

OpenPEPPOL Capacity Building Deliverable

Large Files

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OpenPEPPOL AISBL

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Document Logistic

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This Document relates to: Subject area

Revision History

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Approvals

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1. Pre-analyse report: identification of the need for extensions
	1. Current status in OpenPEPPOL

There is no defined upper limit on the size of content sent using PEPPOL infrastructure, however as a result of lessons learned in the past when using START protocol, Difi imposes restrictions in the Norwegian market by limiting providers to send content with a maximum size of 100 MB (101 \* 1024^2 bytes). The Norwegian restriction is the only defined restriction defined by a PEPPOL Authority, and as Difi also provides Oxalis to the community, the 100 MB limit has become a *de facto* restriction in PEPPOL.

Providers in the Norwegian market have earlier voiced a need to allow content larger than 100 MB, Difi has chosen to not change the limit as this has been related to invoices. The limit represents a mean to prevent customers from using invoicing as a mean to transport content not relevant to the invoice.

* 1. Supporting transmission of tenders

Large files in PEPPOL is identified as a requirement by e-SENS WP 5.1 eProcurement to support transmission of content large enough to support the introduction of Directive 2014/24/EU in PEPPOL. Tenders are subject to massive documentation in terms of both text documents and other kinds of spacious documentation like illustrations, images, videos, sound and whatever else required by the contracting authority.

* 1. Problems related to large files

Raising the general upper limit on content transported in PEPPOL may introduce new problems for providers connected to PEPPOL.

* + 1. All providers are treated equally

PEPPOL does not segment providers, allowing all providers to take part in all processes allowed in PEPPOL without the opportunity to differentiate communication or content in transmissions based on receiving or sending access point. This allows small providers to compete directly with large providers to make a healthy market of services surrounding OpenPEPPOL.

The lack of segmentation results in the general upper limit to be identical to the general lower limit expected by all providers.

* + 1. Expectations to hardware

The current generation of transport protocols part of PEPPOL and planned for PEPPOL is memory-intensive, due to the fact that AS2 and AS4 are non-streaming protocols. Raising the general upper limit in PEPPOL requires providers to invest in further spare resources to assure the same level of operations as performed today.

* + 1. Handling of large machine readable content

Sending rather large files containing machine readable content has proven to be problematic for some providers to parse. As this is an aspect related to how we threat SMBs being providers of software for business documents, we should put a cap on the maximum size of an individual file containing machine readable content. Setting a limit at 100 MB should be enough, as providers, by using ASiC-E, may put attachments outside the machine readable content.

1. Requirement specification to all of the identified new Capability Extensions

Capability of large files, and related limits, is a combination of both technological capabilities and governance. As PEPPOL have to live with the current choice of technologies for the next years to come, we need to distinguish requirements based on generation of technologies.

* 1. Requirements for the current generation of technologies

e-SENS has identified challenges when this generation is pushed towards 2 GB (2 \* 1024^3 bytes). With this in mind, these are the suggested requirements for the current generation of technologies:

1. Protocol MUST be able to:
	1. Send files of minimum 2 GB (2 \* 1024^3 bytes).
	2. Receive files of minimum 2 GB (2 \* 1024^3 bytes).
2. Protocol MUST support calculation of expected resources to be able to handle large files.
	1. Requirements for the next generation of technologies

Looking into the future, these are the suggested requirements for technologies to be introduced to PEPPOL:

1. Protocol MUST be able to:
	1. Send files of minimum 4 GB (4 \* 1024^3 bytes).
	2. Receive files of minimum 4 GB (4 \* 1024^3 bytes).
2. Protocol SHOULD be a streaming protocol.
3. Protocol MAY support sending using “pull” in addition to “push” when sending files not sensitive to time of delivery.

These requirements may be seen as a guideline as we do not know what will be expected by PEPPOL in the future, however we know the expectations will grow as technology develops.

1. Design Documentation for all of the identified new Capability Extensions

For the introduction of large files in PEPPOL to facilitate Directive 2014/24/EU, we need to continue to make it predictable for existing providers in PEPPOL to keep up their business in addition to making room for providers to take on tasks where higher expectations to technical capabilities is required.

* 1. Changing existing limitations

We need to change existing implementations limiting size of content to fulfil requirements outlined in 2.1.

Implementations should be tested and measured to provide numbers for the market to use when setting up their services to support different kinds of document types. To facilitate the directive, this must be done before August 1st 2016.

* 1. Introducing soft limits

To keep it predictable to provide services in PEPPOL is a soft limit of 100 MB (101 \* 1024^2) proposed for all document types. OpenPEPPOL CCs may specify limits per document type for PEPPOL BIS and PAs may specify limits per document type for national formats. This makes it possible for providers to know what to expect when exchanging files, and makes it possible to test setup before starting to exchange new types of document types.

“Random” sizes for different formats will introduce problems for vendors so TICC should maintain a table of classifications to make it easier to align to the soft limits.

|  |  |
| --- | --- |
| Classification | Limit |
| Class A | 100 MB (101 \* 1024^2 bytes) |
| Class B | 250 MB (251 \* 1024^2 bytes) |
| Class C | 500 MB (501 \* 1024^2 bytes) |
| Class D | 2.0 GB (2.0 \* 1024^3 bytes) |

It is added 1 MB to each of classes A-C as this allow experienced size to be as expected for customers not understanding why 100,1 MB files are too large for Class A.

* 1. Maximum size of content part of a “large file“

To make sure SMBs providing services related to content are not set out of business as a result of large files in the network, we should introduce a soft limit of how big an individual file containing machine readable content may be.

|  |  |
| --- | --- |
| Content type | Limit |
| Machine readable content | 100 MB (101 \* 1024^2 bytes) |
| Unstructured content | No limit |

1. Revised eDelivery specifications/profile

This deliverable does not introduce changes to any existing eDelivery specifications or profiles. We should create a policy outlining what providers in the network may expect to be allowed to send and what they may expect to receive on behalf of their customers. Such a policy is important for vendors creating a new service or upgrading an existing service.

1. Implementation plan
2. This document contains a policy on file sizes, not any technical changes. New policies are part of OpenPEPPOL as soon as they are agreed upon, thus will this policy become part of OpenPEPPOL as soon as it is agreed upon. No further implementation plan is needed.Relevant request for change to CEF eDelivery

As this is not changing any technical aspects related to CEF eDelivery, this does not trigger any RfC for CEF eDelivery.