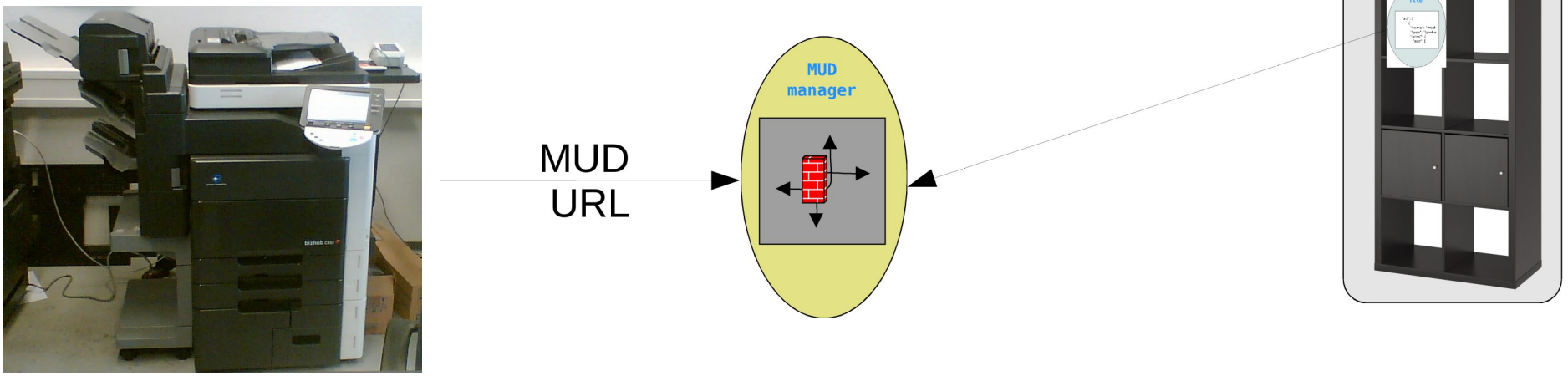
Authorized update to MUD URLs

Michael Richardson
IETF107 OPSAWG meeting
April 7, 2020

draft-richardson-opsawg-mud-acceptable-urls-00

What is the problem?



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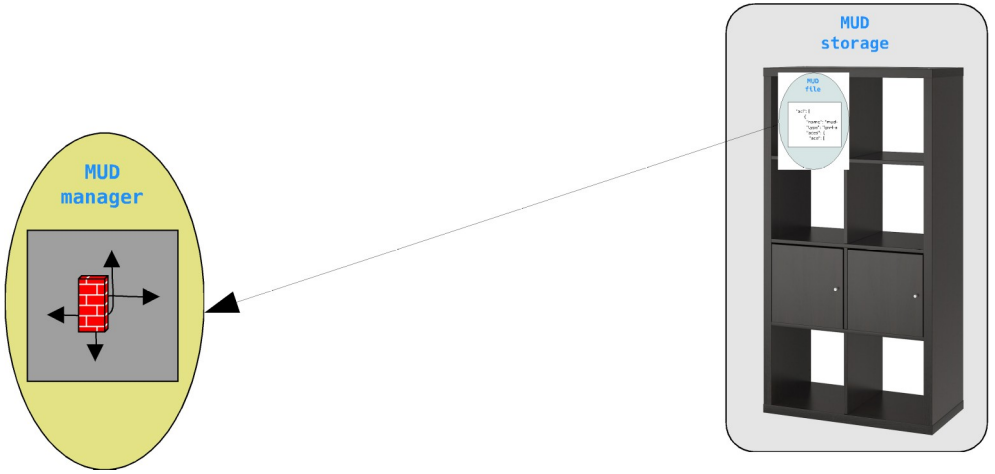

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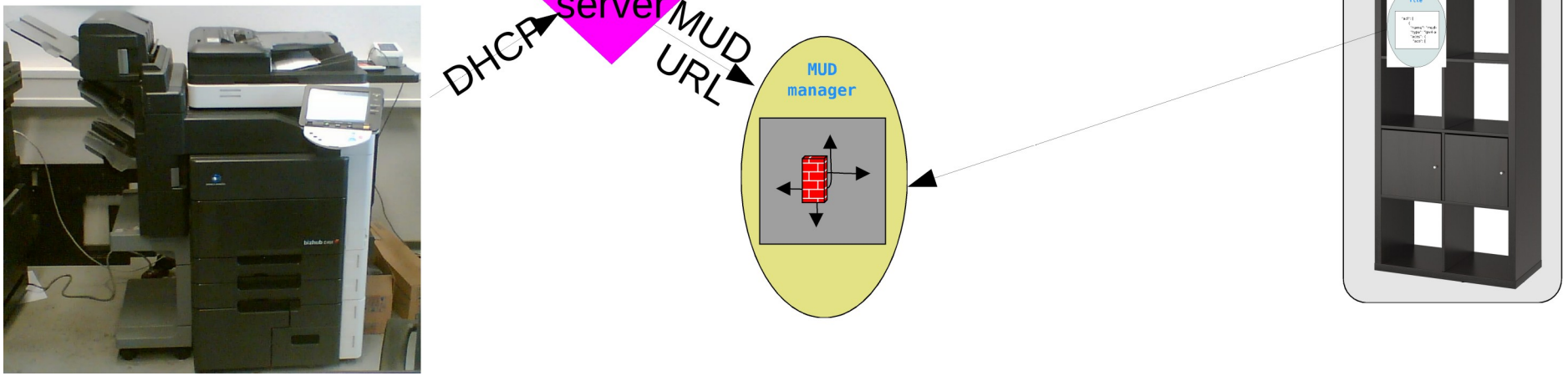

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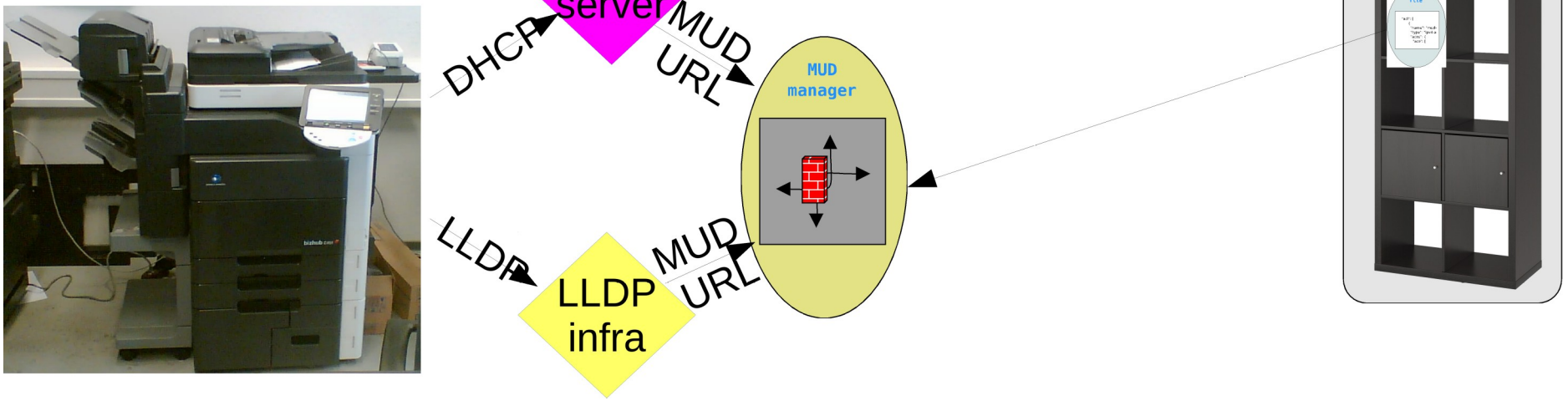

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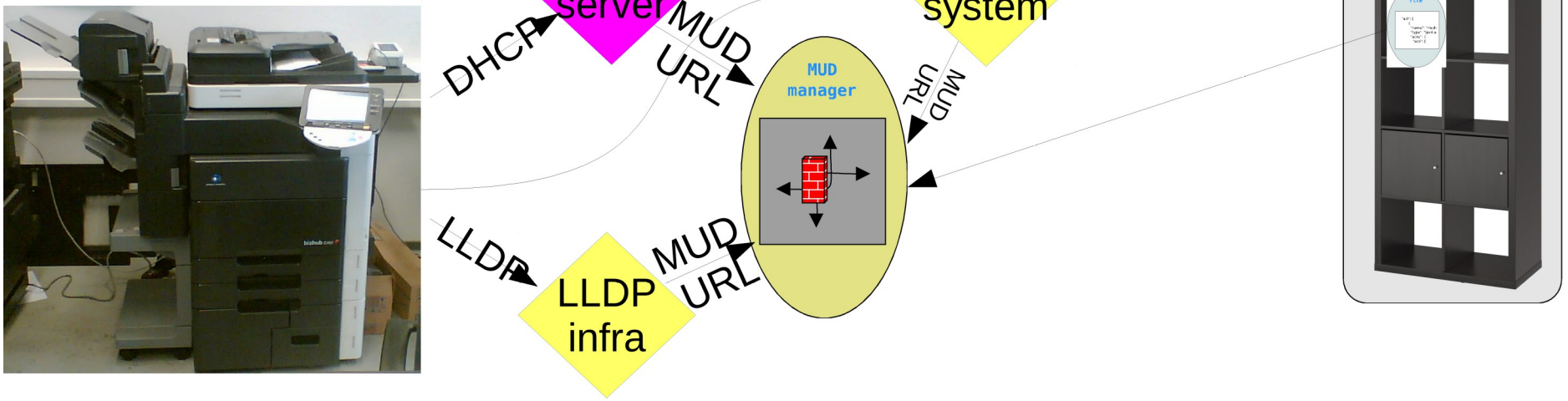

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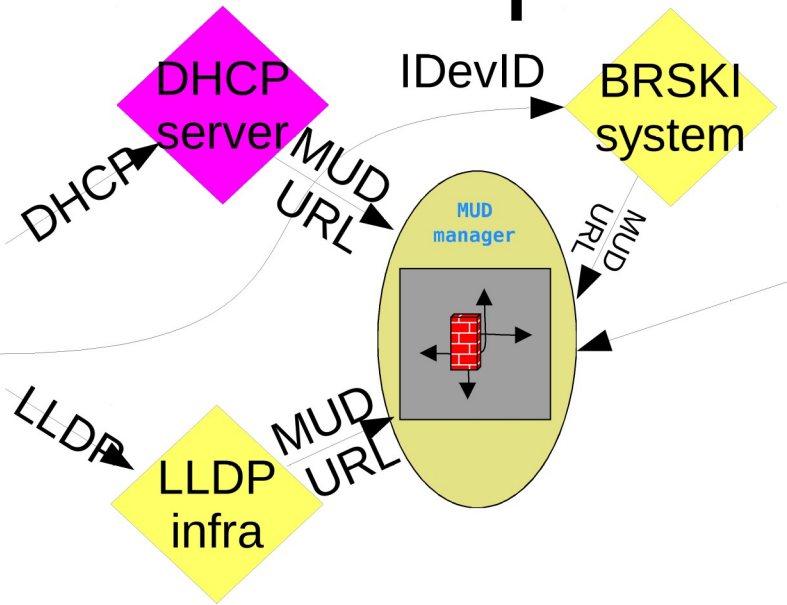

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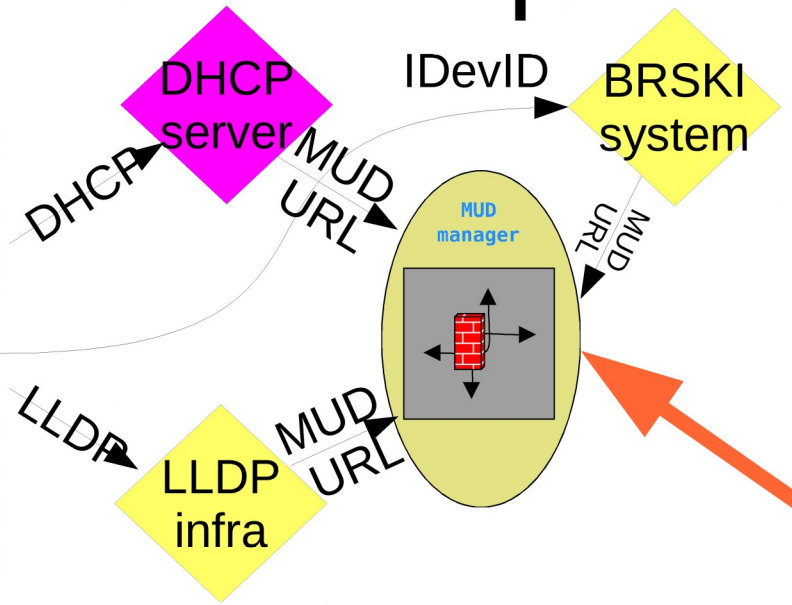

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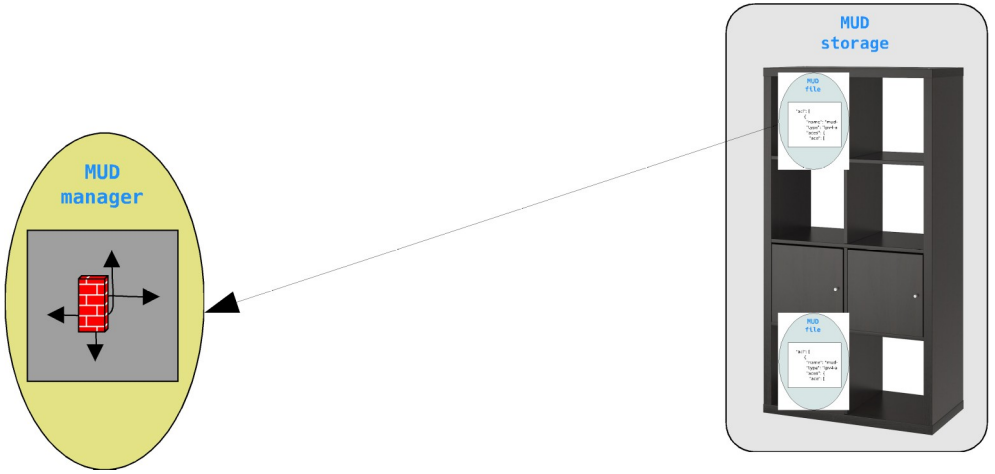
MALICIOUS MUD FILE

MUD URLs vs MUD files

- Update MUD file in place
  - PRO: no security problems
  - CON: opens issues with mis-matches of firmware
    - e.g., TLS profiles!
- Update MUD URL, provide new MUD file
  - PRO: every major revision can have specific rules
  - PRO: different operating modes for device can express different preferences
    - (commercial, pro-user, residential)
    - Features enabled via accessories
  - CON: risk that MUD file link could be changed by malware

Shape of Solution



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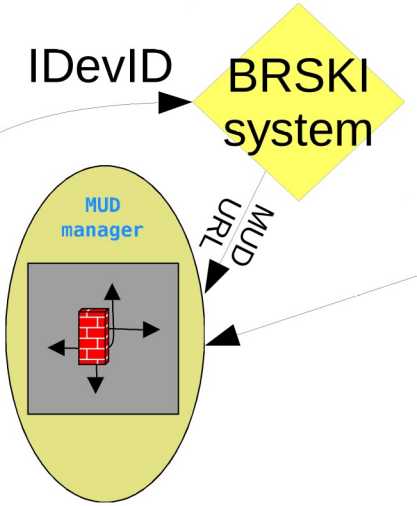

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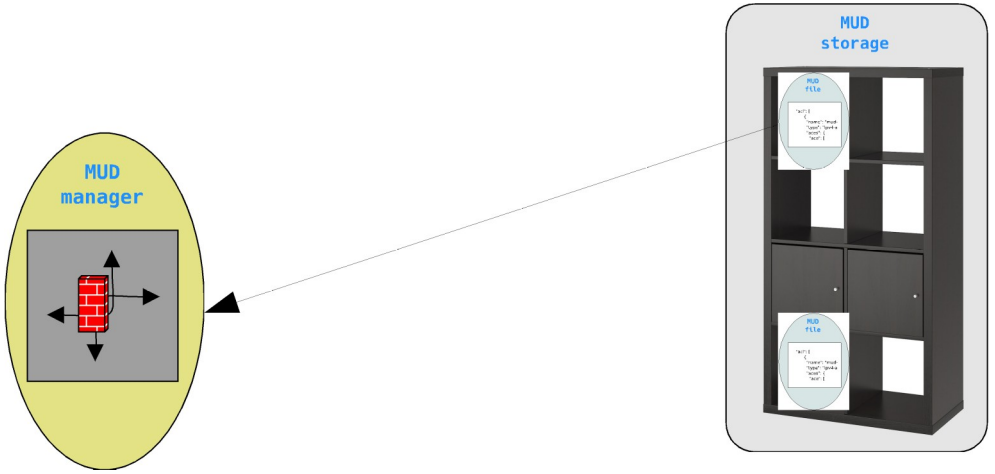

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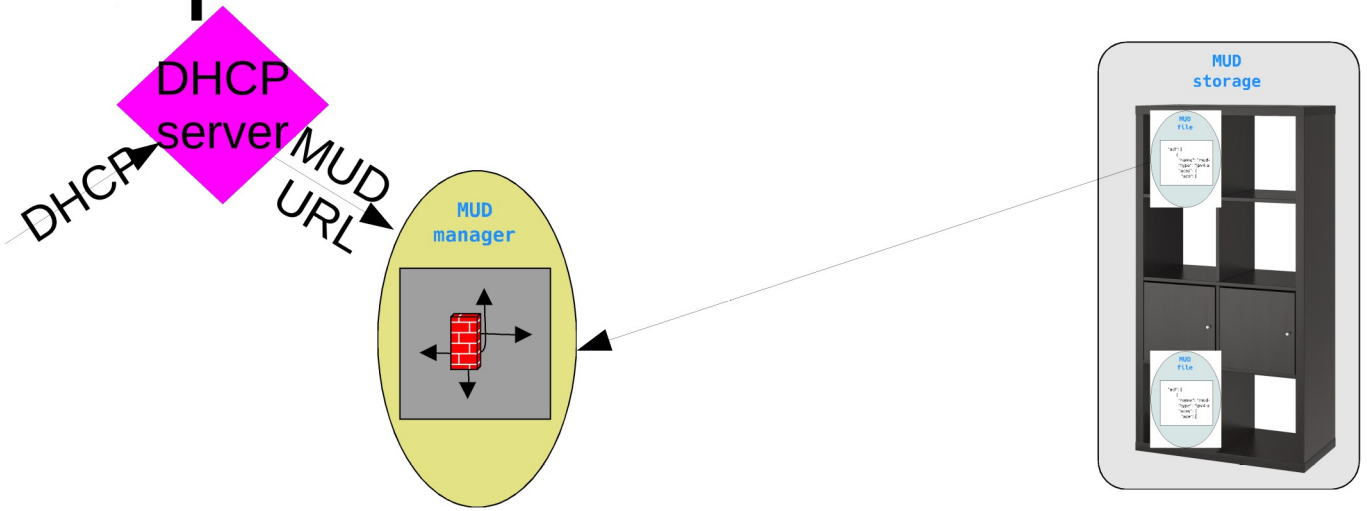

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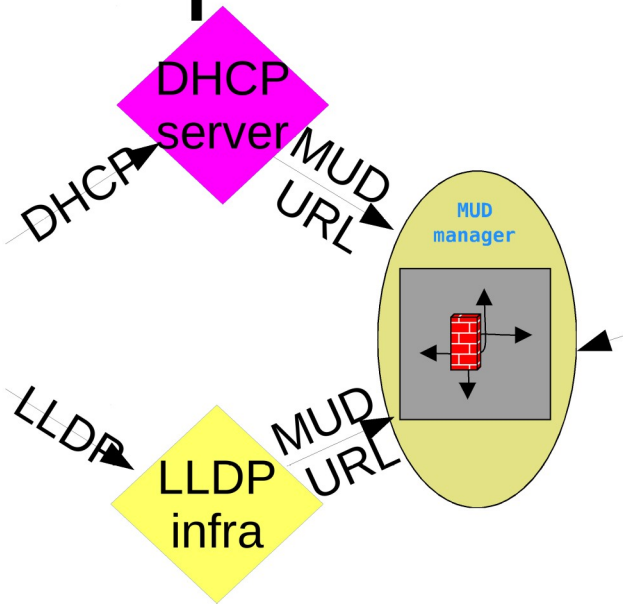

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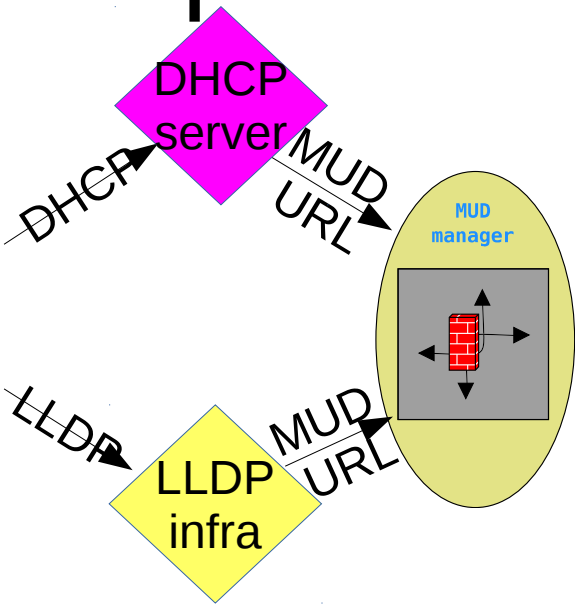

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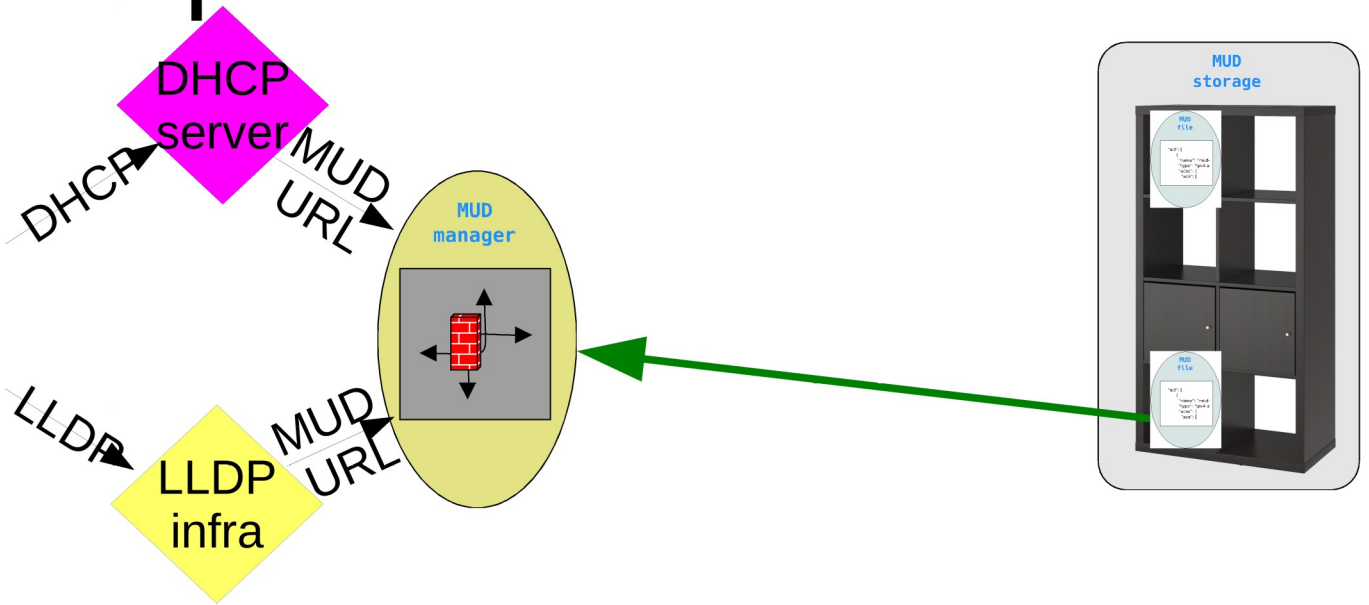

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Updates to IdevID?

- If IDevID is the most secure, why not update that?
  - Not easy to do for many products, IDevID is ideally stored in TPM
- If the IDevID can be updated, then can a malware update it too?

Two ideas

- Update RFC8520 to say that the base URL must always be the same
- Add extension to RFC8520 say allow base URL to be specified

What to do next

- This is aimed at being a BCP for MUD
- Is this a problem for you?
  - Do you have a preference for solution?
- Adopt?
- QUESTIONS?