Network Knowledge Call

October 30, 2003

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Agenda

- Introduction
- Update on Network/Node Documents (v1.0-v1.1 Changes)
- Flow Configuration Documents (FCD)
- Data Service Naming Convention
- Node Builder Resources

Introduction

- Welcome
- Asking or posting questions
  - WebEx chat – to all participants or to host
  - Discussion board

Discussion Board

The Exchange Network website has been expanded to include a public message/discussion board.

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click on Message Board on left side

Current Discussion Areas

- General - Exchange Network
- Node Development
- Node Configuration
- Node Security
- XML Schema
- Trading Partner Agreements

Network Exchange Protocol (Protocol)

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

Protocol v1.1 Changes

Basic Network Service Interactions (Query)

The two parameters - rowId and maxRows are no longer optional.

- rowId: The starting row for the result set, it is a zero based index to the current result set.
- maxRow: The maximum number of rows to be returned.

Network Node Functional Specification (Specification)

The ***Specification*** is a detailed description of a Node's expected behavior that includes:

- a description of the functions the Node will perform
- how those functions are to be invoked
- the output expected from the Node

Specification v1.1 Changes

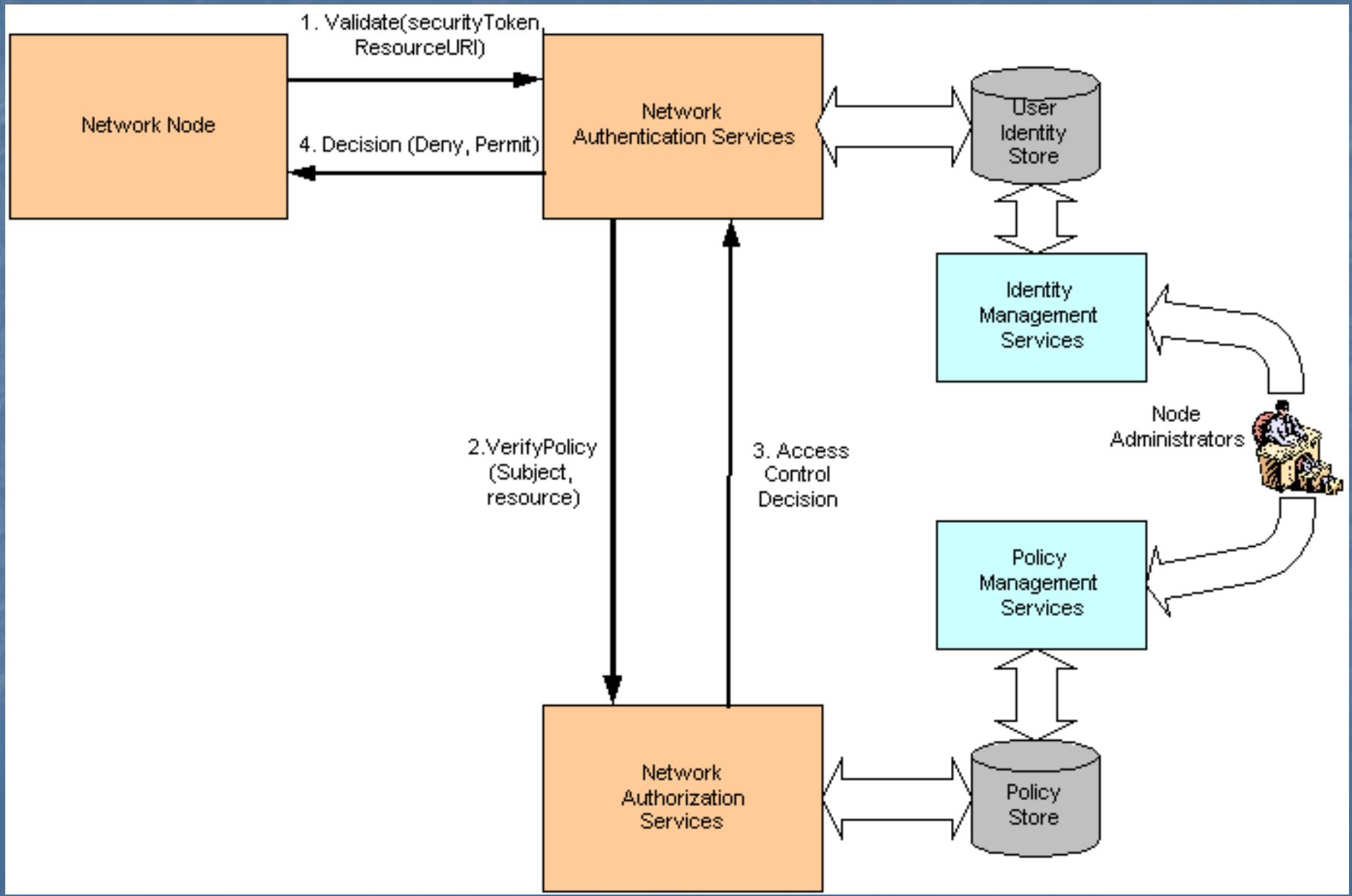
- The return type of Query was changed from queryResults to xsd:string.
- Clarified the parameters of positioned fetch (rowId and maxRows). rowId must be 0, and maxRows must be -1 if positioned fetch is not requested.
- Added Solicit as a ServiceType in the GetServices method. This allows user to retrieve a list of service requests supported by the Solicit method.
- Clarified the transactionId parameter in the Download parameter, the parameter may be empty for preestablished or ad hoc download operations.

Network Security Infrastructure : NAAS

The Network Authentication and Authorization Services (NAAS) is a set of centrally managed XML Web Services that provide for:

- **Network Authentication:** Authentication is the process of verifying that a subject, either a user or a machine, is who they claim to be.
- **Network Authorization:** Network access control policies to protect resources offered by Network Nodes

NAAS Architecture and Authorization Process



Security Resources

Combined into one comprehensive document.

- **Network Security Guidelines and Recommendations**

  It describes Web service vulnerabilities and proposes technical strategies and a roadmap whereby the network group can produce and implement a standards-based architecture that is comprehensive, yet flexible enough to meet the security needs of conducting network exchanges.

- **Network Authorization Policy Specification**

  It provides details on the rules and messages that govern Network Authorization Policy.

- **Security Policy Document (to be produced)**

  A high level policy document that sets Network wide Authentication and Authorization Policy and governs the rules that determine who can access what resources on the Network.

FCD

The Flow Configuration Document (FCD) Template identifies the universe of information Network Partners should consider when documenting and implementing a Flow or a Common Data Service. A Flow Configuration Document may include, by reference, information from many other documents (schema, system code lists, or procedures). The major parts of this document are:

- Network Exchanges
- Common Data Services
- Flows

Network Exchange

- A Network Exchange is composed of Flows and Common Data Services.
- A Network Exchange is roughly analogous to a data area, e.g., Facility Identification, Hazardous Waste.
- A Network Exchange is the highest level designation/description of the exchange of information between two Network Partners.

Data Service

- Data Services will either be Query or Solicit and are the services Nodes provide to complement the system-to-system oriented Flows.
- Data Services, at this time, are unique and consist of a set of parameters to define the service and the returned XML file is based on only one schema.
- Where Queries or Solicits are part of larger transactions, they should be defined in the appropriate Flow Description. For example, if a Solicit method is used to update a Partner system which has verification and acknowledgement steps, it should be defined as a Flow.

Data Service Naming

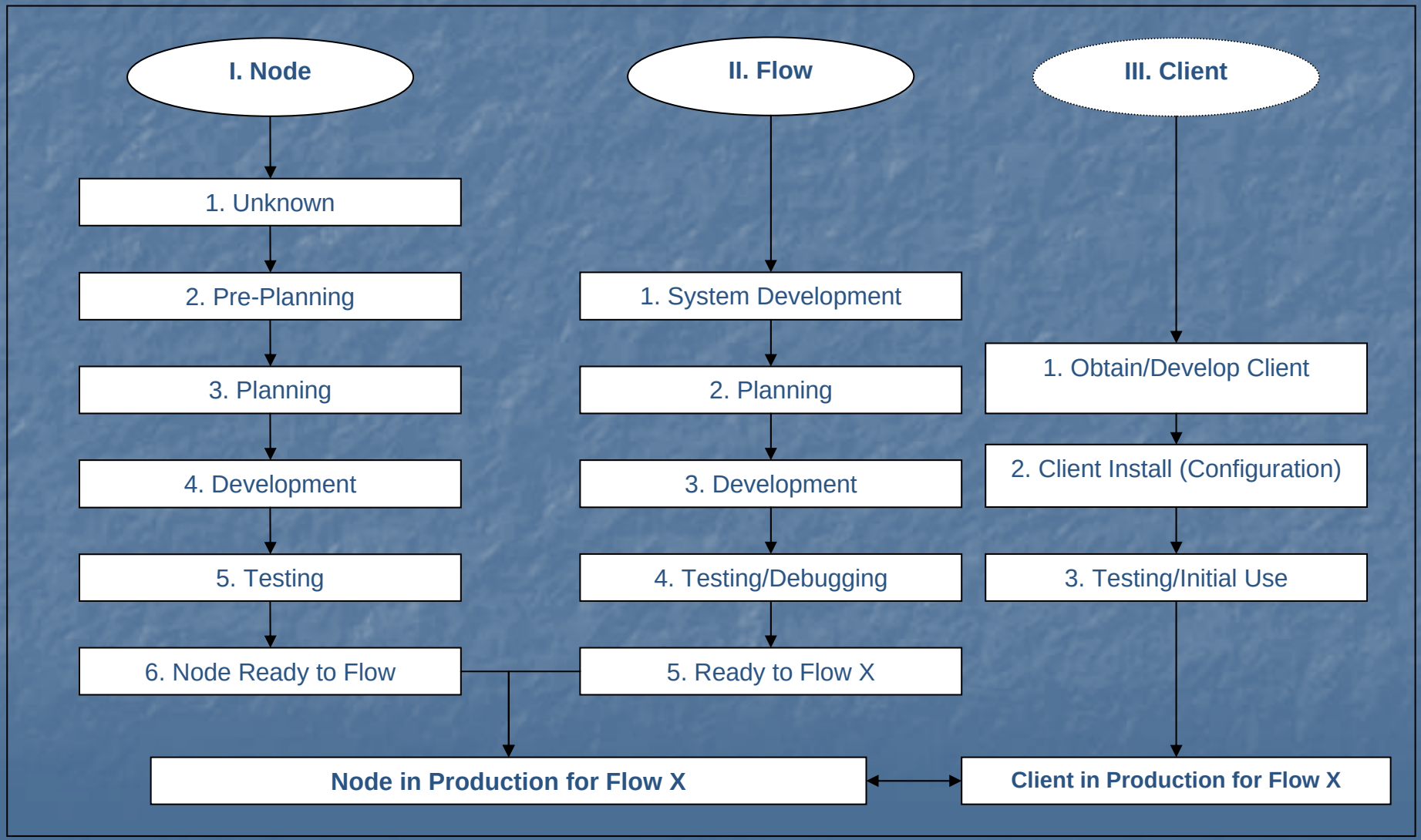
Purpose: The naming convention is needed to guide implementers by providing basic information about the Data Service and ensure consistency and uniqueness across Data Service names.

Data Service Naming Convention

[Prefix].[Action][Object](By [Parameter(s)]) _ [Version]

	Prefix	Action	Object	*Parameters(s)* *(Optional)*	Version (V)
Allowable Values	Environmental Interest (EI)	Get	Primary Data Returned	Optimizing constraint(s)	Data Service Version Number (V.#.#)
	System Name	Other			
	Exchange Name				
	Responsible Party				

Nodes, Flows, and Clients



Node Definition

A Node is a Web Service provider which can correctly respond to all Web methods[1] as described in the Network Node Functional Specification and Network Exchange Protocol.

[1] Web method descriptions are on pages 31–37 of the Network Exchange Protocol v1.1 and pages 12–30 of the Network Node Functional Specification v1.1.

Flow Definition

A Network Flow is a documented grouping of related data, their defined format, and the requests and responses, as defined by the Protocol and Specification. Partners communicate their Flow designs through "Flow Configuration Documents" (FCD).

Client Definition

A Network Client is a component or an application that can initiate data requests or data submissions to Nodes. Network Client applications cannot directly interact with other clients; a Node "listening" for Network Client requests is required for an information exchange.

Tools and Resources

Resources for Node Builders

- Demonstrated Node Configurations (DNCs)
- Testing Tools
  - https://test.epacdxnode.net/test/
- Node Mentoring Group
- Network Help Desk
- Exchange Network Discussion Board

Version 1.1 DNCs

- **Java-based (Integrated Client and Server DNC)**
  - **Apache Axis 1.1** – DNC can be used with any Java-Based middleware, (e.g., WebLogic, WebSphere, XAware, Oracle 9i)

- **Microsoft .NET DNCs**
  - DNC for server side using Microsoft .NET C#. This requires .NET framework 1.X and WSE 1sp1.
  - DNC for server side using Microsoft .NET VB . This requires .NET Framework 1.X and WSE 1sp1. DNC (executable files) for client side (to generate requests) for Microsoft .NET.
  - Sample client for .NET This is a sample client that uses the included requestor library (CDX_DOTNET_REQUESTOR.DLL). This library is all that is needed to communicate with a Node from any .NET language (e.g., VB, C#, J#). Only requires the .NET Framework 1.X and WSE 1sp1.
  - Also available is a C# client library (.zip file). This allows you to change the requestor library above. If you don't want to change the API, you should download the .NET Sample Client. Requires the .NET Framework 1.X and 1sp1.

Node Mentoring Group

Purpose

- The purpose of this group is to leverage the knowledge gained from previous node building projects and to mentor other states just starting to implement their nodes on the exchange network. The goals are simple:
  - Assist new states in implementing their nodes;
  - Assist the network steering board in reaching the FY2004 goal of 35 exchange network flows. Network flows cannot occur without a functioning node; And
  - Facilitate and organize platform specific technology transfer to reduce cost burden on states using the same or similar technology platforms.

Node Mentoring Group Contacts

- Dave Ellis,
  David.H.Ellis@maine.gov
  Maine Department of Environmental Protection (Lead State)
  (207) 624-9484

- Dennis Murphy
  dennis.murphy@state.de.us
  Delaware Department of Natural Resources and Environmental Control
  (302) 739-3490

- Melanie Morris
  melanie_morris@deq.state.ms.us
  Mississippi Department of Environmental Quality
  (601) 961-5044

- Frank Catanese
  fcatanese@des.state.nh.us
  State of NH Department of Environmental Services
  (603) 271-7011

- Tom McMichael
  tom_mcmichael@nmenv.state.nm.us
  New Mexico Environment Department

- Dennis Burling
  Dennis.Burling@NDEQ.state.ne.us
  Nebraska Department of Environmental Quality
  (402) 471-4214

- Mark Wensel mwensel@utah.gov
  Utah Department of Environmental Quality

Test Tools

https://test.epacdxnode.net/test/

- This application provides the ability to test any Node in the Exchange Network, by triggering Network WSDL-compliant requests on that Node.
- If a Node passes a test with this tool, it is very likely, the Node will be interoperable with other Network WSDL-compliant Nodes.
- This tool, which is intended to verify general compliance with the Functional Specification, focuses on interoperability among Nodes. Testers can choose to perform either:
  - interactive tests
  - automatic tests
  - multi-step scenarios.

Node Building Roadmap

- Choose Web Services platform and Web Services toolkit
- Use reference implementation (DNC) or generate from scratch
- Build Web Services and Application Tier
- Integration test against test tool to verify interoperability according to the Network WSDL and to verify compliance with Node Functional Specification
- Implement the Data Services tier
- Integration test with test tool to validate service requests
- Test actual exchanges with destination Node
- Verify Production Status using the *Node, Flow, and Client Definitions and Implementation Statuses* Document (pending NSB approval)

Network Help Desk

The CDX/Network Help Desk is available for data submission technical support.

By Telephone:

Call our toll-free line between the hours of 8:00 am and 6:00 pm (Eastern) at 888-890-1995 (Select Option 2).

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Questions &
Future Call Topics

Next Network Knowledge Call

December 2, 2003

12:00 EST

Contacts

- Dennis Burling, Nebraska Department of Environmental Quality
  - Dennis.Burling@NDEQ.state.ne.us
  - (402) 471-4214
- Molly O'Neill, ECOS
  - moneill@sso.org
  - (202) 624-3507
- Rob Willis, Ross & Associates
  - rob.willis@ross-assoc.com
  - (206) 447-1805