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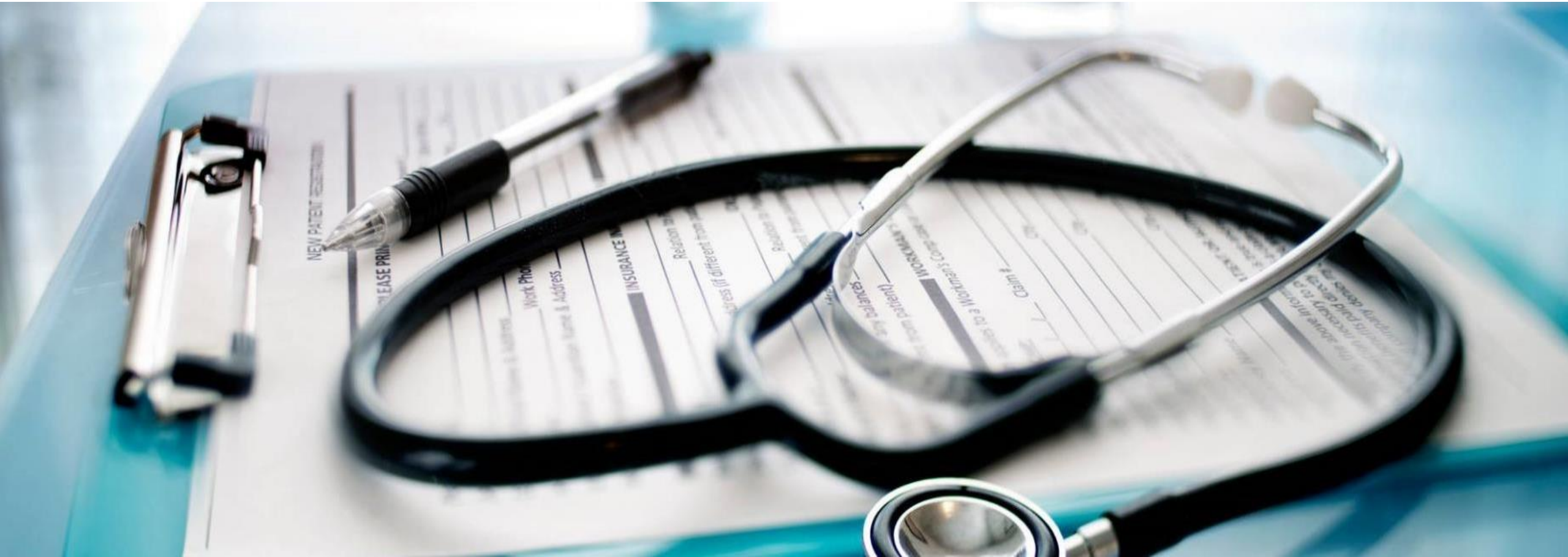
HEALTHCARE EDI, SECURITY SOLUTIONS AND EXPERTISE



BACKGROUND

Healthcare Data Exchange & Security:

- Public Health
- Clinical
- Administrative
- Pharmacy
- Security: Healthcare, Financial

Solutions:

- Healthcare Data Interoperability, EDI
- Security

Services:

- Connectivity & Security
- Architecture, Enterprise and Cloud Security

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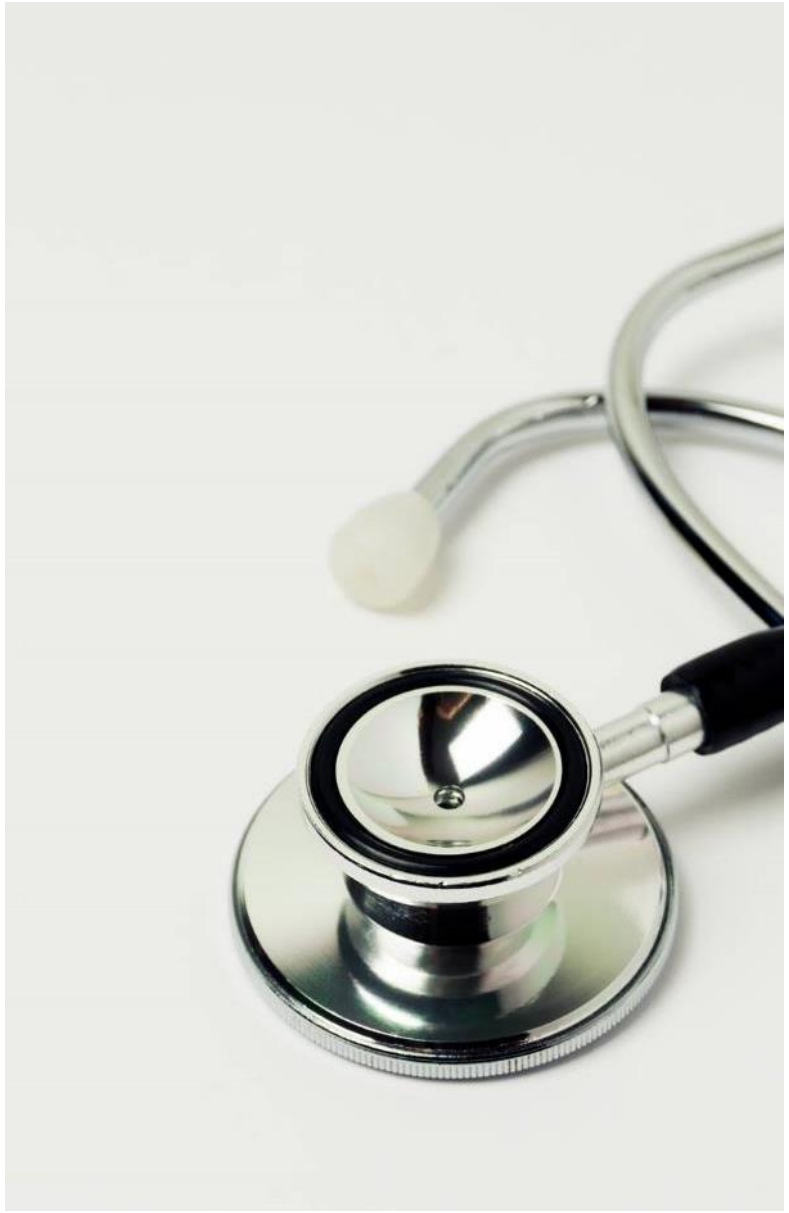
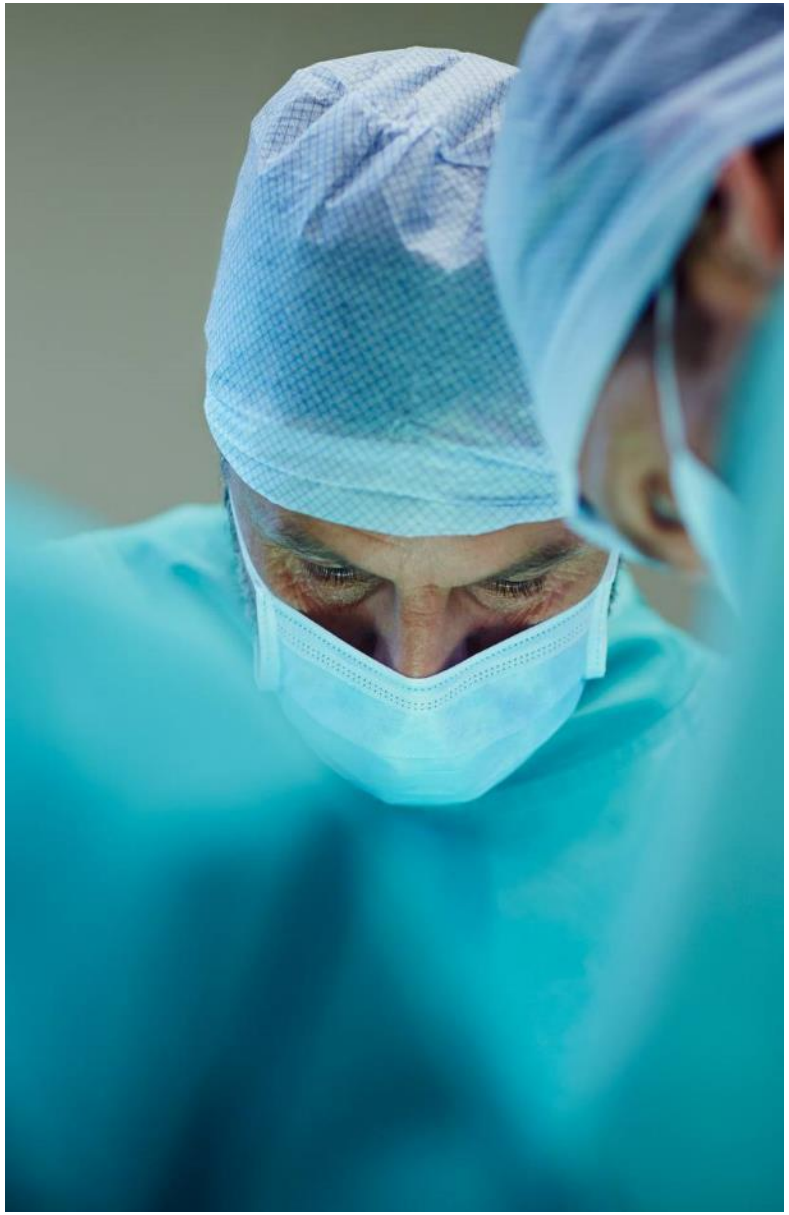
OUR VALUE PROPOSITION FOR HEALTHCARE

- Apply interoperability to improve healthcare outcomes through automation, operational robustness and security
- Use health data standards as an enabler for better business intelligence, data quality, AI/ML
- Address current and emerging administrative simplification regulatory requirements for interoperability and security





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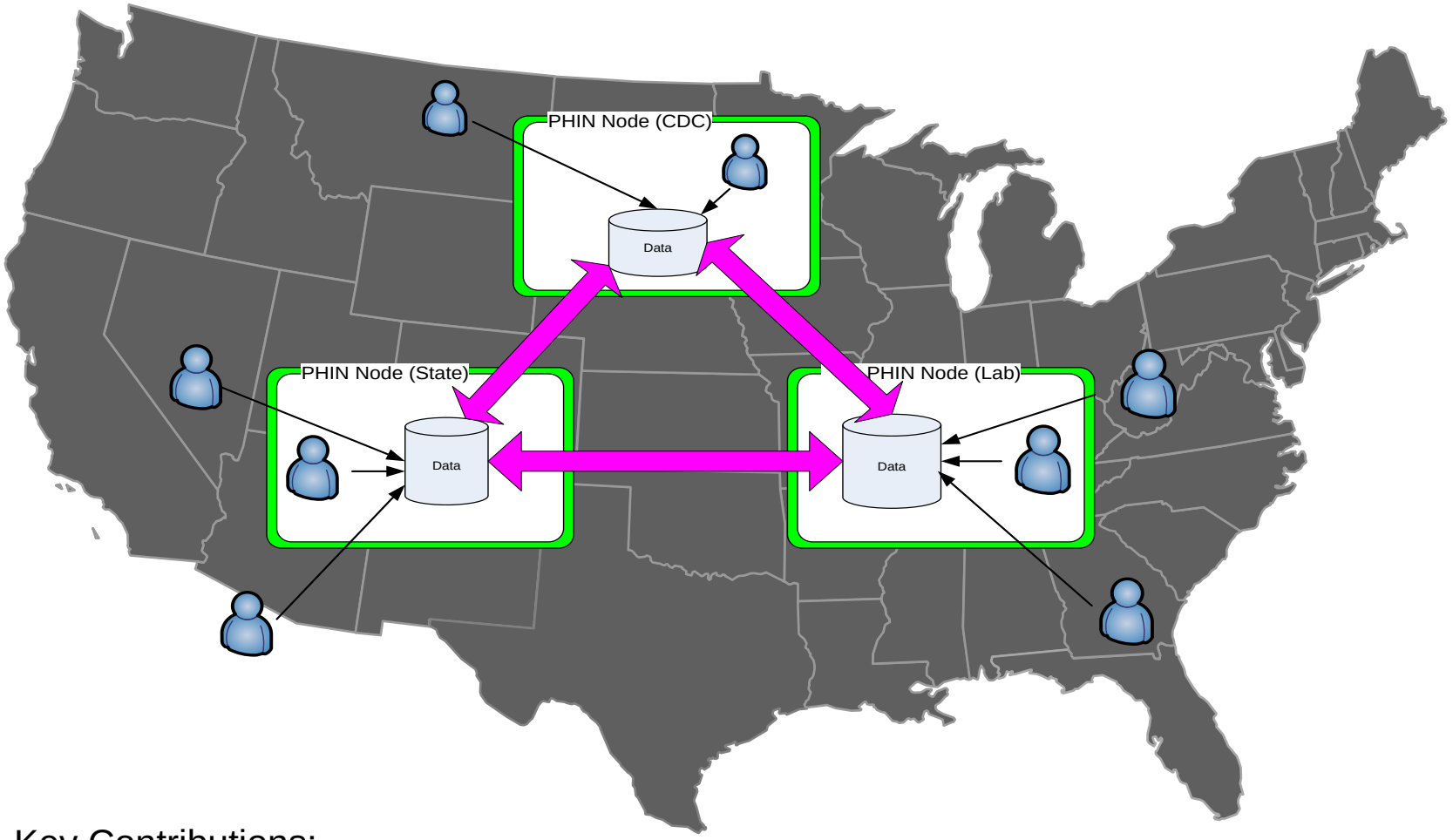
BACKGROUND: PUBLIC HEALTH INFORMATION NETWORK, LRN, ELR, NEDSS, BIOSENSE



BNETAL Key Contributions:

- PHIN Messaging System - architecture, design, development, deployment
- PHIN Security
- State DOHs: Virginia, Oregon, Minnesota

Courtesy: CDC/PHIN

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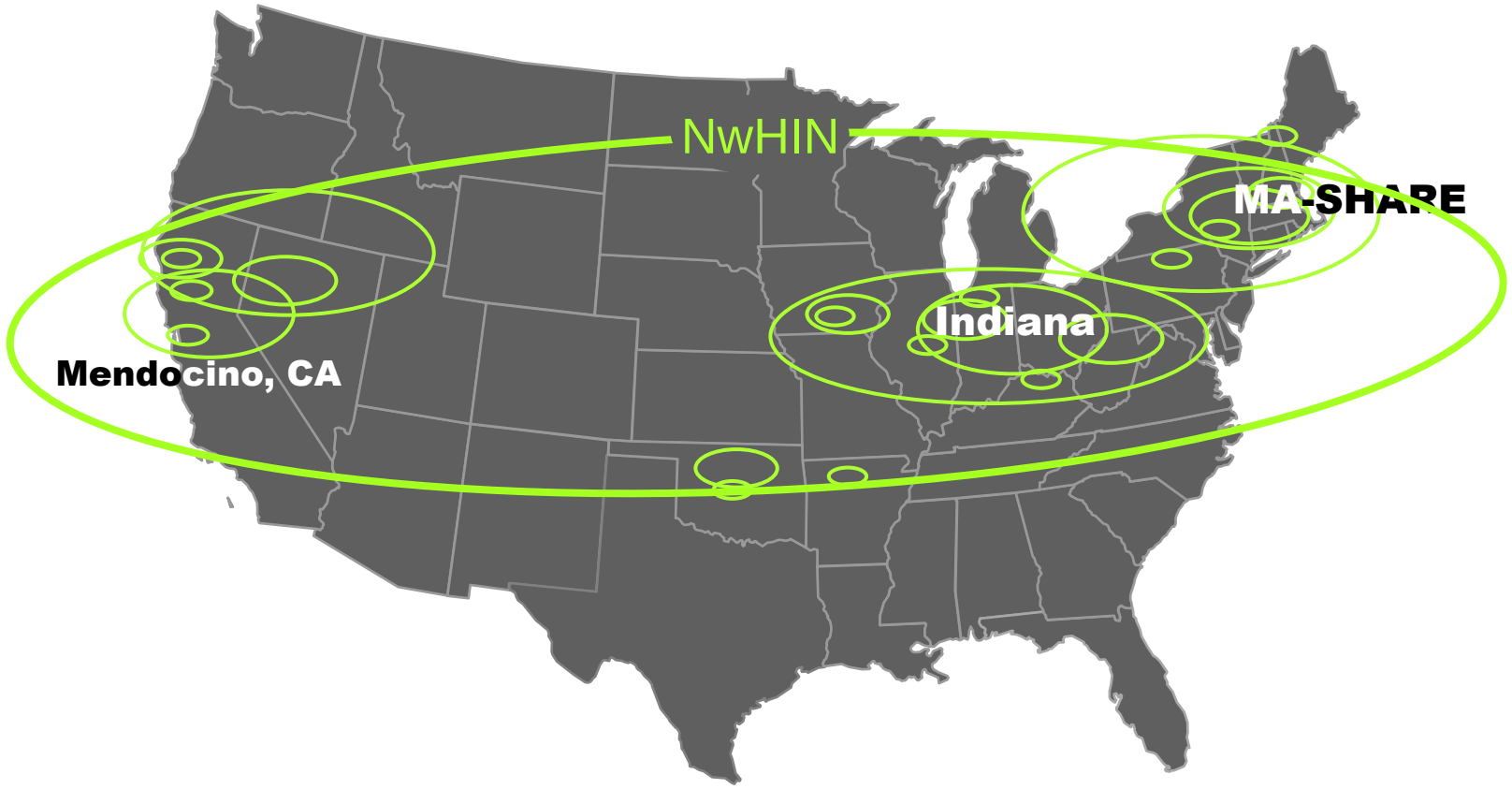
NATIONWIDE HEALTH INFORMATION NETWORK



BNETAL Key Contributions:

- NHIN Network Security Architecture
- Interoperability of three regional HIE's
- Demonstration of data exchange and Role-Based Access Control

Courtesy: ONC/Markle Foundation

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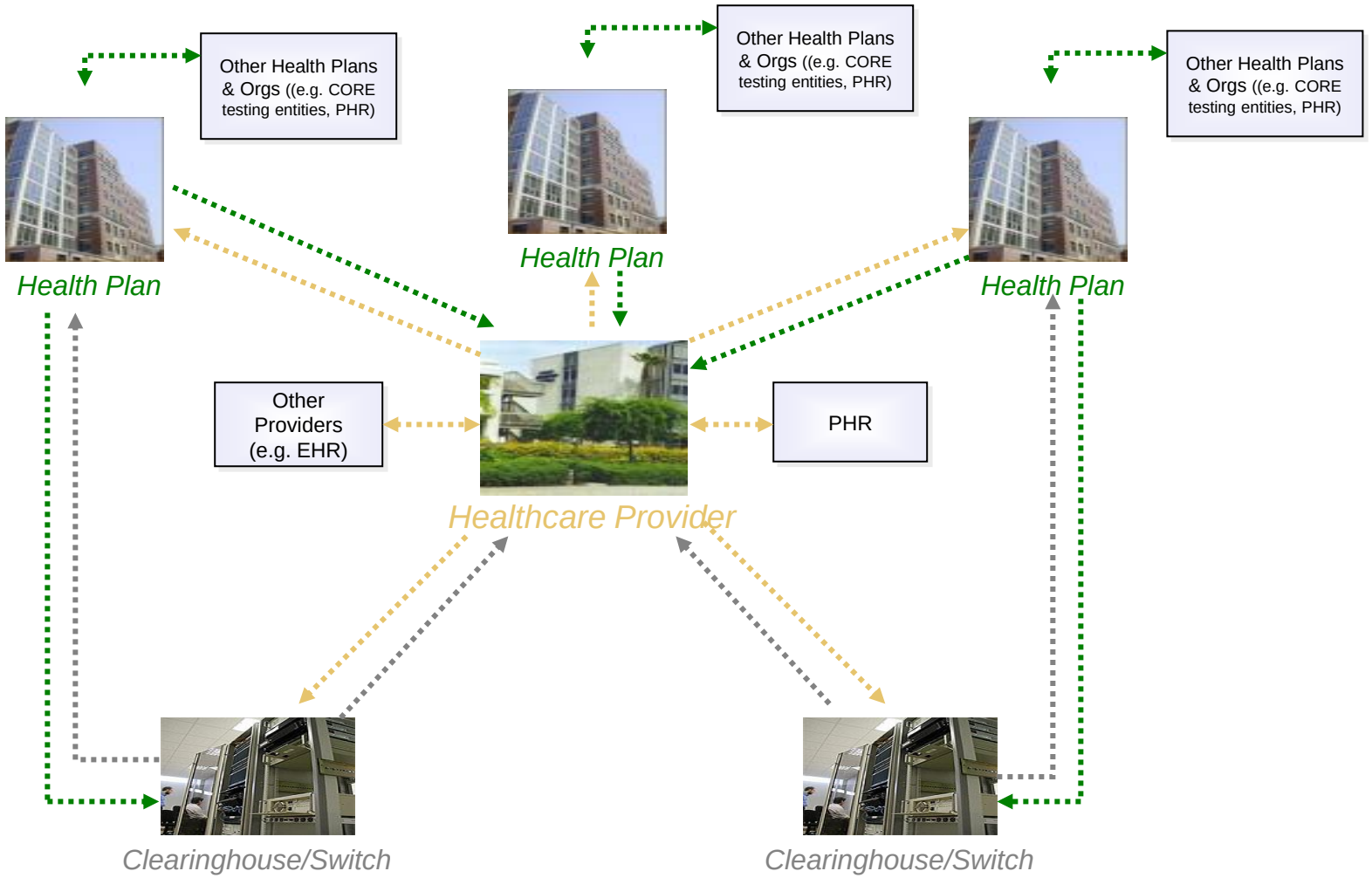

Courtesy: CAQH/CORE

BNETAL Key Contributions:

- Consultant/Facilitator on Committee on Operating Rule for Information Exchange (CORE®)
- Consensus building among stakeholders (health-plans, health-providers, clearinghouses)
- Collaboration with S&I (esMD), CMS esMD, NwHIN, HITSP, IHE, NCPDP, NACHA

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HEALTHCARE INTEROPERABILITY / EDI AND SECURITY OFFERINGS

For Healthcare Providers	Healthcare Payers	Clearinghouses, Vendors, HIEs, RCM
• HL7 FHIR Integrations with EHR • EDI Validation prior to submission to health plans, to reduce errors • Support for EDI transactions (e.g., Prior Authorization) • Support for new FHIR use cases (e.g., public health reporting)	• Compliance with regulatory requirements like CMS-0057-F using FHIR and X12 • ACA compliant EDI (CAQH CORE Operating Rules) • EDI validation to reduce processing errors	• Compliance with regulatory requirements like CMS-0057-F using FHIR and X12 • ACA compliant EDI (CAQH CORE Operating Rules • EDI validation to reduce processing errors • Support for clinical, admin, pharmacy and public health interoperability standards

Security Services for all Entities:

- Security assessment and remediation
- Security solutioning
- Security audits
- Cloud migration and security
- Application of new technologies (e.g., blockchain) to improve security
- Security of emerging technologies (e.g., AI)

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HEALTHCARE SOLUTIONS OVERVIEW

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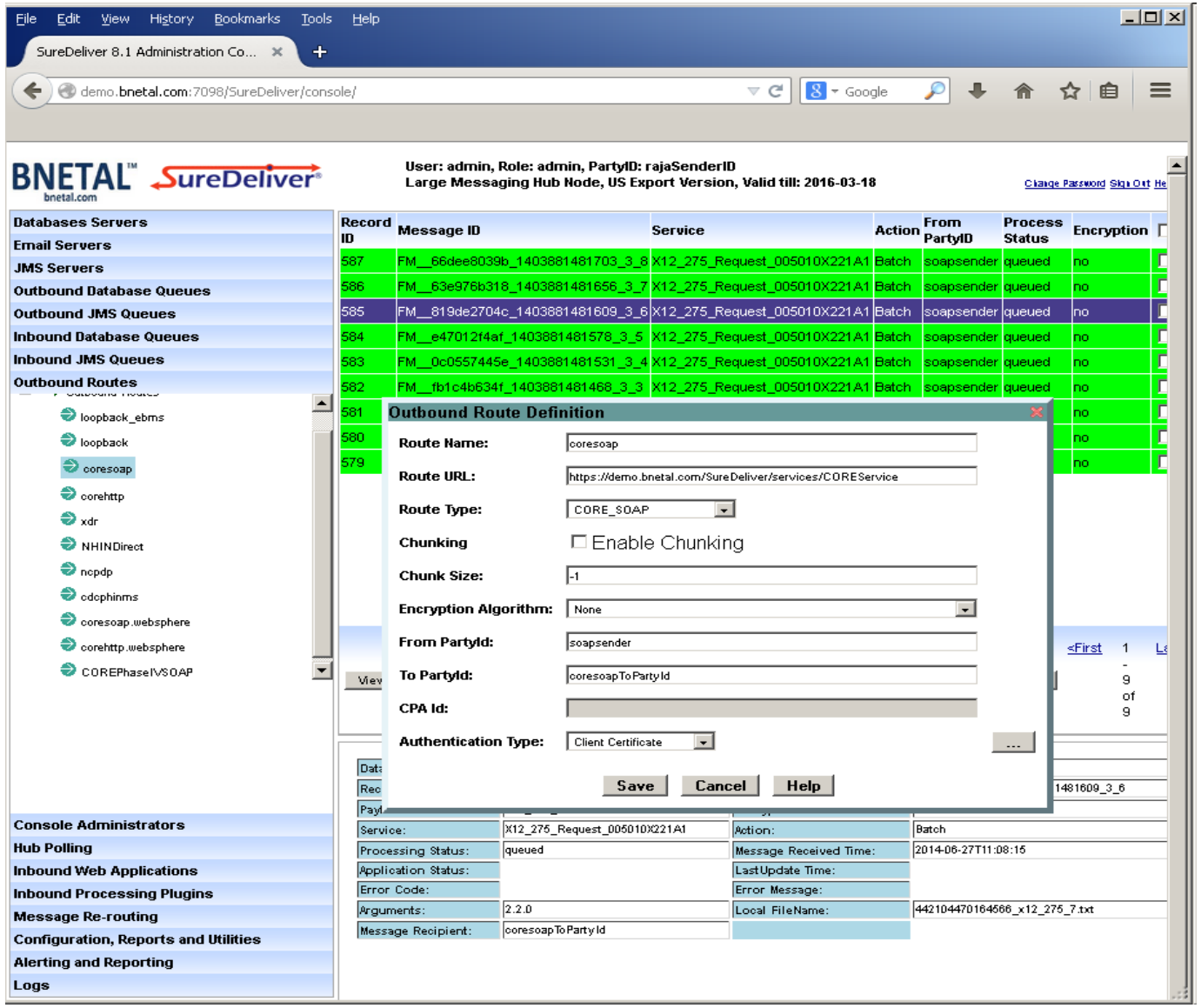
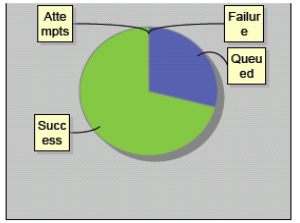
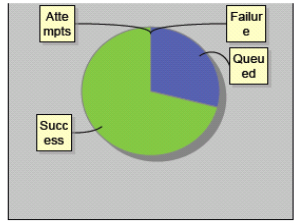
SECURE, AUTOMATED, REGULATORY COMPLIANT HEALTH DATA GATEWAY

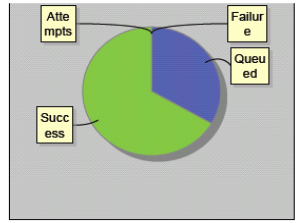




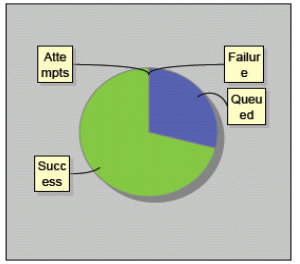
SOAPBatchRetrieve



SOAPBatchFull



HTTPBatchGeneric



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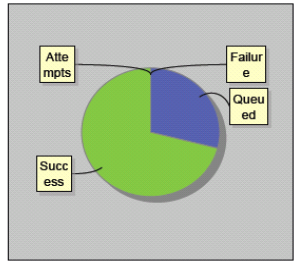
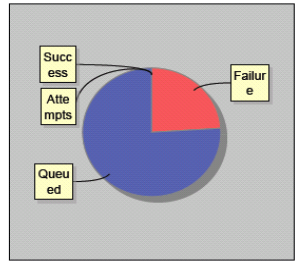
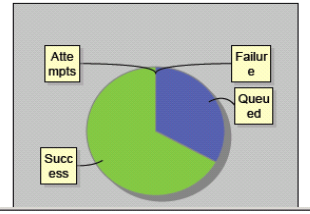


HTTPBatchFull



NHINDirectOut



JVHL JOINT VENTURE HOSPITAL LABORATORIES

CDC CENTERS FOR DISEASE CONTROL AND PREVENTION

CAQH

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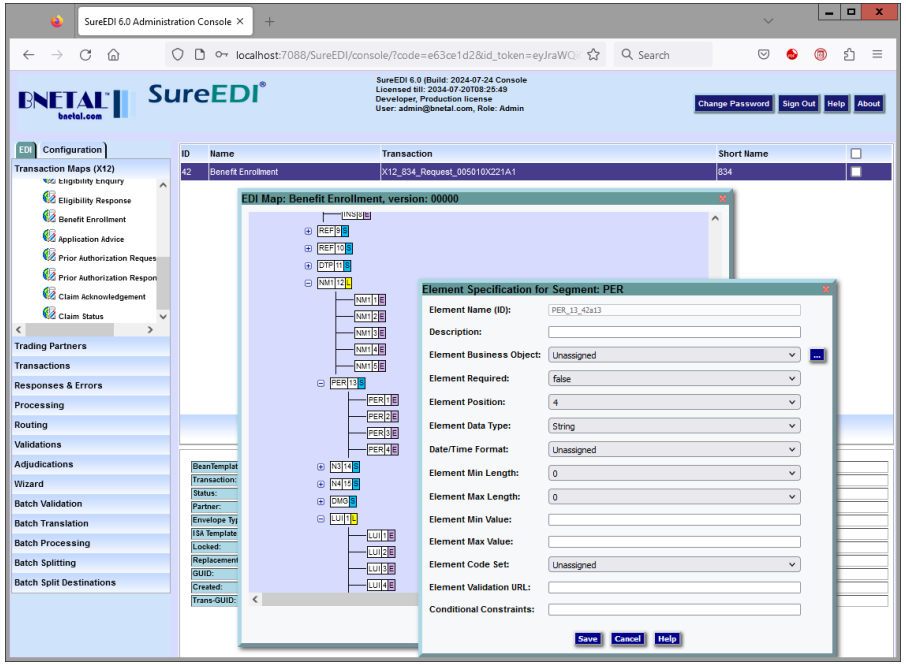
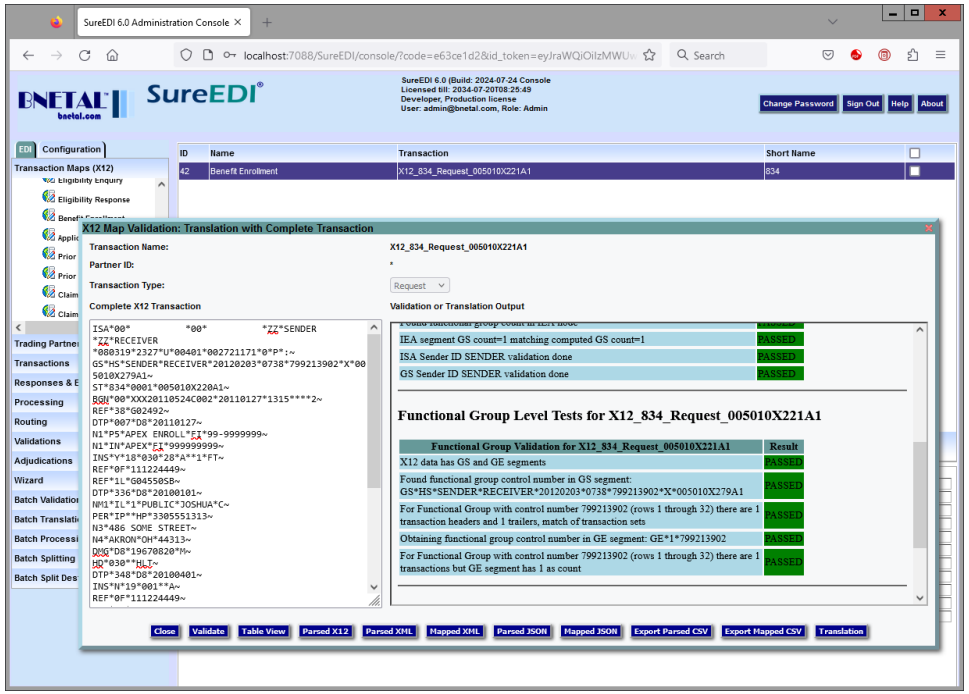
X12 MAPPING, VALIDATION, TRANSLATION, PROCESSING

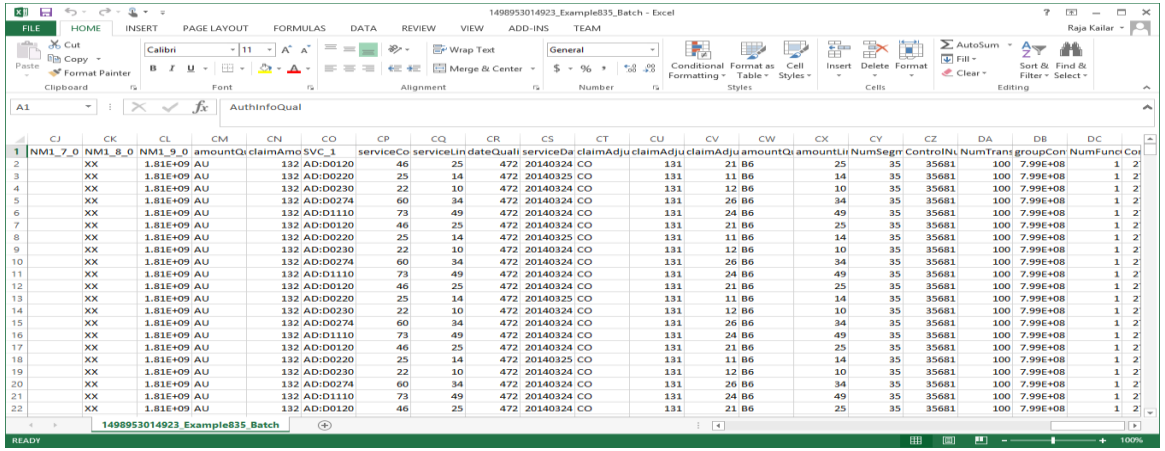
BROWSER FOR MAPPING (RULES)



POWERFUL VALIDATION REDUCES ERRORS (UI AND API)



TRANSLATION (CSV, XML) HELPS INGESTING TO OTHER TOOLS



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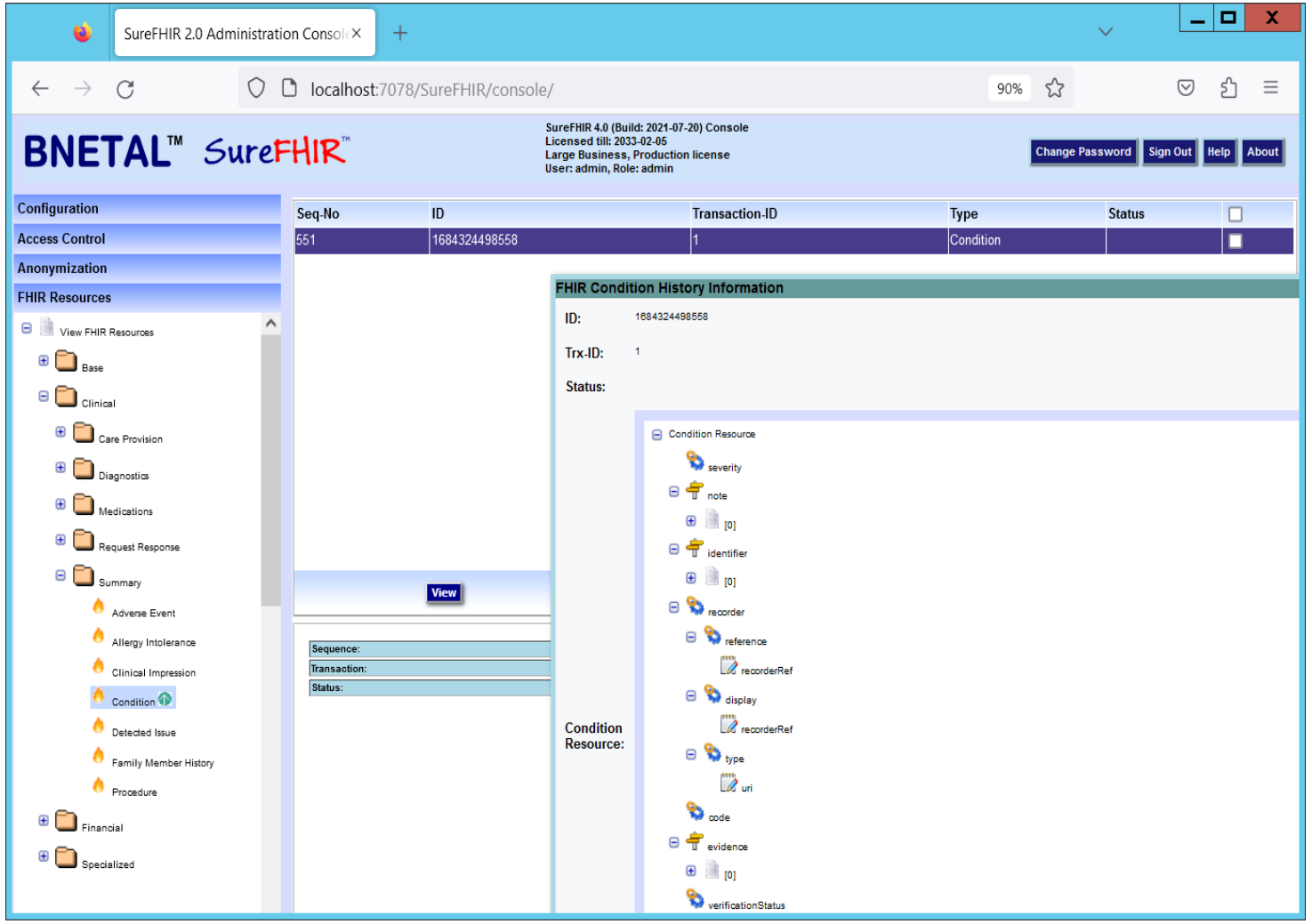
HL7 FHIR ENGINE WITH STRONG SECURITY AND PRIVACY



Compliant APIs:
- HL7 FHIR R4 compliant APIs for all HL7 FHIR R4 resources
- FHIR repository (JDBC compliant relational database)

Administrative User interface:
- Simple browser based administrative user interface for managing FHIR resources
- Easy onboarding of trading partners for API access

Security:
- SMART on FHIR compliant APIs
- OIDC / OAuth2 authentication to administrative interface
- Role based access control for trading partners including applications and users
- Fine grained access control to resources based on access methods
- TLSv1.2+ for all connections

Privacy:
- Fine grained privacy and consent management to the level of each FHIR resource instance
- Rich user interface for privacy consent management

Audit/Logs:
- Detailed logs of transactions and audit trail of user actions
- Ability to view logs from administrative console

Scalability:
- Supports AWS Redshift (cloud PaaS) as a scalable FHIR repository
- Supports load balanced architecture for high volume transactions

Diagnostics:
- Built-in diagnostic reports to help check on the health of the solution and quickly identify and address problems

Integrations:
- Epic, Cerner, Meditech

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EXAMPLE USE IN HIPAA ADMINISTRATIVE TRANSACTIONS

Healthcare Provider

Creates Request

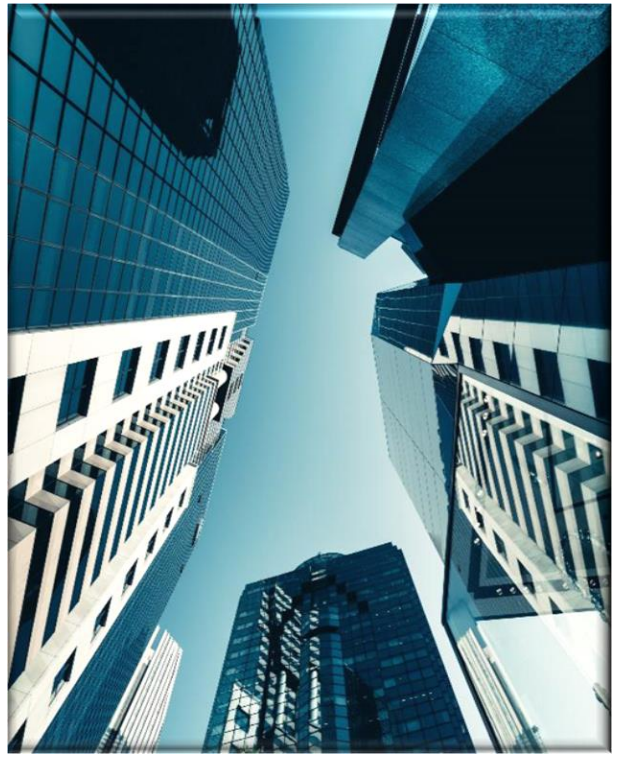
Prior Authorization Request

SureEDI®

SureDeliver®

Receives Request (Real-time or Batch)

Health Plan (Payer)



Prior Authorization Response

Approves or Denies Prior Auth Request

Receives Real-time/ Batch Response with Approval status

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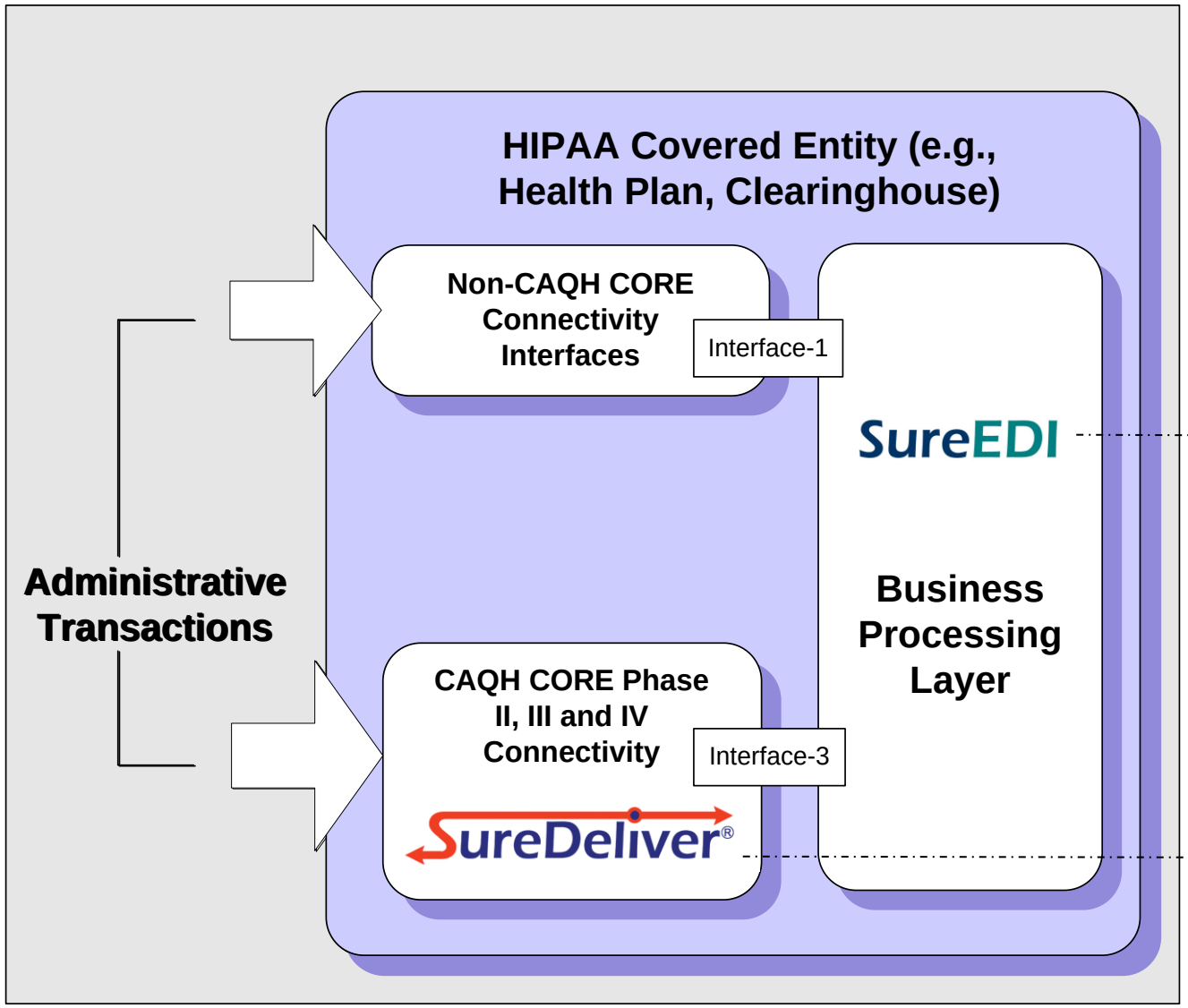
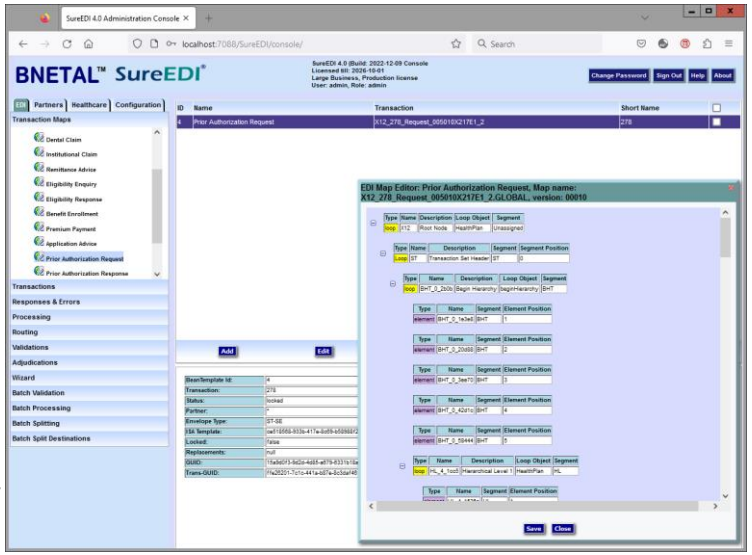
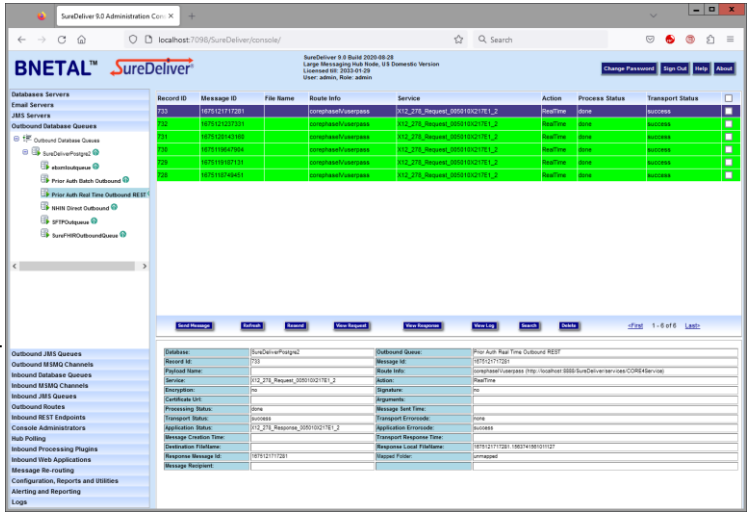
ACA COMPLIANT X12 EDI (CAQH CORE OPERATING RULES)







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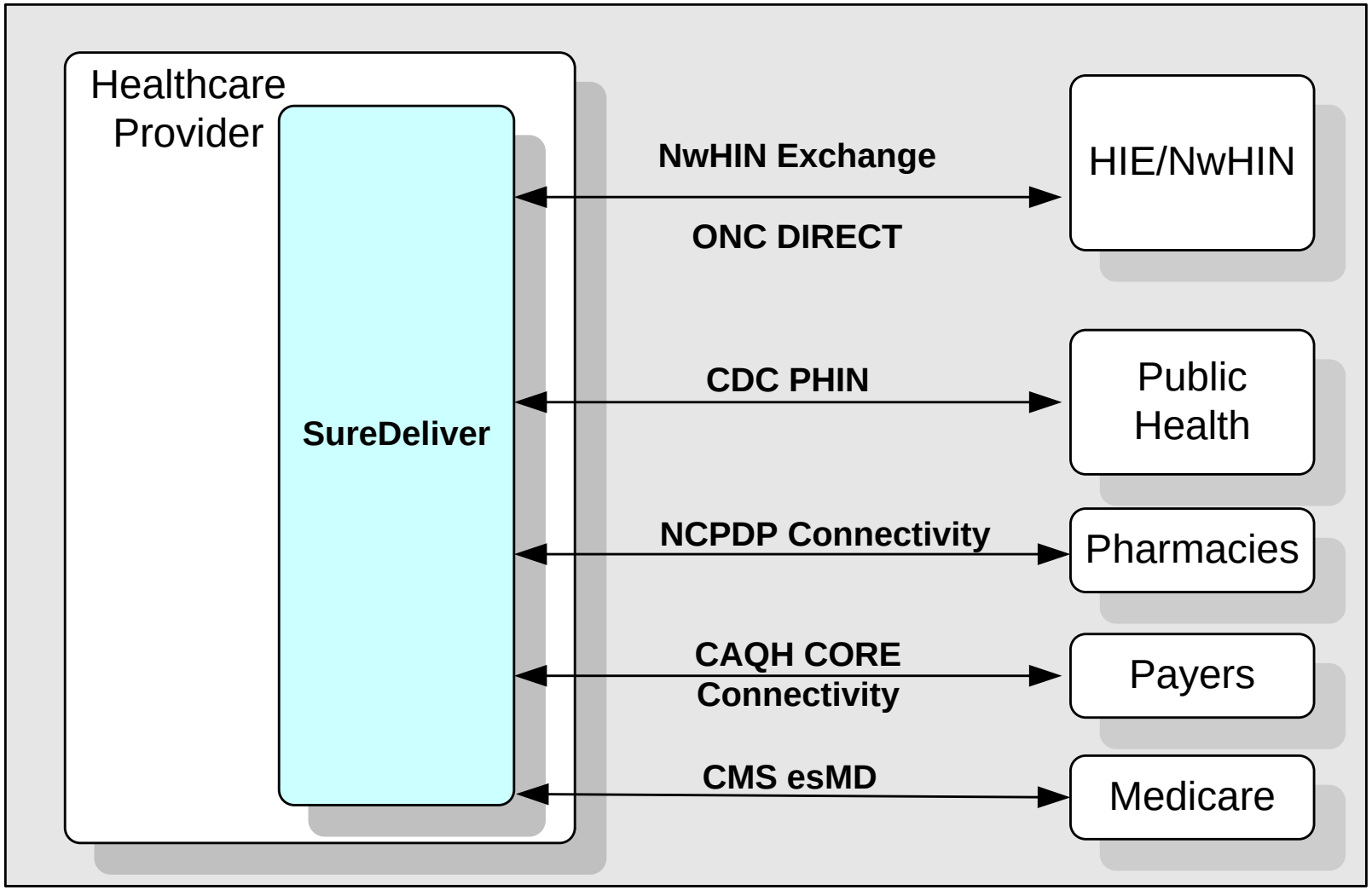
PROVIDER DATA EXCHANGE WITH TRADING PARTNERS



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HL7 FHIR: DA VINCI PROJECT: PRIOR AUTH USE CASE

Healthcare Provider

Creates Request

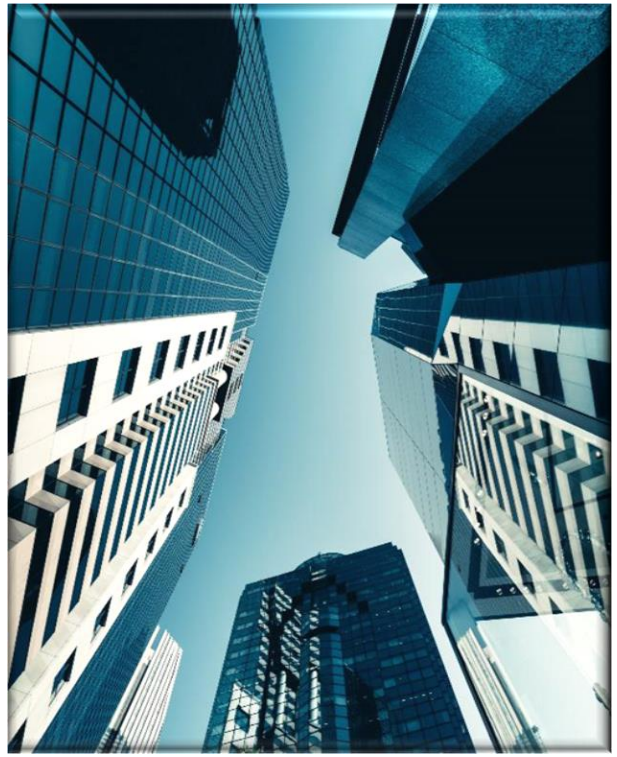
Prior Authorization Request

SureFHIR™

SureDeliver®

Receives Request (Real-time or Batch)

Health Plan (Payer)



Prior Authorization Response

Approves or Denies Prior Auth Request

Receives Real-time/ Batch Response with Approval status

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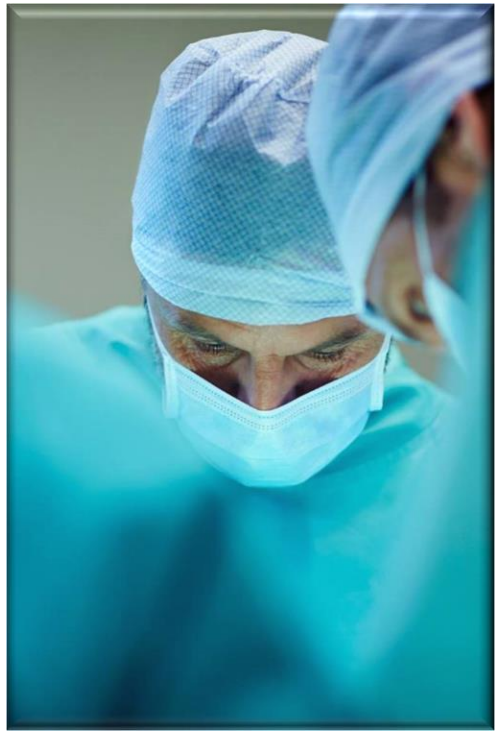
PUBLIC HEALTH USE CASE: REPORTABLE CONDITION

Provider / Lab



Creates Report

Reportable Clinical Condition

Views Status / Guidance

Receives Report

Federal / State Health Agency

(CDC / CMS / NIH)

Aggregates / Reviews / Adds guidance

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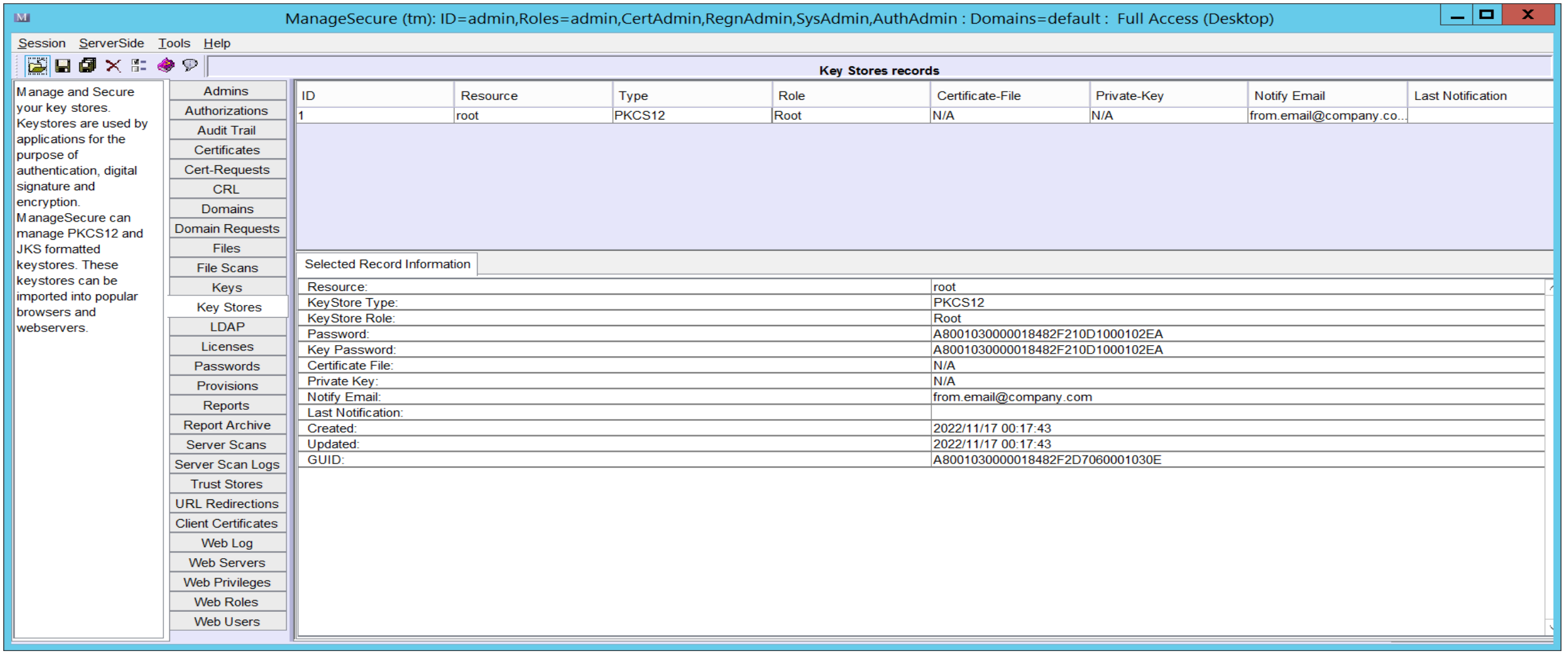
SECURITY RESOURCE MANAGEMENT SYSTEM



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HEALTHCARE SOLUTIONS SUMMARY

Solution	Description	Key Value Proposition	Standards	Regulatory Support
SureDeliver®	Secure and Managed Transport Gateway for Health IT and general data exchange	Turn-key solution for healthcare interoperability, compliance with regulations	CAQH CORE Connectivity, CMS esMD, CDC PHINMS, IHE, SFTP, AS2, REST, SOAP, SAML2, OIDC	HIPAA, ACA Section 1104, Meaningful Use
SureEDI®	EDI (X12) Mapping, Parsing, Validation, Translation, Processing	Ease of EDI mapping, validation, translation, processing, Support for industry needs like Prior Authorization	ASC X12, CAQH CORE Data Content Rules	HIPAA, ACA Section 1104
SureFHIR™	HL7 FHIR R4 Engine, Use case development platform	Accelerated development/rapid prototyping of HL7 FHIR use cases using simplified FHIR templates	HL7 FHIR R4 (4.0.1), SMART on FHIR	CMS Interoperability Rule
ManageSecure	Security Resource Management for data centers/cloud, built-in CA	Strengthens security posture, lifecycle management of security resources	X.509, PKCS, SAML2.0	Infrastructure level Support for any security and privacy regulation

Secure, Operational Ready, Turnkey solutions, Supported by Senior SMEs

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Solution Client Endorsements

"We have successfully implemented BNETAL SureDeliver for compliance with the CAQH CORE Phase II and III Connectivity and Security requirements for ERA. The installation and configuration of SureDeliver was very straightforward and intuitive. SureDeliver is a mature, reliable, well designed and well documented enterprise gateway with a rich feature set that makes trading partner connection management simple, robust and secure. BNETAL professionals are very knowledgeable, their support of SureDeliver has been excellent, and they are very easy to approach and work with. I highly recommend SureDeliver and BNETAL."

IT Director, Laboratory and Healthcare Revenue Cycle Management Company

"BNETAL SureEDI helps us in our data mining and analysis of EDI data to detect and predict patterns, which ultimately helps our customers improve outcomes and revenues. SureEDI has been very effective in translating EDI files into formats that can be consumed by our analytics engine enabling us to perform robust analysis and gain important insights into the data. The use of SureEDI for EDI mapping, parsing and translating greatly simplifies our data processing and analytics needs, and reduces the overall cost of analyzing the EDI data. SureEDI is easy to install, configure and use. We avoided a lengthy, complex and expensive development project and expensive licensing by using SureEDI. BNETAL engineers are knowledgeable, friendly and a pleasure to work with."

CEO, Healthcare Predictive Analytics Vendor

"I have worked extensively with BNETAL while working with the Virginia Department of Health and on CDC projects. BNETAL products provided a very secure access to our sensitive Public Health systems. In my opinion based on 19+ years in public health, BNETAL products are top-notch and provide security that is comparable if not superior to most competing products in the market. Their customer service and professionalism was excellent. I would highly recommend their solutions and services.

Senior Manager, Virginia Department of Health

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Consulting Client Endorsements

"BNETAL has provided reliable, professional and consistently excellent services throughout the development of the CAQH CORE Connectivity and Security Operating Rules. BNETAL consultants have strong credibility as a result of their in-depth knowledge and real-world experience in healthcare data exchange and security. They have been highly effective in simplifying complex technical matters and supporting CAQH CORE as it drafts rules with a very diverse group of industry stakeholders. BNETAL has also represented CAQH CORE at various healthcare industry forums with the goal of gathering as well as sharing market information. In addition to their valuable contributions throughout our five-plus year relationship, BNETAL consultants continue to be responsive and easy to work with. "

Director, Council for Affordable Quality Healthcare (CAQH)

"BNETAL was hired to help with a long struggling project. Their expertise in Health-IT, security and architecture was invaluable in moving the project forward. They provided the architecture that was missing to make the project a success. They understood the environment and the results we needed and with their experience and knowledge, guided us there. I highly recommend BNETAL."

Manager, Oregon Department of Health

"BNETAL provided us with some excellent consulting regarding health IT security standards, and a brief evaluation of an existing project. They are highly recognized as experts in health IT security, and secure messaging and information exchange - for the public health, payor and provider markets. I recommend using them as consultants and considering BNETAL's messaging/exchange products."

Director, Arizona Health-e Connection

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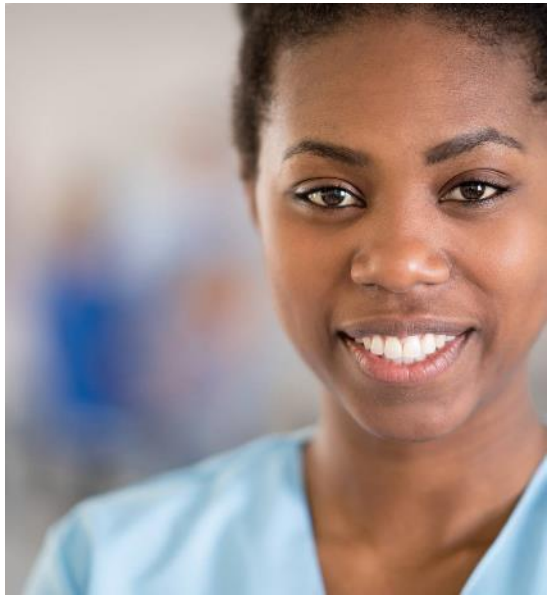
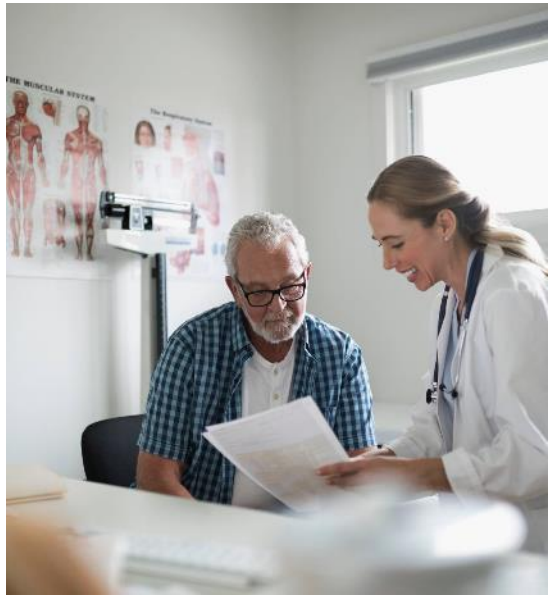
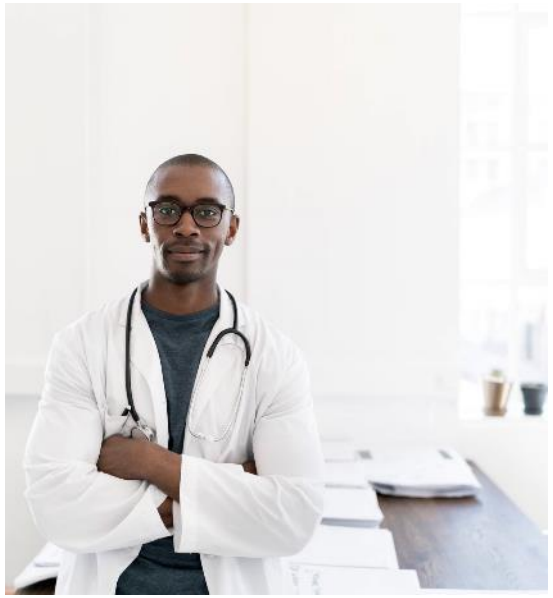
SUMMARY, GLOSSARY OF TERMS

With BNETAL solutions and expertise, you can address your client needs for secure, automated, interoperable and scalable health data exchange, FHIR, EDI, while meeting and exceeding healthcare regulatory requirements (CMS Interoperability and Prior Authorization Rule, and Affordable Care Act's CAQH CORE Operating Rules). With our strategic partner solutions, you can improve health equity outcomes and improve data analytics insights for value-based care.

GLOSSARY OF TERMS

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THANK YOU

Contact Us for your healthcare IT solution and consulting needs:

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