ISO 28005 highlights

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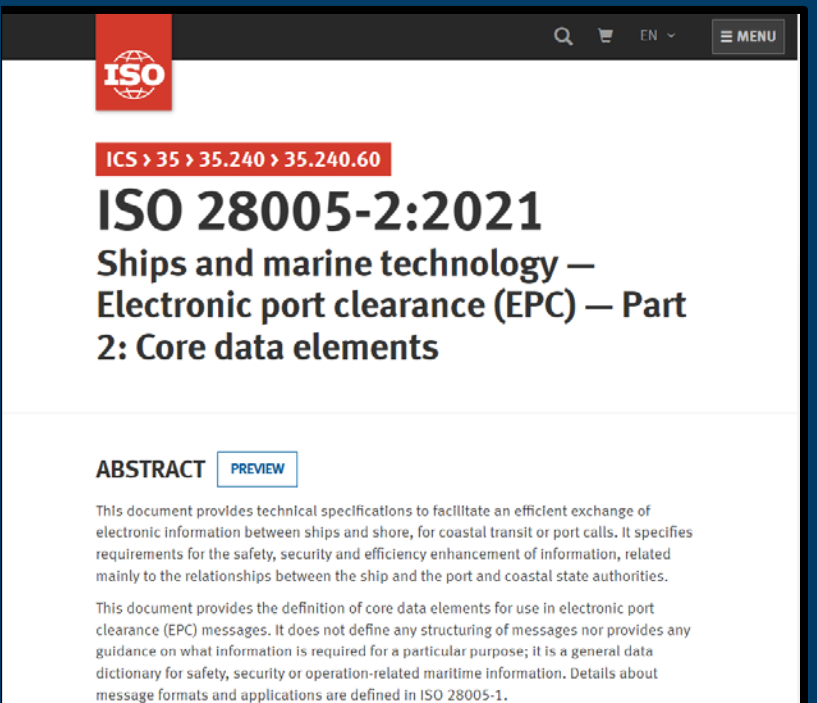
ISO 28005 on Electronic Port Clearance

- Technical standard for ship-shore reporting of MSW information
- Maintained by ISO/TC 8/SC 11 on Intermodal and Short Sea Shipping
- 28005-1: Transport Protocol and Message Structure: new version 2022/2023
- 28005-2: Data elements and model: New version 2021 to cover IMO Data Reference Model
- 28005-3: New data elements and extended model: New version 2022/2023



ISO 28005-1 -- Transport

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Main Transport Protocol

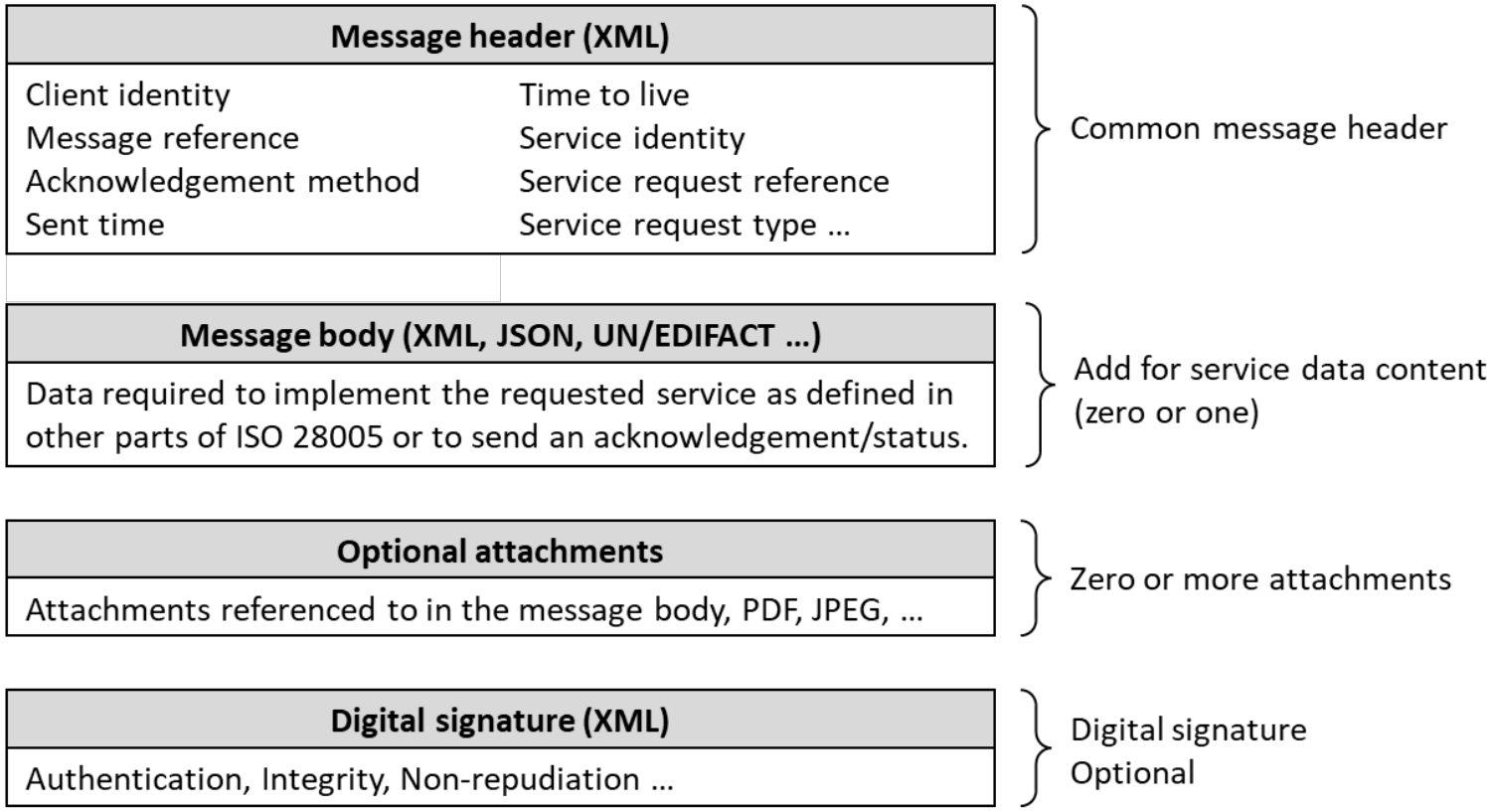
- HTTP* – **Not** a REST API, but using common interface methods
  - Separate API for access authorization
- Alternatively Email – possibly with encryption
- Both support asynchronous communication

- All identities based on a public/private key system
- No specifications for Public Key Infrastructure (PKI)
- MIME multipart message format
  - Header
  - Body
  - Attachments
  - Digital signature

*HTTP means HTTP over TLS, i.e. HTTPS

Data Format – Draft Suggestion

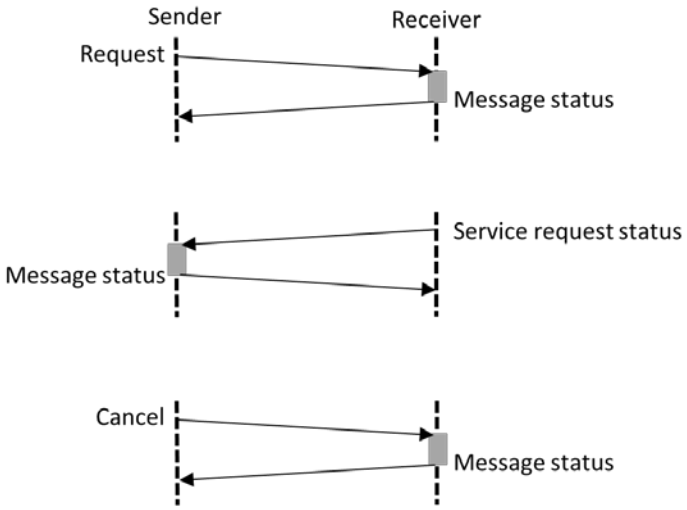
- Header
  - XML
- Body
  - Any format: XML standardized
  - JSON based on XML may be standardized
  - JSON, EDIFACT etc. as preferred and as accepted by MSW
- Attachments
  - Pictures of stowaways
  - Dangerous goods data sheets, etc.
- Digital signature
  - XML standard format over above components



Main Transmission Principles

Sender ←→ Receiver

- Sender is the one initiating a service,
- Receiver is performing the service



Symmetric HTTP

- An API for both sender and receiver, sender URI sent to Receiver
- Receiver uses Sender URI for replies

Polled HTTP

- Sender polls Receiver, no URI at Sender

Email API

- Email address for Receiver and Sender
- May require encryption of data in message

Message Principles for Sender and Receiver

- **Header** contains context definition for message
- **Body** can contain arbitrary list of data elements from all parts of standard
- **Attachments** referenced in body
- Message Implementation Guide (MIG) describes the different use cases

MessageType
MessageReference
MessageBodyFormat
Version
SenderRole
SenderId
SenderDuty
Authenticator
ReplyInformation
SentTime
TimeToLive
ReceiverId
ServiceId
ServiceReference
ReceiverMessageReference
ArrivalDeparture
JournalNumber
ReportingSystem
RelayReportingSystem
RequestStatus

ISO 28005-2 – Data Model

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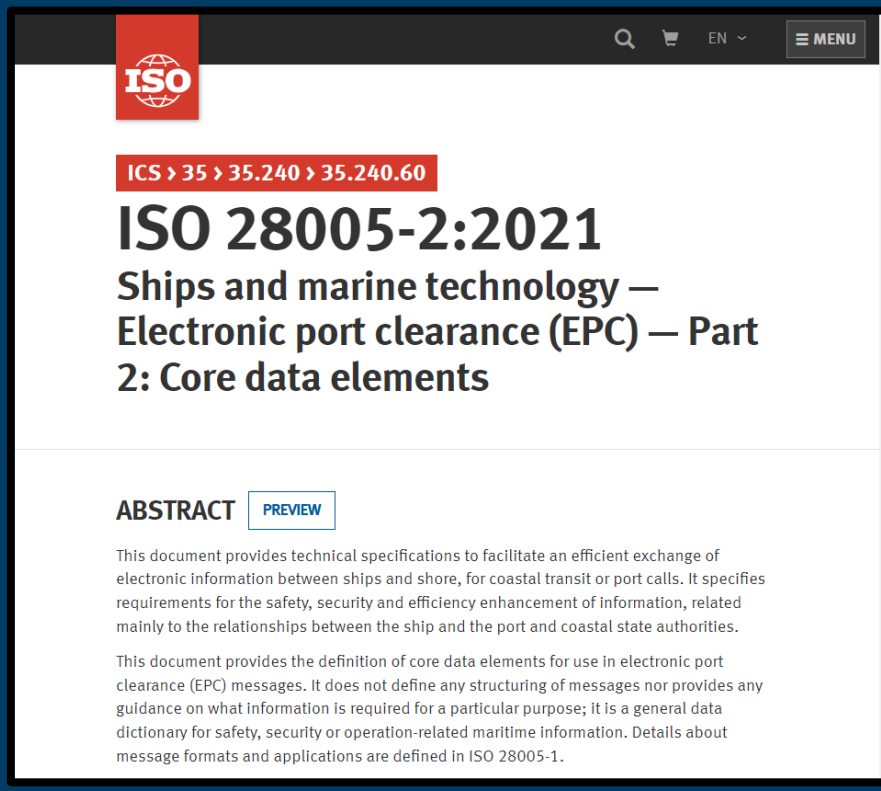
ISO 28005-2: Data Types

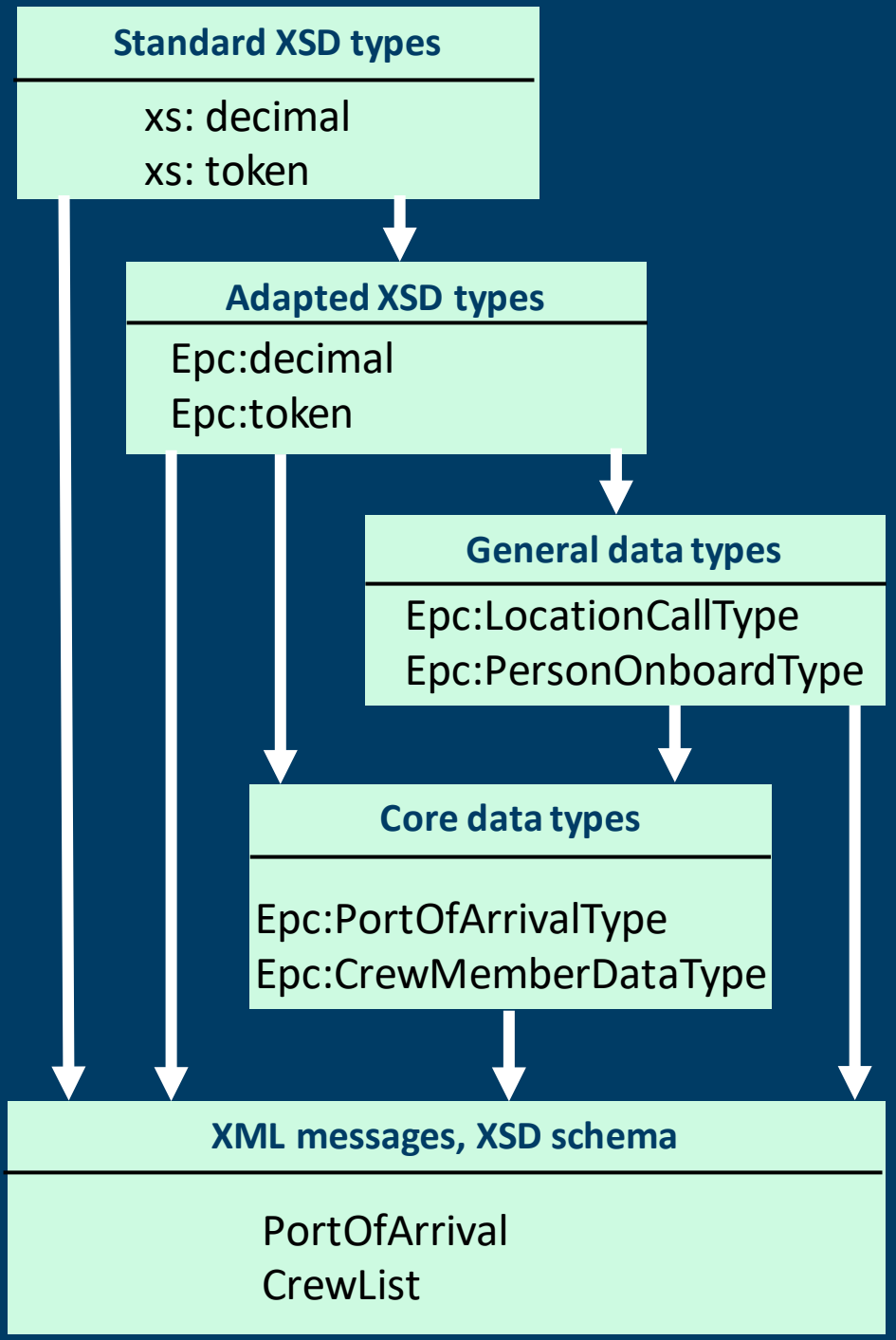
Data model for ship-shore reporting of MSW information:

- **FAL Convention**, reporting during arrival or departure:
  - General Declaration FAL1,
  - Cargo Declaration FAL2,
  - Ship's Stores Declaration FAL3,
  - Crew's Effects Declaration FAL4,
  - Crew List FAL5,
  - Passenger List FAL6,
  - Dangerous Goods Manifest FAL7
- **Maritime Declaration of Health** from WHO, 58th World Health Assembly, WHA58.3.
- **ISPS code** (Security-related information as required under SOLAS regulation XI-2/9.2.2)
- Notification of **Waste Delivery** to Port Reception Facilities (MEPC 644)
- **Bulk loading and unloading** code IMO Resolution A.862.
- **Mandatory ship reporting system** (MRS) requirements as defined in IMO Resolution A.851.
- Advanced electronic cargo information for customs risk assessment purposes
- ETA reporting to pilot station as defined in IMO Resolution A.960.
- Requirements under the Universal Postal Convention for mail



ISO 28005-2: Core Data Elements

- Data elements are described as XML types



ISO 28005-3 – Data Model

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ISO 28005 – 3: Operational Data

1. **FAL 43, April 2019:** IMO Reference Model and Data list: FAL Forms 1-7, ISPS, Waste → 28005-2
2. **FAL 44, April 2020:** Revised IMO Reference Model and Data list
   - Maritime Declaration of Health
   - Just in Time Concept (timestamps and locations)
3. **FAL 45, June 2021:** Revised IMO Reference Model and Data list
   - Stowaways
   - Certificates
   - Acknowledgement receipt
   - Maritime Service
4. **FAL 46, May 2022:**
   - Data set for SHIP REPORTING SYSTEM (RESOLUTION A.851(20))
   - Data set for BALLAST WATER ARRIVAL REPORTING
   - Data set for SHIP REGISTRY AND COMPANY DETAILS
   - Data set on AUDITS AND SURVEYS based on IACS Recommendation 75
   - Data set ON PORT STATE CONTROL INSPECTION HISTORY DATA

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Thank you for your attention!

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ISO 28005-2: Mapping from IMO Ref Model to 28005 Data Types