas and reducing environmental impact



Access to our experts and service levels

Your community is always online, we are too
Our technical support is available 24 hours a day, 7 days per week, year-round, helping you optimize your game, latency and resource usage, all while providing personalized advice for your needs.

Expert access around the clock

- **Direct line of communication** to i3D.net's team of expert engineers, network operators and technicians
- 24 hours per day, 7 days per week
- **In-depth monitoring of in-game metrics** inside customer environments
- **Proactive monitoring** of connectivity, hardware and platform performance
- Game studios can also utilize **i3D.net's launch support** through a dedicated team deployed on-site to ensure a successful game launch
- **Free proof of concept**, allowing customers to test the quality of the i3D.net ecosystem with all support necessary

Best-in-class service levels

- Standardized **high uptime SLAs** for all services
- **Customized SLAs** depending on customer use cases:
- Focus on packet loss and **backbone quality**
- Focus on **redundancy**
- Framework ensures you can **set specific service levels and objectives** in line with your respective business requirements
- Regular review mechanism

Our customer journey

1

Experts at hand

Our team of experts will go the extra mile to tailor the optimal solution with respect to your compute, connectivity, security, as well as protection and integration requirements.

2

Create your ideal mix

Pick and mix services relevant to you. Whether this includes compute resources, colocation or a fully-managed fleet: it is all up to you.

3

Testing the waters

i3D.net provides free proof-of-concept testing environments. You can test the overall performance of our platform and infrastructure with no financial burden.

4

Easy integration and migration

i3D.net allows for seamless migration and integration through our API or SDK, making your processes faster, scalable and less prone to errors. Our experts will always guide you along the way.

5

Define your growth strategy

Whether you require extra compute or connectivity capacity, predefined growth mechanisms will scale your processes up and down automatically, without you having to move a finger.

6

Safeguard your infrastructure

Protect your infrastructure and the gameplay from unwanted external actors by employing our anti-DDoS and anti-cheat solutions for well-rounded external and internal security.

7

Leverage our support

We monitor your compute and connectivity performance 24/7, all year round. Protect your infrastructure on 3 different levels, including hardware uptime guarantees, network availability and service continuity with extensive Service Level Agreements.

MASSIVE
MASSIVE ENTERTAINMENT | A UBISOFT STUDIO

"i3D.net sent two people to our studio to help us during the launch. They were embedded in our team and I think part of the success of the launch was due to them being present in our office in Sweden."

Marian Tonea
IT PRODUCTION MANAGER

Discord

Products leveraged



Bare Metal Cloud



Anti-DDoS



Network Services

Challenge

- ▶ Goal to become **the best real-time communication application**
- ▶ Needs to deliver **low latency** and high-quality audio and video services **around the world**
- ▶ Not equipped to **build entire platform** and network themselves nor maintain the infrastructure and data centers

Why i3D.net

Discord highly values the **experience** their **users have when using the app**. A solid low-latency infrastructure platform is therefore essential. In order to provide this, Discord looks at the quality of service when looking at different hosting providers. Discord chose to work with i3D.net, which **prevailed against 15 competing providers**.

Psyonix

Products leveraged



Game Server Orchestrator



Bare Metal Cloud



Network Services

Challenge

- ▶ Rocket League is a distinctive game that has built a passionate community
- ▶ Rocket League's growth is especially prominent in places like the Middle East
- ▶ As a game played in real-time, high latency can have detrimental effects on the gamers' experience

Why i3D.net

i3D.net's focus on high-performance, global bare metal infrastructure is important for latency-sensitive games like Rocket League. Cloud services tend to be centralized, rather than geographically spread out, serving a very broad region from afar. But for a latency-sensitive game, it is important for providers to be near the players.



"i3D.net has a relentless focus on technical excellence regarding the network and server hardware and quick responses. Their ability to partner with us on a level of technical engagement allows us to make the best decisions for our users."

Mark Smith
VICE PRESIDENT, CORE TECHNOLOGY



"Using the Game Hosting Platform, the time it took for Psyonix to patch all instances reduced from 1.5 hours to as little as 30 minutes with no impact on the gameplay."

Brian Jesse
SERVER ENGINEER

How can we help you?

Improve your player experience

All our services are purpose-built for multiplayer games, not the generalist hosting or compute needs. This allows us to create positive player and user experiences with our infrastructure and software all around the world.

- ▶ Use our Anti-Cheat to keep your games fair or;
- ▶ Anti-DDoS to keep your game servers protected and your players safe;
- ▶ Patching systems to update your games without impact on your players;
- ▶ Or simply our infrastructure for the lowest latency.

Whatever it is, we're happy to provide our battle-tested toolbox so you can focus on building great games.

Leverage our infrastructure stack

Use our services as your toolbox, you pick which services add value to your systems. We are here to help, whether this is through;

- ▶ Providing Bare Metal in specific regions to improve latency or open new geo-markets;
- ▶ Deploying agnostic instance types globally for scalability and the same quality everywhere;
- ▶ Leveraging our data centers and the network we've built over the past 20 years to create your own stack;
- ▶ Using our software to manage your live-services game;
- ▶ Or letting us manage your entire fleet, including build distribution, patching and scaling your game servers.

Reduce cloud spend and vendor lock-in

10x
cheaper

Reduce your monthly cloud bill

We charge fair margins, proven by our egress costs which are on average 10 times cheaper.



No ecosystem lock-in

We believe in hybrid solutions, combining multiple platforms to support your games. This means our egress costs are fair to move data to other platforms. But we've also built our own tools to scale your IT workload up and down, using Bare Metal, and public clouds for cost-efficiency.



