Attachmate

WHITE PAPER

A Business-Driven Approach to Legacy Modernization

Rapid service enablement via small, orchestrated steps

Legacy applications typically make up an organization's transactional backbone. They span accounting, inventory management, and purchase support, among other essential functions across the enterprise. Their ubiquitous job means that they aggregate critical operational data and provide an up-to-the-minute record of a business's actual state. Due to their monolithic nature, however, legacy systems do not easily share their resources inside or outside the enterprise.

This paper addresses the need to update and extend legacy applications, as well as ways to accomplish the task. It discusses both traditional and modern approaches, while highlighting a service-enablement strategy that's fast and practical, with notable ROI potential.

Both an Untapped Resource and a Problem

Common among most legacy applications is the pivotal role they play in the enterprise. If they falter, you can assume business will falter too. A legacy malfunction can virtually paralyze the day-to-day operations of a company.

Another attribute of legacy applications is their ability to accumulate data and processes that could be put to profitable use across the business. As companies today face tremendous pressure from competitors, partners, and customers, legacy applications literally hold the keys to success. That's why IT organizations are focusing on efforts to extend the reach of these valuable assets.

Enterprises have to find effective ways to reuse their legacy applications (in whole or in part) for new, meaningful purposes. For example, when customers call a vendor for support, they expect the person on the other end of the phone to know everything about their account, from purchase records to previous account and service history. But all that customer data is hard or impossible to access because it's locked in the legacy box.

Legacy and the Contact Center

Customers don't understand (or care) about obstacles that can occur when information spans ERP applications, call center operations, and warehouse systems. The fact that some of these systems might be older, hard-to-modify legacy applications is not in the realm of customer interest or expertise. The bar for interoperability and streamlined systems is constantly rising higher.

To meet these expectations, company agents must have rapid, easy access to customer records – no matter what department originally acquired them – combined with real-time functionality. That means IT organizations must share their gathered customer-activity and -service data with contact centers in a synchronized fashion.

From an IT perspective, the contact-center demand can be challenging. One reason is that agents need specific data that's actually a subset of info accumulated through routine order, sales, and service activities, which are intertwined with other customer records. Furthermore, the ability to leverage an ERP system depends on the system itself, when it was written, and whether it was designed to be easily integrated with other functions.

Siloed Information

Most legacy applications were built without thought to playing across the enterprise; instead they operate independently within the business. And while they contain business logic for critical functions, legacy applications have some inherent issues that make them hard to leverage. They don't lend themselves to even the simplest updates required by changing business demands.

Of the many blameworthy factors for these limitations, most point to the original technologies used to create the applications. Simply put, the applications are usually written in old programming languages (most aren't even taught anymore). The lack of any standard approach or architecture compounds the difficulties.

Because the applications were purpose-built, without reuse in mind, they rarely have entry points or APIs within them. The result is that there is no reliable way to leverage them as they are. And already-burdened developers do not have the luxury of building applications to share data beyond the original intended legacy function. Nonetheless, the IT staff of today must rise to the modernization challenge.

Siloed Work Force

Beyond the applications themselves, there is also an issue with staffing. A dearth of expertise in core legacy technologies is diluting the ability of IT departments to expand and maintain these systems.

The current IT work force contains young, savvy individuals who are familiar with modern technologies like those used for web sites and associated applications. Usually, a more "seasoned" group maintains the mission-critical applications, like the mainframe or other host applications, which are considered legacy.

The concern with this resource disparity relates in large part to the younger group. Today's new IT hires, however talented, have no working knowledge of the legacy applications that actually run the business. With the inevitable retirement of the legacy-knowledgeable workforce, an ugly outcome is looming.

And in case you hadn't noticed, the "grey-haired" exodus has already begun. What if you can't keep your essential applications running as-is over time? And even if you can keep them running, that alone won't be adequate; you must constantly make them responsive to new, volatile business demands. The challenge is clear. And it has a time frame.

Traditional vs. Modern Solutions

While the problems of siloed information and siloed work force haven't cropped up overnight, procrastination is no longer an option. You can take steps now to ensure the continuity of your operations over the short *and* long terms. You can also build in the flexibility needed to handle ongoing, unpredictable business changes.

The market has settled upon several acceptable ways to modernize and reuse legacy applications. In most cases, you can mix these methods or use them individually. What you *cannot* do is fail to associate a critical application with a workable plan.

When IT staffs have attempted to respond to the legacy challenge, they've commonly used one or both of these two approaches:

1. Rewrite

You can always rewrite your old applications so they can talk to newer technologies. This approach lets you address your exact needs as they arise. And if executed correctly, it allows you to fully use your legacy applications.

However, rewriting is enormously expensive, time-consuming, and error-prone. The success of this approach calls for a thorough understanding of the mainframe applications and the way they work. It's risky to assume you can correctly re-create legacy-application abilities and quality of service. And QoS can be critical when dealing with resource-allocation mechanisms or real-time processing workflows. The challenge of maintaining a specific QoS greatly complicates any project, but one that directly modifies code will always require special attention.

Given the risk and expense of this approach, it's a hard one to justify. But lacking better options, the legacy-modernization problem lingers.

2. Replace

Many packaged solutions are vying for dominance in replacing legacy applications. They offer abilities that cater to the core and extended needs of businesses. In addition, they can amortize costs for development and maintenance across a large pool of customers. In many cases, replacement is a good choice, but it is not free of risk.

As packaged applications are not tailored to your business, they typically require an extensive implementation effort, as well as a specific customization effort. And just as with the rewriting option, the replacement method makes QoS hard to replicate and sustain. In many cases, legacy applications provide functions and a relied-upon QoS that are not apparent until they're gone.

This approach, like the preceding one, is by nature a big, unwieldy, risky effort, accompanied by wicked sticker shock. That's why IT staffs worldwide have been seeking more modern, practical alternatives.

Going Beyond the Traditional with Service Enablement

One approach that is quickly gaining momentum today is service enablement. An advanced legacy-modernization option, it's been proven to reduce time, risk, and expense. In fact, it now plays a major role in modernization planning across many enterprise IT shops.

Service enablement is getting attention because it addresses the underlying issues tied to legacy systems. It lets you reuse the business applications and databases you already have, while leaving the functional legacy logic in place. In that way, you avoid the risks of re-creating critical functionality and you mitigate concerns about QoS loss.

With the service-enablement approach, you wrap application components and expose them for reuse. When you do that, current technologies are then able to plug into and leverage your legacy assets. This method easily allows extension of previously locked-up host applications, making them agile and accessible across the enterprise.

What's more, service enablement means you can put your younger, more available, web-oriented staff to work responding to enterprise needs. Once you hand over the services, these workers need no knowledge of the mainframe to do their part of the job.

Getting Service Enablement Right

Service enablement, while a big technological improvement, still can be daunting. If you envision the modification of systems and applications to allow wholesale wrapping of legacy-application components, you might want to reset expectations. Taken as a top-down enterprise-wide exercise, service enablement will amount to another cumbersome project in itself.

You would be better advised to take on individual, manageable projects that ultimately lead to modernized systems, but require simpler immediate steps. Enterprises benefit immensely from one-at-a-time service enablement because it allows modernization to address actual business needs. Furthermore, short-duration projects yield fast results.

The key to successful modernization lies in making each project small – i.e., working at an application level and not a systems level – where each project works in concert with a larger plan. That way, an enterprise can pursue a series of business-driven projects that can each start to reap ROI upon completion. Taken as a whole, it's a strategic process and it's becoming known as rapid service enablement.

How Does Rapid Service Enablement Work?

A rapid services approach is similar to enterprise-wide service enablement, except for some significant process distinctions. Below are the four basic steps for rapid service enablement, with associated benefits shown in the bullets under each.

1. **Connect to legacy application using a noninvasive approach.**
   - You shorten implementation and approval times.
   - Risk is reduced as no modifications are made to host systems or applications.
2. **Model and parse the legacy application, using a specialized, modern design tool.**
   - A market-provided tool, tailored to this task, speeds up the process.
   - Risk is reduced as this approach has been proven by many corporations.

The Many Meanings of 'Rapid'

When considering legacy modernization approaches, remember that "rapid" can have many different meanings in an IT context. To be rapid in the way *you* need it to be, here are some things you'll want a solution to do:

- Have the ability to "work small." That is, to work at the application (not systems) level.
- Wrap legacy applications without need to modify the application or host system.
- Visually model and parse applications to allow use of an application subset.
- Easily assemble subset components into basic granular services.
- Push reusable legacy services seamlessly into an externally visible, usable state.
- Orchestrate legacy components into externally usable services for non-host-literate audiences and cross-enterprise availability.
- Continuously compose and recompose services to match changing business requirements.

These abilities all add up to the quick turnaround you need to get truly rapid results and convince reluctant decision makers.

3. **Create base-level (granular) services from the legacy application.**
   - Exposing standards-based granular services allows easy reuse (a requirement going forward).
   - Hand coding is avoided, so you reduce the complexity of the project.
   - You can simplify and minimize ongoing maintenance.
4. **Use a standards-based orchestration tool to build governing processes that invoke granular services.**
   - Standards-based tool lowers skill set needed to build and maintain the solution.
   - Dependencies on host staff are alleviated; creation of new logic depends only on services created in step 3.
   - With standard tools, your created business processes are not locked in proprietary containers.
   - You ensure long-term safety as each completed project follows correct services method using current best-practice technologies.

This four-step approach provides IT with the accepted benefits of legacy modernization through service enablement while offering reuse in two places: at

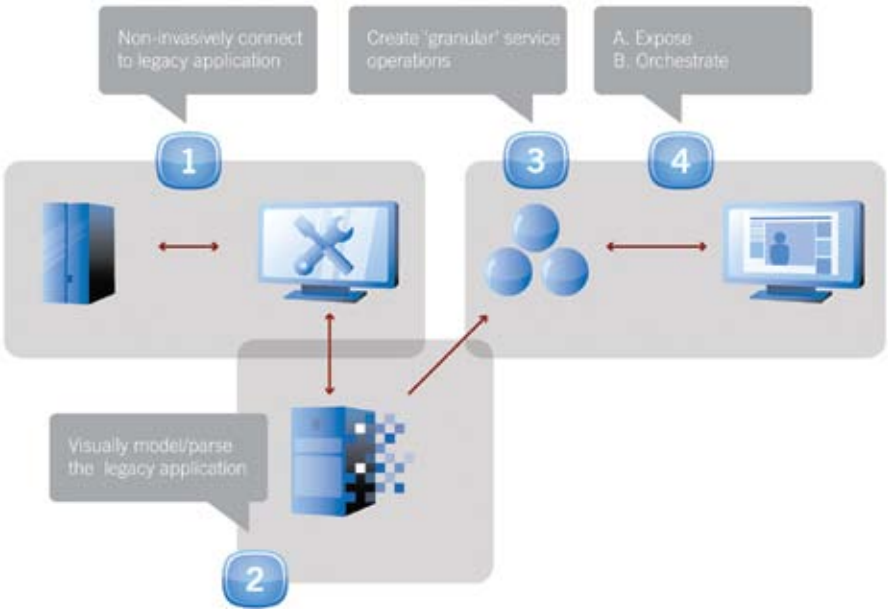
the legacy-application level (via the exposed granular services) and at the business-driven solution level (via the open non-proprietary governing business processes). It accomplishes the task using current best practices, in the most rapid fashion available.

The *Best* of the Best Practices

A strong endorsement for service enablement is made possible by the advent of tools and market-wide standards for handling the business-specific aspect of projects. This segment of technology has been evolving for years and it means you can safely build flexible solutions equivalent in scope to those implemented with traditional options.

Leveraging today's market standards, the services approach lets each project meet its time and cost goals. But instead of instituting random, one-off, standalone solutions, you now can orchestrate your services and put them to use in new business initiatives that have any level of overlapping requirements.

The Steps to Rapid Service Enablement



Reluctant Adopters

If service enablement is an efficient and versatile legacy-modernization method, why aren't more organizations using it? The simple answer is that service enablement is not an "easy sell" to management. Many enterprises struggle to come up with the needed business-plan metrics to get a plan approved. (This is actually a problem with almost all legacy modernization plans, even though service enablement is recognized as the right solution for "some time down the road.")

The corporate hesitation is often rooted in perceived up-front costs and long project time frames. A lack of funds and a lack of foreseeable ROI can combine to create qualms in even the most forward-thinking business decision makers. This is where rapid service enablement has tremendous value. Let's reframe two top selling points in terms of business advantages.

Advantage #1: small project scope

Service enablement does not have to be an all-or-nothing effort; instead, you can (and should) tackle projects on an individual basis. The work you do now can be reused at any time, to implement other solutions. You won't have to start from scratch because your services will become the building blocks for those solutions, paving the way for each subsequent project to be completed faster, more accurately, and more economically than the ones before it.

The incremental approach allows you to successfully modernize an application without the need to disrupt the entire IT infrastructure. Ultimately this helps defuse the problem of high up-front costs.

Advantage#2: short time frame

Quick turnaround is also key to selling a project to the business. When working with a well-contained small project, you can set investment questions to rest by identifying a short time to completion. Bottom line: a controlled project scope, combined with an approach that delivers quick results, allows the business to see the return on investment more clearly.

A caveat is in order regarding this advantage. While short time frame could be considered an obvious path toward selling service enablement to the business, an aspect of its pursuit must be re-emphasized: Each short project started and completed must directly contribute to the long-term top-down modernization goal.

Moving Forward

Assuming you decide to use service enablement for your legacy modernization method, what's the best way to move forward? You can lay the groundwork for success by arming business decision makers with the data they need to embrace this strategic direction. As most IT staffs have found out, a top-down approach is difficult

to sell, so be sure to share your goals with management members who "get it."

As shown above, decision makers are apt to respond favorably if you can present the solution in smaller terms, while showing how it contributes to the overall strategic direction – and how it reaps that all-important early ROI. You might consider these as some of your key messages:

- The business can maintain a conservative approach by reusing legacy assets and leaving them undisturbed.
- IT can take small, risk-free steps to achieve the larger goal.
- All services will leverage today's best-practice methods for building distributed applications.
- All services, granular and composed, will be usable across the enterprise.
- A services approach is open, with no technology lock-in.
- The lifecycle of embedded business processes will not be not tied to the lifecycle of included systems.
- Technology lifecycle will not force changes to enterprise applications.
- With today's rational approach to rapid service enablement, reuse is built into every project.

Because these benefits are practical, economical, and forward-looking, a green light for service enablement should be the logical outcome.

More a Mindset Than a Technology

So if you need to tackle legacy modernization and you don't have time to waste, consider rapid service enablement. It can help you meet the needs of the project, while exceeding expectations of traditional approaches. The big difference is that you leave the business – and IT – in a much better position.

Remember that success with service enablement does not lie in a technology; it results from conscious steps to build in openness and flexibility at the beginning of a project. If you don't mindfully make this effort from the outset, your end product will be difficult and expensive to change later.

Service enablement is not an Attachmate-inspired approach, but rather the market's answer to making IT solutions flexible enough to handle volatile business needs. Attachmate has simply taken the concept a step further, by designing speed into service enablement.

Using Attachmate solutions, which leverage today's open standards to expedite modernization projects, you can redefine "rapid." And when rapid service enablement is done right, your legacy assets will easily respond to even the toughest business-driven demands.

About Attachmate

Attachmate delivers advanced software for terminal emulation, legacy modernization, and managed file transfer. Our NetIQ business provides solutions for automating IT processes and managing performance, security, and compliance of distributed IT. With our technologies, more than 65,000 businesses worldwide are putting their IT assets to work in new and meaningful ways. **www.attachmate.com**

Attachmate

Corporate Headquarters
1500 Dexter Avenue North
Seattle, Washington 98109
TEL 206 217 7500
800 872 2829
FAX 206 217 7515

EMEA Headquarters
The Netherlands
TEL +31 172 50 55 55
FAX +31 172 50 55 51

Asia Pacific Headquarters
Australia
TEL +61 3 9825 2300
FAX +61 3 9825 2399

Latin America Headquarters
Mexico
TEL +52 55 9178 4970
FAX +52 55 5540 4886

WEB attachmate.com
E-MAIL info@attachmate.com

For regional office information, visit **www.attachmate.com**.