# FLAME AS4 *e*-SENS TESTING

# Introduction

- Reasons for participating
- e-SENS Requirements
- Testing Framework
- Testing Requirements
- Testing Challenges
- Testing Conclusion
- Q&A

# Reasons for participating in e-SENS

- Unique Opportunity to participate and contribute to the EU Single Digital Market Initiative

- The FMS AS4 Product and team have participated in several initiatives including
    - The AS4 profile within OASIS Open Standards Group
    - Drummond interop exercises
    - SuperStream compliance testing
    - e-SENS conformance testing

- Initiatives like e-SENS ensure the continued development and enhancement of both skills and product

- e-SENS compliance is a requirement for AS4 access points including e-Delivery, e-Tendering and e-Invoicing gateways

# e-SENS Requirements

- Two Way Message Exchange Pattern (MEP) including twoWay push and push

- SMP/SML lookup compliant – dynamic lookup for service, action and endpoints

- Payloads as separate SWA 1.1 Conformant attachments including compression, signing and encryption

- Modern security signing and encryption algorithms
  - Key Encryption Method - http://www.w3.org/2009/xmlenc11#rsa-oaep
  - Data Encryption Algorithm - http://www.w3.org/2009/xmlenc11#aes128-gcm
  - Signature Digest Method Algorithm - http://www.w3.org/2001/04/xmlenc#sha256

- Synchronous Signed Non Repudiation Receipt (NRR) Signals

- Synchronous Error Signals

- Test Service - Ping

# Conformance Testing Framework
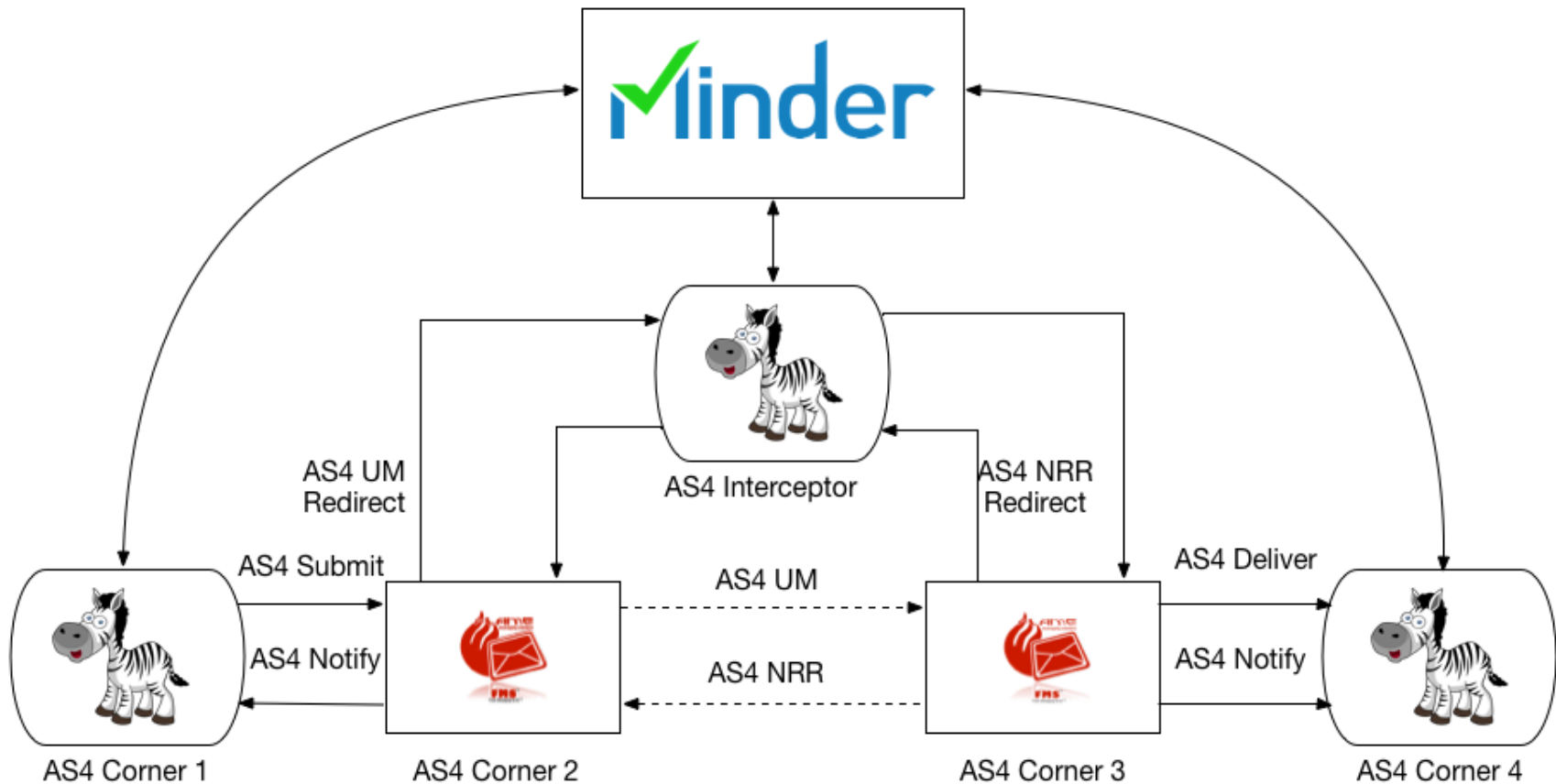
# Testing Requirements

- 4 Corner Model
  - Tests on inner corners (C2 and C3)
  - AS4 used in communication from/to outer corners
- AS4 Submit Instructions - includes
  - ConversationID
  - MessageID
  - Service
  - Action
  - To and From Party IDs and Roles
  - Test Assertion ID
  - Original Sender and Final Recipient
  - Payloads – XML and Binary
- Additional notifications from C2 to C1 and C3 to C4 on responses received

# Testing Challenges

- Total of 40 Tests
  - 18 e-SENS specific tests – 17 Mandatory, 1 Preferred
  - 22 AS4 specific tests – 19 Mandatory, 3 Preferred
  - 6 Inbound P-Modes – Submit, oneWay, oneWaySign, oneWayRetry, twoWay, Ping
  - 17 Outbound P-Modes – 7 Notify, 5 Deliver, Ping, oneWay, oneWaySign, oneWayRetry, twoWay

- Not a simple case of p-mode configuration
  - Scripting required to disassemble submit messages and construct test messages based on contents thereof
  - Additional scripting for Notify messages to outer corners
  - Messages received from the intermediary are not exact replicas of messages sent

- Support required for non-AS4 required twoWay push and push MEP

# Testing Challenges continued

- AS4 optional and/or recommended features not previously tested include the following
    - Support eb:Messaging/eb:UserMessage/eb:MessageProperties optional element
    - Support for eb:PartInfo/eb:PartProperties/eb:Property/@name="MimeType" missing attribute value for test AS4_TA09 (EBMS:0001)
    - Support for eb:PartInfo/eb:PartProperties/eb:Property/@name="CharacterSet" invalid attribute value for test AS4_TA12 (EBMS:0001)
    - Support for AS4 additional feature error EBMS:0303 Decompression Failure
    - Encryption of empty Body element
    - Ping tests

# Testing Conclusions

- Significant time and costs spent on participating
- Additional testing requirements over and above other interop testing exercises
- Conformance testing is NOT interop testing – coming soon
- Participation and contribution with external team of experts
- Valuable in the continued improvement of the Flame AS4 Products

# Q&A
# and
# Thanks



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