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WHITE PAPER

Beyond Your Department's Four Walls

Extend Your Reach to the Referring Physician Community
through Electronic Data Exchanges

Introduction

Most hospital departments utilize an interfacing application to route and process messages throughout the hospital system. These interfaces are typically built in a point-to-point manner by the hospital IT staff or may be built on an [interface engine](#) platform.

Hospitals of all sizes are discovering it can be more productive for an individual department to create and manage its own connections. These reasons include:

- A point-to-point interface that is too costly and ineffective to manage
- A legacy interface engine that does not support quick building of new interfaces or that is difficult to monitor – especially at a departmental level
- A departmental integration problem that cannot be resolved due to a lack of IT resources or long queue of integration requests
- A desire for integration on a smaller scale within a department (e.g. departmental applications)
- A need for quick and effective electronic acceptance of orders and delivery of results to the referring physician community

The solution to each of these scenarios is a departmental interface engine. A departmental engine contains the general functionality of a hospital legacy engine but is purchased by a particular department. It works much like the legacy engine and enables the department to connect directly to external providers (e.g., physicians, clinics, imaging center, labs, etc.). In some cases, a departmental interface engine may leverage the existing hospital legacy engine by simply exchanging data with previously interfaced internal applications.

Using a departmental interface engine allows departments to both maximize revenue from external clients and lessen the impact on the main hospital IT staff. The implementation cycle time for new interfaces is reduced by leveraging internal application interfaces and driving physician interfaces at the departmental level. Typically, departmental engines increase efficiency, making the department more competitive while maximizing profitability and connectivity.

This paper will outline the two interfacing approaches – traditional and departmental – and describe key benefits of implementing a departmental interface engine. Hospital departments that might benefit most from a departmental interface engine include radiology, laboratory, pharmacy, medical devices, and cardiology. Business development or physician relations departments may also consider a departmental engine to build a comprehensive, strong network of physicians.

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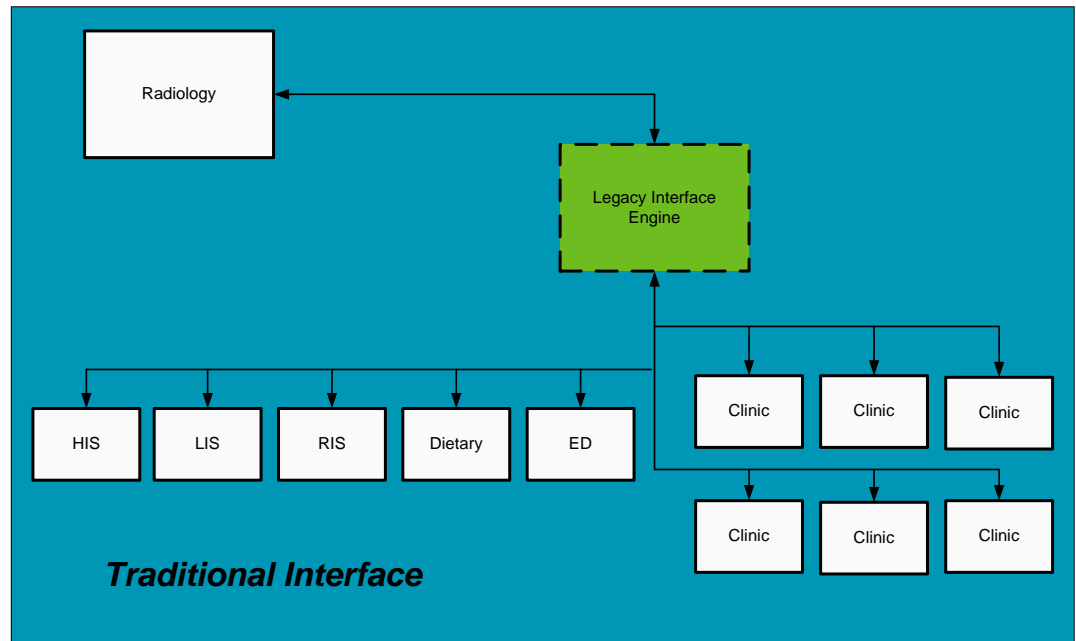
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Traditional Interface Approach

In a traditional messaging environment, most departments within a hospital are connected to a legacy interface engine or rely on point-to-point interfaces. If a legacy engine is used, it typically requires programming by a central IT staff. This staff is responsible for designing, deploying and maintaining all connections for the hospital – both internal and external.

Often, these dedicated hospital IT staff are overextended and have limited resources to address a growing number of requests for healthcare application interfaces. This is especially true with the growth of connections to Electronic Medical Record (EMR) systems, as resources are often difficult to secure when needed. Consequently there can be a long wait time for new interfaces. When an external connection is required, it is typically prioritized behind projects already in the queue.

Creating new connections is usually done by the hospital IT staff and utilizes the legacy interface engine. Departments can then send data via an existing connection to the legacy engine, which is routed to the newly created second connection and on to the external provider.



The hospital IT staff holds the responsibility for the management, monitoring, and quality of all connections as well as the priority in which new connections are created. If a special connection is required or if there is not an existing connection from your department to the legacy engine, then two new connections must be created – one from the department to the legacy engine, and another from the legacy engine to the external provider. If bi-directional connectivity is required, there will likely be a total of four new connections.

Departmental Engine Approach

What Is a Departmental Engine?

A departmental engine is an interface engine dedicated to your department – radiology, laboratory, pharmacy, cardiology, etc. It provides connectivity directly to your external providers and referring physician community with the minimum number of connections and maximum amount control over the interface. It functions exactly like the hospital legacy interface engine by:

- Processing and sending clinical data messages (e.g. patient orders, patient reports)
- Logging message transactions for troubleshooting and reporting
- Transforming messages to meet physician and application message requirements and formats

- Monitoring interface performance and generating alerts for issues

A departmental interface engine easily deploys the interfaces being driven by physicians' EMR applications. As a result, the departmental interface engine can enable closer relationships between the department and the physician.

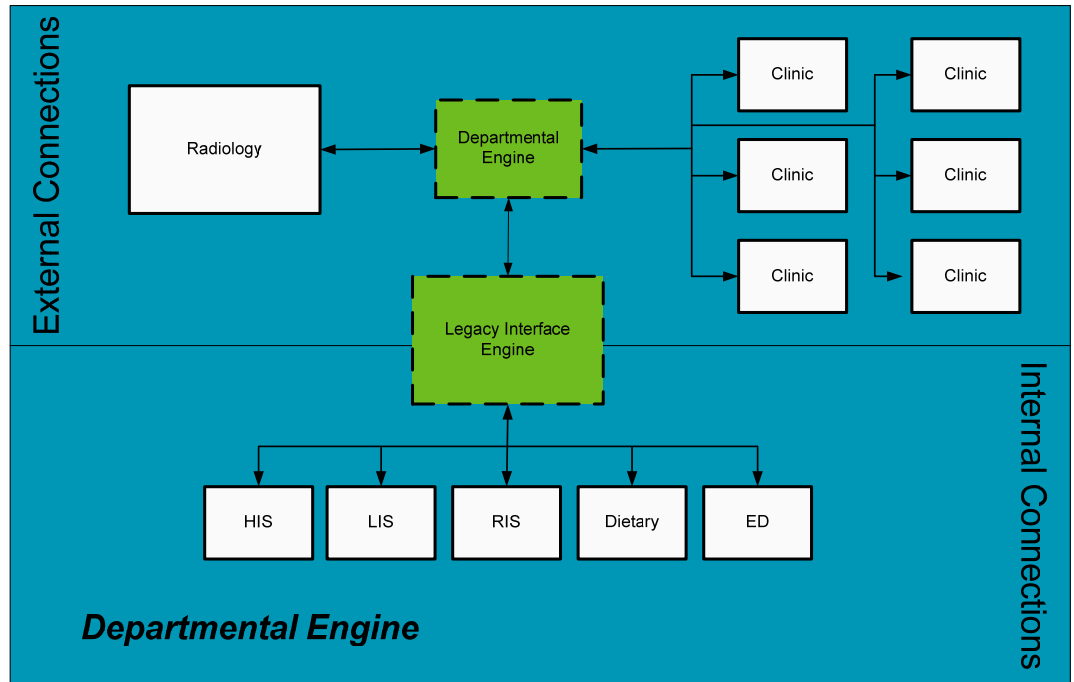
Why Might My Department Need An Interface Engine?

Historically, lab and imaging work done in a hospital was shared with referring physicians via old-fashioned paper orders or reports that were hand-delivered or faxed to the recipients. This type of delivery translated into added cost, slower service, and weakened quality from the possibility of human error.

Additionally, these interfaces often are of a different type and require workflow customizations that are more specific than those normally built utilizing the legacy engine. Typical workflow customizations might include configurations for resolving procedure codes, assisting image workflow, or negotiating internal vs. external order numbers.

Even if the legacy engine provided all the needed functionality to build the required new interfaces, the lead time for new interfaces is dependent upon the resources of the legacy interface team. Requests for physician outreach may be more urgent.

Using a departmental engine eliminates old-fashioned manual entry and delivery of data, allowing modern hospital departments to remain competitive by providing electronic results to their community of referring physicians. It also creates a robust electronic medical record for patients by electronically updating a patient's record as results are reported (which also reduces the possibility of errors). Additionally, the departmental interface engine moves schedule control of interface development to the department driving the requirement,



Will It Affect My Existing Connectivity?

A departmental engine does not interfere with other internal connections that might already be using a different standard (like DICOM) to transmit information. It also does not interfere with your ability to send and receive messages from any hospital interface you are already connected to – such as the hospital information system, dietary system, emergency department system, etc. It simply provides an extension to the existing network.

A departmental engine is a natural extension to the traditional approach, allowing you to leverage existing connectivity with your internal systems through the legacy engine. It becomes a team approach. While the departmental interface engine moves data seamlessly to your external providers and referring physicians, the legacy engine continues to process the internal application connections. Resources are leveraged more effectively and results are often dramatic.

What Are the Benefits?

Incorporate Unique Departmental Workflows

All workflow is local. In other words, the radiology department workflow is different than the laboratory one. The understanding of the workflow is

best known by the experts in that department. Differences in each department may include:

- Different applications. The radiology system (RIS, PACS), laboratory system (LIS), and drug dispensing system, for example, all have different data requirements and formats.
- Different workflows. The radiological interpretation process is best understood by a radiology department, just as a clinical testing process is better understood by a laboratory department.
- Different coding standards. The IT staff may not, for example, understand how LOINC codes are used in clinical messages for a particular department.
- Different billing processes. The manner in which charge codes are applied and how services are rendered can be very different in each department.

With a departmental approach, the interface communication engine becomes a tailored hub that adapts to the department's workflow. It establishes those connections required to streamline operations and expand relationships with the referring physician community.

Provide Exceptional Customer Service

Departmental engines allow you to closely monitor your connections and configure customized alerts for your needs. Your department can then provide exceptional customer service to your clients by resolving issues before they negatively impact a customer.

With monitoring and alerting functionality closer to the department-physician interactions, the responses can be more timely, better understood, and more easily maintained.

Set Interface Priorities and Manage Implementation Efficiently

One of the greatest benefits of utilizing a departmental engine is the level of control you have over your interface. A few examples include:

- How and when a new connection is created
- How messages are routed
- How messages are delivered and in what format
- How data is logged and archived
- How issues are tracked and resolved

Implementing a departmental engine lets you set up and customize an interface with the features that best benefit your department, rather than accommodating existing guidelines that may or may not be optimal for you. You have the power to decide and then deploy the connections that are most urgent.

It also produces an interfacing environment that facilitates a shared workload and creates a well-functioning team. Responsibilities are defined, and individuals perform their tasks based on the overall team objective. A team-based approach not only enhances efficiency but enables each area to leverage their expertise to satisfy their client requirements. It also relieves some pressure from the hospital IT staff and maximizes the dollars spent on integration.

Summary

In today's environment, responding quickly to referring physician requirements for electronic exchanges of patient orders and results is critical for building and maintaining long term relationships. A departmental interface engine enables a proactive approach while decreasing the reliance on central resources for implementing key interfaces. It empowers a department within a hospital to quickly respond to referring physicians and the need for electronic communication.

A departmental engine also provides improved technologies to better equip your hospital to handle today's increasingly challenging connectivity requirements. Establishing new connections is enhanced with newer approaches to developing and implementing interfaces. With point-and-click integration solutions, interface development is simplified, enabling analysts or similar position types to do the work.

Implementing a departmental interface approach and extending your reach to physicians enables greater flexibility, increases workflow efficiencies, and strengthens the quality of the relationship.

The key benefits of pursuing a department interface engine are:

- Enabling the uniqueness of your departmental workflow into the interface engine
- Monitoring the physician and clinic interfaces closely to ensure proactive, exceptional customer service
- Enhancing your customer service to referring physicians by quickly implementing EMR interfaces in order to electronically receive orders and send patient results
- Increasing the productivity of your hospital interface team

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www.corepointhealth.com

Email: info@corepointhealth.com