

Build customized
in-house CDNs for
managing costs
while satisfying
global audiences

Brochure

Varnish Private CDN

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Enterprise content providers and high-traffic internet businesses often use content delivery networks (CDNs) to reach their global audiences reliably and at high speed. Whether it's for providing high-quality live or VoD streaming, fast web page loads with real-time updates, or delivering any other HTTP-based content, CDNs can be essential, especially for periods of very high demand, such as sports finals, series finales, breaking news.

Many businesses use public CDNs because they offer reach and a degree of flexibility at scale, but a trade off is that they can be hard to optimize for specific use cases, nor can new features or updates be easily integrated. Another compromise is on control over costs, content delivery and privacy on a global scale. Costs can quickly spiral out of control when demand spikes, and this can be unpredictable when using commercial CDNs.

Take back control of content delivery

Varnish Private CDN provides a fully customizable CDN toolkit to empower organizations to control their content delivery, to deliver a fully optimized experience for their users without the costs of building from scratch.

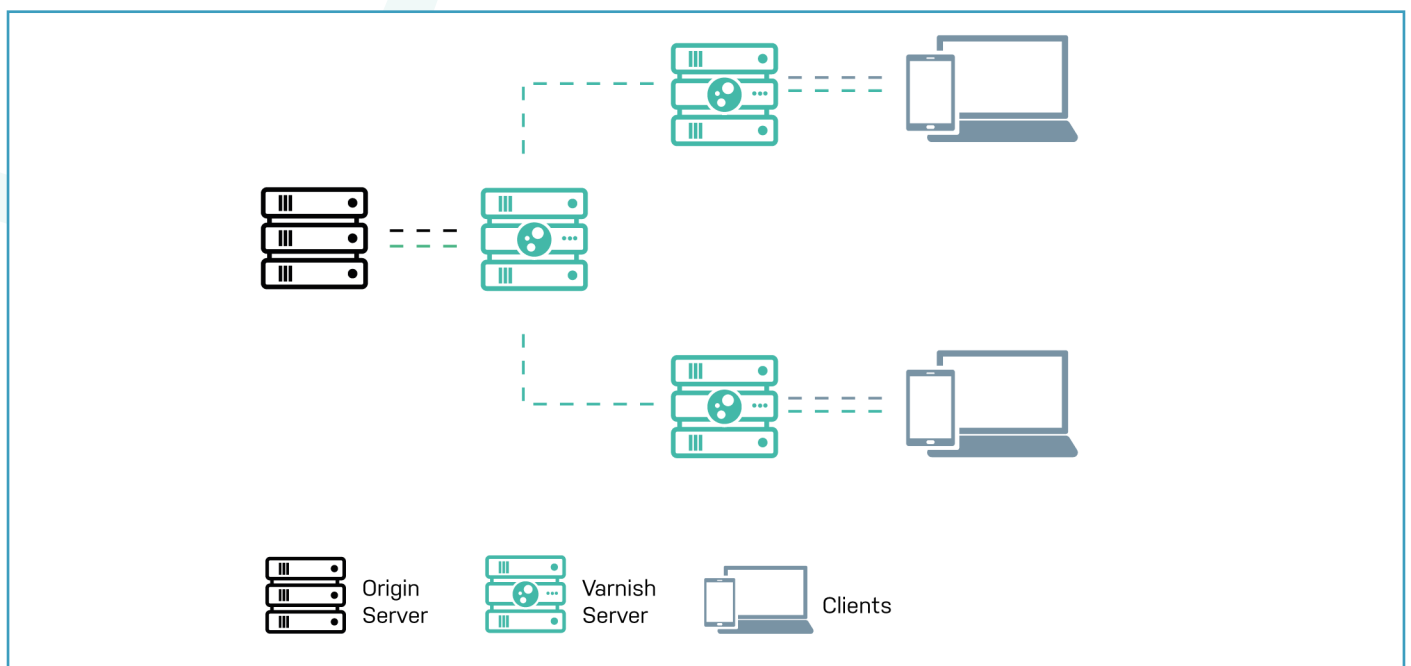
Using pre-built, pre-optimized origin protection and edge caching components that are flexible and customizable, Varnish Private CDN helps deliver content in a finely tuned, tailored way, unlocking a competitive edge while satisfying users with maximum performance. Varnish Private CDN's comprehensive set of features and modules get every ounce of performance from web and streaming infrastructure while keeping costs predictable and protecting critical backend servers for providing long-term resilience.

How does Private CDN work?

Private CDN is a fully customizable edge caching and origin protection solution that helps content providers build private, hybrid and consumer CDNs, as well as advanced edge platforms. The edge layer and origin shield sit between the content provider's backend servers and their users, helping to deliver all types of HTTP content.

As caching proxy technology, it takes a copy of the content passing through it the first time a user requests something from the content provider, so that future requests can be served by Varnish instead of the backend servers, reducing server load while improving client response times.

The cache can also be pre-loaded with huge libraries of content, pre-empting requests for popular content, reducing latency right off the bat. This results in ultra-fast content delivery at scale that satisfies end users, fewer backend resource needs and a layer of protection for origin servers, meaning content providers can stay online and responsive while managing CDN costs.



Private CDN is flexible and hardware agnostic, ready to be deployed on existing infrastructure alongside existing tools, on-premise, in-cloud or as a hybrid set up.

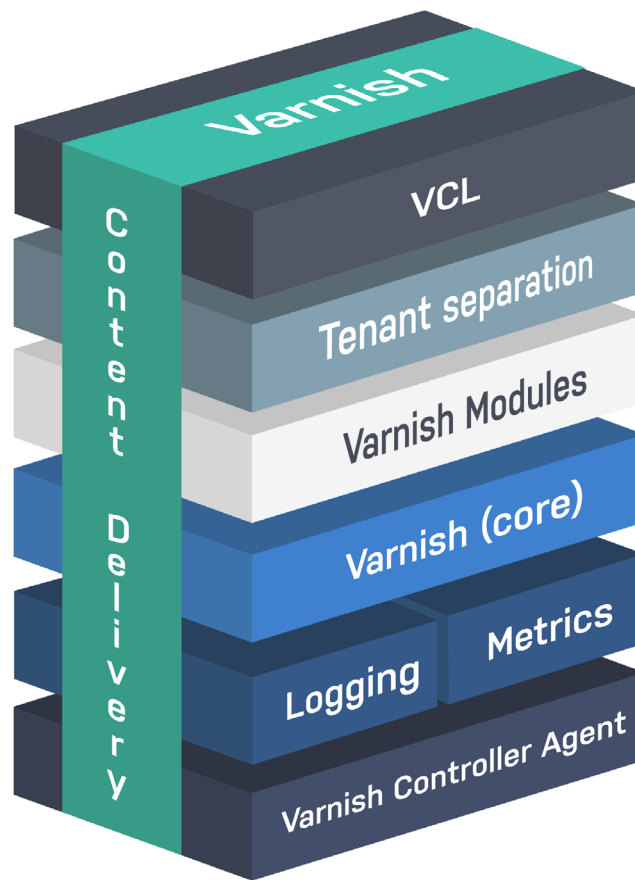
What can Private CDN do?

Private CDN can do many things, but some of the reasons our customers rely on it is so they can:

- **Build customized CDNs** with professional support, using flexible components to control content delivery and unlock the highest performance.
- **Accelerate content delivery** by caching it closer to the user with a highly configurable reverse proxy that greatly reduces latency.
- **Protect critical infrastructure** by offloading requests for content away from origin servers, handling more users with less bandwidth.
- **Support huge, unpredictable demand** by scaling rapidly to deliver content at speed while protecting origin servers.
- **Control costs of high-traffic content delivery** by provisioning alongside existing CDN architecture to prevent cost escalation.
- **Deliver UHD video live and on demand** with high performance and availability plus huge edge storage.

Varnish Private CDN helps deliver content in a finely tuned, tailored way, unlocking a competitive edge while satisfying users with maximum performance

Varnish Private CDN: What's under the hood?



Varnish Configuration Language (VCL)

VCL is an edge compute language, enabling granular CDN control and the ability to push out real-time, low latency changes while Varnish is running.

Varnish Modules

Varnish modules (VMODs) extend Varnish functionality to enable a wide range of features for specific use cases, such as IP- and geo-blocking, replacing cached data, compressing images and load balancing.

Logging and Metrics

A real-time logging framework with custom metric generation for observability, traffic analysis and health checking. Granular logs enable insights into operations for improving traffic management, resource usage and end-user experience.

Tenant Separation

Independent tenant configuration management for sharing capacity and creating separate setups for different business units or content types.

Varnish (core)

Core Varnish technologies that include the Varnish caching protocol, multi-terabyte edge storage for persistent, high-volume storage, and optimized memory management.

Varnish Controller Agent

Enables interaction with the Varnish control plane, which includes an administration dashboard for auto-scaling, routing traffic, accessing metrics and easily keeping Varnish clusters up to date.

Private CDN features

Benchmarked at 500Gbps video throughput¹

Reliably super-fast content delivery with streamlined edge caching and origin offload, no matter the audience, device or location.

Edge logic

VCL adds true flexibility and edge power, for setting granular policies and delivering optimized user experiences on any device.

Origin protection

Shield origin servers from heavy traffic while serving as much content as possible to other Varnish nodes, achieving solid performance even with live video, keeping viewers engaged and up to date.

Hybrid flexibility and traffic management

Private CDN gives the option to build your own private CDN, or create a hybrid, balancing traffic across Varnish and a commercial CDN to manage costs.

Content pre-fetch

Prefetching content predictively loads data into the cache before it is requested, ready to serve immediately. Prefetching improves cache-hit ratios, making it highly useful for VoD and OTT streaming.

100TB+ edge storage

Store multi-terabyte data sets in-cache, minimizing backend requests so users enjoy stable, fast delivery of vast content libraries.

Strategically located PoP

Choose your own PoP placement, serving traffic more efficiently and specifically focused for you needs - not those of a commercial CDN provider.

High availability

Satisfy any audience size with 100k requests per second and high availability, scaling up to meet any traffic demand and ensure capacity and redundancy.

Professional services

No one goes it alone. The expert team helps configure and deploy Private CDN on any infrastructure, including balancing traffic across public CDNs and Varnish.

A fully customizable edge caching and origin protection solution that helps content providers build private, hybrid and consumer CDNs

¹ https://builders.intel.com/docs/networkbuilders/delivering_up_to_500_gbps_throughput_for_next_gen_cdns_1634717492.pdf



Private CDN customer success

CacheFly

The major CDN provider uses Varnish to deliver the world's highest throughput CDN and maintain their 100% SLA in high-traffic, high-performance content delivery. As well as high availability, it supports massive caches (100TB+) and the flexibility to create and deploy new features on the fly.

Using Varnish Private CDN we are able to deliver hundreds of terabytes of content seamlessly as well as deliver on our 100 percent SLA to our customers.

- Matt Levine,
founder and CTO, CacheFly

With Varnish, SFR could cache virtually unlimited objects and deliver fast performance at scale.

- Thierry Magnien,
Service Platforms Manager, SFR

SFR

The French telecom uses Varnish to serve its rapidly growing VoD content library to millions of customers. They also used Private CDN to develop their own CDN and save costs and introduce a new revenue stream by offering CDN services to their own customers.

Tesla

The cutting-edge automotive company required a scalable global content delivery solution that used existing resources optimally and featured persistent storage for multi-gigabyte video files. Varnish Private CDN enables Tesla to bring content delivery in-house and completely within their control. Pre-fetching pre-populates caches in high-traffic regions, while Varnish Configuration Language (VCL) provides customizable edge logic. A VCL process monitors hardware and, in cases of downtime, automatically redirects traffic to a different server.

As well as high availability, Varnish supports massive caches (100TB+) and the flexibility to create and deploy new features on the fly.

Support the way you need it

Many enterprises value Private CDN's 24x7x365 support provision, with access to short SLAs, technical expertise, long-term software lifecycles and managed updates:

- Day-to-day troubleshooting with a team of Varnish experts on hand to support general usage.
- Each release is stable, tested and hardened, to enable confident enterprise rollout.
- New releases and feature updates are communicated in advance, with clear upgrade pathways.
- Security updates are backported, for long-term protection.

Professional services from the Varnish experts

Another benefit of Private CDN is access to professional services with a team of industry-leading caching and content delivery experts, for help planning, sizing and implementing the solution, and fine-tuning once installed. No one goes it alone, with dedicated teams on hand to support usage of Private CDN every step of the way, no matter the use case or challenge. Private CDN is flexible enough to grow and adapt in line with business requirements, for future-proofed technology that is expertly tuned for every situation.



Experiencing Private CDN

Extended, free trials are available and easy to set up and run, for a no obligation, low effort way to experience the performance benefits of Private CDN first hand.

Learn more

Founded in 2010, Varnish Software has offices in Oslo, Stockholm, London, New York, Los Angeles and Paris. To find out more, please visit www.varnish-software.com.

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