



# Web Services and Service Oriented Architecture

## Getting to There from Here

*Michael Czapski*

*Advanced Solutions Architect – Asia Pacific*

- Foundations

## Assertions and their Consequences

- Sophisticated use of IT will improve the Business of Health
- Information exchange will improve health outcomes
- SOA and Web Services are the best means to bring about these outcomes
  
- This implies that specific
  - Policies
  - Standards
  - Infrastructures
  - Resourcemust be enacted, promulgated, implemented and provided
- In specific order

## Timelines and their Consequences

- Realisation of the vision will take several years
- A framework identifying components, relationships, dependencies and priorities
- Need a roadmap for guidance and progress assessment
- Need to partition the problem space

## Participation Models and their Consequences

- Numerous independent parties must actively participate to realise the vision
- Only if motivated by enlightened self-interest will participants exert sustained effort to assure success
- Participation by coercion will severely diminish chances of success
- If neither enlightened self-interest nor dominant party coercion can be brought to bear the chances of success are negligible

- What we already know

## Security and its dictates

- Need guidance on the use of Public Key Infrastructures
- Need guidance on the use of personal and 'corporate' X.509 certificate-based identities and their implied obligations
- Need to define mechanisms for participant registration, authorisation and rights granting
- Need to determine if X.509 certificate-based identities will be used for authentication and rights granting
- Need to determine if SAML-based authentication will be used
- Need to define policy on treatment of digitally signed material after related certificate has been revoked or expired
- Need to define policy on treatment of encrypted material after related certificate has been revoked or expired

## Standards

- Additional transport bindings to be standardised for WSDL
- Identification, encoding and carriage of HL7 payloads in SOAP bodies must be standardised
- Identification and encoding in SOAP bodies of fundamental healthcare data formats, like DICOM, must be standardised
- Digital Signature over Non-XML content Transform must be standardised
- Additional Healthcare-related SOAP Headers must be identified and standardised

- What we can do right away

## Incremental rollout

- Identify essential infrastructures and build them first
- Identify largest constituencies and address them first
- Identify the biggest issues and address them first
- Identify areas of greatest benefit and address them first

## Practical Measures

- Quantify and advertise tangible benefits
- Enumerate proposed services and target parties
- Provide Free or Open Source Reference implementations
- Work out implementation and support details for SMEs
- Engage PMS vendors early and reasonably
- Support Incremental implementations, for example
  - PMS<>File System<>Agent<>Internet<>Service
  - PMS<>File System<>WS Agent<>Internet<>Web Service
  - PMS<>Agent<>Internet<>Service
  - PMS<>WS Agent<>Internet<>Web Service
  - PMS<>Internet<>Web Service
- Leverage HeSA until appropriate PKI is determined
- Leverage HL7 for message content and semantics

## Conclusions

- Deployment of a national secure communications infrastructure is a long-term program that will require sustained cooperation of numerous independent parties
- Whilst not all details of the vision are known, certain logical implications of the policy make it obvious what should happen soon, why and how, regardless of the details yet to come
- As ‘what is known’ will become clearer over time, practical measures can be progressively taken to bring about realisation of the target objectives in a gradual manner, allowing incremental benefits realisation, assertion validation and change containment