This document outlines three categories of real world use-cases for interconnecting CDNs. It does not discuss technical solutions.

These use cases:
- Enable checking that CDNI requirements match real needs.
- Show the usefulness of work on CDNI enablers in the IETF.
Changes since IETF#82

• Integrating review/comments from:
  – Kent Leung, François Le Faucheur, and many other people on the list

• Main changes since last IETF (three draft updates)
  – Clarifications, outline improvement, abstract/introduction improvements etc.
  – Add use case "ISP Handling of Third-Party Content"
  – Capture discussions on Content Encoding Restrictions
  – Extend the security section to integrate the ML feedback
  – Clarify the section about nomadic users
  – Clarify Section 3.2.2. “Failure of Content Acquisition”
Final Modifications

- Final comments received:
  - A few editorial changes as suggested by FLF on the mailing-list
  - Modifications of the section about delivery restrictions

- We have published
  - We have moved the section about delivery restrictions to Annex A
  - We have rephrased text that looked like requirements
Next Steps

• April 2012
  – Submit CDNI use cases to IESG as Informational
Annex: List of the use cases
Geographic Extension: an Example

Diagram:
- Content Provider A
- CDN A CDSP A
- CDN A
- CDN B CDSP B
- CDN B
- End-User
- Country A
- Country B
- CDN Interconnect
Footprint Extension Use Cases

• **Geographic Extension**
  – Provide services beyond one’s own footprint by relying on other CDNs (same country or different countries)

• **Inter-Affiliates Interconnection**
  – Allow CDN service providers with several CDNs in several regions to provide consistent service
  – *Example: FT and TP (Orange group) may interconnect their CDNs*

• **ISP Handling of Third-Party Content**
  – CDNI agreement between Access and upstream CDN

• **Nomadic Users**
  – Allow users who move to other geographic regions to continue to access their content (although other residents of that region cannot access the content)
Offload Use Cases

• **Overload Handling and Dimensioning**
  – A CDN may interconnect with another CDN to increase its effective prime-time capacity.
  – *Example: CDN1 supports a special event and during the peak traffic related to this event, it offloads requests to CDN2*

• **Resiliency**
  – A CDN service provider (CDSP) may redirect some requests toward another CDN for service continuity during a:
    • content delivery failure
    • content acquisition failure
CDN Capability Use Cases

• **Vendor Interoperability**
  - A CDN operator may have a multi-vendor strategy for its CDNs and want to expose a single set of interfaces to content providers.

• **CDNs with different features**
  - Generic use case covering the situations where a CDN (CDN1) does not have the features to handle a request, and thus, delegates the request handling to another CDN.

• **QoE and QoS improvement**
  - A CDN that cannot meet the required service level agreement delegates the delivery to a CDN that can, for instance, an Access CDN.