FMS AS4 B2B GATEWAY

Introduction

- Flame Computing
- Server Architecture
- Client Architecture
- Infrastructure
- FMS Conformance and Interoperability
- e-SENS Requirements
- PEPPOL Requirements
- ENTSOG Requirements
- ENTSOG AS2 AS4 Compliant Bridge
- FMS Implementations
- Q&A

Flame Computing

- Established 1998
- System Software Development specialising in B2B Messaging
- Messaging Solution in the Pharmaceutical Industry
- RosettaNet B2B
- EPP (IETF Std 69) MSH for the Domain Name Industry
- OASIS ebMS V3.0 MSH
- OASIS AS4 MSH
- Member of OASIS
- Participant in e-SENS WP5.1
- Business Partner with **ECS Int. BV** for Sales & Support in Europe

Server Architecture

- 100% Java (Java 1.8)
- AS4 ebHandler Profile
- Conformance as per Flame Computing Statement of Use
- Secure/Encrypted Message Exchange including AES128/192/256 GCM encryption algorithm support
- One Way Push and Pull
- Two Way Push and Push, and Push and Pull
- Compression
- Attachments (SWA)

Server Architecture Continued

- Structured File Drop for Received Payloads
- Customisable Payload Delivery
- Flexible Configuration
- Powerful Customisable Trigger Based Message Handling
  - JSON RPC
  - Script/Executable
  - JYTHON
  - Java Script Engine
- Configurable Logging
- Realtime Based Message Tracking and Reporting
- Flexible External Interface Setup
- Intuitive Private and Public Key Handling

Light Client Architecture

- 100% Java (Java 1.8)
- Command Line Utility and API – AS4 Light/Minimal Client
- Conformance as per Flame Computing Statement of Use
- Secure/Encrypted Message Exchange including AES128/192/256 GCM encryption algorithms
- One Way Push and Pull, Two Way Push and Push
- Payload Compression
- Attachments (SWA)
- Fully scriptable
- API For Embedded Implementations

Infrastructure

- Light Client and API Portable to any Java1.8 JVM Based Client Platform
- Server Portable to any Java1.8 JVM Based Server Platform
- Modern Operating Systems
- Supports Network Based Failover and Load Balancing Systems

FMS Conformance and Interoperability

- AS4 Informal Interoperability Testing and Demonstrations – 2011 – 2012
- SuperStream AS4 Rollover Induction – November/December 2013
- SuperStream AS4 Contribution Induction – November/December 2014
- Drummond Certified AS4 4Q13 and AS4 4Q14
- ICANN gTLD compliant IETF Std 69 EPP Registry Registrar System – 2011 - current
- RossettaNet RNIF 2.0 Petroleum Industry Implementation – 2006 to current
- CEF/e-SENS WP5.1 Conformance Compliant – 2015
- CEF/e-SENS e-Delivery POC including SML/SMP compliance – 2015 to 2017
- CEF WP5.1 AS2 vs AS4 Benchmarking – 2016 to 2017
- CEF/e-SENS ENTSOG Conformance Compliant – November 2018

e-SENS Requirements

- Fully e-SENS compliant including the following
- Two Way Message Exchange Pattern (MEP) including push and push
- State of the art security algorithms including AES128/192/256 GCM
- SMP/SML lookup compliant
- Payloads as separate SWA Conformant attachments including compression, signing and encryption
- Synchronous Signed Non Repudiation Receipt (NRR) Signals
- Synchronous Error Signals
- Username Tokens supported but not required for e-SENS
- Message Pull not currently required but is supported

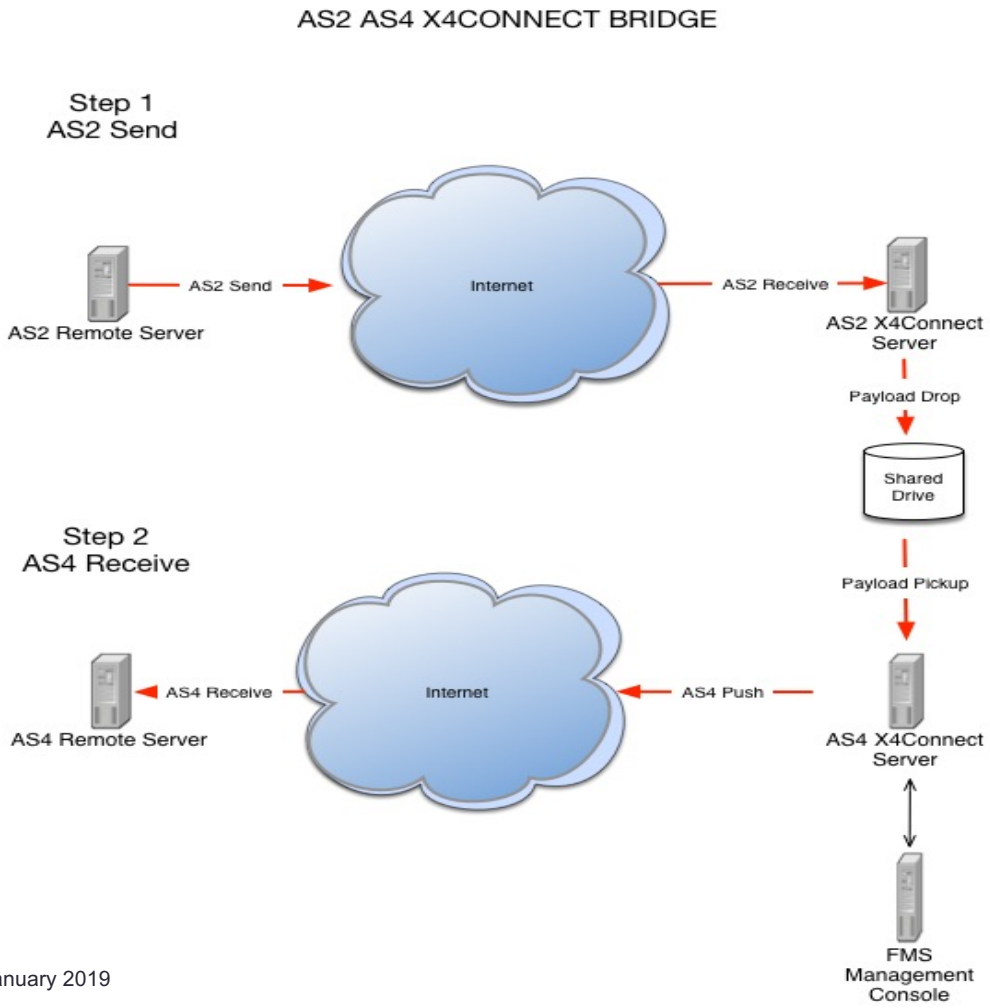
PEPPOL Requirements

- Access Point Conforms to PEPPOL eDelivery Network Requirements
- PEPPOL AS4 Profile OpenPEPPOL AISBL Version 2.0.0 Compliant
- Access Point operates as the inner corners in the 4-Corner model
- SMP compliant for registering Access Point Address, Certificates, Services and Actions
- SML lookup compliant – Dynamic Remote Address, Certificate based on Service and Action obtained from the Payload.
- Remote Party ID based on retrieved Certificate CNAME
- PEPPOL Based PKI – Verified Certificates only
- State of the art security algorithms including AES128/192/256 GCM
- Transport Protocol conforms to TLSv1.2
- Payloads conform to the OpenPEPPOL Business Message Envelope (SBDH) Requirements
- Synchronous Signed Non Repudiation Receipt (NRR) Signals
- Synchronous Error Signals

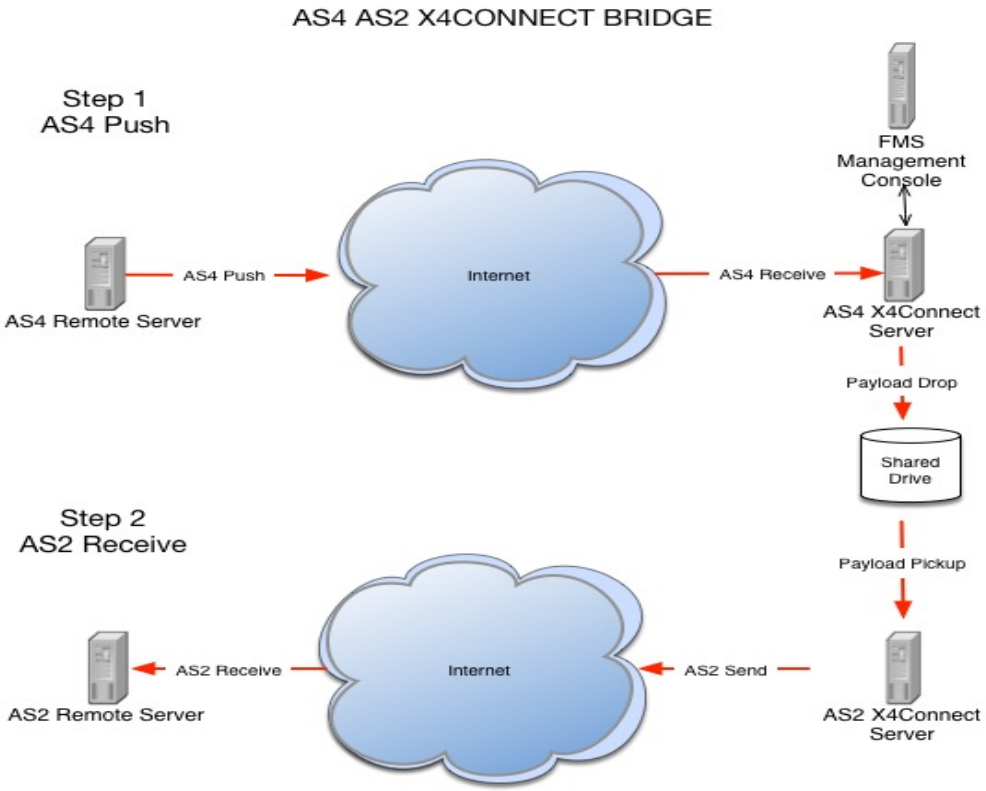
ENTSOG Requirements

- FMS ENTSOG AS4 Profile conforms to INT0488-170328 AS4 Usage Profile_Rev_3.5 2017-03-28
- ENTSOG Access Point operates as the inner corners in the 4-Corner model
- Supports oneWay Push and optionally oneWay Pull, twoWay Push and twoWay Push and Pull
- Party IDs based on EIC Codes for natural gas processing
- Payloads conform to SWA – compressed, signed and encrypted
- State of the art security algorithms including AES128/192/256 GCM
- Transport Protocol conforms to TLSv1.2
- Synchronous Signed Non Repudiation Receipt (NRR) Signals
- Synchronous Error Signals

AS2 to AS4



AS4 to AS2



Implementations

- Drummond Group International AS4 ITQ Reference System
- ComplianceTest AS4 SuperStream ITQ Test and Reference System
- Ozedi AS4 SuperStream Gateway – FMS Server
- NAV/IKT AS4 Secure Digital Post Application – FMS Light Client API
- EPP Domain Registration System – ZACR country codes and gTLDs
- RosettaNet Invoicing System – Petroleum Industry
- ECS International X4CONNECT AS2 <-> AS4 Bridge – Gas Industry
- MATIC Polish Border Guard AS4 MSH – Aviation Industry

Q&A and Thanks