MLR

History

- The quality of the messages sent through PEPPOL was poor going back to 2014.

- So a project called Validation & Quality Assurance was started Addressing
  - How the validation artefacts should be used
  - How the PEPPOL artefacts should be versioned, packaged & released
  - The responsibilities of the senders and receivers
  - The responsibilities of the PEPPOL authorities
  - Possibility to send and receive a technical acknowledgement

- In 2015 we moved the PEPPOL authorities out of the scope and renamed the project to PEPPOL Document Delivery Policy (The MLR revival project was started as well)
  - Presented at the F2F meeting in Netherlands (Comments on the requirements for the receiver)
  - Presented at the F2F meeting in Stockholm (The usefulness of MLR was questioned)

- The project continued under the MLR banner (but questioning its mandate after the Stockholm F2F).

Present [now()]

- PEPPOL is running with pretty high quality on transmitted documents since the majority of the transactions are run within the Norwegian region that has become a mature network & standard with a very dedicated PEPPOL Authority.

- But the ongoing work in the different projects might severely affect the quality of the data sent on the network:
  - European Norm introducing new content as well as new syntaxes
  - New regions/countries [new AP, new VA, new BIS documents]

Use Cases

- Request for mandatory MLR
  - Corner 2 MUST be able to force corner 3 to send an MLR back, independent of the status. This means that corner 3 MUST also send positive MLRs back to corner 2.
  - If corner 2 is NOT requesting an MLR, it must be prepared to receive a negative MLR anyway.

- Reject invalid or corrupt document
  - Even though it is the responsibility of the sender to validate the document before sending it, there are several reasons why the document could and should be rejected by corner 3:
    - **The Sender is not validating the document before sending.**
    - **The validation artefacts used by corner 2 are outdated.**
    - The receiving PEPPOL participant is not owned by corner 3 (for whatever reason).
    - **The Metadata (like DocumentIdentifier, Process) is invalid or missing**
    - Corner 2 transmitted a corrupt document.
    - Already approved APs implement support for new document types

Goals & requirements

PROVIDED BY THE MLR MARKETING TEAM

Lower the need for manual intervention

- The overall goal of the MLR is to improve the level of automation in document processing in the PEPPOL network and handle certain disputes automatically instead of manually.

- Manual processes are very expensive since AccessPoints in the PEPPOL network have no direct agreements and contact details setup between each other as they would have in other cases.

Provide document status information on messaging level

- An MLR must provide information about the acceptance status of a document on a messaging level.

- It can be implemented end-to-end spanning more than one leg of transfer in the 4-corner model.

- It can either be positive (document is accepted) or negative (document is rejected).

Proof of technical verification on receiver side

Having proved that the transmitted document is technically correct according to the rules of the recipient.

- The MLR will help determine that the document was verified on a technical level by corner 3 (acting on behalf of corner 4) or corner 4 directly, depending on the chosen business process, document type and security settings.

- Corner 3 is responsible for transmitting the MLR document back to corner 2.

Proof of positive delivery to recipient on messaging level

Having proved that the transmitted document is received, verified and delivered to the recipient.

- If a transmitted document was technically verified successfully, it is the responsibility of corner 3 to deliver the document to corner 4.

- Even though it can never be a 100% guarantee that the PEPPOL participant receives the document it will increase the certainty tremendously since the MLR will be sent after it has been processed successfully in corner 3.

- At a later stage, if BLR is available, PEPPOL will have a guaranteed delivery to corner 4.

Notification about failures on receiving side

- If the technical verification fails and the receiver cannot process the document, a negative MLR MUST be send from corner 3 to corner 2.

- Any dispute occurring after a positive MLR acknowledgement has been sent MUST be handled directly between corner 1 and corner 4.

Return MLR within a fixed timeframe

- If an MLR is sent (for whatever reason), it must happen within a fixed period after receipt of the original document at corner 3.

- If corner 2 did not request a mandatory MLR and no MLR is received within the stated timeframe, corner 2 may consider the document to be accepted and further disputes must be resolved externally.

Capable of handling encrypted data

- There have been discussions about making the MLR into an AccessPoint to AccessPoint message.

- By making MLR a message with purely technical content, used between corner 2 and corner 3 means that it cannot be used when the PEPPOL participants are sending encrypted data between each other since it cannot be assumed that corner 3 is able to decrypt the transmitted document.

- So the MLR process should take into account that the payload might be encrypted and in those cases the MLR or similar acknowledgement might be created by corner 4 and transmitted to corner 3 who in turn will distribute it back to corner 2.

- This implies that the ownership of MLR creation can either be corner 3 or corner 4. The transmission of the MLR MUST be done by corner 3.

Loose coupling with the rest of the infrastructure

Changes made in components or artefacts in PEPPOL should have as small impact as possible on other artefacts, in this case both the MLR process and artefacts.

- Since PEPPOL is a network that involves hundreds of actors and covers several different countries all over the world it is vital that changes introduced into the platform have as small impact as possible.

- To minimize the impact when changes are introduced we need to separate the acknowledgement process from other processes like Communication, Lookup, etc.

- If one process is replaced the other processes, including the acknowledgement process, it should remain unchanged.
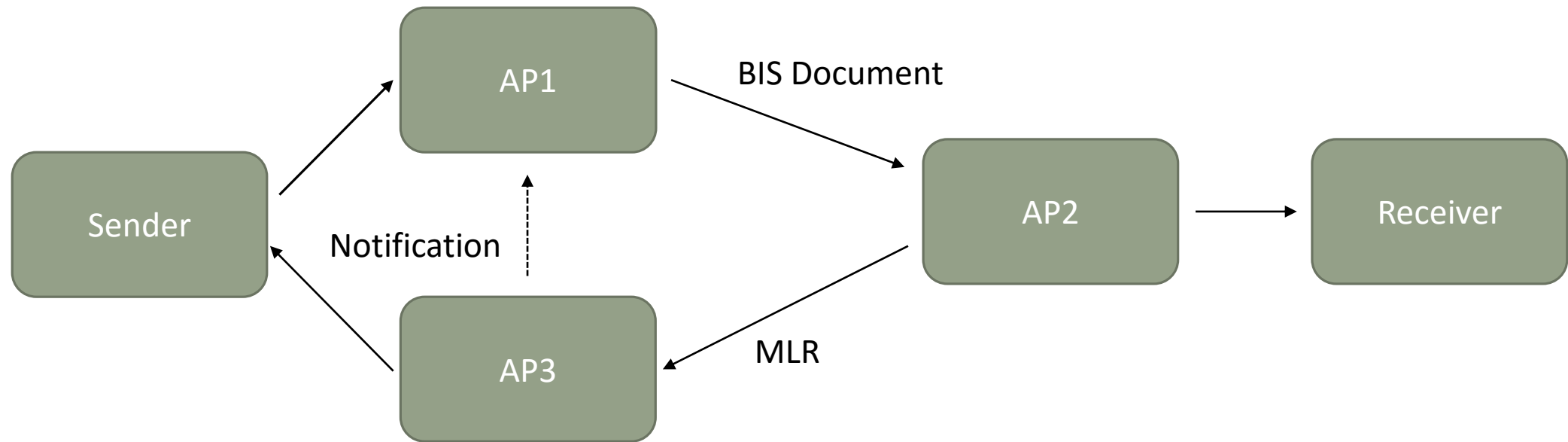
Loose coupling with the rest of the infrastructure (continued)

- This means that the structure and logic for sending back an MLR should be independent of the technology used in other PEPPOL components.

- So if PEPPOL allows transport protocols different from AS2 in the future (e.g. AS4) the impact of this on the MLR should be minimized.

- This means the MLR should not be connected with the AS2 MDN to tightly since that might result in major changes for the MLR delivery as well.

- So by sending the MLR in the same way as other documents it means that it will be upwards compatible.

Alternative approach of handling MLR

To Summarize

- Enable automatic error handling in a network that is continuously expanding and evolving.

- We should not go in "half hearted" => Make it mandatory

- MLR is a tool for relieving the participants with time consuming error handling.

- MLR is a tool for getting a technical acknowledgement of delivery

- MLR might be a tool for actually identifying the most common errors (Reporting function with error code as part of the report)

- We should not forget to focus on the complexities causing the failures:
  - Complex routing logic
  - Availability of VA
  - Etc

Q&A

AND THANK YOU!