



CORE Connectivity Rules: Leading the Way in Healthcare Administrative Communications

Mitch Icenhower
Director, HDX
Siemens

Jay Eisenstock
Manager, Provider eSolutions
Aetna

Deb Smithline
Product Manager
NaviMedix

September 25, 2008

Discussion Topics

Connectivity Today

- Challenges
- Key Principles of CORE's Connectivity Phases

CORE Connectivity Rules

- Phase I
- Phase II

Forthcoming Phase II Connectivity Implementations and Expected Impact

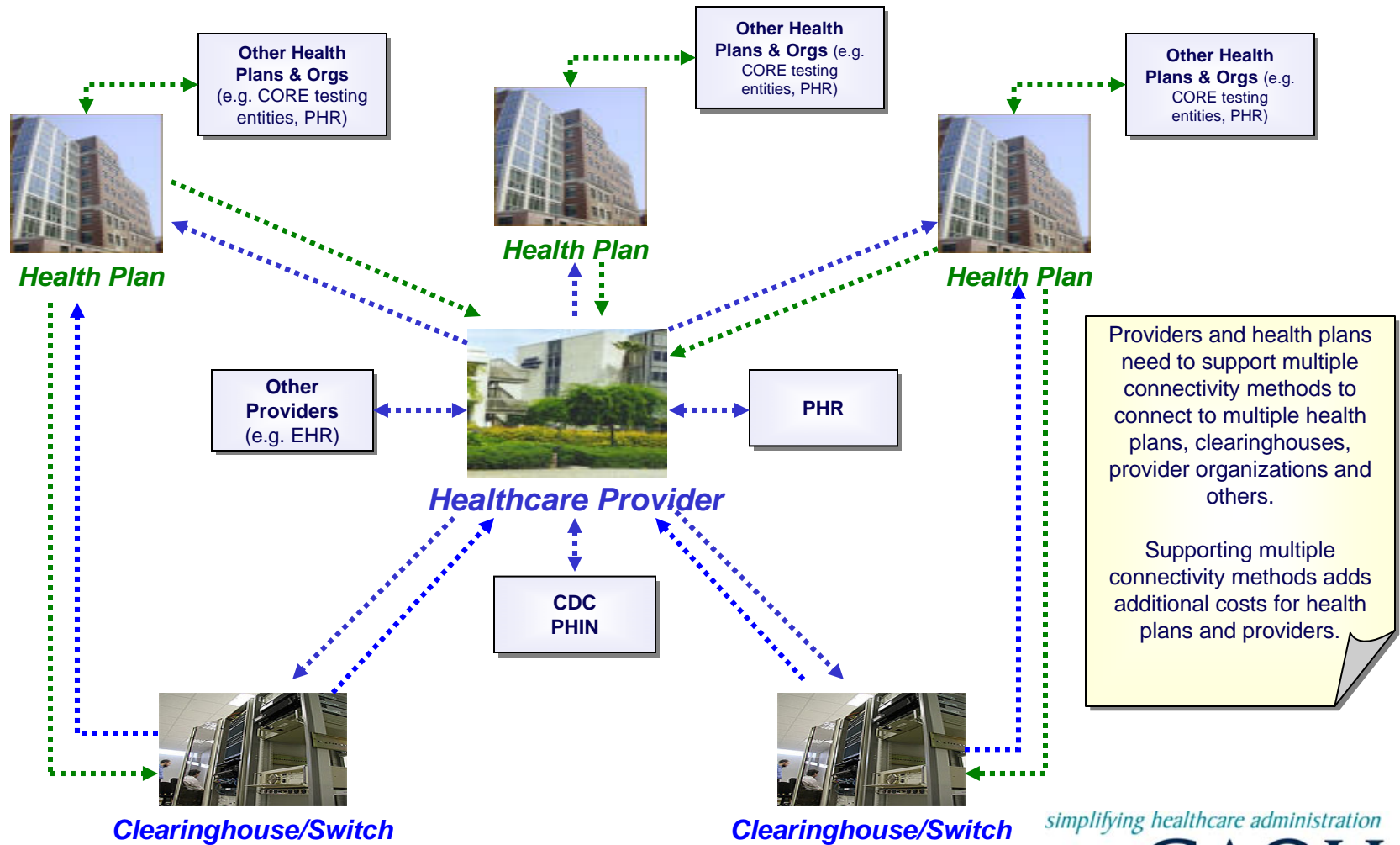
- Health Plan: Aetna
- Portal: NaviMedix
- Clearinghouse: Siemens

CORE Phase III Connectivity Priorities

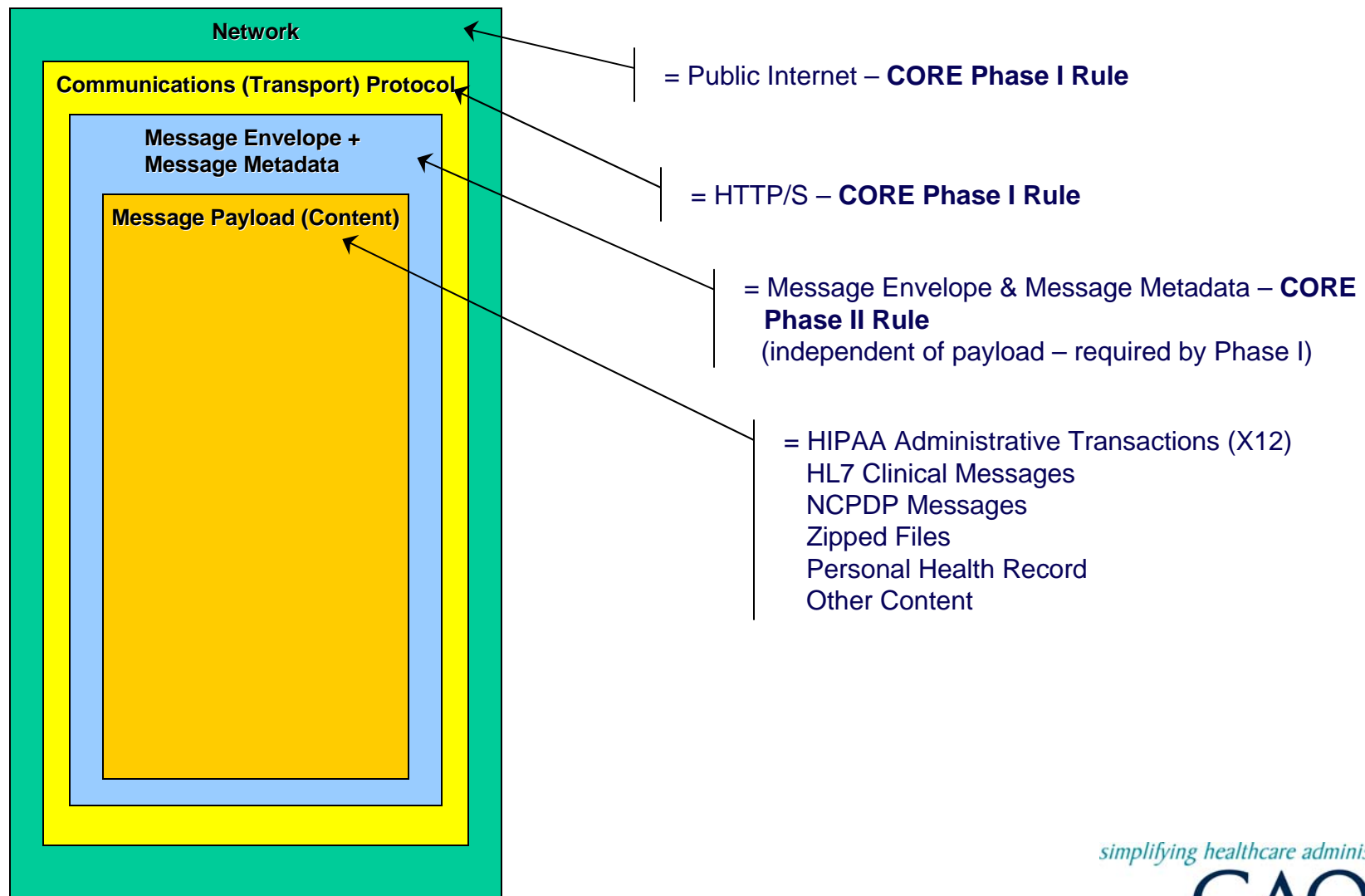
Connectivity Today

Challenges of Healthcare Connectivity Today

Currently, multiple connectivity methods are needed across the industry...



Achieving Connectivity Interoperability Requires Standards



What Happens Without Operating Rules?

Access and Implementation Is Costly and Challenging

Entity	Message Envelope (envelopes vary and implementations of same envelope standard varies)	Authentication
Health plan A	WS (SOAP + WSDL schema I)	WS-Security
Clearinghouse A	HTTP POST: name/value pair	User/password
Clearinghouse B	HTTP POST	User/password
Clearinghouse C	HTTP POST with MIME	User/password encoded in MIME
Clearinghouse D	WS (SOAP+WSDL schema II)	User/password basic authentication
RHIO A	WS(SOAP+WSDL schema III)	Digital signature with X.509 certificate
RHIO B	MIME	User/password encoded in MIME

Note: Small sampling, range in variation is great

Key Principles Included in CORE Connectivity Phases

- Developed using consensus-based approach among industry stakeholders and is designed to:
 - Facilitate interoperability
 - Improve utilization of electronic transactions
 - Enhance efficiency and help lower the cost of information exchange in healthcare
- Uses existing standards
- Creates a base and not a “ceiling”
 - e.g., certified entities may include additional metadata in a CORE compliant envelope to support their business needs
- Provides a “safe harbor”
 - Rule is supported/offered by any CORE-certified entity
- Phase I or II Connectivity Rules do not:
 - Require trading partners to remove existing connections that do not match the rule
 - Require that all CORE-certified entities use the CORE rule for all new connections

CORE Connectivity Rules

CORE Phase I Connectivity Rule Components

- CORE-certified entities must support HTTP/S 1.1 over the public Internet as a transport method for both batch and real-time eligibility inquiry and response transactions
- Real-time requests
- Batch requests, submissions and response pickup
- Security and authentication data requirements
- Response time, time out parameters and re-transmission
 - If HTTP Post Reply Message not received within 60 sec, a duplicate transaction should be sent no sooner than 90 seconds
 - No more than 5 duplicate transactions should be sent within 15 minutes
- Response message options & error notification

NOTE: CORE rules are a base and not a ceiling

CORE Phase I: Lessons Learned

- Industry has many connectivity approaches (proprietary and non-proprietary) with large installed bases
- Stakeholders are ready to come together and build consensus on connectivity methods for interoperability
- CORE Phase I is a step in the right direction – from proprietary and/or private networks, to public Internet (HTTP/S)
- While having a uniform transport standard is an important first step, many variations exist within CORE Phase I compliant implementations - interoperability requires a more definitive rule

CORE Phase II Decision: Definitive Connectivity Rule

Key Rationale*

- As expected, variations existed in Phase I Connectivity Rule Implementation
- Creating a more definitive rule will facilitate connectivity standardization, and can be applied equally across the healthcare information exchange, such as clinical transport messaging (*A key CORE goal is to be payload agnostic*)
- A definitive rule will assist in accelerating industry interoperability
- A definitive rule will help create momentum toward a connectivity foundation for the industry

Methodology

- Make decisions based on criteria, open standards, environmental scan, member inputs and CORE goal to gain implementation

*** *Not a comprehensive list***

CORE Phase II Connectivity Rule Overview

- Open Standards
 - Message Envelope
 - SOAP 1.2 + WSDL + MTOM
 - HTTP + MIME Multipart
 - Submitter Authentication
 - Username/Password (WS-Security Username Token)
 - X.509 Certificate over SSL
- Envelope Metadata
 - Field names (e.g., SenderID, ReceiverID)
 - Field syntax (value-sets, length restrictions)
 - Semantics (suggested use)
 - Outside the payload to facilitate interoperability and reduce costs
- Error Handling, Auditing

Phase II Connectivity:

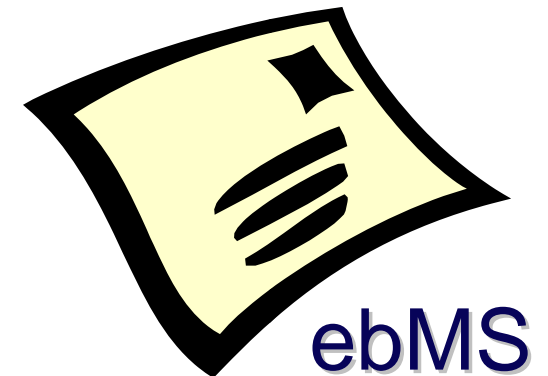
Rationale for Two Envelope Standards

- Decision on supporting two message envelope standards
 - SOAP+WSDL
 - Well aligned with HITSP and HL7
 - Lends itself to future rule development using Web-services standards for more advanced requirements (e.g., reliability)
 - HTTP MIME Multipart
 - Relatively simple and well understood protocol framework
 - CORE-certified entities have already implemented HTTP as part of Phase I
 - Incremental “stepped” approach:
 - Facilitates adoption in a market that is still maturing
 - Facilitates interoperability relative to the current state of envelope standard variability in the marketplace

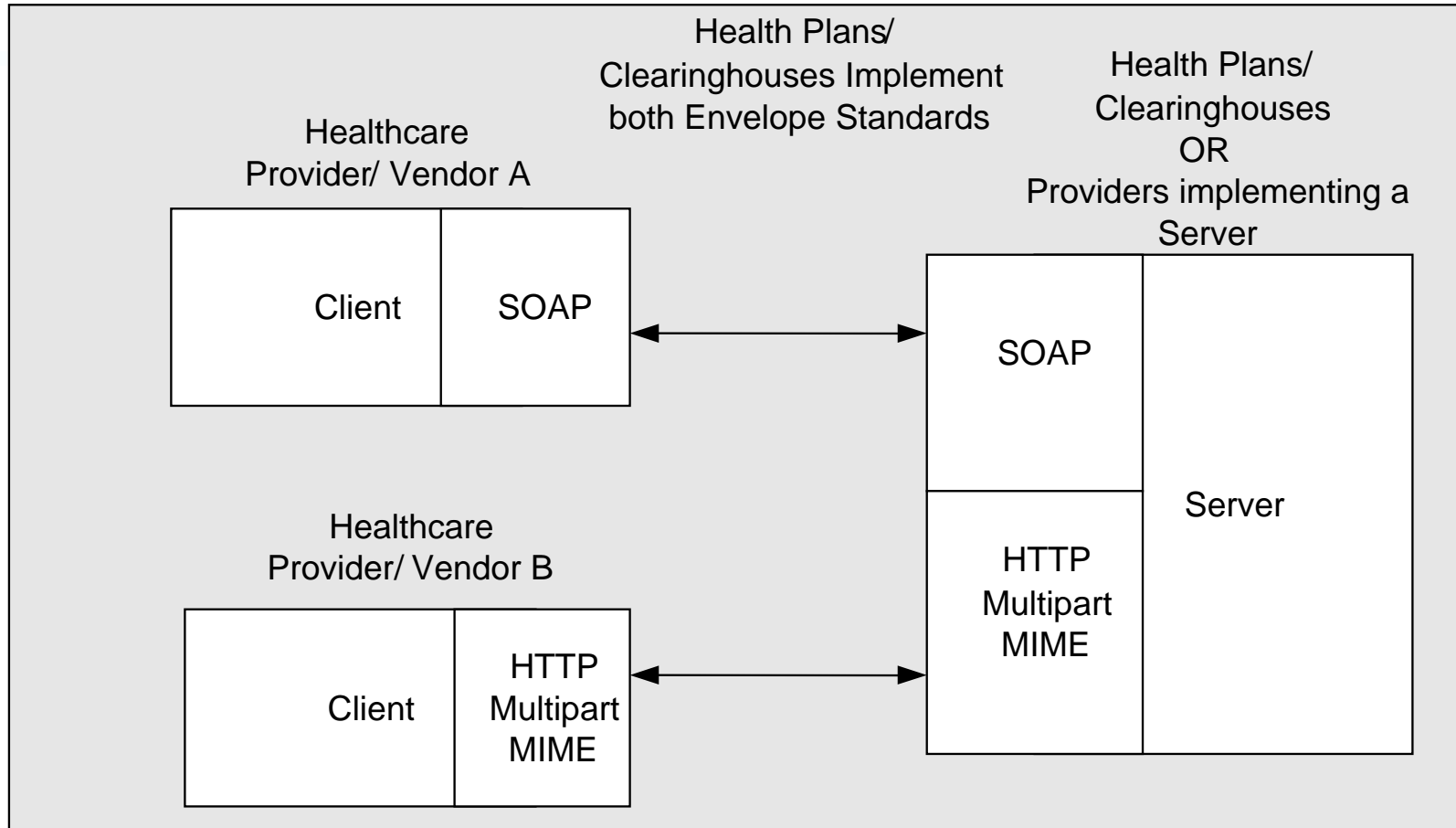
Function of Envelope Standards Within CORE Phase II



- Needed
 - to specify
 - Recipient
 - Sender
 - Keep contents intact
- Support auditing & tracking
- Support Routing
- Provide other critical details



Phase II Connectivity: Envelope Conformance

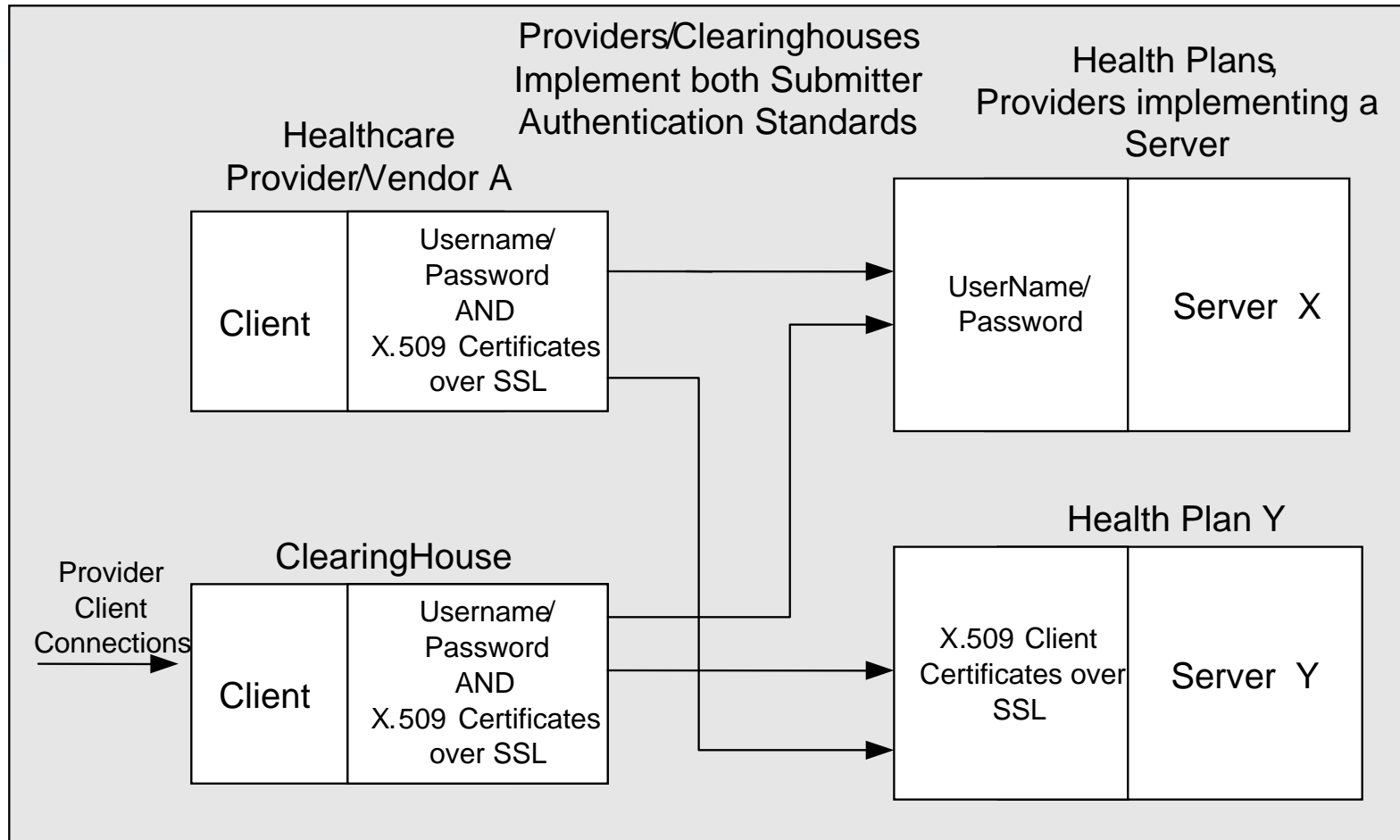


¹ *Health Plans, Health Plan Vendors, Clearinghouses or Providers implementing a server must support* both envelope standards.*

² *Providers and Provider Vendors acting as a client need only support one of the envelope standards.*

Note: Standards are paired with a metadata list; * refer to Rule for detail

Phase II Connectivity: Submitter Authentication



³ Providers, Provider Vendors or Clearinghouses acting as a client must support* both submitter authentication standards.

⁴ Health Plans, Health Plan Vendors or Providers implementing a server need only support one submitter authentication standard.

simplifying healthcare administration

CAQH[®]

Value and Benefit of

A common shared vocabulary for electronic messaging
= Standard Metadata (e.g., SenderID, Date)

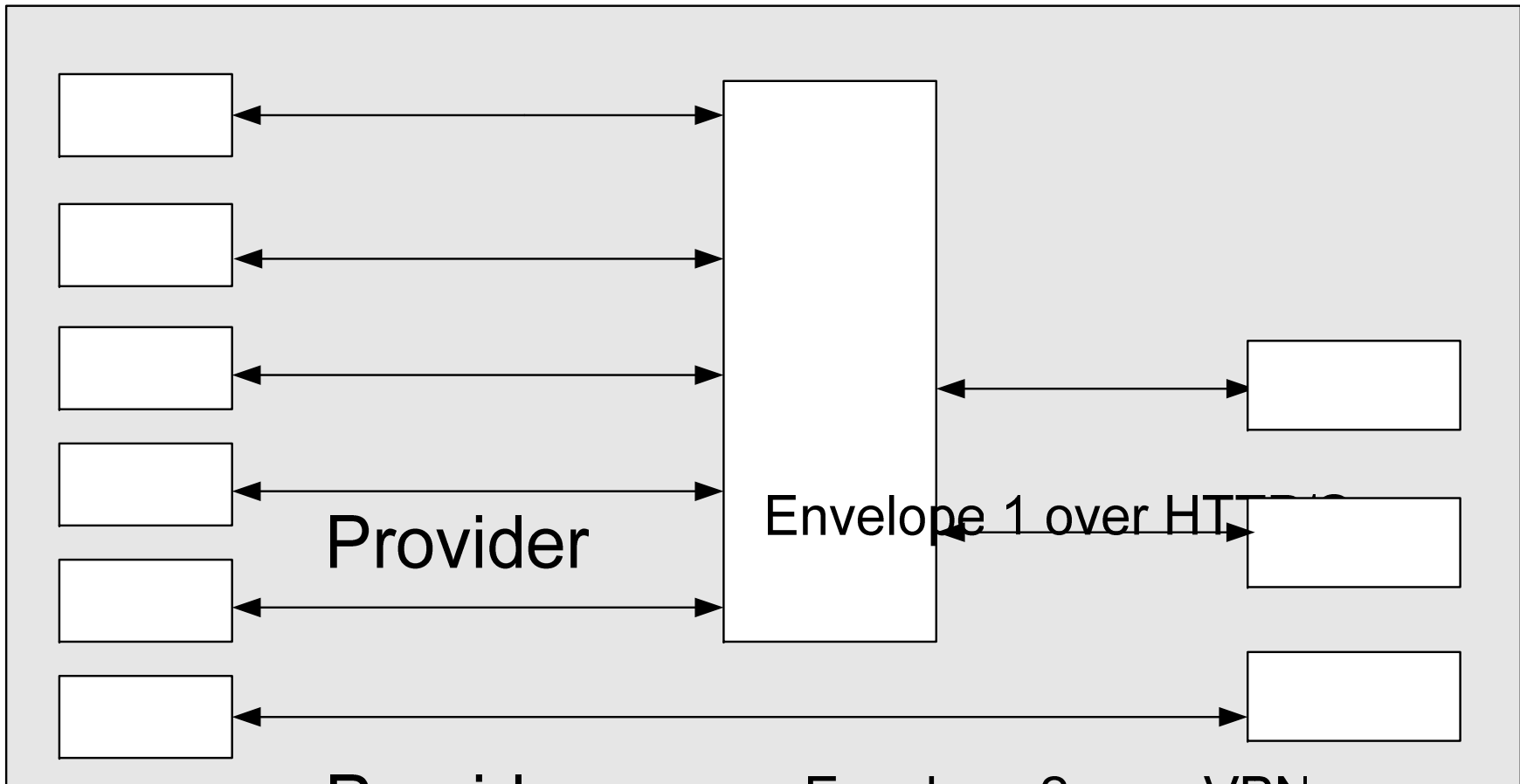


Standard metadata in a structured envelope
= Interoperability (e.g., XML Schema)



A standard message structured using a schema
(e.g., WSDL)
= Automated Processing of Message and Payload

Envelope and Transport Variations *before CORE*

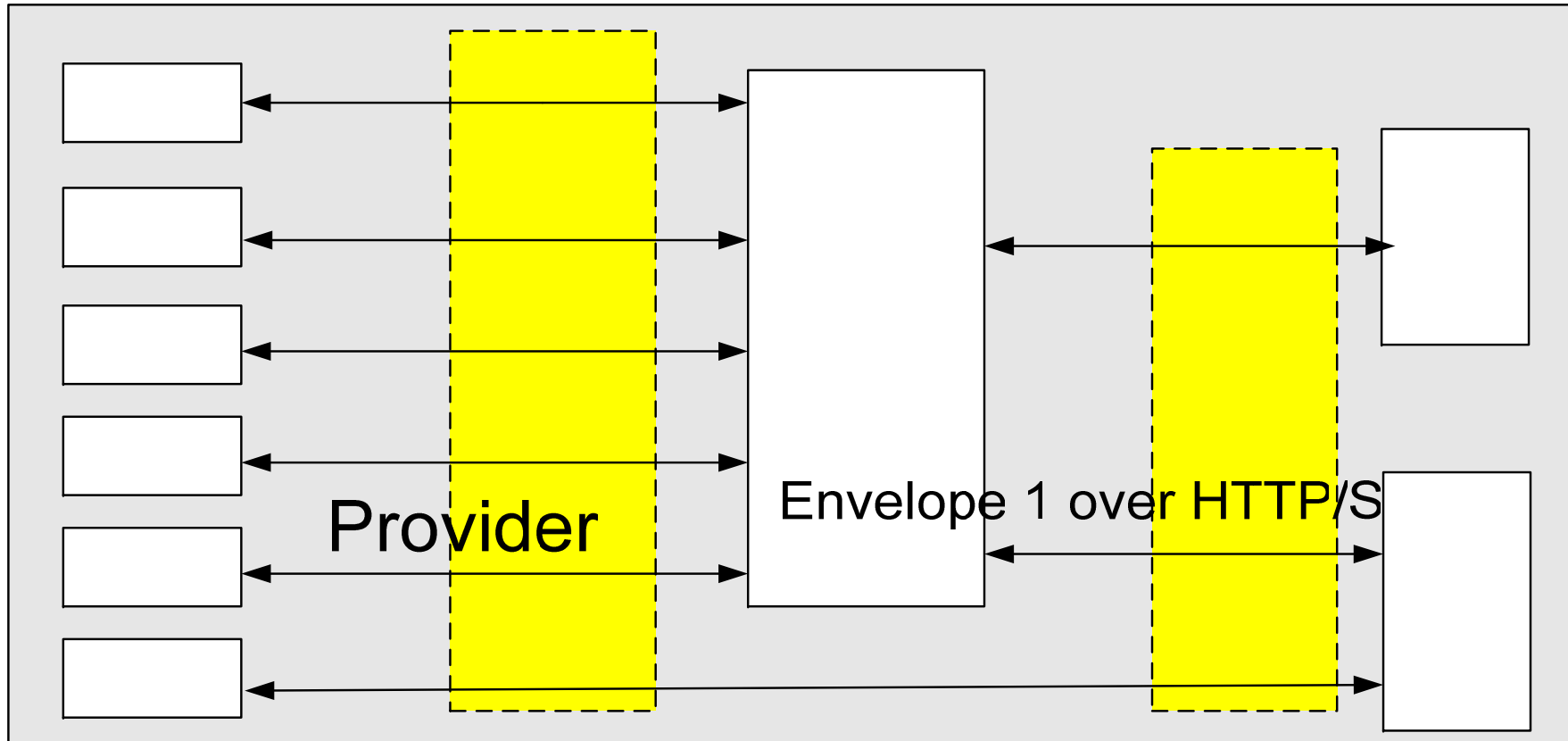


Result: Costly management of multiple transport and envelope protocols; many of them proprietary. All-payer solutions very challenging. Costly parsing of data.

simplifying healthcare administration



After CORE Phase I Connectivity: Chosen Transport Protocol is HTTP/S over Public Internet



Benefits: Greater online access due to uniformity in transport protocols among CORE Phase I compliant implementations. Growing knowledge of new methods.

Challenges: Variations in Envelope standards, Authentication and Metadata and associated costs/barriers to on-line access.

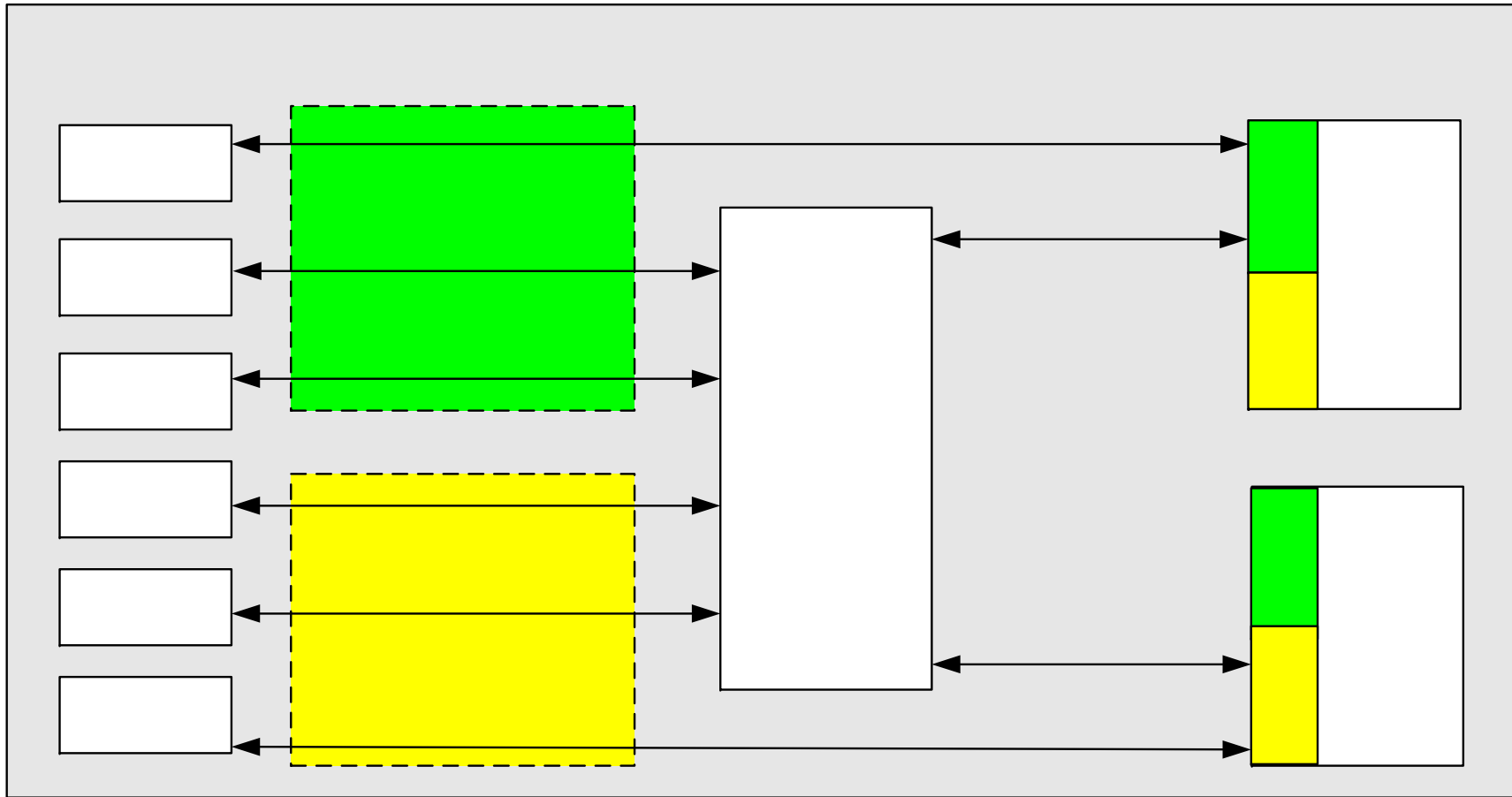
simplifying healthcare administration

Provider

Envelope 3 over HTTP/S



After CORE Phase II: Consensus on Transport, Envelope, Authentication Standards and Metadata



Benefit: Increased online and access that is less costly given uniformity in transport, envelope, authentication standards, and metadata. ~~over HTTPS~~ ^{HTTP+MIME} Reduced cost given reduction in time spent on implementations and data parsing.

simplifying healthcare administration



Examples of Forthcoming Phase II Connectivity Implementations

Health Plan Perspective: About Aetna

- 17.5 million medical members
- 14.1 million dental members
- 10.9 million pharmacy members
- 35,396 employees
- 866,000 network providers
 - 347,104 use online services
- 211 million claims processed per year
 - 576,526 per day
- 33 million telephone calls per year
 - 130,125 telephone calls per business day
- 110.3 million electronic eligibility inquiries per year



Health Plan Perspective: Why CORE Certification?

- Logical extension of our ongoing support for and commitment to CAQH Mission
 - Founding member of CAQH and one of the first CORE-certified health plans
- Part of a national initiative that is transforming electronic administrative data exchange
- Reduced administrative costs
- More efficient process for providing eligibility and benefits information to providers

Working with the CORE Connectivity Rules

- Aetna – connected to Siemens and NaviMedix
- NaviMedix – provides direct connect between providers and Aetna
- Siemens – provides clearinghouse for providers and Aetna
- Both NaviMedix and Siemens will use the CORE Connectivity Rules with Aetna

Connectivity Implementation Approach

1. CORE recommended two connectivity standards:
 - HTTP MIME Multipart
 - SOAP + WSDL
2. HTTP MIME Multipart is currently supported by the Aetna EDI Gateway application
3. Through the use of industry standard applications that conform to the WS-Security specifications, Aetna also supports SOAP + WSDL standards
 - Can be customized to meet provider specific requirements

Expected Business Impact of CORE Connectivity Rules

- Offers providers a choice
 - By supporting both connectivity standards providers can utilize the approach that best meets their needs
- Enhances sense of security
 - Data is transmitted utilizing industry established standards
- Cost effective
 - Avoids the need to implement custom security solutions

NaviMedix Overview

Organizational Overview

- Founded 1998
- Headquarters: Cambridge, MA
- 300+ employees
- Fully HIPAA compliant solutions

Notable Statistics

- 13 health plan customers
- 300M real-time transactions YTD
- 50 states

NaviNet Network

- 600k+ physician subscribers
- Over 100M covered lives
- ~48M Eligibility transactions YTD

NaviMedix and Aetna: Applying CORE Rules

- NaviMedix enables health plans of all sizes to interact with over 600,000 providers across the country - Interoperability is key.
- Standards-based real-time communications between these parties is critical to sustaining healthy relationships as well as revenue streams, but standards alone aren't enough.
- NaviMedix and Aetna have also implemented CORE Phase I recommendations to improve web-based administrative solutions.
- We also believe these robust administrative workflows can be leveraged to improve clinical processes – Integration of administrative and clinical processes is important.

Connectivity Implementation Approach

- NaviMedix has pursued supporting the SOAP+WSDL connectivity approach
- For enveloping NaviMedix currently utilizes SOAP+WSDL
 - Support SOAP Document Literal
 - Authenticate using WS Security 1.1 or SOAP header username/password
- NaviMedix has not yet implemented HTTP/S MIME Multipart
 - We have not received requests, so have not had the demand to expand our architecture
 - We are capable of implementing HTTP/S MIME Multipart if we receive a request
 - Currently we have implemented HTTP/S

Expected Business Impact of CORE Connectivity Rules

- NaviMedix has traditionally shaped our implementation approach to meet our clients' connectivity needs
- Supporting the CORE Phase I and Phase II Connectivity Rules allows NaviMedix to:
 - Create a cost effective implementation approach to potential clients
 - Allow clients to reuse existing connectivity already compliant with CORE Connectivity Rules
 - Shortens time to market
 - Mature operational support processes

Vendor Clearinghouse Perspective: Siemens/HDX Overview



General Background Information

- 2007 Healthcare transactions: 230M+
- Providers submitting Eligibility Transactions: 1,300
- Payers available through HDX Network for Eligibility: 250+

CORE Involvement, Participation and Certification

- Key CORE participant
 - Serve on all Work Groups and Subgroups
 - Mitch Icenhower Chair of Technical Work Group and representative on CORE Steering Committee
- Phase I CORE-certified
- Siemens/HDX encourages adoption and further development of the CORE rules
 - Developing consistent operating rules will increase EDI participation, offering customers and the industry greater communication and efficiency
- Participation with prestigious national organization is more effective than individual, separate attempts to influence change
- Leveraged existing X12 support for more consistent data content transport

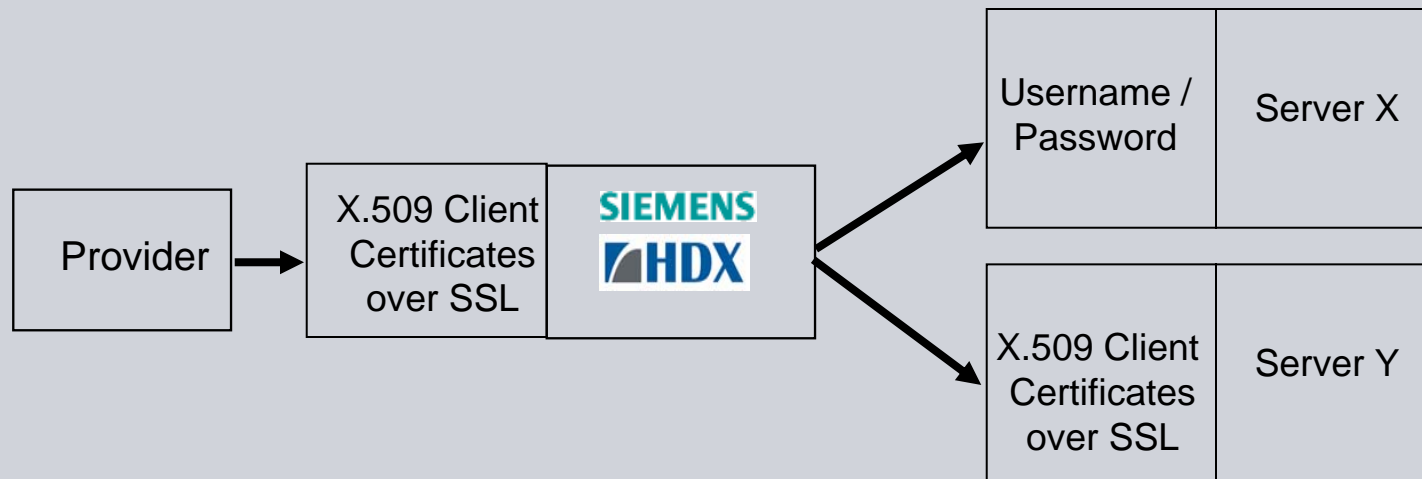
Siemens/HDX Implementation Approach

Siemens Transport Protocols

- HTTP via VPN, HTTPS via public internet, TCP/IP (persistent/non-persistent sockets, RPC, etc.) via VPN, SNA

Siemens Submitter Authentication Methods

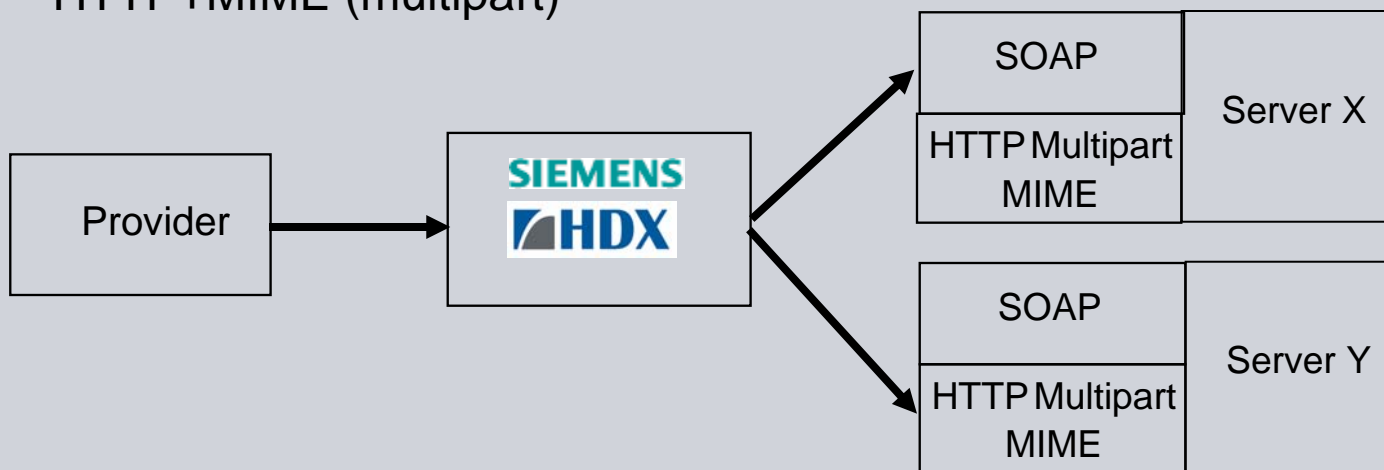
- Server uses only Siemens generated certificates (this will continue for Phase II implementation); Client supports client authentication and/or sending usernames/passwords
 - All CORE Phase I server connections use certificates only



Siemens/HDX Implementation Approach

Siemens Envelope Methods

- Server side uses 2 variations (HTTP name/value pairs and TCP/IP headers)
- Client side has numerous types (>25) depending upon trading partner requirements
- Both CORE Phase II methods used as a client; neither method as a server
 - 3 client connections using SOAP+WSDL, 1 client connection using HTTP+MIME (multipart)



Siemens Business Impacts

- Siemens anticipates that CORE Connectivity Rules will help simplify future implementations
- Siemens expects that CORE Connectivity Rules will help more trading partners engage in healthcare EDI, providing opportunities for improved efficiency for our customers
- Because of Siemens role as a clearinghouse, we do not expect a significant reduction in the number of envelope methods supported in the near term, however
 - If trading partners request us to act as a clearinghouse for them, we will maintain a non-CORE connection to them and provide a CORE-compliant connection to their trading partners.
 - Siemens will encourage all trading partners to move to CORE-compliant connections in the nearest timeframe that makes sense for their business.

CORE Connectivity – Next Steps

- Phase II implementations
- Educational sessions on Phase II connectivity
- Working with other initiatives on connectivity standards convergence and access
 - Note: CORE connectivity can be used for clinical as well as administrative
 - Federal efforts
 - Health Information Technology Standards Panel (HITSP)
 - HITSP is recommending Phase II connectivity for health plan transport
 - Nationwide Health Information Network (NHIN)
 - State and regional efforts, e.g. Ohio state reviewing CORE in response to state legislation efforts
 - Medicaid Information Technology Architecture (MITA)
 - MITA 2009 strategic plan includes coordinating with CORE on connectivity and data content
- Phase III rule writing

Potential Phase III Connectivity Rule Areas

- Re-evaluate criteria that were deferred in CORE Phase II. e.g.,
 - Registry of digital certificate authorities
 - Listing of routing addresses
 - Convergence on single envelope standard
 - Convergence on single authentication standard
 - More stringent base authentication approach
 - Multi-hop messaging
- Identify new rule areas based on Phase II implementations and other market initiatives

Obtaining More Information About CORE Connectivity

CAQH/WEDI Audiocast
CORE Phase II Rules Overview
Thursday, October 23, 2008
2:00 – 3:30 ET

For more information on CORE rules or to register for the audiocast visit:
www.caqh.org

Questions?