

CDNI Requirements

(draft-lefaucheur-cdni-requirements-02)

CDNI Working Group
IETF 81 Quebec City, Canada
July 28, 2011

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Version -01 to Version -02

NOTABLE CHANGES

Notable Changes (1/3)

1. New author, Kent Leung, added. Future versions:
 - Co-editors will be Kent Leung and Yiu Lee
 - Authors section will contain Francois Le Faucheur, Mahesh Viveganandhan, and Grant Watson
2. Requirements language
 - [Eric Burger] RFC 2119 language is no longer used, expected in interface solution specs; “Must”, “Should”, and “May” in requirements are defined based on impact to WG schedule and deliverables

RFC 2119 Language

1. **MUST** This word, or the terms "REQUIRED" or "SHALL", mean that the definition is an absolute requirement of the specification.
2. **MUST NOT** This phrase, or the phrase "SHALL NOT", mean that the definition is an absolute prohibition of the specification.
3. **SHOULD** This word, or the adjective "RECOMMENDED", mean that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
4. **SHOULD NOT** This phrase, or the phrase "NOT RECOMMENDED" mean that there may exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
5. **MAY** This word, or the adjective "OPTIONAL", mean that an item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because the vendor feels that it enhances the product while another vendor may omit the same item. An implementation which does not include a particular option **MUST** be prepared to interoperate with another implementation which does include the option, though perhaps with reduced functionality. In the same vein an implementation which does include a particular option **MUST** be prepared to interoperate with another implementation which does not include the option (except, of course, for the feature the option provides.)

New Requirements Language

The key words "Must", "Should" and "May" in this document are to be interpreted in the following way:

- o "Must" indicates requirements that are to be supported by the CDNI protocols in the stated scope (aka "within initial CDNI scope" or "beyond initial scope"). A requirement is stated as a "Must" when it is established by that it can be met without compromising the targeted schedule for WG without meeting this requirement would not make sense and would justify re-adjusting the WG schedule, or both.
- o "Should" indicates requirements that are to be supported by the CDNI protocols in the stated scope (aka "within initial CDNI scope" or "beyond initial scope") unless the WG realizes at a later stage that attempting to meet this requirement would compromise the overall WG schedule (for example it would involve complexities that would result in significantly delaying the deliverables).
- o "May" indicates requirements that are to be supported by the CDNI protocols in the stated scope (aka "within initial CDNI scope" or "beyond initial scope") provided that dedicating WG resources to this work does not prevent addressing "Should" and "Must" requirements and that attempting to meet this requirement would not compromise the overall WG schedule.

Notable Changes (2/3)

3. Sect. 2 Fig. 1: CDNI Model and CDNI APIs
 - [Xiaoyan(Susan) He] Inter-CDN content acquisition request is missing. Request interface between Upstream CDN and Downstream CDN added to CDNI Model figure
4. New R37 added
 - [Kevin Ma] CDNI RRI May support an optional mechanism allowing an upstream CDN to avoid redirecting a request to a downstream CDN if that is likely to result in the total redirection time exceeding some limit (Note: Only for recursive case)

Notable Changes (3/3)

– [Kevin Ma] ^{CDN} R39

– [Kevin Ma] RRI May also allow the ^{CDN} upstream
CDN to convey information pointing to CDNI

metadata “applicable (individually or through
inheritance) to” the requested content; replaced

“associated with”
6. Old R58/New R59

– [Kevin Ma] “Delegation whitelist
Information defining which downstream CDNs
blacklist (i.e. the
as an example on be delivered to CDNI)” added
Metadata

Version -01 to Version -02

REQUIREMENTS – WG

Proposed Changes

4. Clear up all the duplicate requirements.
5. Find out the requirements which are inter-dependent. Indicate them if one is implemented, all the dependent ones must also be implemented, all the dependent requirements on CDN also implemented, (loop prevention must also be implemented)

Proposed Changes

6. Requirements numbering for the WG draft based on tag for each section such as CI-xxx, RRI-xxx, MX-xxx, Logging Interface, Request Routing, Metadata and Logging Interface, respectively
7. Generic requirement should specify that there is no impact to CSP respectively
8. ATIS CSF requirements when available, will be considered for incorporation

Open Questions

- R8/R12: Clarify Cascaded CDN means more than 1 level of redirection
- R14: Does uCDN
- R30: Clarify that simultaneous is not RR but content delivery. need to be aware of virtualization?
- R30/R32: Surrogate selection is not part of CDNI? content delivery.
- R31/R32: Surrogate selection is not part of CDNI?
- R38/R40: Should we have "Must" for CDNI. Philo's position of distribution metadata looped request?
- R38/R40: Should we have "Must" for CDNI. Philo's position of distribution metadata "Must" for CDNI. Philo's position of distribution metadata "Must" for CDNI. Philo's position of distribution metadata "Must" for CDNI.
- Sect 8 Security Considerations. Comment in last

Next Steps

CDNI

working group draft for CDNI Requirements