

HEALTHCARE INTEGRATION KIT

Effective, efficient and flexible integration for healthcare enterprises

END-TO-END SOLUTIONS



INTEGRATION

Enables consistency and efficient interoperability



ADAPTABILITY

Framework integrates industry-relevant, off-the-shelf, and custom applications and system assets



FLEXIBILITY

Add, remove, mix, and match components as desired without affecting overall integration



COMPLIANCE

Enhanced data transaction capability improves regulatory compliance

Integration Made Smoother and Easier

Within healthcare enterprises, accurate and efficient system communication is essential to support patient care. When an environment's diverse resources cannot communicate with each other, operational efficiency begins to suffer. This is unacceptable, especially when such an outcome can impact the critical care of an individual.

Prolifics leverages leading integration technologies coupled with our expertise to provide integration solutions enabling better outcomes for patients and effective collaboration for all care providers and organizations involved. Interoperability provides the power to share data that allows a clinician to understand potential drug interactions, a nurse to be able to view vitals without being at the patient's bedside, or an insurance company to rapidly and seamlessly enroll a new member. All of these and many more capabilities are provided at the right time and in the right format, improving clinical decision support throughout your organization.

Furthermore, digital transformation is becoming a new healthcare industry paradigm. This propels the need for superior integration to new heights. Digital transformation aligns your technologies with your processes and people to unlock your enterprise's true potential. It enables you to deliver quality experiences and a better standard of care in a customer-centric model. New possibilities are unlocked in the realms of data and cognitive analytics. It also connects patients with the right medical professionals, and increases accessibility, accountability, transparency, and consistency. Having the right integration strategy and architecture in place is the first step on your journey to a successful digital transformation.

Our Healthcare Integration Kit provides enterprises the ability to respond and adapt to the ever-changing nature of this rapidly evolving industry. This includes changes that affect regulation and policy compliance and new technological advancements, such as Fast Healthcare Interoperability Resources (FHIR), Health Insurance Portability and Accountability Act (HIPAA), and the Patient Protection and Affordable Care Act (ACA).

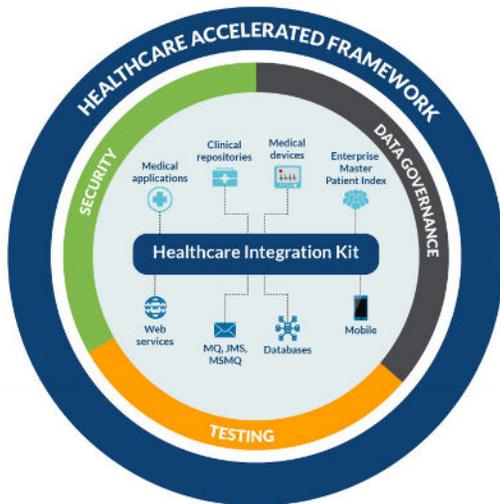
Streamlining Component Integration

A typical enterprise system consists of numerous endpoints that must communicate effectively with one or more endpoints for the system to function as intended. The larger the enterprise and/or the more complex its functions, the more complex and vulnerable to integration issues the system becomes. These endpoints include applications of all types (e.g., off-the-shelf, cloud, web), custom software, and devices that are essential to improving customer care and accessibility in today's competitive healthcare environment.

Every endpoint represents inputs and/or outputs comprised of message formats and protocols, not all of which easily communicate with each other.

For example, data received from the Healthcare Exchanges, medical devices or Electronic Health Records. Functional interoperability between applications requires proper integration to simplify system maintenance, reduce the risk of data transaction errors, and add fungibility and flexibility.

This solution improves how endpoints such as medical devices, pharmacies, laboratories (and their respective applications and processes) and the business information they represent are made available and utilized.



The Prolifics Healthcare Integration Kit achieves this goal in the best interest of visibility into your enterprise's data transactions and the value this brings to your operations, such as more accurate and faster accessibility to patient data and enhanced interoperability between hospital departments.

We utilize an enterprise service bus (ESB) approach to integration. By doing so, data transaction governance from one endpoint to another is handled within a single flexible construct. This approach is truly fungible—adding new components or removing or replacing them will not affect other endpoints. There is no chain or web of integration that falls apart if any individual endpoint statuses are altered.

The Healthcare Integration Kit also provides a common object model, meaning all endpoints map once rather than mapping several times for each integration point. This reduces overall errors and improves time to value for introducing new systems and changes made to existing ones, as well as total cost of ownership (TCO). In addition to the obvious savings in time and TCO this mapping approach provides, it also enables ease of adaptability while retaining the consistent interoperability that is crucial to the healthcare industry.

Consider the delays a healthcare provider may suffer while adopting new and innovative applications and hardware endpoints that cannot radically improve patient care. If their existing system could not properly integrate these new components as-is, patients may wait years to be able to reap the benefits of new technology.

Prolifics' Five-Tiered Integration Approach

The Prolifics Healthcare Integration Kit solution supports five tiers to achieve the utmost flexibility and adaptability.

Tier 1: External Endpoints

The topmost (or outmost) layer is comprised of endpoints existing outside the enterprise (e.g., insurance providers, remote patient monitoring equipment, community medical facilities and healthcare providers). This includes endpoints in the community or other enterprises remotely interacting with your system.

Tier 2: Integration Gateway

The integration gateway defines which external endpoints can interact with the integrated system. This provides security against unauthorized users and also applies any Healthcare industry regulatory requirements for access.

Tier 3: Integrated Applications

The enterprise's internal endpoints and operational applications (e.g., clinical repositories, medical devices, facility pharmacy, facility laboratory) constitutes the final tier before interaction with the integration ESB. At this level, integration allows the applications to communicate instead of acting in isolation or only via direct bridges, speeding up task turnaround time. This also increases your employee efficiency, reducing related costs.

Tier 4: Integration ESB

By using an ESB as the foundation for our Healthcare Integration Kit solution, Prolifics enables the best possible degree of interoperability between all relevant system components. No one application stands as a data transaction nexus for bridging and thus does not become a vulnerability for integration. Instead, your desired business information is disseminated by the ESB, also allowing greater visibility and analytics gathering to occur. The ESB delivers fine-grained transaction monitoring and control, providing not only visibility into the messages flowing through the bus, but also the transactions themselves. Failures can be routed according to pre-defined processes, and corrective measures taken. This provides better management and assurance of data and transaction quality.

Tier 5: System Governance & Resources

The final tier consists of the system resources that provide application and data governance, storage, and the like. This includes databases, mainframes, customized tech, remote devices, filing systems, Web 2.0 resources, enterprise-side applications, management processes, and analytics.

Integration Kit via Five Prolifics Assets

We present the utmost adaptability without sacrificing results through our Healthcare Integration Kit by deploying it via five component assets. Although we present this offering as a unified kit, each of the five assets can be implemented individually or in any combination, working with your existing integration implementation and components, if desired. This allows ESB adoption to be a smooth migration over time, rather than requiring a wholesale replacement.

Delivery Kit

Comprised of reusable document templates, the delivery kit enables customization for your specific needs without sacrificing the benefits of established and proven standards. Besides assisting with the sort of regulation and policy compliance concerns common to healthcare, our template approach to delivery also saves time and significantly reduces errors otherwise common to this stage of deployment.

The templates include:

- ▶ Architecture and common design patterns
- ▶ Architecture decisions documentation
- ▶ System context diagrams
- ▶ Infrastructure setup and configuration

Foundational Frameworks

Healthcare enterprises grow around their specialties, their community's demands, external partners, etc. As such, no two healthcare industry system environments are identical—they may even include components from competing providers that must be integrated properly to achieve interoperability.

The foundation of your particular integration solution implementation will require some customization to your specific needs. To this end, Prolifics provides mentoring and usage guidelines, enablement sessions per product, appropriate scripting and code artifacts, and all necessary documentation.

Continuous Delivery

Our Prolifics Build Conductor builds and deploys automation within the integration framework while our Effecta solution eliminates scripts and automates SOA testing. In a healthcare environment, this means fewer staff are devoted to system oversight, freeing them for more crucial tasks.

One-Click Ready-2-Run

This Prolifics offering uses automated pattern-based provisioning on the integration solution's infrastructure. This results in a consistent set-up by excluding manual error, resulting in environmental stability.

Global Transaction Monitoring (GTM)

GTM is built with the latest in emerging technologies. It addresses the need for a custom document-centric end-to-end transaction tracking framework and managed file transfer automation. GTM covers the last "100 feet" of integration into legacy applications, minimizing changes while still achieving end-to-end integration.

GTM captures, records, and exposes IBM Transformation Extender Advanced and IBM Standard Processing Engine events, which are made visible via customized dashboards and tracked in accordance with user-defined KPIs. In addition, it offers reporting and filtering to help with self-service requests to track transactions and documents.

On-Target Returns

Healthcare enterprises can also look to the following benefits that may be enjoyed from deploying Prolifics' Healthcare Integration Kit:

- ▶ Take advantage of rapid growth by creating a more adaptable environment
- ▶ Automation and interoperability make compliance more reliable and less costly
- ▶ Integrate through an ESB that centralizes and expands analytics potential by increasing visibility of in-flight data transactions
- ▶ Improve the information capture and transition process
- ▶ More easily adopt new technologies
- ▶ Bring together operational and enterprise system components
- ▶ Real-time workflow and error processing management
- ▶ Increase security capabilities
- ▶ Eliminate many manual processes that are necessitated by poor integration, thus reducing related human errors
- ▶ Increase data transaction volume, increasing turnaround on information critical to improving the customer experience
- ▶ Interoperability means that enterprises can more easily support different business models simultaneously

- ▶ Identify incorrectly formatted transactions before they are transmitted to external systems
- ▶ More easily validate data transactions for compliance, avoiding costly penalties
- ▶ Reduce the overall number of errors and improve data transactions, increasing customer satisfaction

Big Returns, Fast Turnaround

Prolifics' Healthcare Integration Kit can take as little as 12 weeks to scope, implement and test, based on these milestones:

- ▶ **Scope Definition Call**
 - Conduct a preparation call to review IBM Integration Bus (IIB) processes and discuss resource requirements
- ▶ **High-Level Architecture**
 - Conduct an interactive workshop that will focus on implementing an ESB using IIB
 - Provide a high-level architecture document
 - Deliver a proposal with recommendations for achieving both short and longer-term goals
- ▶ **Installation and Configuration Program**
 - Install and configure your IIB for three environments (testing, QA/staging, and production)
 - Administer basic instruction and mentoring on the use of the administration, maintenance, and deployment automation
- ▶ **Coding and Testing**
 - Implement up to two representative use cases
 - Conduct a requirement gathering session for each use case
 - Document the requirements and create a low-level technical specifications document describing the implementation details for each use case
 - Development of the IIB services using a best practice-fueled approach
 - Unit testing in development with tools such as SoapUI and RFHUtil
- ▶ **Testing Support**
 - Provide testing support (bug fixes) while testing is performed by your business's QA team
 - Provide tools to use for testing and to automate testing
- ▶ **Production Rollout**
 - Creation of a go-live checklist working in conjunction with your business's release management team
 - Perform the deployment of the two use cases in the production environment
- ▶ **Post-Production Support**
 - Provide one week of post-production support

Improved Outcomes

Contact Prolifics at solutions@prolifics.com to find out how our Healthcare Integration Kit may be the solution you've been looking for—or perhaps didn't even realize you needed.

ABOUT PROLIFICS

Prolifics is a global digital transformation leader with expertise in intelligent automation (including artificial intelligence and machine learning), application modernization, and data and analytics across multiple industries. Leveraging innovative technologies with a global delivery model, we create competitive advantages for our clients by implementing customized, end-to-end IT solutions that achieve the clients' desired business outcomes.

For more information, visit prolifics.com.



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