

# Transmission of IPv6 Packets over Near Field Communication

*draft-ietf-6lo-nfc-02*

*Y-G. Hong, Y-H. Choi (ETRI),*

*J-S. Youn (DONG-EUI Univ.), D-K. Kim (KNU)*

*J-H. Choi (Samsung)*

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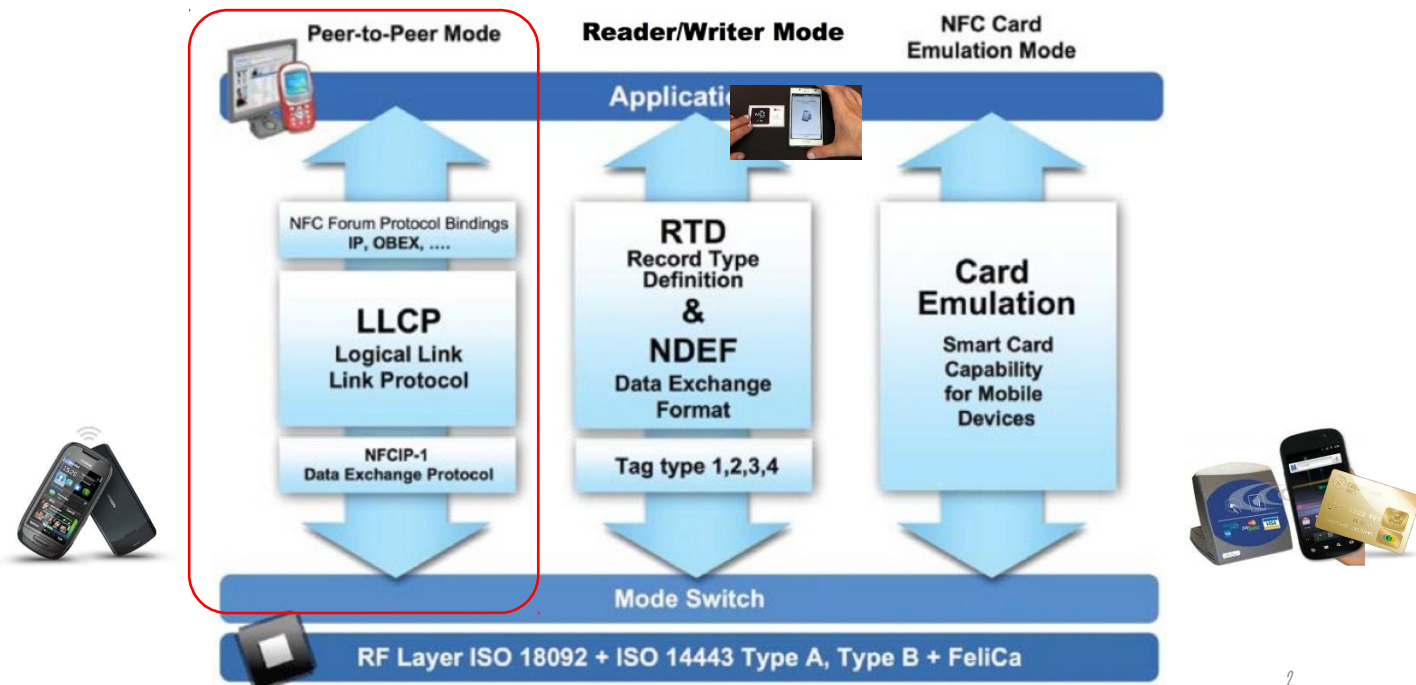
**2015.11.5**

# What is Near Field Communication (NFC) ?

- *NFC technology enables* (Source: NFC forum)
  - simple and *safe two-way interactions* between electronic devices, allowing consumers to perform contactless transactions, access digital content, and connect electronic devices *with a single touch*.

- *NFC Functions*

(Source: NFC forum)



# History and status

- **WG document : draft-ietf-6lo-nfc-00** (Mar. 3. 2015)
  - *Update Stateless address autoconfiguration (RFC7136)*
- **1st revision : draft-ietf-6lo-nfc-01** (July. 5. 2015)
  - *Updated parts*
    - *MAC PDU size and MTU*
    - *SLAAC and IPv6 link local address*
    - *Fragmentation and Reassembly*
- **2nd revision : draft-ietf-6lo-nfc-02** (Oct. 17. 2015)
  - *Updated parts*
    - *Dispatch Header (added)*
    - *Header Compression (modified for GHC)*

# Update since IETF93 (1/2)

## • 4.6. Dispatch Header

- The only sequence currently defined for IPv6-over-NFC is the **LOWPAN\_IPHC** header followed by payload, as depicted in Figure 8.

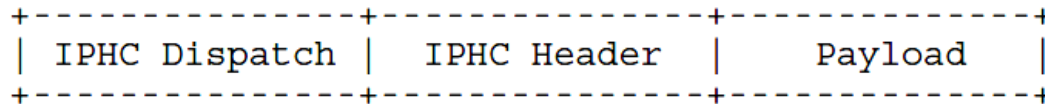


Figure 8: A IPv6-over-NFC Encapsulated 6LOWPAN\_IPHC Compressed IPv6 Datagram

- The **dispatch values** used to represent a single pattern *i*

Pattern	Header Type	Reference
01 1xxxxx	6LOWPAN_IPHC	[RFC6282]

Figure 9: Dispatch Values

# Update since IETF93 (1/2)

## • 4.7. Header Compression

- IPv6 header compression in RFC6282 [5] MUST be implemented.
- Further, *implementations MAY also support Generic Header Compression (GHC) of RFC7400 [11].*
- *A node implementing GHC MUST probe its peers for GHC support before applying GHC.*

# Others

- **Announcement of NFC network device driver (Oct.7.2015)**

- *NFC module : Adafruit PN532 NFC (v1.3)*
- *SPI – Shield Wiring is needed*
- *To make kernel module, it needs Linux header.*
- *<https://sourceforge.net/projects/nfc-driver>*

- **Inform the NFC Forum**

- *Email response from Paula Hunter (NFC Forum Executive Director) (Oct.6.2015)*

# Next step

- **Updates for “draft-ietf-6lo-nfc-03”**

- *Considerations for “4.5. Neighbor Discovery”*

- **Implementations & 1st ETSI 6lo plugtest**

- *A testbed between two different NFC-enabled devices*
  - *Intel Edison board (Yocto Linux 3.10.17)*
  - *Laptop PC (Fedora, Linux kernel 4.0.4)*
- *Further considerations*
  - *IID redundancy based on 6 bits of NFC Node ID*
  - *NOT support for MTU extension in NFC PN532 chipset (partially resolved)*
  - *Implementations for MAC procedures in ND functionality*