

Agile Cache

Optimized streaming and content caching

Agile Cache, a product in the Agile Delivery suite, is a cache and streaming server based on proven Edgware Technology, designed for broadcasters, telcos, cable providers and TV content owners who want to control their own TV delivery networks.

What it does

Agile Cache distributes TV delivery closer to the viewer, meaning content caching and streaming are delivered from the edge for the best possible viewing experience and to offload network and peering points.

On top of generic caching capabilities, Agile Cache also supports video content and video sessions which have a different character compared to general web content, especially when streaming big popular live events.

The Agile Cache software is designed for seamless deployment and configuration on COTS HW or virtual machines, adapting effortlessly to customer requirements. The flexibility enables the rapid creation of solutions to enhance streaming capacity and meet growing customer traffic demands.

With support for tiered caching and optimization of how content is cached inside the servers between RAM, SSD and HDD, lifetime and cost of storage is optimized.

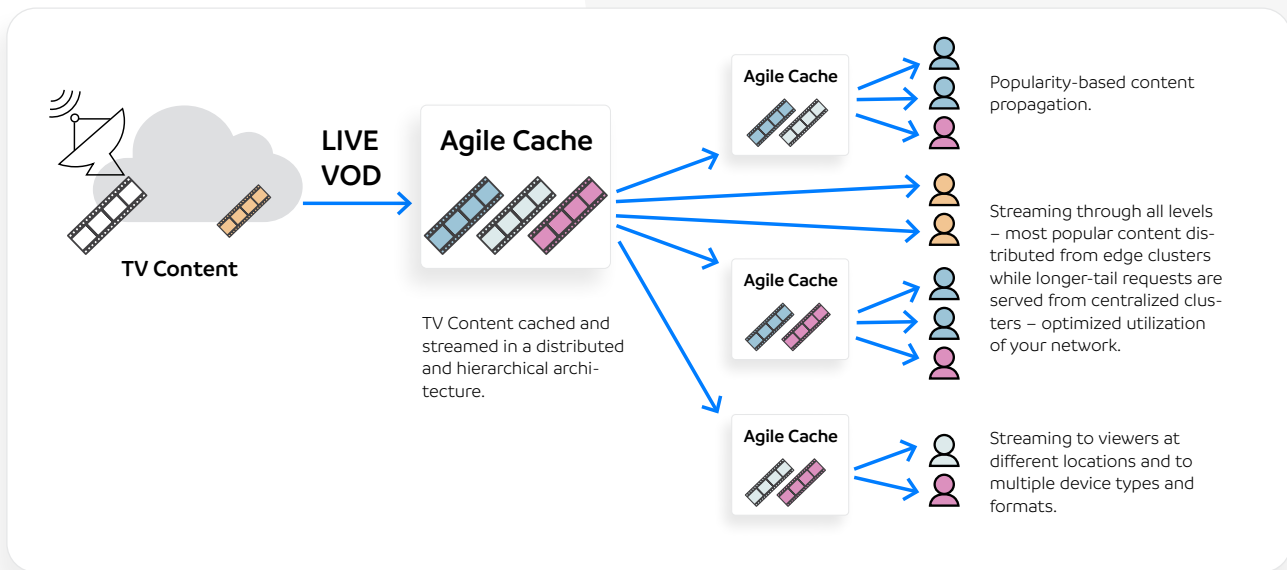
Owning your own CDN allows greater control over the viewing quality, reduces buffering, delays and glitches, gives you better control of your cost and reliability of video delivery.

How it works

- ① Streaming sessions are allocated to Agile Cache by Agile Director or another load balancer.
- ② Session is authenticated using tokens.
- ③ Video segments are requested from the Agile Cache in bitrates according to the ABR manager in the player.
- ④ Video segments are being delivered to the player.
- ⑤ If segments are not available in the cache, the cache will request those segments from mid-tier cache or from the origin.
- ⑥ Segments will be stored in the most optimal cache tier based on their popularity.

Features & benefits

- ✓ Dynamic edge cache optimized for distributed TV delivery holding popular content closer to the viewer.
- ✓ A comprehensive streaming platform supporting live, VOD, time-shifted, catchup viewing in both HTTP & HTTP/2.
- ✓ Supporting all ABR formats HLS, DASH, MSS, CMAF including Low-Latency for DASH/HLS.
- ✓ Content propagation in hierarchical cache architecture maximizing performance and resources optimization and minimizing storage needs: RAM Cache, Cache Group and Consistent Hashing disk array support.
- ✓ Enforcing session security policies to block unauthorized access.
- ✓ Supports secure HTTPS streaming with full compatibility for TLS protocols and various cipher configurations, ensuring robust and customizable encryption options.
- ✓ HTTP Request Manipulation: Custom defined HTTP headers, Rewriting URLs, query string parameters, manifest compression.



How to deploy

The Agile Cache offers multiple deployment options for various deployment scenarios and customer preferences. Deployments can be made on standard computing platforms (COTS) or VMs. Agile Content has done performance benchmarking against our reference HW to understand BW capacity just as a guidance, but different types of BOMs to reach different performance and BW needs can also be proposed by the customers depending on their needs.

Technical specifications

SOFTWARE FEATURES		
OTT TV CDN Proxy Cache	IPV4/IPV6	Configurable bandwidth allocation to avoid overload on the Agile Cache
Virtual Hosting based different domains, URL paths and query string parameters	Quality of Service (DSCP)	URL Rewriting for Cache-Key / Origin Request
High performing throughput: 3 Gbps/CPU-Thread	HTTP File Based caching support enabling use cases as for instance: <ul style="list-style-type: none"> • SD, HD, 4K • HLS, MPEG-DASH, MSS, CMAF • Chromecast • AppleTV • Live, VOD, time-shift TV, cDVR 	URL Query string parameters support
API Based configuration with optional GUI and CLI	Manifest compression	Customizable for Cache-Key and for Origin
Reliable and redundant deployment	Low-Latency support LL-HLS, LL-DASH	Smart content eviction policies
Rich set of logs for auditing, support and troubleshooting	Custom Defined Headers	Content-aware clustering with configurable performance vs redundancy
Metrics and performance KPIs export to the CDN Control Plane	HTTP/TCP, HTTPS, HTTP/2, CORS	Support for multiple origins
Linux RHEL 9	Session handling with token security and session policies to avoid piracy and misuse	Backend selector for load balancing, cache partitioning and advanced failover
COTS, VMs		Peer Cache fill
TLS versions up to 1.3		Storage Tiering optimizing utilization of SSD/HDD/RAM
Customizable TLS versions and ciphers		