Design Choices and Differences for NDN and CCN Implementations of Information Centric Networking   
draft-<ietf-wgname-docname>-00.txt

Abstract

The purpose of this draft is to document the discussions of the ICN Harmonization Study Group regarding the architectural or design choices made in the NDN and CCN implementations and to describe the rationale (if any) underlying the choices.

Status of this Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <http://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on xxx xx, xxxx.

Copyright Notice

Copyright (c) 2016 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to BCP 78 and the IETF Trust’s Legal Provisions Relating to IETF Documents (http://trustee.ietf.org/license-info) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Table of Contents

[1. Introduction 2](#_Toc464741151)

[2. Conventions used in this document 3](#_Toc464741152)

[3. Background 3](#_Toc464741153)

[3.1. Origin - Point of Commonality 3](#_Toc464741154)

[3.2. Evolution of ICN Development along NDN path 3](#_Toc464741155)

[3.3. Evolution of ICN Development along CCN path 3](#_Toc464741156)

[4. Discussion of Individual Architecture & Design Commonatities and Differences per NDN and CCN Development paths 3](#_Toc464741157)

[4.1. Naming 3](#_Toc464741158)

[4.1.1. NDN Approach 3](#_Toc464741159)

[4.1.2. CCN Approach 3](#_Toc464741160)

[4.1.3. Discussion 3](#_Toc464741161)

[4.2. Name Discovery, Interest Refinement (eg Selectors) 4](#_Toc464741162)

[4.3. Data Referencing and Retrieval 4](#_Toc464741163)

[4.4. Cache Control 4](#_Toc464741164)

[4.5. Cache Verification 4](#_Toc464741165)

[4.6. Interest Payloads 4](#_Toc464741166)

[4.7. Packet Structure and Packet Encoding 4](#_Toc464741167)

[4.8. Link and Network Adaptation 4](#_Toc464741168)

[4.9. Fragmentation 4](#_Toc464741169)

[4.10. Forwarding / Interest Looping 4](#_Toc464741170)

[4.11. Interest Aggregation 4](#_Toc464741171)

[4.12. Data Security 4](#_Toc464741172)

[4.13. Data Digest 4](#_Toc464741173)

[5. Security Considerations 4](#_Toc464741174)

[6. Acknowledgements 4](#_Toc464741175)

[7. IANA Considerations 4](#_Toc464741176)

[8. Conclusions 4](#_Toc464741177)

[9. References 5](#_Toc464741178)

[9.1. Normative References 5](#_Toc464741179)

[9.2. Informative References 5](#_Toc464741180)

[Appendix A. <First Appendix> 6](#_Toc464741181)

[A.1. <First Header level> 6](#_Toc464741182)

[A.2. <Second Header level 1> 6](#_Toc464741183)

[A.2.1. <H2> 6](#_Toc464741184)

# Introduction

<...>

# Conventions used in this document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

# Background

## Origin - Point of Commonality

<*Common point from which the two development streams emerged circa 2013 / CCNx 0.8 Reference Implementation>*

## Evolution of ICN Development along NDN path

## Evolution of ICN Development along CCN path

# Discussion of Individual Architecture & Design Commonalities and Differences per NDN and CCN Development paths

<*below we take in succession individual topics that capture the points where the differences between the NDN and CCN approaches are relevant and important to discuss. The topics listed below are taken from our prior discussions and are included for completeness only. We can reorganize, add or delete items as we see fit. The structure of each section will be the same as suggested in 4.1*>

## Naming

<*topic definition*>

### NDN Approach

*<Design, Implementation, Rationale>*

### CCN Approach

*<Design, Implementation, Rationale>*

### Discussion

*<non-judgmental discussion of implications of design choices vis-à-vis performance, evolution constraints, etc>*

## Name Discovery, Interest Refinement (eg Selectors)

## Data Referencing and Retrieval

## Cache Control

## Cache Verification

## Interest Payloads

## Packet Structure and Packet Encoding

## Link and Network Adaptation

## Fragmentation

## Forwarding / Interest Looping

## Interest Aggregation

## Data Security

## Data Digest

# Security Considerations

<. . .>

# Acknowledgements

<. . .>

This document was prepared using 2-Word-v2.0.template.dot.

# IANA Considerations

This memo includes no request to IANA.

# Conclusions

<. . .>

# References

## Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

## Informative References

[xxxyyyy] xxxyyyyzz

1. <First Appendix>
   1. <First Header level>

<Text>

* 1. <Second Header level 1>
     1. <H2>

<Text>

Authors’ Addresses

<Firstname> <Lastname>

<Affiliation>

<Address>

Phone: <optional>

Email: <Your email address>

<Firstname> <Lastname>

<Affiliation>

<Address>

Phone: <optional>

Email: <Your email address>