

→ Content Delivery / Distribution Network

Networks of servers distributed across multiple geographic locations used to deliver web based content to users more effectively.

Improvement goals: scalability, security and reliability.

Components:

- Content delivery infrastructure: delivers content to clients via edge servers.
- Request routing inf: directing content request from client to surrogate (edge server)
- Content Distribution inf: moving / replicating content from content source to surrogates.
- Accounting info: logging and reporting of distribution and delivery activities.

↳ CDN for VoD and streaming

These have strict requirements, so surrogates become content acquirers, cache nodes, edge streamers.

↳ Origin Servers

Organized media on storage, authorize acquirers and packaged content. These can be replicated and can have a structure (security, scalability).

CDN can ingest from multiple Origin servers, so ingest must be flexible, resilient and secure.

↳ Routing Service

Request redirection model :

- HTTP-based redirection, where service router resolves domain to its own IP address.
- DNS-based redirection, where service router resolves domain to IP address of streamer.

↳ Alternative CDN Content Distribution

- **Content classification** : content manager assesses content popularity and drives content distribution, where popular content is pre-positioned at edge, less popular content is dynamically cached from central site and unpopular content is off-loaded directly to origin.

- **Peer-to-peer** : content can be cached anywhere, appropriate in fully meshed topologies.