

LAYER SECURITY

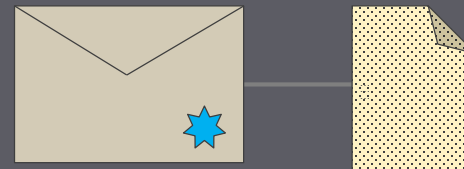


AS4 Introduction

PEPPOL, Brussels, October 2019

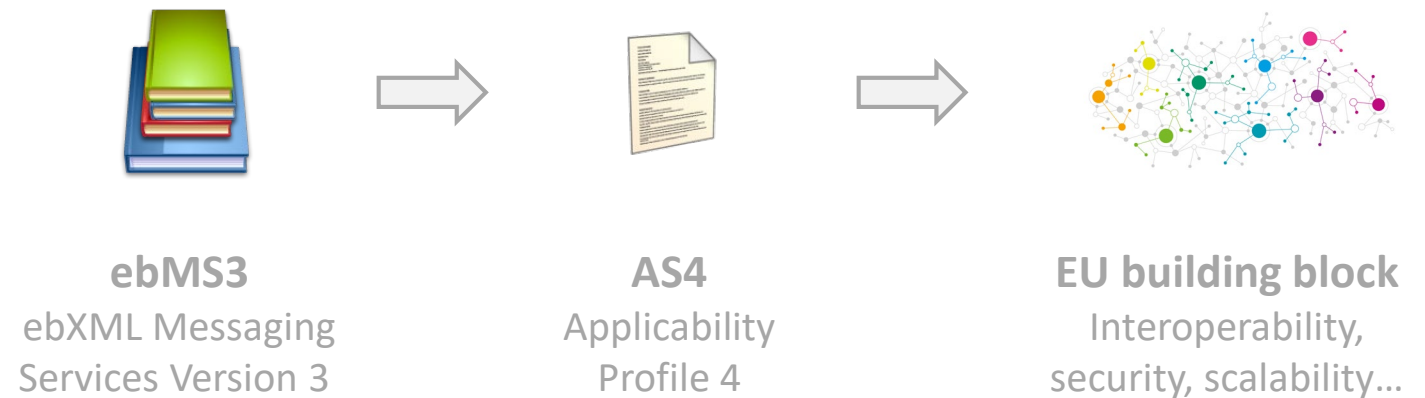
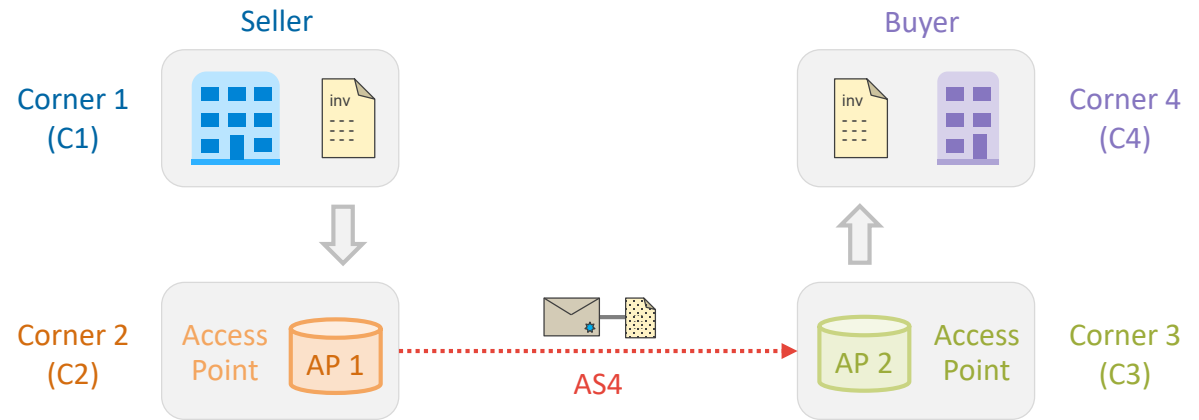
Rick Harvey FIEAust FACS

CEO & Founder, Layer Security



Agenda

- **History**
- **AS4 Protocol**
 - Interactions
 - Layering
- **Examples**
 - Examples in Australia
 - PEPPOL
- **Questions**



History



S/MIME → AS2 (2002, IETF)

ebXML → ebMS2 → ebMS3 (core) → ebMS3

- **Standards**

SBDH

AS4

BDMSL

SMP v1 v2

- **PEPPOL**

EU Pilot
(START)

OpenPEPPOL
(AS2)

EC Mandate
(AS4)

- **Australia**

- B2G

- B2B

ELS
(ftp)

SBR1
(SBDH,
Auskey)

SBR2
(AS4)

Super
(AS4)

DBC (AU)
(AS4)

(NZ) PEPPOL
(AS4) (AS4)

AS4 is Layered

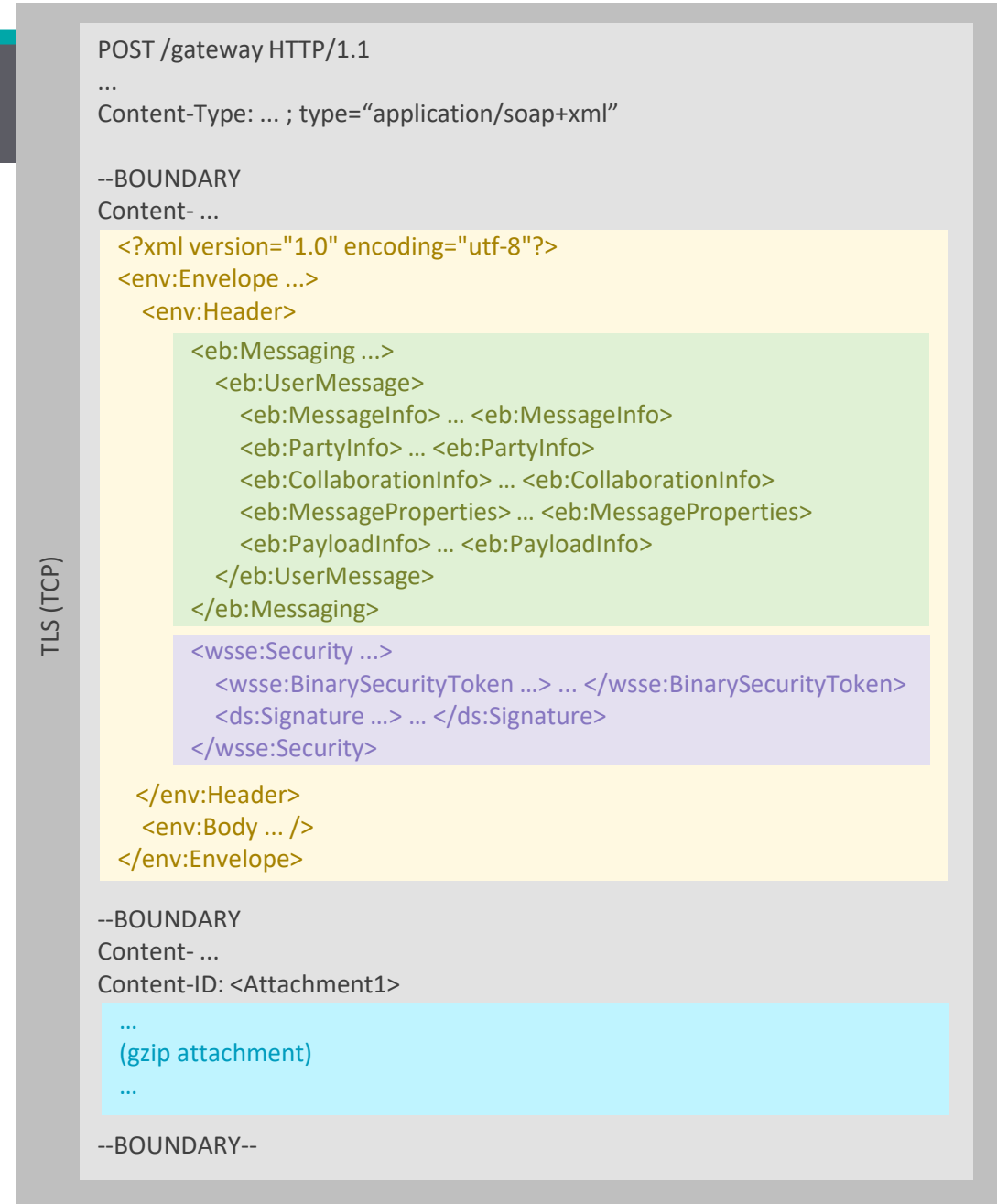
- **TLS/HTTP**
 - Route (MEP)
- **SOAP (SwA)**
 - Soap Body is empty
- **AS4**
 - User Message
 - Signal Message
- **WS-Security**
 - Signing (only EE certs)
- **HTTP Attachment(s)**
 - Compressed

One-way push
 One-way pull
 Two-way sync
 Two-way push-and-pull

Push
 Pull, Receipt, Error

Only EE Certs
 C14n exclusive

Gzip
 Encrypted



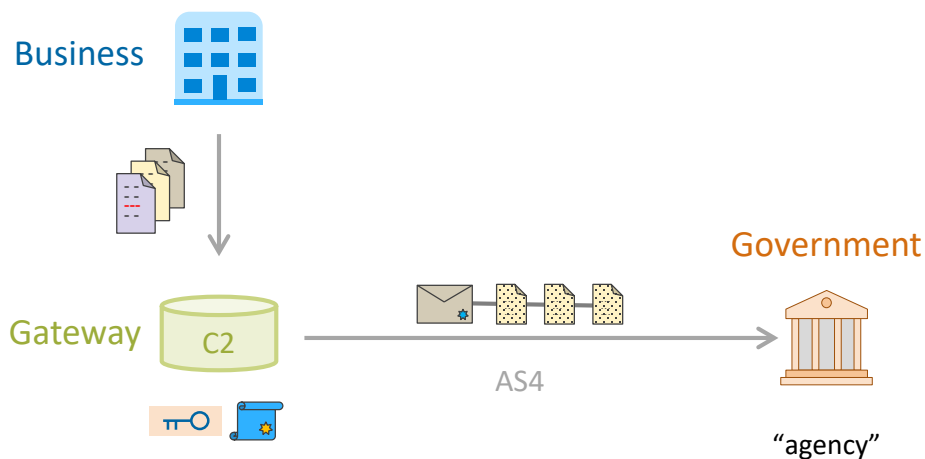
AS4 Example - AU

- **Addressing**

- “From” is C1
- C2 comes from signature

- **Payloads**

- Clean (no SBDH), separate, Gzip
- E.g. invoice, PDF, cover note



```
<eb:PartyInfo>
  <eb:From>
    <eb:PartyId type="http://abr.gov.au/PartyIdType/ABN">98089681872</eb:PartyId>
    <eb:Role>http://sbr.gov.au/ato/Role/Business</eb:Role>
  </eb:From>
  <eb:To>
    <eb:PartyId type="http://abr.gov.au/PartyIdType/ABN">51824753556</eb:PartyId>
    <eb:Role>http://sbr.gov.au/agency</eb:Role>
  </eb:To>
</eb:PartyInfo>
<eb:CollaborationInfo>
  <eb:AgreementRef>http://sbr.gov.au/agreement/Gateway/1.0/Push/PKI</eb:AgreementRef>
  <eb:Service>http://sbr.gov.au/ato/payevnt/2018</eb:Service>
  <eb:Action>Submit.003.00</eb:Action>
  <eb:ConversationId>20190507/201143</eb:ConversationId>
</eb:CollaborationInfo>
<eb:MessageProperties>
  <eb:Property name="BMS Name">LS-ATO</eb:Property>
  <eb:Property name="BMS Version">6</eb:Property>
  <eb:Property name="BMS Vendor">Layer Security</eb:Property>
  <eb:Property name="ProductID">10040</eb:Property>
  <eb:Property name="SenderRole">http://ato.gov.au/Role/Gateway</eb:Property>
</eb:MessageProperties>
<eb:PayloadInfo>
  <eb:PartInfo href="cid:Attachment1">
    <eb:PartProperties>
      <eb:Property name="DocumentName">PAYEVNT</eb:Property>
      <eb:Property name="PartID">1</eb:Property>
      <eb:Property name="DocumentType">BASE</eb:Property>
      <eb:Property name="MimeType">text/plain</eb:Property>
      <eb:Property name="filename">bulk</eb:Property>
      <eb:Property name="CompressionType">application/gzip</eb:Property>
    </eb:PartProperties>
  </eb:PartInfo>
</eb:PayloadInfo>
```

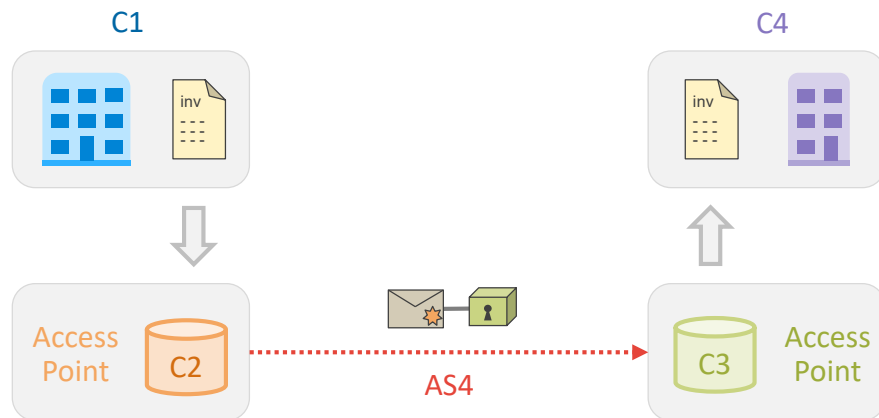
AS4 Example - PEPPOL

- **Addressing**

- originalSender, finalRecipient

- **Payloads**

- Single attachment
- SBDH (2nd level of metadata)
- Compressed, encrypted



```
<eb:PartyInfo>
  <eb:From><eb:PartyId>POP000274</eb:PartyId></eb:From>
  <eb:To><eb:PartyId>POP000055</eb:PartyId></eb:To>
</eb:PartyInfo>
...
<eb:MessageProperties>
  <eb:Property name="originalSender">iso6523-actorid-upis::9922:1122334455</eb:Property>
  <eb:Property name="finalRecipient">iso6523-actorid-upis::0088:TBCNTRL00002</eb:Property>
</eb:MessageProperties>
<eb:PayloadInfo>
  <eb:PartInfo href="cid:Attachment1">
    <eb:PartProperties>
      <eb:Property name="PartID">1</eb:Property>
      <eb:Property name="MimeType">text/xml</eb:Property>
      <eb:Property name="filename">invoice.xml</eb:Property>
      <eb:Property name="CompressionType">application/gzip</eb:Property>
    </eb:PartProperties>
  </eb:PartInfo>
</eb:PayloadInfo>
</eb:MessageProperties>
```

```
<StandardBusinessDocument xmlns="http://www.unece.org/cefact/namespaces/StandardBusinessDocumentHeader">
  <StandardBusinessDocumentHeader>
    <HeaderVersion>1.0</HeaderVersion>
    <Sender>
      <Identifier Authority="iso6523-actorid-upis">9922:1122334455</Identifier>
    </Sender>
    <Receiver>
      <Identifier Authority="iso6523-actorid-upis">0088:TBCNTRL00002</Identifier>
    </Receiver>
    <DocumentIdentification>
      <Standard>urn:oasis:names:specification:ubl:schema:xsd:Invoice-2</Standard>
      <TypeVersion>2.1</TypeVersion>
      <InstanceIdentifier>POP000274-59-20191012T111111</InstanceIdentifier>
      <Type>Invoice</Type>
      <CreationDateAndTime>2019-10-12T11:11:11.263Z</CreationDateAndTime>
    </DocumentIdentification>
    <BusinessScope>
```

Questions?

