Current Environment --- The Industry

- Healthcare is a $1.7 trillion dollar industry, which is:
  highly fragmented, labor intensive, expensive, highly competitive…
- Healthcare Industry has undergone rapid growth and regulation, which has generated significant stress:
  - ✓ Increased processes and workflow requirements;
  - ✓ Created additional standards and industry specifications without compliant implementations;
  - ✓ Increased the demand for services, documentation, coordination and paper processing with potential liabilities.

"Every year at least 98,000 Americans die and millions more are injured as a result of medical errors"

The Institute of Medicine

"Standardized information exchange would save the nation $86.8 Billion each year"

Blackford Middleton

Chairman, Center for Information Technology Leadership0

Problem Statement
Inadequate Level of Computer Based Information Interoperability

- The amount of detailed healthcare information is overwhelming.
- The ability to generate the information has outstripped its usability.
- Commercial and proprietary solutions have generated multiple environments without the basic interoperability of information.
- Healthcare information systems encompass vastly different types of information tracking from pre-natal to post-mortem.
- Process oriented automated solutions are impractical in the current manually driven context.
- Industry standards and specifications are broad, complex and lack implementations.
- Industry has suffered from proliferation of new technologies which have yielded more complexities rather than collaborative solutions.
- Privacy and security are of critical concern.

Problem Statement

Patients demand care provider integrate across the entire value chain of medical, insurance, accounting and record keeping systems.

Critical Success Factors

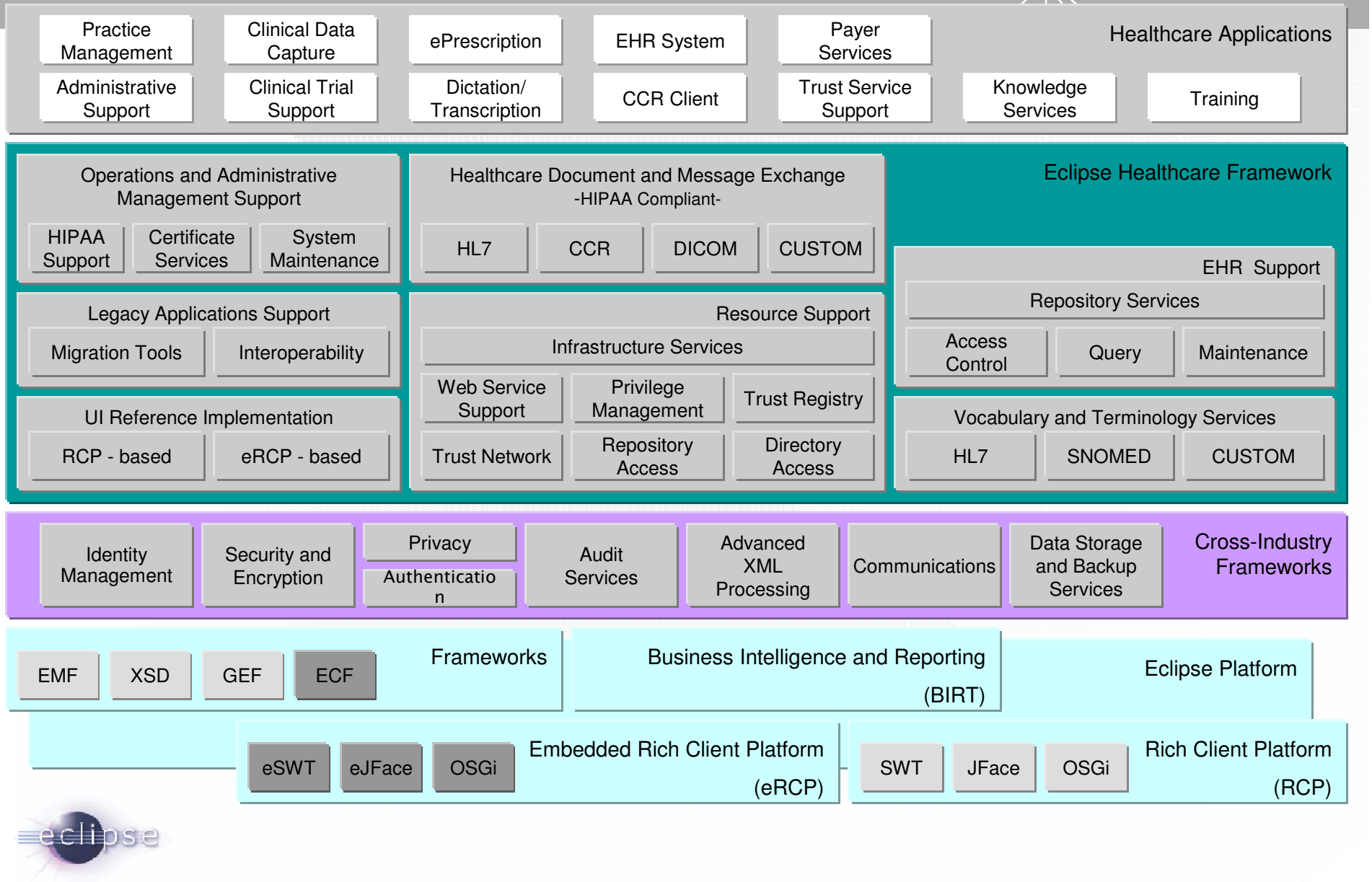
The following must be achieved to be successful:

- Create, manage, store, and retrieve an interoperable Electronic Health Record (EHR), which conforms to the industry standards.
- Preserve and protect the privacy, security, and identity of individuals and systems.
- Adapt legacy environments:
  - ✓ Data and Information
  - ✓ Work flow processes
  - ✓ Skills and training
- Create a new generation of human-to-machine and machine-to-machine interfaces and interoperability.

Proposed Solution
Launch an Eclipse-based Healthcare Vertical Project

- Create Open Healthcare Framework (OHF) to address the needs of the healthcare industry.
  - ✓ Build OHF on top of the Eclipse platform.
  - ✓ Integrate OHF with the healthcare standards, specifications and governmental regulations.
- Dedicate the scope to include:
  - ✓ An open source reference implementation for creating, maintaining, managing and securing an Electronic Health Record (EHR).
  - ✓ Technology that will provide the foundation for the integration, interoperability, development, and operations of EHR across the entire healthcare domain.
  - ✓ Series of exemplary applications to demonstrate the vitality & viability of OHF.
- Enable commercial adoption of OHF:
  - ✓ Enable the public and private healthcare organizations to build a robust set of common cross-industry open source components (plug-ins) for OHF.
  - ✓ Enable the 3rd party application providers to build interoperable applications for profit by reusing OHF.

Summary Detailed View of Eclipse Healthcare Architecture



HL7/ OMG eHR System Functional Model

Definition:

The HL7 / OMG eHR System Functional Model provides a comprehensive set of reference Functions and their associated Functional Descriptors that may be present in an Electronic Health Record System (eHR-S). The Functions are intended to become a common specification that can be used by vendors, providers, regulators, policymakers, and other parties when describing the capabilities of eHR-S and Sub-System applications.

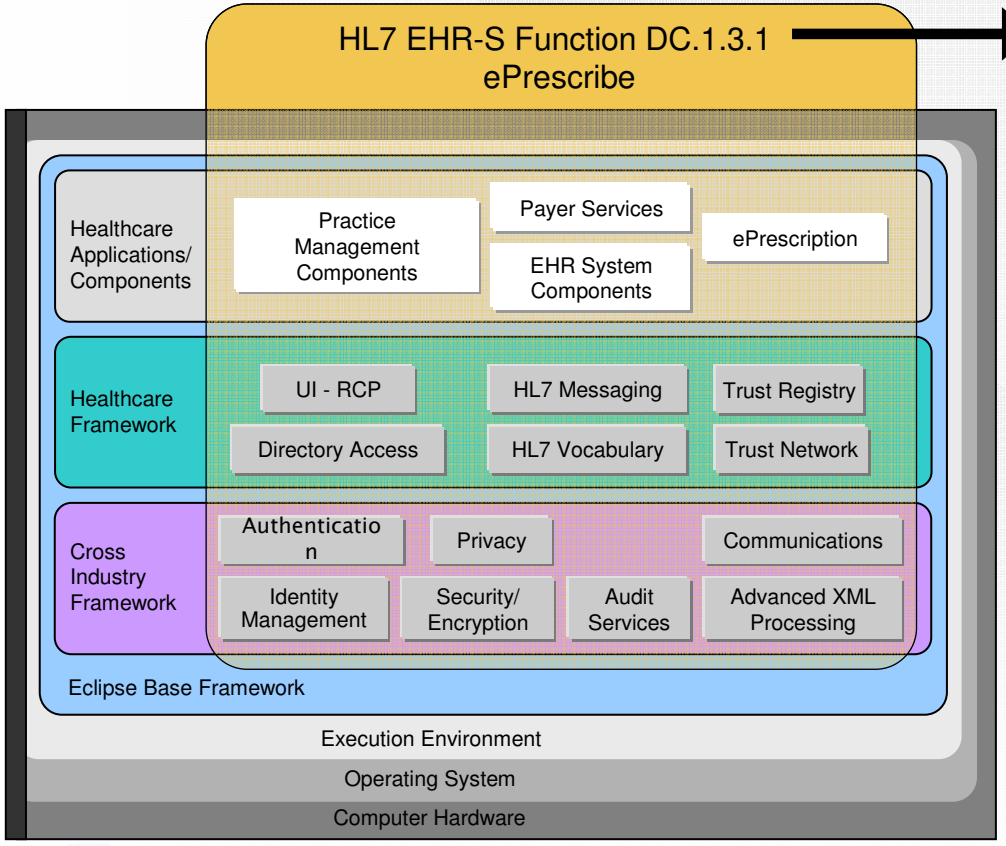
"The HL7 / OMG eHR-S Functional Model and Standard judiciously stays away from implementation issues. The vendor-generated innovation and applicable know-how is what will give life to the functions within the model."

HL7 EHR System Functional Model: A Major Development Towards Consensus on Electronic Health Record System Functionality- A White Paper

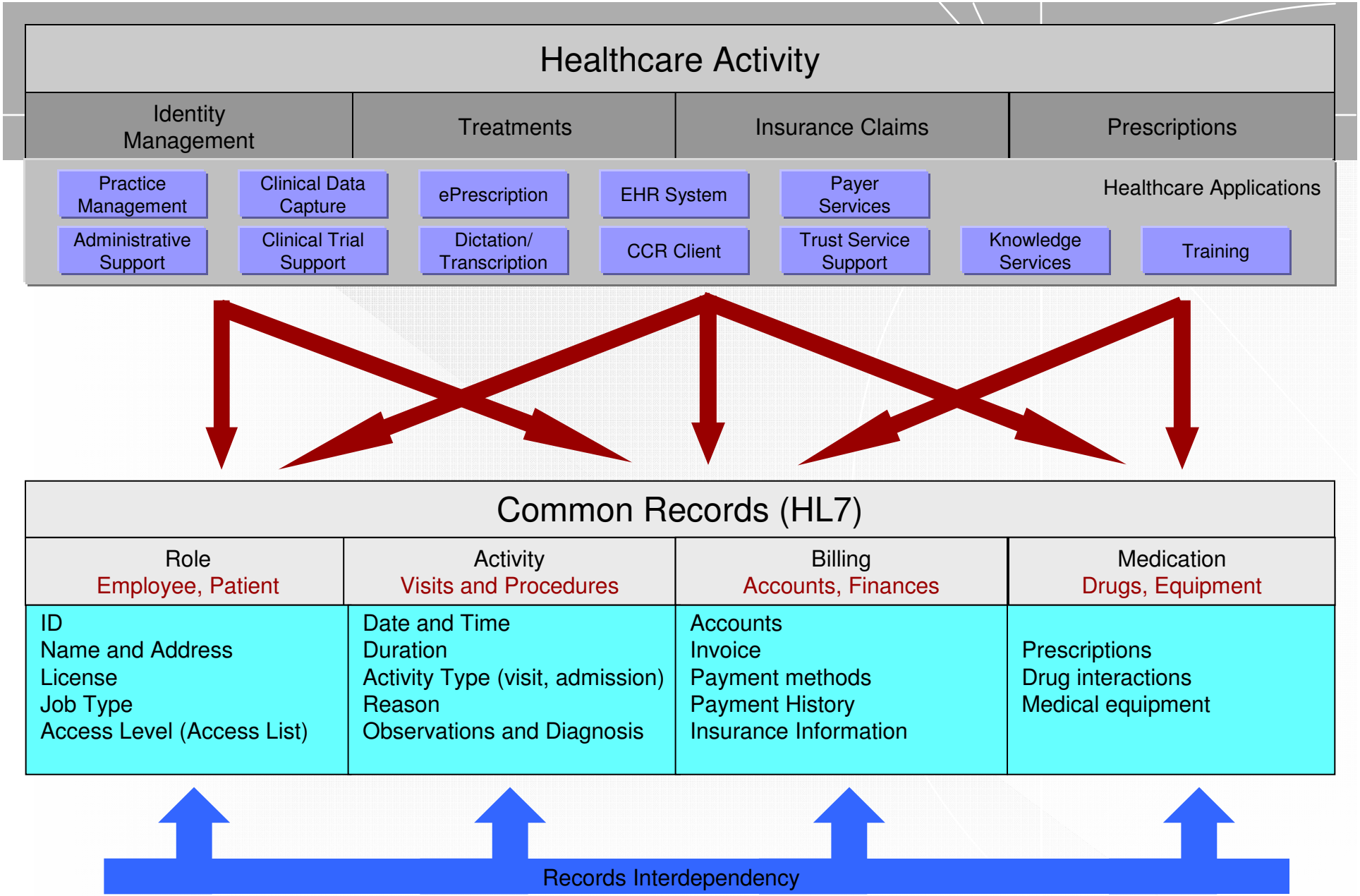
Example – Vendor ePrescription Sub-Profile

Vendors use the Healthcare Framework to build specialized profiles and applications like ePrescribing.

Installable Eclipse “plug-ins” package applications and the profiles they depend on into installable units.



ID	Name	Statement
DC.1.3	Medication ordering and management	
DC.1.3.1	Order medication	Create prescriptions or other medication orders with detail adequate for correct filling and administration. Provide information regarding compliance of medication orders with formularies.
DC.3.2.2	Pharmacy communication	Provide features to enable secure bidirectional communication of information electronically between practitioners and pharmacies or between practitioner and intended recipient of pharmacy orders.
I.1.6	Secure Data Routing	Route electronically exchanged EHR data only to/from known, registered, and authenticated destinations/sources (according to applicable healthcare-specific rules and relevant standards).



The various healthcare activities will be able to share common records without a need to duplicate information and the ability to coordinate activities.

Proposed Project

Enable Diverse Embedded Devices to Interoperate

Introducing ITG

- Global system integration firm, based in Los Angeles, CA.
- Leader in creating OHF via the Eclipse project.
- Draws from a pool of 1500+ R&D IT personnel in Ukraine.
- Specializes in the following Competency Centers:

✓Eclipse / Open Source
✓Healthcare
✓Automotive
✓Telecom
✓Security
✓Banking
✓Security
✓Embedded

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