



Migrate with Confidence

Five steps to a successful integration engine migration

Orion Health White Paper

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1 INTRODUCTION

Vendor consolidation within the healthcare integration marketplace is causing customers to re-evaluate their choice of integration platform. Customers of integration products today find themselves challenged by the end of formal support for these legacy products, forcing them to consider migration to a new integration platform. By following a logical, proven five step process, healthcare organizations can successfully complete a migration project from an outdated legacy integration tool to a modern up-to-date tool, while mitigating risk and minimizing staff disruption.

This white paper explains a best practice approach, based on Orion Health's experience of migrating customers over many years. It allows organizations confronted by the end of formal support to turn this burden into an opportunity to add value to their business.

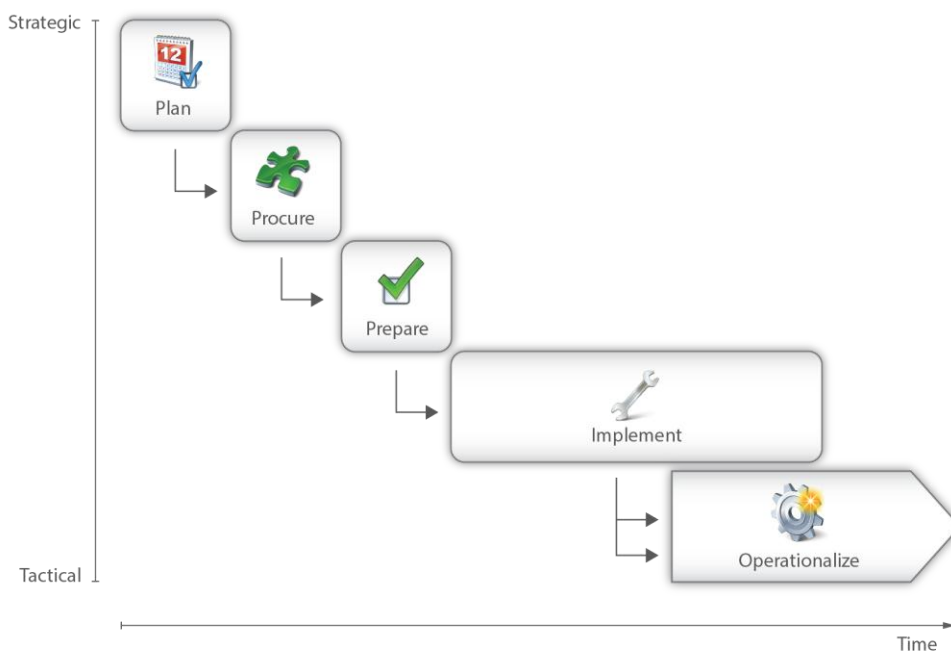


Figure 1: Five step migration process

2 MIGRATION STEPS

2.1 Step 1: Plan

The best place to start any platform replacement project is with a plan that outlines the scope, requirements, dependencies and timeframe. As no two organizations or projects are the same, considering your unique requirements and tailoring your plan according to the proposed framework will help deliver the desired results to your business.

“Plans are useless, but planning is indispensable.”

Dwight D. Eisenhower

2.1.1 Scope

The scope of a migration project may be quite narrow, limited only to replacing the products that are being sunsetted and re-implementing the exact interfaces that are impacted.

Some organizations may choose to take advantage of a fresh start on a new product to improve existing interfaces and consolidate or deploy new interfaces onto a single platform. This would be considered to be a broad scope.

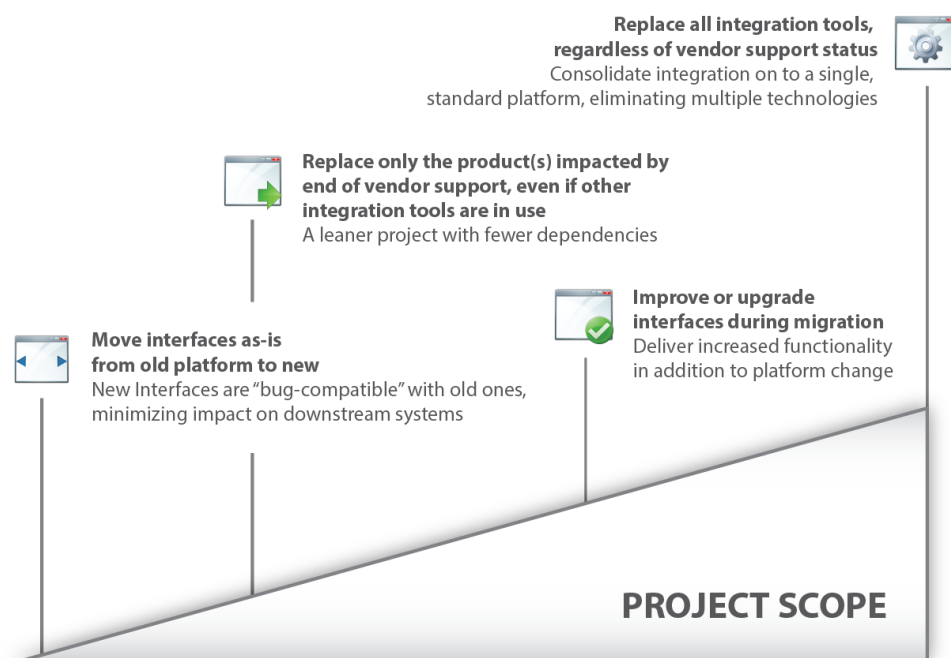


Figure 2: Project scope

As scoping decisions are finalized, a clear picture will emerge of how many interfaces need to be implemented on the new platform. The number of interfaces for the project will become the most basic measure of the project scope and help an organization determine the size and level of expertise required for the project team.

2.1.2 Technical Requirements

Defining the functional and non-functional requirements at the beginning of the project will guide the project team's decisions and set the stage for a successful outcome. High level requirements should answer questions such as:

- Which clinical systems need to connect to which other systems?
- What messaging, protocol and security standards need to be supported?
- What technical environment (hardware, software, operating system) will the integration tool run in?
- How many environments are needed to support the organization's development process (e.g., development, test, production)?
- What existing policies around security, auditing, disaster recovery and uptime will the new technology need to conform to?
- What are the performance metrics in terms of scalability, throughput and uptime?
- What future considerations need to be taken into account?

2.1.3 Dependencies

As a project is not executed in a vacuum, it is important to take dependencies into account. Dependencies may result from other projects. For example, if a new clinical system is being deployed, that project must be completed before building interfaces to and from the new system. Another common dependency is the availability of resources, either project resources or "consultative" resources (e.g. application specialists).

2.1.4 Timeframe

For many migration projects, the end date is determined by when an organization's support contract ends for the legacy product(s) being replaced, however, other factors may drive toward an earlier completion date.

Combining the timeframe (weeks available in the project's build phase) with the scope (number of interfaces to be implemented) will provide a measure of how much time can be spent per interface. For example, the diagram below illustrates how if the project is allotted 30 weeks, and 600 interfaces are in scope, the project team needs to implement 20 interfaces per week.

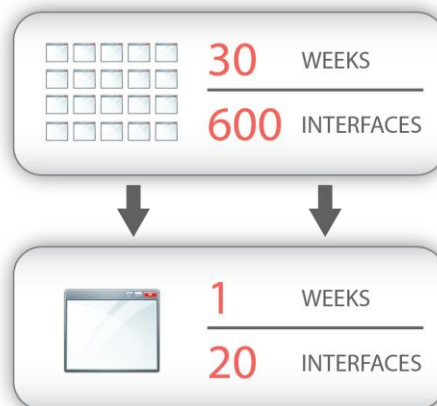


Figure 3: Example of interface conversion rate calculation

In most cases, it is reasonable to expect to complete between one and five interfaces for each Interface Analyst per week. Easier interfaces (e.g., a simple pass through) will take less time, whereas more complex interfaces will take more time. In addition, the project team's velocity should improve as they gain familiarity with the new platform and begin creating reusable components.

2.1.5 Planning Checklist

Planning is a critical phase in any project. This checklist summarizes the necessary steps.

- ☐ Determine project scope: broad, narrow or in between using the number of interfaces to be completed as your guideline
- ☐ Document key technical requirements
- ☐ Determine project dependencies
- ☐ Plan the project completion dates
- ☐ Establish your resource requirements using the number of interfaces and the project timeline as your guideline

2.2 Step 2: Procure

Once a project plan is developed, the next step is to identify and procure a technology solution to fulfill the project's requirements. In this step, vendor technologies should be evaluated based on the product capabilities, service offerings and vendor experience. Additionally, healthcare organizations should take into consideration ancillary services such as the type of initial and ongoing training the vendor provides and ease of obtaining support.

2.2.1 Evaluation Process

The process of evaluating solutions is straightforward. The evaluation criteria should come directly from the requirements developed during the planning phase. It is important to note that there might not be a solution that perfectly satisfies all project requirements, so it may be necessary to identify a best fit based on priorities. In order to see whether a particular solution will meet your requirements, it is common to evaluate vendors by asking for "proof of concept" demonstrations.

2.2.2 Procurement Checklist

- ☐ Develop evaluation criteria based on project requirements
- ☐ Prioritize requirements into "must have" and "nice to have" categories so that a "best fit" solution can be identified
- ☐ Identify vendor solutions
- ☐ Evaluate each vendor according to consistent criteria
- ☐ Request and evaluate "proof of concept" demonstrations

2.3 Step 3: Prepare

Thoughtful preparation in advance of implementing a new solution will help to keep a project running smoothly. Project work begins in this step with all the preparatory activities required prior to starting on actual conversion work.

2.3.1 Provisioning

The most important preparation task is to ensure that proper hardware, software and appropriate vendor licenses are available.

It may be possible to repurpose servers from legacy integration tools for the new platform. However, most organizations prefer to run the new tool on newly acquired hardware for the following reasons:

1. Typically, there is a period of time in which the legacy and new solutions must run concurrently, creating the need for separate environments.
2. Legacy software is usually running on old hardware. Implementing a new interfacing solution is a good opportunity to update the hardware at a relatively low incremental cost.

2.3.2 Staffing

The scope and timeline form the basis for determining the appropriate experience and number of staff for the entire project. Typical interface project team roles include:

- Project manager
- Interface analysts/developers
- Application specialists (often part-time subject matter experts)
- Quality assurance analysts
- Operations analysts

In a migration project, the majority of the team will be made up of interface analysts/developers. These may be internal resources or they may be consultants who are engaged for the project duration. Consultants are a good option for scaling the team because it is often desirable to have a larger team during the migration project than is required for ongoing maintenance after the migration is complete.

Engaging consultants enables an organization to easily staff up or down as needed throughout the migration project.

2.3.3 Training

Training for analysts, developers and operational staff also takes place during the preparation stage. Most vendors offer a combination of product documentation, online and onsite training. The right training solution depends on the organization's preference. Training options should be evaluated during the procurement phase (Step 2).

2.3.4 Prioritization

During the preparation phase, the project team should create a list of interfaces in scope for the project. Each interface should then be prioritized and (optionally) classified according to difficulty. At this stage, it may be possible to identify interfaces that do not need to be migrated because they are either no longer in use or can be combined with another interface. It is also a good opportunity

to highlight interfaces that need improvement as well as interfaces to be added due to increased functionality provided by the new integration platform.

The project team should develop a strategy for scheduling interfaces for migration. They may prefer to schedule high priority interfaces first and lower priority interfaces later. Or, they may wish to start with easier interfaces and work up to harder ones as they gain familiarity with the new tools.

2.3.5 Preparation Checklist

- ☐ Provision hardware, software and licenses required for the project
- ☐ Assemble an appropriately sized project team
- ☐ Conduct training for all team members
- ☐ List and prioritize all interfaces in scope for migration

2.4 Step 4: Implement

The implementation stage, where the interfaces are migrated and tested, is the critical phase of a project. The implementation stage requires time proportional to the number of interfaces, whereas other stages tend to take the same amount of time regardless of how many interfaces are being migrated.

2.4.1 Migration

Working through the previously created, prioritized list of interfaces, the project team will migrate each interface individually. Typically, this consists of the following steps:

1. Create requirements
2. Gather test data
3. Implement the new interface
4. “Desk test” the new interface
5. Create a test plan
6. Document the new interface

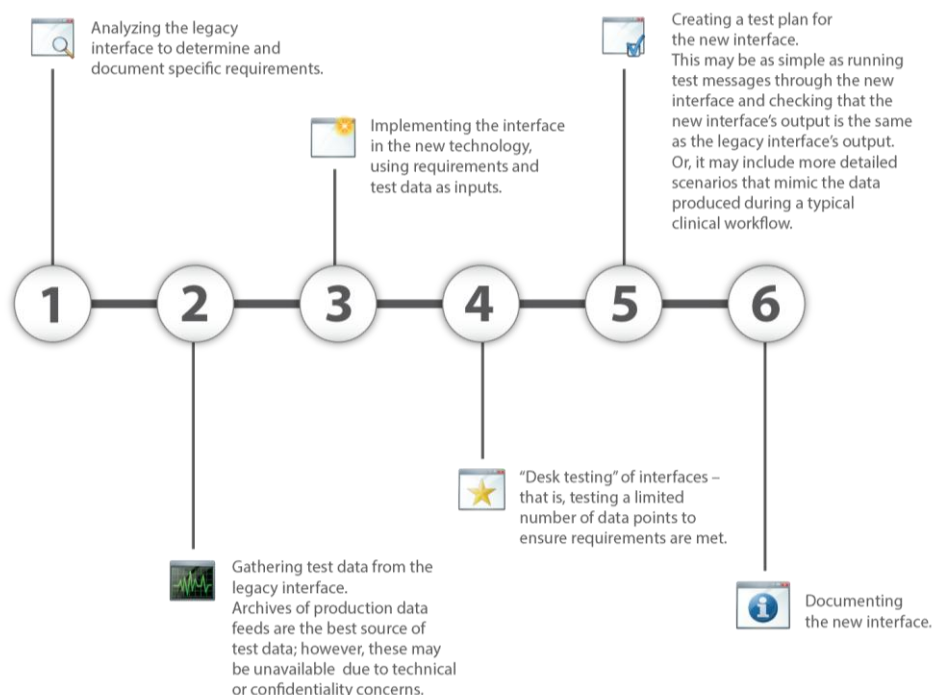


Figure 4: Interface migration steps

2.4.2 Other Considerations

In addition to migrating individual interfaces, there will be non-interface items that need to be implemented. These include such items as:

- Development of backup and recovery plans
- Monitoring strategies
- Development of processes to deal with system event notifications
- Ongoing maintenance of users, roles and security settings

2.4.3 Testing

Once built, the new interfaces need to be tested. The project team has the flexibility to either test each interface once it is completed or to test groups of interfaces.

The first step in testing an interface is functional testing to prove that the interface meets the requirements and ensure correctness of outputs. The next step is to send a high volume of messages through the interface to ensure adequate performance under expected production load volumes.

Finally, any defects uncovered during testing need to be remediated. This activity is typically done by the same interface analysts/developers who are building new interfaces, so fixing defects may compete with migrating other interfaces.

2.4.4 Implementation Checklist

- ☐ Gather requirements, build, test and document each interface
- ☐ Apply configuration to the integration platform that is common across all interfaces
- ☐ Conduct testing and defect remediation for all interfaces

2.5 Step 5: Operationalize

Here is where the rubber meets the road. In this step, the new interfaces move into production, legacy interfaces are retired and migration is completed.

2.5.1 Promote to Production

After an interface or batch of interfaces is thoroughly tested, the next step is to promote the new interface(s) to production. As a best practice, this should be done according to a defined, repeatable process. Since changes to interfaces will need to be migrated to production on an ongoing basis, treat this as a business process with appropriate checkpoints and controls.

After migration is complete, the interface should be monitored closely for a “burn in” period to ensure that unexpected failures are detected promptly. After the burn in, the interface can be monitored normally.

2.5.2 Legacy Retirement

When the operational team feels certain the new interface is performing correctly, they may retire the legacy interface by turning it off in the legacy integration tool. The legacy interface should not be deleted so that it can be put back into production if serious problems arise with the new interface.

After all of the interfaces on the legacy server have been retired, it is safe to de-commission the legacy product.

2.5.3 Operational Checklist

- ☐ Promote new interfaces to production according to a defined, documented process
- ☐ Retire legacy interfaces by turning off—but not deleting—they in the old engine
- ☐ When all interfaces have been retired from a legacy product, it is safe to retire the legacy product altogether

3 CONCLUSION

Replacing a legacy integration product may seem like a monumental task. By carefully implementing the five phases outlined in this paper, a healthcare organization will create a stronger platform that will serve its needs now and into the future. It's as much about expertise and service as it is about selecting the right product. Find a vendor who will partner with you to deliver an exceptional experience for your organization.

4 LEARN MORE

To learn more about how Orion Health can help your organization replace a legacy integration platform with Orion Health Rhapsody Integration Engine, the integration platform of the future, please visit <http://www.orionhealth.com/rhapsody-integration-engine>.

About Orion Health, Inc.

Founded in 1993 Orion Health is a leading global, independently owned software organization. With an inherent ability to interconnect a wide variety of healthcare information systems, Orion Health has become the world's leading provider of Health Information Exchanges (HIEs) and healthcare integration solutions. Today, Orion Health products and solutions are implemented in more than 30 countries, used by hundreds of thousands of clinicians and help to facilitate the care for tens of millions of people.

Clinicians, provider facilities and OEM partners rely on Orion Health to facilitate data exchange between health systems, regional health solutions and affiliated providers, and medical devices. This results in improved care coordination, increased cost savings, efficiencies and enhanced quality of care.

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