

# ORACLE HEALTHCARE TRANSACTION BASE

## KEY FEATURES

Oracle Healthcare Transaction Base is an information platform that assures healthcare system interoperability and integration.

Key features include:

- Comprehensive Healthcare Information Model
- Business Process Support
- Messaging Services
- Person Services
- Terminology Services
- Organization Management
- Patient List
- Application Database Entry Vehicle
- Workflow
- Security and Auditing

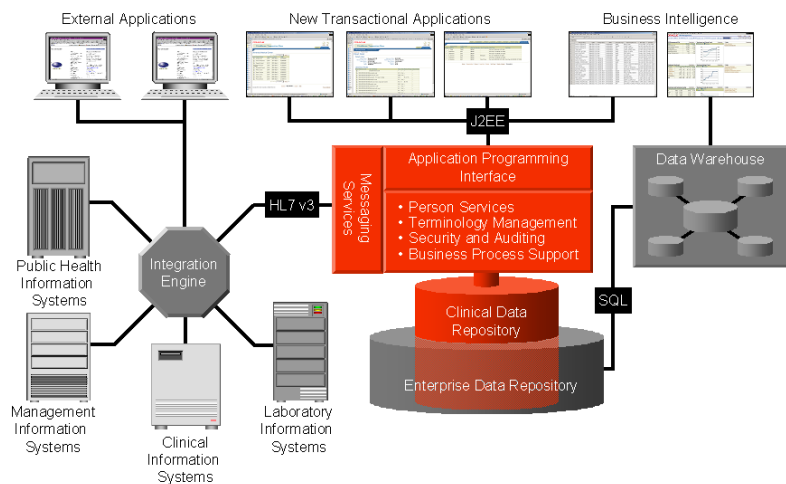
*“The growing complexity of healthcare systems worldwide drives the need for a central information repository that spans the entire healthcare organization. The HTB answers this call with a standards-based model that enables the creation of a comprehensive electronic health record and allows healthcare organizations to support clinical, administrative, and financial processes directly from the platform for improved efficiency and care.”*

*- Stephen Harries, Director of Development, Cardiff and Vale NHS Trust*

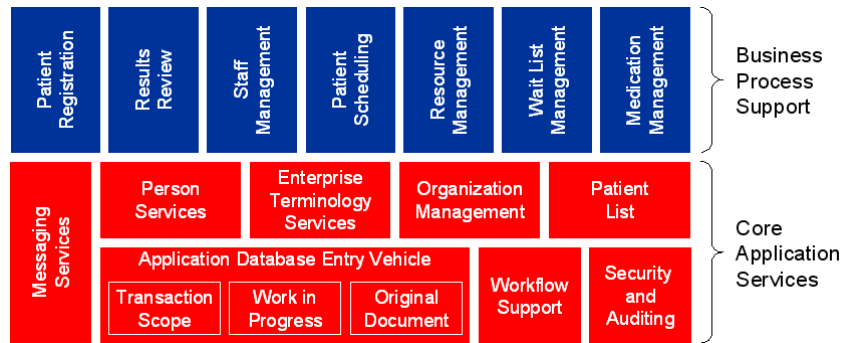
*Globally, the healthcare industry is increasingly focused on the management of information to improve the health of individuals and communities. Today, healthcare entities are challenged by mandates to increase quality and efficiency of care delivery while simultaneously reducing costs. Oracle® Healthcare Transaction Base (HTB) enables healthcare organizations to meet these challenges by providing a foundation for interoperability and integration of existing and new systems to cost-effectively improve quality of care.*

## Oracle® Healthcare Transaction Base

Oracle HTB is a platform for the integration, development, and operation of healthcare applications across the healthcare continuum. It consists of a comprehensive, healthcare-specific data repository and standards-based information model coupled with a set of integrated services for data normalization, customer-defined security and auditing, and business process/workflow. The platform is designed specifically for the healthcare industry and supports meaningful data consolidation, rapid application development, and genuine interoperability among different systems. With Oracle HTB, organizations in the business of healthcare – from commercial hospitals and insurers to government bodies and public health agencies – can more effectively integrate, manage, deliver and display information through the entire process of providing services.



An Application Programming Interface (API) provides access to the HTB services. This API assumes a representation of healthcare data that is based on the HL7 Version 3 Reference Information Model (RIM). The use of the RIM provides a standards-based representation for the key business objects used in healthcare. This logical view of healthcare information exposes an underlying table structure that is embedded in the Enterprise Data Model used by the Oracle E-Business Suite. The result is operational consistency across the full range of processes used to run an enterprise. Development organizations can use this foundation to build next generation healthcare applications.



**Business Process Support**

**Patient Registration**

The Patient Registration services provide the foundational data set necessary to support administrative, clinical and financial management activities. The Patient Registration process includes the capture of patient demographic, insurance and other information.

**Results Review**

The Results Review services support retrieval of orders and observations. This allows access to current and historical order and observation details and provides flexible user-extendable features for the persistence of patient clinical information such as results from the clinical laboratory or other diagnostic procedures.

**Staff Management**

The Staff Management services provide the functionality required for creation and maintenance of staff members and positions. In addition, HTB provides support for enterprise credentialing and privileging functions.

**Patient Scheduling**

The Patient Scheduling services provide general support for the creation and management of appointments including time, care site and staff requirements. This includes the representation of complex series appointments, creation of appointment-related questions and answers, and linking of appointments to clinical acts.

**Resource Management**

The Resource Management services pertain to schedulable resources such as care sites (e.g., rooms and beds), equipment, and staff members. The Resource Management services provide a central repository for registering, grouping, and searching different types of resources for scheduling purposes.

**Wait List Management**

The Wait List Management services support the creation and management of wait lists for resources, such as staff members; care sites, equipment, and resource groups. This includes the representation of wait list type, appointment series, and organization unit. This capability is integrated with resource management and links wait list entries to clinical acts.

## Medication Management

The Medication Management services support the development of medication order and administration applications on HTB. The functionality includes support for dispensing, integrating medication knowledge, and creating and managing medication user catalogue templates.

## Core Application Services

### Messaging Services

Oracle HTB Messaging Services are based on the HL7 Version 3 messaging standard and play a central role in the integration of disparate systems. The inbound message processor enables the consistent storage of data and transaction history from legacy systems in the Oracle HTB data repository through the business process API. The outbound message processor supports communication from HTB to external systems. The Messaging Services assure data consistency regardless of the source as well as management of external cross-referencing identifications, mapping and domain validation via Oracle HTB Terminology Services, and version tracking. Customization of message processing is supported by integration with Oracle® Workflow services.

### Person Services

Person Services in Oracle HTB are based on the person matching and merging functionality provided in the Oracle Trading Community Architecture (TCA), a major component of the Oracle E-Business Suite. These services provide data structures for persisting demographic information as well as an API for creating, updating, activating and deactivating a person record. Duplicate patient, staff and encounter information will be detected and merged through the TCA user interface improving the quality of person information and reducing the risk of errors.

### Terminology Services

The lack of universal terminology systems is one of the major challenges facing healthcare. Oracle HTB provides the storage and management of terminology concepts, descriptions and relationships in a centralized data repository and embeds them into data flows within and between systems. For example, a medical problem can be entered as a SNOMED-CT code but rendered in an application by the corresponding ICD-9 or 10 codes. This “concept mapping” depends on the availability of mappings from external sources, but some mappings can be supplied by one of our partners. Terminology loading and mediation services simplify the use of these mappings in applications built on Oracle HTB. The formal terminology systems currently supported by the Oracle HTB are: SNOMED CT, ICD-9-CM, ICD-10, UB92, DRG, MDC, LOINC, CPT-4, HCPCS Level II, ICD-10, HL7 Vocabulary Domains, FDB, and NDDF-Plus. Organization- or locale- specific custom terminologies can be easily added.

### Organization Management

The Organization Management services support the representation of both internal and external organizational structures. These core HTB services align with the representation of organizational structures used in the Oracle E-Business Suite.

*“The HTB marks Oracle as an global leader in the provision of a proven platform technology for dedicated healthcare solutions.”*  
**- Fritjof Lind, Director, Nordic Healthcare, MD CSC Scandihealth**

**Patient List**

The Patient List services manage the definition and use of collections of patients. Applications use these data views to support application flow and streamline support for clinical processes.

**Application Database Entry Vehicle**

The Application Database Entry Vehicle services help application developers manage and record the scope and context of interactions with the database. Therefore, individual data elements can be managed within the broader context of the structures they comprise, such as clinical documents.

**Workflow**

Healthcare applications developed on Oracle HTB have access to Oracle® Workflow, a complete workflow management system that supports clinical and administrative business process based integration. This technology enables modeling, automation, and continuous improvement of business processes, and routes information of any type according to user-defined business rules.

**Security and Auditing**

Oracle HTB takes full advantage of the Oracle E-Business platform security features and ensures that security context is maintained within the system. In particular, Oracle HTB takes advantage of role-based access, single sign-on, authentication and authorization features, and encryption of stored data. In addition, the Consent and Patient Authorization service supports the modeling of patient consent, authorization, and opt-out requests for the use and disclosure of personal health information. These various security technologies enable privacy, authentication, integrity and non-repudiation of data for healthcare security and privacy requirements.

**Benefits for Healthcare Organizations****Improve Patient Care**

Oracle HTB enables more efficient patient care by supporting the automation of error-prone “handoffs” between systems and among healthcare professionals, and by providing complete information supporting the outcomes reporting required for quality improvement.

**Deliver Enterprise Interoperability and Integration**

The Oracle HTB provides a way for organizations to maintain their valuable existing systems, but to also begin the process of integrating and re-using information from those systems. The Oracle HTB is more than a place to store information. It is an environment for interoperability among participating applications, both existing and future.

**Optimize Value of Existing IT Investments**

The Oracle HTB Messaging and Terminology services help to align data pulled from disparate systems. The organization can leverage this structured information to drive new applications, improve interoperability of existing systems, and get valuable information into the hands of decision makers.

**Connect Enterprise with Secure Access to Complete Information**

Oracle HTB enables organizations to give their employees, clinicians, partners, and patients secure access to appropriate information along with relevant self-service features to manage the information.

**Comply with Regulatory Requirements**

Oracle HTB can support the processes organizations use to audit and monitor clinical, administrative and financial information from disparate systems easing the burden of both regulatory compliance and reporting.

**Benefits for Partners****Gain Competitive Advantage with Interoperable and Integrated Applications**

Oracle HTB enables software development partners to effectively maintain working systems by integrating disparate information and developing or migrate new applications onto a modern technical environment to provide better quality applications. In addition, Oracle HTB provides solutions for scalability, security, and access to standards based healthcare information, providing significant competitive advantages to partners who adopt a step-wise approach to continually modernizing and upgrading their application offerings.

**Accelerate Applications Development and Reduce Costs**

Oracle HTB API provides program access to the functions commonly used to create administrative and clinical applications. Developers can use the Oracle HTB API and development tools to define data management processes and support business activities.

**Access to Next Generation Technologies**

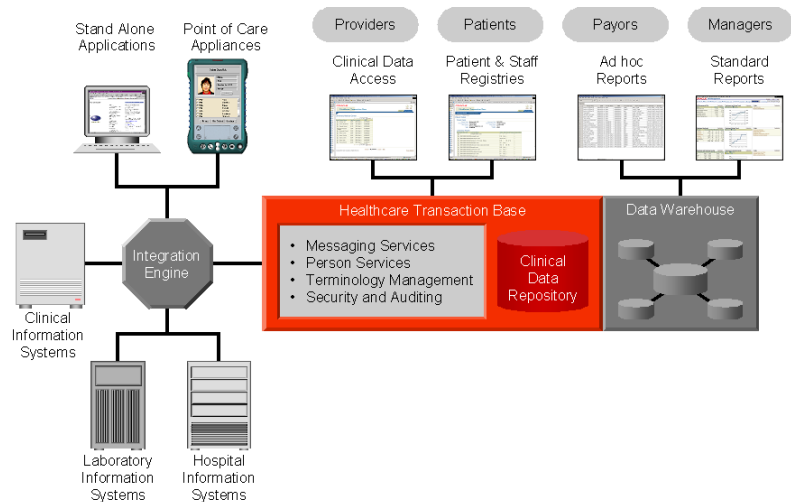
Oracle's industry-leading technology supports and enhances all layers of the Oracle HTB in a coordinated approach, so you automatically keep pace with the industry's technological advances.

**Connecting the Healthcare Community: Oracle HTB Deployment Example****The Problem**

A healthcare provider organization has three acute care hospitals, four outpatient clinics and two rehabilitation centers. The organization grew partly by acquisition, and each facility has a unique set of IT systems. Within each hospital, employees rely on a variety of departmental systems from different vendors with virtually no integration between them. As a result, it is impossible to view a patient's record across facilities, departments, or within a single facility. This causes clinicians to waste valuable time tracking down records and often forcing them to make important care decisions using incomplete patient information. The organization initially wishes to provide all clinicians in its various facilities with access to a common, comprehensive set of laboratory and other diagnostic test results to streamline and improve care processes.

## Oracle HTB Solution

Using Oracle HTB, the healthcare organization is able to integrate its four existing Access Management systems across its nine facilities with HL7 messages and uses HTB to generate a common registry of patient and staff information. With this enterprise registry in place, the organization can track the relationships between all participants, manage patient consent documents, and provide an infrastructure for ancillary departmental systems to populate HTB with clinical results. Now the customer can provide healthcare professionals authorized access to each result through a web portal based on his or her role. In addition, the healthcare organization allows users to add information to the record and provides patients with access to results as appropriate.



Now with the Oracle HTB, busy physicians save valuable time in accessing all patient test results through a single portal. Patients receive better care because their records contain comprehensive and accurate information and are available to their care givers at all times. The organization can truly focus on providing quality care and reducing its costs.

## The Future

The healthcare organization plans to use Oracle HTB as a foundation for a next-generation electronic patient record system and business intelligence solution. First, they will use the data in Oracle HTB to populate a reporting application to provide a snapshot of business operations across its entire enterprise to top executives and other decision makers. Ad hoc querying capabilities will supplement these reports and allow executives to understand the reasons behind the organization's current business state and to seek ways to improve its operational efficiency. In the longer term, the healthcare organization plans to work with an Oracle HTB software partner to (a) acquire a clinical documentation and physician order entry system, (b) add a protocol-based, decision support system for its clinicians, and (c) use future HTB business intelligence functionality to cover outcomes analysis by its research staff. All of these solutions would use the Oracle HTB as their technology foundation.

For more information, contact Oracle at 1-800-ORACLE1 or visit [www.oracle.com/industries/healthcare](http://www.oracle.com/industries/healthcare).

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