

# Demystifying the Protocol and Specification v1.1

Prepared for the Node Mentoring Meeting by:

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# Presentation Outline

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- Network Exchange Protocol (Protocol) and Network Node Functional Specification (Specification) Descriptions and Purpose
- Design Assumptions
- Out of Scope/Limitations
- Extensions
- Using the Protocol and Specification for Node Building and Flowing Information
- A Gaze into a Crystal Ball

How do you build only  
ONE Network while  
balancing the varied  
needs and capabilities of  
potential Partners with  
the efficiencies of  
standardization?

# Network Exchange Protocol (Protocol)

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The Protocol is the set of rules that govern the generation and use of valid service requests and responses on the Exchange Network.

# Network Node Functional Specification (Specification)

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- The Specification is a detailed description of a Node's expected behavior. It includes a description of:
  - the functions the Node will perform
  - how those functions are to be invoked
  - the output expected from the Node

# Design Assumptions

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- Simple as possible, even if unable to meet a small number of identified, but advanced needs.
- Consistent with all other Network Guidance
- Designed to be used for all information exchanges.
  - Web Services/Web Methods
  - Used to construct transactions

# Design Assumptions

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- Shelf-life of 18-24 months
- Forward-Looking
  - Infrastructure
  - Use
- Known reliance on immature standards
  - SOAP 1.1
  - WSDL 1.0
  - DIME
- **MUST BE IMPLEMENTABLE!**

# Web Methods

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- Submit
- Download
- Notify
- Query
- Solicit
- Authenticate
- NodePing
- GetStatus
- GetServices
- Execute (Optional)
- Security Methods



# Network Exchange Business Processes

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- Simple Submit
- Simple Download
- Notify for Download
- Solicit with Submit Return
- Solicit with Download Return
- Query

# Out of Scope/Limitations

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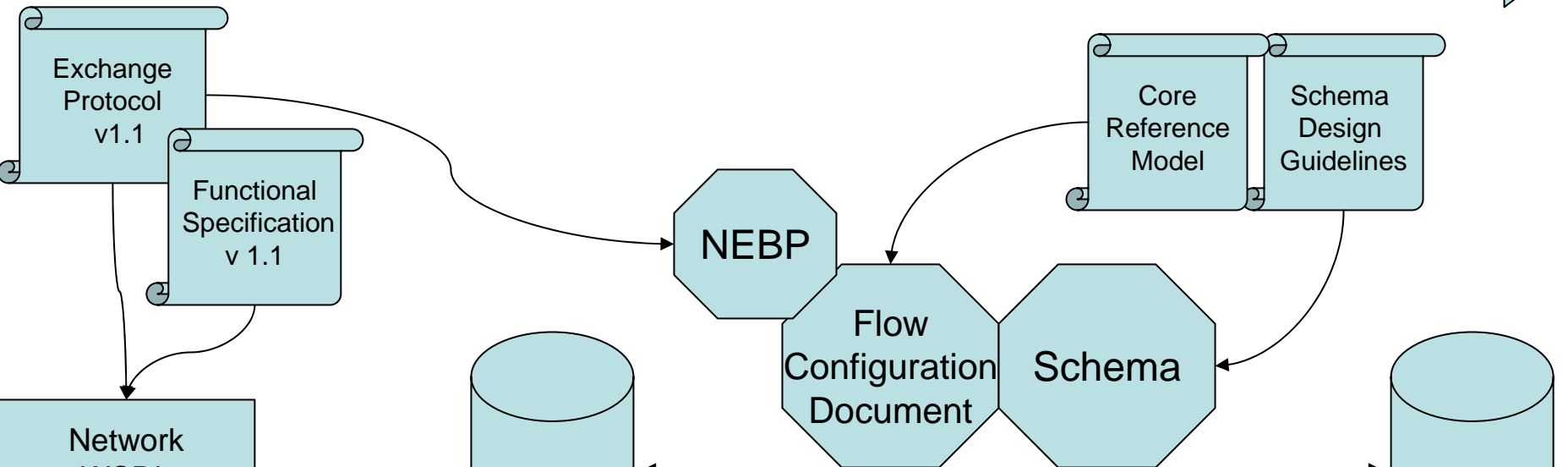
- Protocol and Specification only define a “listener.”
- Does not fully leverage the standards and tools
  - Dynamic Binding
  - SOAP 1.2
- Attachments
  - Only DIME attachments
- Does not define any payload specifications
  - Defining and handling the common types of “missing,” “unavailable,” or “inapplicable” data.

# Extensions

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- Payload Extensions
  - Payload Header
  - Data Request
    - Naming
    - Schema
- Client
  - Node Management Interface
- Security Layer
  - Additional Web Services outlined in Security Guidance documents
- Orchestration

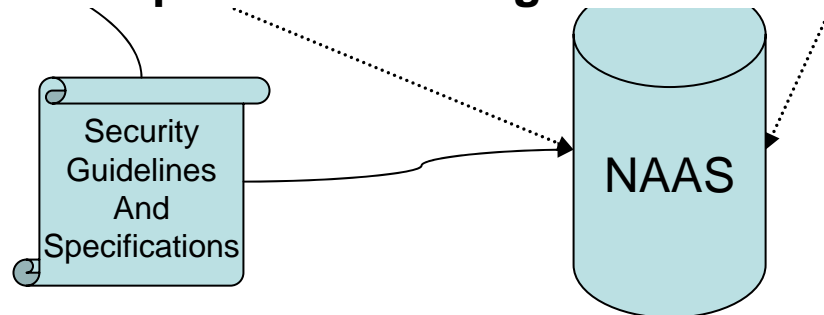
# Going from Building a Node to Flowing Information



Meanwhile, a Flow is developed by an IPT. The IPT uses the Flow Configuration Document (FCD) Template, Core Reference Model, Schema Design Guidelines, and other resources to develop an FCD and Schema to govern the Flow. The FCD outlines several different Network Exchange Business Process

Partners determine the Flow Options Partners can implement for the given Flow. The Flow is then developed by an IPT. The IPT uses the Flow Configuration Document (FCD) Template, Core Reference Model, Schema Design Guidelines, and other resources to develop an FCD and Schema to govern the Flow. The FCD outlines several different Network Exchange Business Process Options Partners can implement for the given Flow.

Options Partners can implement for the given Flow.



**I. Node**

1. Unknown

2. Pre-Planning

3. Planning

4. Development

5. Testing

6. Node Ready to Flow

**II. Flow**

1. System Development

2. Planning

3. Development

4. Testing/Debugging

5. Ready to Flow X

**III. Client**

1. Obtain/Develop Client

2. Client Install  
(Configuration)

3. Testing/Initial Use

**Node in Production for Flow X**

**Client in Production for Flow X**

Searches were the Protocol and data  
Earth from the National Academies of  
Members of the National Academies  
extending to several other countries  
and the National Academies of the  
The National Academies of the  
local and national level. Countries  
benefit and learn from these efforts.



# Version 2.0

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- Migrate to Document Literal Encoding
- Leverage SOAP 1.2
- Leverage WSDL 1.1
- Consider additional attachment methods
- Web Service Security Extensions
- Orchestration

# Take Home Messages

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- Protocol and Specification are the foundation of the Network and the Network WSDL or DNCs should be used to guide Node development.
- Protocol and Specification will remain stable.
- Most states will want/need to build Node clients.



# Questions?

Please feel free to contact me at  
anytime with questions.

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