DDTS specification

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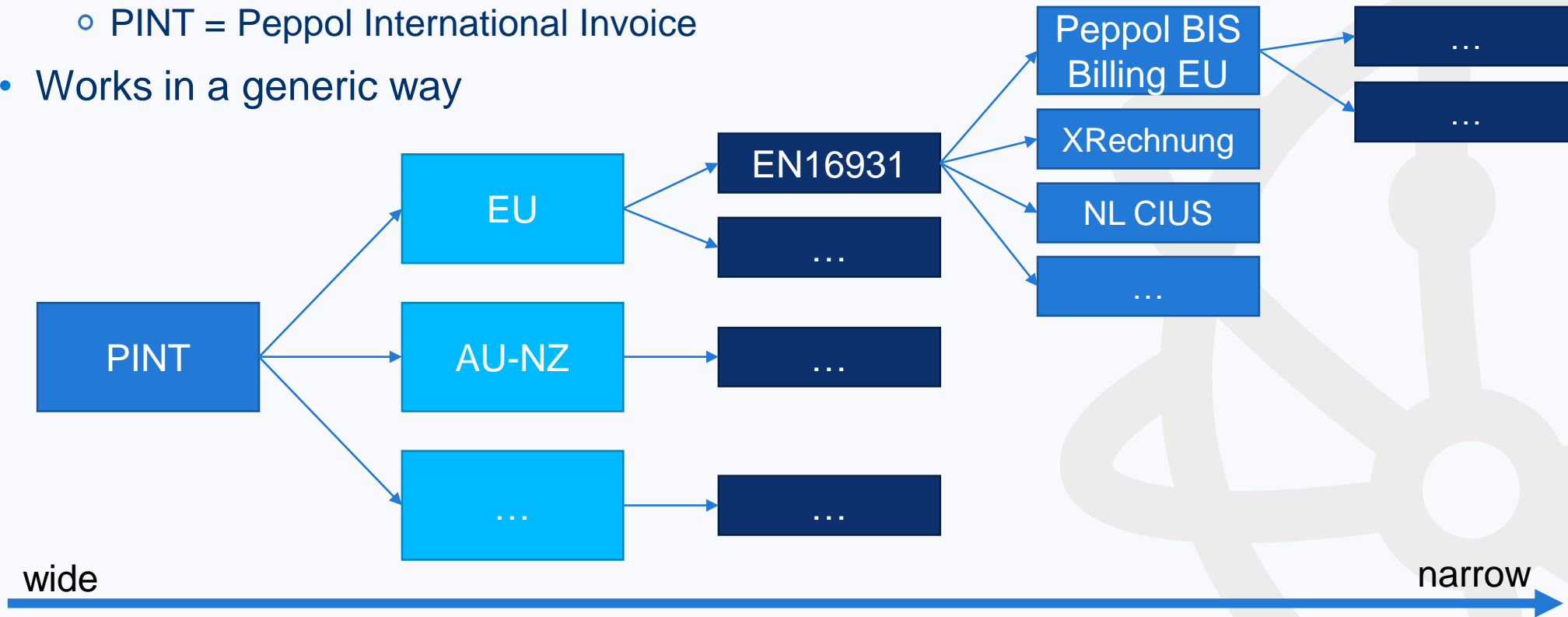
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Agenda

- Introduction to DDTS
- How DDTS works
- Example identifiers
- Next steps

Introduction to DDTS

- DDTS = Dynamic Document Type Scheme
- Invented for the PINT scenario to limit the amount of required SMP registrations
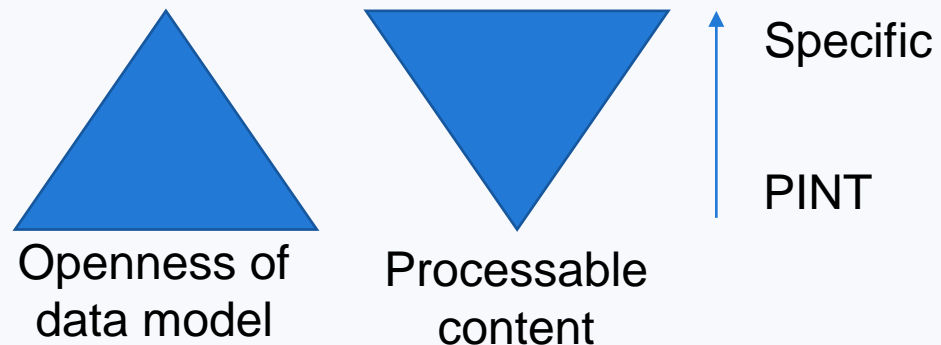 - PINT = Peppol International Invoice
- Works in a generic way

wide → narrow

How it works in general

- Introducing **Wildcards** in document type identifiers
- SMP registration use Wildcards to indicate
  "Being able to process this document type and everything that is more narrow"
- Wildcards can be used on any level as in "everything on PINT or more narrow" to "everything on Peppol BIS Billing EU or more narrow"
- Roles
  - Receivers offer flexibility
  - Senders always sending a specific document type – DDTS impacts the lookup process only

Implications for receivers

- End User receivers do not need to explicitly advertise all specialisations they support, however they may choose to e.g.:
  - `pint:billing-1*` indicates they can *receive* all PINT specialisations but might only *process* according to core PINT i.e. they may not understand domain-specific requirements and may ignore Distinct elements
  - `pint:billing-1@aunz-2*` explicitly states they understand and can process the A-NZ specialisation (and all specialisations based on A-NZ)

- The expectation is that receivers will advertise the local jurisdictional specialisation to be overt and provide certainty to senders that the receiver can understand the localisations (e.g. tax categories etc.) that are important for domestic trade

Specific

PINT

Openness of data model

Processable content

How it works technically

- Introduction of a new Document Type Identifier Scheme **peppol-doctype-wildcard**
  - Additionally to the existing **busdox-docid-qns**
  - Both schemes will coexist

- This Scheme defines new rules how to build the Document Type Identifier Value
  - Remember: separation between Scheme and Value
  - `<syntax specific id>##<customization id>::<version>`
  - Customization ID consists of **Parts**
  - Each Part is separated by the @ character
  - The Wildcard Indicator * MUST be used in SMP registrations
  - The Wildcard Indicator MUST NOT be used in exchanged documents

Example identifier values

- Example Peppol BIS Billing 3 EU
  - Customization ID: urn:peppol:pint:billing-1@en16931-2017@eu-3
  - Document Type ID (SMP): `peppol-doctype-wildcard::urn:oasis:names:specification:ubl:schema:xsd:Invoice-2::Invoice##urn:peppol:pint:billing-1@en16931-2017@eu-3*::2.1`
  - Document Type ID (UBL): `peppol-doctype-wildcard::urn:oasis:names:specification:ubl:schema:xsd:Invoice-2::Invoice##urn:peppol:pint:billing-1@en16931-2017@eu-3::2.1`
- Example Peppol BIS Singapore
  - Customization ID: urn:peppol:pint:billing-1@sg-2
  - Document Type ID (SMP): `peppol-doctype-wildcard::urn:oasis:names:specification:ubl:schema:xsd:Invoice-2::Invoice##urn:peppol:pint:billing-1@sg-2*::2.1`
  - Document Type ID (UBL): `peppol-doctype-wildcard::urn:oasis:names:specification:ubl:schema:xsd:Invoice-2::Invoice##urn:peppol:pint:billing-1@sg-2::2.1`

Example matching process

Current state 'busdox-docid-qns' – exact match only

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Example receiving capabilities

Entity A ← ✖ No match

`poacc:billing:eu:3.0`

Entity B

`poacc:billing:eu:3.0`
`poacc:billing:int:aunz:3.0` ← ✔

Entity C

`poacc:billing:int:aunz:3.0` ← ✔
`poacc:billing:int:sg:3.0`

Entity D ← ✖ No match

`poacc:billing:eu:3.0`
`poacc:billing:int:sg:3.0`

A-NZ PINT eInvoice

`poacc:billing:int:aunz:3.0`
Can only be received by entities specifically advertising aunz (even if there is no difference in the data model)

Note: for brevity, only a fake {CustomizationID} in the receiving capability is shown

Example matching process

DDTS identification best match

Example receiving capabilities

A-NZ PINT eInvoice

Entity A
`urn:peppol:pint:billing-1*` ✓

Entity B
`urn:peppol:pint:billing-1*`
`urn:peppol:pint:billing-1@aunz-2*` ✓

Entity C
`urn:peppol:pint:billing-1*` ✓
`urn:peppol:pint:billing-1@sg-2*`

Entity D ✗ No match
`urn:peppol:pint:billing-1@en16931-2017@eu-3*`
`urn:peppol:pint:billing-1@sg-2*`

`urn:peppol:pint:billing-1@aunz-2`

Can be received by all except Entity D

Entity A chooses to support all PINT specialisations, but is not overt about the ability to process any particular jurisdictional invoice

Entities B and C choose to support all PINT specialisations, and be overt about the ability to process particular jurisdictional invoices

Entity D chooses to only support and process particular jurisdictional invoices

Note: for brevity, only the significant/illustrative part of the {CustomizationID} in the receiving capability is shown

Example matching process

DDTS identification best match

Example receiving capabilities

SG PINT eInvoice

Entity A
urn:peppol:pint:billing-1* ✅

Entity B
urn:peppol:pint:billing-1* ✅
urn:peppol:pint:billing-1@aunz-2*

Entity C
urn:peppol:pint:billing-1*
urn:peppol:pint:billing-1@sg-2* ✅

Entity D
urn:peppol:pint:billing-1@en16931-2017@eu-3*
urn:peppol:pint:billing-1@sg-2* ✅

urn:peppol:pint:billing-1@sg-2
Can be received by all

Note: for brevity, only the significant/illustrative part of the {CustomizationID} in the receiving capability is shown

Example matching process

- SMP registration …urn:peppol:pint:billing-1@en16931-2017@eu-3*… is matched by
  - …urn:peppol:pint:billing-1@en16931-2017@eu-3…

- SMP registration …urn:peppol:pint:billing-1@en16931-2017*… is matched by
  - …urn:peppol:pint:billing-1@en16931-2017@eu-3…
  - …urn:peppol:pint:billing-1@en16931-2017@example…

- SMP registration …urn:peppol:pint:billing-1*… is matched by
  - …urn:peppol:pint:billing-1@en16931-2017@eu-3…
  - …urn:peppol:pint:billing-1@en16931-2017@example…
  - …urn:peppol:pint:billing-1@sg-2…
  - …urn:peppol:pint:billing-1@aunz-2…
  - …urn:peppol:pint:billing-1@jp-1…

Sometimes also called **pint***

Note: for brevity, only the significant/illustrative part of the {CustomizationID} in the receiving capability is shown
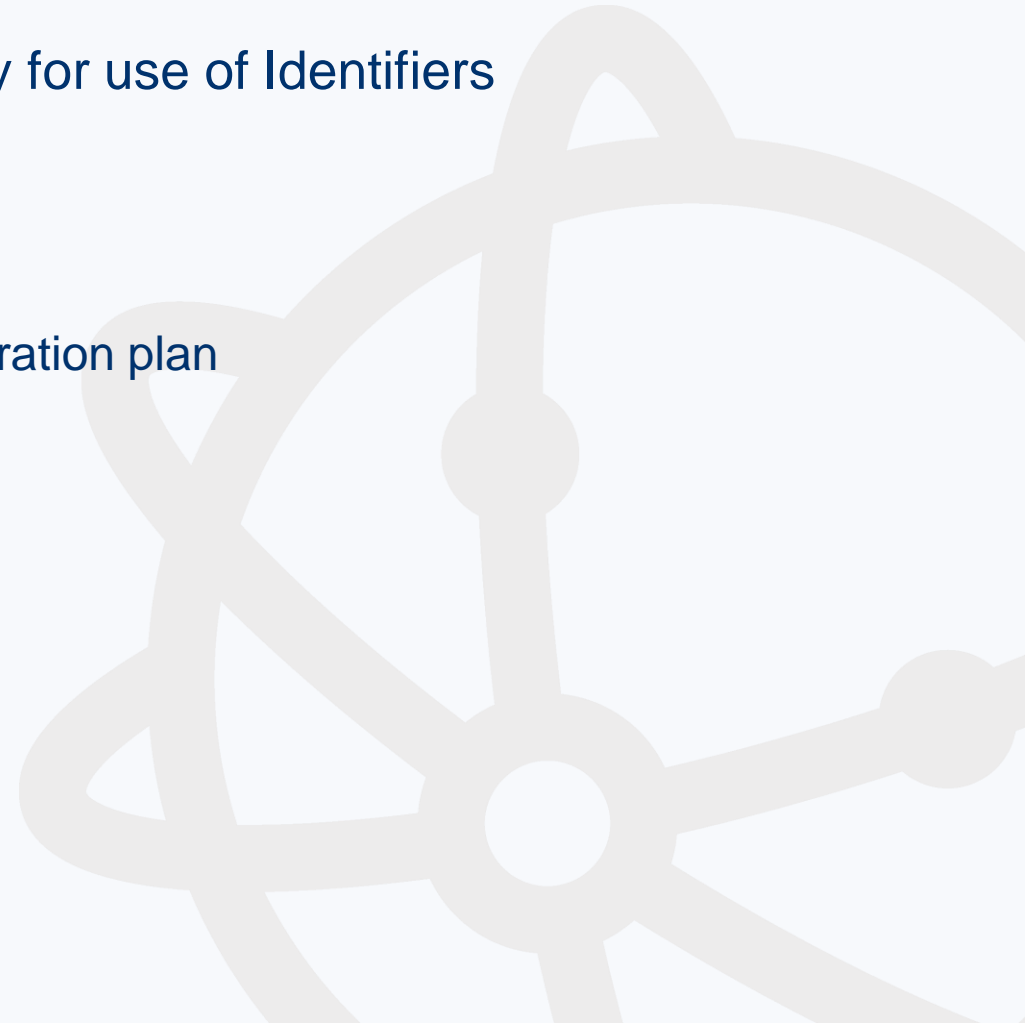
Lookup process

- The Scheme **busdox-docid-qns** has precedence over **peppol-doctype-wildcard**

- Example trying to send document with Customization ID urn:peppol:pint:billing-1@jp-1
    1. Query all document types of the receiver from the SMP (using the `/{serviceGroup}` API)
    2. Check if the receiver supports "busdox-docid-qns::...urn:peppol:pint:billing-1@jp-1…"
    3. Check if the receiver supports "peppol-doctype-wildcard::...urn:peppol:pint:billing-1@jp-1*…"
    4. Check if the receiver supports "peppol-doctype-wildcard::...urn:peppol:pint:billing-1*…"

➔ the first match is used to query the SMP for the details

- With the chosen document type ID the SMP is query is performed (using the `/{serviceGroup}/services/{docTypeID}` API)

- Continue as usual

Sending AP task

Next steps

- Integrate the DDTS requirements into the Peppol Policy for use of Identifiers
  - Requires a minimal change to busdox-docid-qns values
  - Will be backwards compatible

- Support the PINT pilot
  - The new lookup process needs to be included in the migration plan

- Help software vendors to implement this correctly

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