



# **Application Software Evaluation, Selection and Deployment (Replacing Legacy Systems)**

## **White Paper**

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## Executive Summary

In today's competitive markets, companies must utilize information technology to leverage its productivity and ability to effectively compete and sustain growth.

Often companies find that their once state-of-the-art business systems are now fraught with problems and short comings such as:

- Obsolescence, unreliability, non-supportability
- Inability to adapt to changes in the business model
- Over dependence on single individuals for support

Yet in most organizations, resistance to change can be formidable and the thought of changing to a new system can be daunting and financially intimidating.

Replacing core business systems like order processing, purchasing, manufacturing, inventory management and financial management impacts the very culture of a company with implications far beyond software and hardware technologies. How work is done, how value is delivered to customers and how people interact to transact business may undergo substantial change in order to take advantage of new systems.

In addition to exploring the reasons why an organization may choose to make changes in their software systems, this paper provides insights into the process of evaluating, selecting and deploying these systems.

## **Knowing When It Is Time to Change**

Like all things, the longer we have something the more comfortable we are with it. This is much the same with legacy systems. Even though they no longer provide the tools needed to grow and prosper the enterprise it is what the people know. Familiarity does not breed contempt, it breeds attachment. Yet there are warning signs that should serve to signal management that the current information technologies are no longer appropriate for the company to operate effectively and efficiently. Common symptoms that existing information technologies and applications need to be replaced include:

- Increases in overtime hours worked
- People taking work home to complete
- Re-entry of data into spreadsheets or databases to augment or circumvent the core business application
- Use of post-it notes and support materials to help users to remember codes and procedures
- Inability to upgrade, extend or add functionality to the application
- Lack of experts knowledgeable in the operating environment or programming languages used
- Lack of focused reporting and analysis
- Dependency on one or two individuals for support and maintenance
- Inability of application to support increased business volumes and transaction complexities

***Over time these and other symptoms creep into the culture of the business and often go undetected until a crisis event occurs;*** the system goes down and cannot be brought back up, a key support person leaves the company, system failures impact the ability to effectively support the processing of orders, etc.

All too often a company's management is in denial about the state of their systems heavily discounting the cost, time and commitment needed to replace them successfully. This can lead to disaster and could even threaten the enterprise as a going concern.

Successful and insightful organizations periodically assess the appropriateness of their systems through operational reviews, continuous improvement initiatives or business process improvement projects.

Regardless of the approach, knowing when to begin the process of change is critical to a smooth transition. Migrations to new systems can easily take between 12 and 18 months in companies with revenues of \$15 to \$175 million. Larger companies can take even longer in achieving the transition. The common mistake many companies make is to underestimate the impact of new systems on the organization's culture, work processes and workforce. Even in today's technology savvy world, a surprisingly high number of legacy system

replacement projects fail or costs 2 to 5 times more than originally budgeted. The cause for these failures and overruns is typically caused by

- Poor planning
- Poor Project Management
- Lack of the proper engagement of the workforce in the evaluation and selection process
- Lack of adequate alignment of the software to the business culture and core business processes
- Inadequate understanding of data conversion issues
- Ignorance and gullibility of management as to the implications of change

## ***Phasing the Project***

The process of evaluating, selecting and implementing new business systems should follow a logical set of phases in order to minimize risks and ensure success. The following is a typical phasing strategy:

### ***Phase 1 - Definition of Strategic and Operational Objectives***

In this phase, the business objectives should be analyzed and transformed into a set of operationally measurable goals. These goals can then be mapped to the cross functional processes that will need to be evaluated for improvement opportunities that support the achievement of the over arching needs of the business. Doing this first provides the criteria needed to test whether proposed information technology solutions will properly support the needs of the business.

### ***Phase 2 - Business Process Review***

In this phase, cross functional teams are formed. Each team represents one of the cross functional process areas identified in Phase 1. These teams will serve as the knowledge source for taking a critical look at the way the existing processes work and how they might be improved to better support the business objectives and operational goals. From these reviews a set of Information Technology requirements can be developed which will serve as the basis for evaluating potential Software Packages.

### ***Phase 3 – Identify Potential Software Solutions (Vendors and Packages)***

In this phase the marketplace is reviewed with the goal of identifying the best providers of software solutions appropriate to the requirements developed in Phase 2. This can be done in a number of ways. One way is to develop a formal request for proposal (RFP) and then issue that RFP on a wide or selective basis to vendors in the marketplace. The RFP approach is best used when the company has no knowledge of the marketplace or is required by law or regulation to use a formal RFP approach. The other approach is to conduct internal research to pre-qualify a select group of vendors and then invite them to participate in the evaluation and review process which will ultimately result in an invitation of some or all to provide a

proposal. This approach works best when the company or its consultants have knowledge of the marketplace, know of the leading providers and when time is of the essence.

In either approach a document that defines the expectations of management and the functional requirements of a sound solution needs to be prepared to facilitate communication with participating vendors.

***Phase 4 – Evaluate Potential Software Providers and their Solutions***

In Phase 3 the teams work together to review the software solutions of the various providers and the provider as well. The team uses the requirements developed in Phase 2 to evaluate each potential software solution. In addition, the team develops a set of criteria to assess the vendor's ability to implement and support their software product on a long term basis. The combination of the data compiled is then reviewed and tabulated to help the team identify the best solution (vendor and package) for their specific needs.

***Phase 5 – Select a Solution and Implement***

During Phase 4 a vendor is selected and an implementation project is initiated. Contracts are negotiated and implementation logistics are detailed. Formal project plans and performance criteria are developed. Typically the implementation project is phased to minimize risk and to maximize chances of success. Monies paid to the vendor are linked to each phase. Continuation from one phase to the next is usually predicated on the successful completion of each phase in turn. Areas such as conversions, test systems, customization, installation, testing, training and go live support are detailed out in the workplan along with acceptance criteria and payment schedules.

***Phase 6 – Post Implementation Review***

Phase 6 usually begins about 3 to 6 months after the system is been in use. During this phase the new system and related business processes are reviewed to assess the level of success that was achieved. New improvement criteria are identified and evaluated. Where needed the business processes and supporting information systems are recalibrated to implement the approved improvements. The review process is repeated every six to twelve months as a means of pursuing continuous improvement and operational efficiency.

***Using Consultants to Help***

Many companies turn to consultants well versed in the moving from legacy systems to newer and more robust environments. These consultants typically use formal methodologies that take into account the cultural and technological challenges and issues surrounding the migration effort. Qualified consultants provide the expertise, experience independence and objectivity often needed to insure success. They can also assist in aligning business objectives and needs to the best IT solutions available.

Another value to using consultants is to buffer the company from an onslaught of software vendor sales forces. The challenge of weeding out the vendors among the hundreds of products, philosophies, and promises, while making the right choice for the company can be daunting. The specialized consultants can insulate the company from needless contact with vendors and serve as an important resource during the contracting phase of the project. Below are tasks that companies usually source to consultants.

### ***Accelerating the Project***

Consultants who specialize in legacy system migrations and replacements know how to help companies define and clarify their business needs. They know how to quickly and efficiently search the market for viable vendors and products allowing the company to accelerate the process and reap the benefits of a new system earlier. Often the benefits gained by accelerating the project more than pay for the consulting fees incurred. For example, if a company can expect to save \$10,000 a month through improved productivity, less errors, faster shipping and better inventory control then every month the company delays the implementation of solutions costs it \$10,000. If through the use of a consultant the solution was to be implemented six months ahead of schedule then the company would save \$60,000.

### ***Evaluation of Products and Product Demonstrations***

Consultants expert in legacy system replacement often have methodologies to assist in the selection process. Rather than being dazzled by the demos, the consultant takes a structured, principle-based approach to the product evaluation. The following include some of the questions that the outside consultant answers during this selection process:

- Where does the company need technology to leverage its productivity?
- What is the estimated life of the solution?
- What is the criticality of the time frame? Is the speed of implementation important?
- Where can the package be tailored to fit the business and where is it smarter to adapt the business process to the package?
- What degree of support is expected over the application's lifetime?
- What is the vendor's profile? How important is vendor support? How important is the vendor's financial credibility, track record and stability over the application's lifetime?
- What is the product status? How many installed customers and years of maturity does the product have?
- How important are the security standards to the application?
- What infrastructure configurations must be supported?

### ***Developing Objective Evaluation Criteria and Tabulating Results***

Objectivity is critical to the evaluation and selection process. Consultants can often serve as the objective advisor during the project. They can also help the company develop measurable evaluation criteria. Often these criteria are weighted in importance to allow the results to be tabulated quickly. The best approach is designed to test potential software packages for their overall "degree of fit" to an organization's information requirements. Vendors that do not meet the needs of the organization are systematically weeded out, narrowing the selection down to the best solutions for the company.

### ***Contract Negotiations***

Companies often use consultants to assist in the negotiation of the contract with the vendor selected. During the negotiation process a qualified consultant can ensure that the best interests of the company are maintained. Trade-offs on pricing, support, project timing, training, conversions, etc. are all considered and packaged into the contract. Very often, the consultant can attain discounts and other considerations not available to the company thus lowering the overall cost of ownership.

### ***Project Management***

One of the most valuable roles a consultant can play during the replacement of legacy systems is that of Project Manager. Even though the selection process was well thought out and the contract expertly negotiated a poorly managed project can spell disaster.

As project manager the consultant coordinates all aspects of the rollout effort. They monitor the vendor and keep them on course. They maintain detailed project plans and keep management apprised of progress and issues. Consultants can stay focused because there is no operational support issues that distract them from the task at hand. They know how to involve the company's management and workforce in a way that minimizes disruptions to day-to-day running of the organization.

Whether a company decides to go it alone or to leverage its success via the use of consultants it is important to perform the above functions expertly if the project is to be successful.

## ***How Long will it Take and How Much will it Cost?***

In a perfect world companies would merely unplug the old systems and roll in the new ones. All the data would be compatible between the old and new systems, people would not resist change and it could all be done in a matter of weeks and a few thousand dollars. Unfortunately many factors come into play in determining the time and money it will take to replace outdated legacy systems. In general most medium sized (\$15 to \$175 million in revenue) companies can expect to take around 18 to 24 months to complete the transition to new systems. Much of this time will be spent defining operational and management's information requirements, and evaluating vendors and products. Typically once a solution is identified they can be implemented within a 6 to 12 month time frame. Of course this is greatly dependent upon the degree of fit the solution provides, the number of business locations the solution must be rolled out to and the complexity of the conversion of data from the legacy system to the new system.

In today's market there is a wide array of enterprise level software solutions available with costs ranging from a few thousand dollars to hundreds of thousands of dollars. Companies

with revenues ranging between \$15 million to \$175 million can expect to find products with base prices ranging from \$15,000 to \$250,000. Sometimes companies can use their existing computer equipment to run the new solution. If new equipment is required then that cost would have to be added. The good news is that the price of computers continues to decline. The bad news is the complexity and price of networks, security, database management tools is continually rising as is the expertise and cost of people to manage it all. In general, companies in the \$15 million to \$175 million revenue range should plan on an overall budget of \$80,000 to \$1,000,000 to replace their legacy systems. Because the price ranges are so vast, upfront planning becomes all the more critical to initiative. Yet, even at a million dollars the cost of these projects is low when the alternatives are considered. For many enterprises the cost is going out of business. Regardless of the cost the expected Return-on-Investment should be squarely understood and metrics put in place to measure the overall success of the effort.

### ***Summing it Up***

As companies grow, competition increases, margins shrink and the economic landscape evolve, the business processes and information systems that once served the organization well age and become impediments to sustained success. Knowing when and how to migrate off these "Legacy Systems" is critical for a company to keep pace with competitors and to continually improve the value it delivers to customers, owners, employees and the communities it operates within. This White Paper provided insights into the process of evaluating, selecting and implementing new enterprise solutions to replace outdated systems and procedures.

## ***TRG's Approach***

TRG prides itself in its expertise in helping organizations to transition from legacy systems to more state-of-the-art Enterprise Resource Management (ERP) solutions. TRG employs a formal method known as The Helix Methodology © (Helix). Helix starts by taking a holistic approach to the migration effort using world class business process improvement techniques to discover and define the needs of the business in context to its strategies, objectives and operational realities. Next Helix provides pragmatic methods for quantifying the requirements of successful systems and for evaluating the marketplace of the best commercially available solution for the organization. Best of all Helix is fast.

In concert with its methodology, TRG maintains a staff of highly qualified consultants that are experts in the migration process, an array of industries (distribution, manufacturing and hospitality to name a few) and in many of the major main-stream products within the marketplace (Great Plains, MAS90 – MAS500 families, Syspro, Infinity and others). We maintain cordial business relationships with major vendors in both hardware and software allowing us to accelerate the evaluation and selection process.

TRG also has a winning record of success with its clients. In fact, every major migration effort TRG has undertaken has been successful. Our team has over a hundred of years of combined experience in helping companies plan for, evaluate, select and implement enterprise level solutions. Clients who have partnered with TRG have been able to stay focused on their business while knowing that TRG will keep their technology investments safe, productive, flexible and cost effective.

## **Appendix A: About TRG**

### **Company Description**

Technical Resource Group (TRG), headquartered in Santa Ana, California, was formed in 1995. TRG has a group of dedicated consultants who work together to solve an organization's technology business needs. TRG is highly respected in the business technology arena as well as being known for their service and support integration expertise. TRG has a long and successful proven track record. TRG's growing team of professional, high technology experts includes individuals that work together to solve business needs in today's ever-changing marketplace. TRG also has an outside team of diverse, high-tech, key industry consultants that are available when their individual expertise and knowledge is required to assist the TRG team to solve the business needs of the customers. Over the years, TRG has successfully worked with these consultants on diverse and numerous projects.

TRG has over 400 customers throughout the United States with a majority in the Southern California area. The company's loyal customer base ranges from single user installations to the Los Angeles Unified School District that has a 1000-user installation. Talent, variety, size and stability—TRG has all the qualities and expertise that create a successful IT service company.

### **Philosophy**

TRG's philosophy is to give its customers a personal touch; however, still have a company structure and strength behind that personal touch.

### **Goal**

TRG's goal is to be the company our customers and prospects call for all their computing needs. TRG wants its customers to grow and TRG wants to assist in the changes and growth. TRG's team strives to deliver the best services, products and information possible to their customers and to provide them with in-depth insight, technical knowledge and solutions for the success of the organization.

## **Technology Partners**

TRG is proud to offer excellent powerful and high performance products and specialized services from these industry-leading technology companies:

### **Software Alliances & Products**

- **Microsoft**—Windows Operating Systems: 2000/2003/XP and related products such as Office, Exchange, IIS, VB, Great Plains & SQL Server
- **IBM**—Database Products & Tools such as UniVerse, UniData, wIntegrate & SB+
- **Esker Software**—VSI-FAX Fax Server & DeliveryWare Document Management
- **Raining Data** (formally Pick Systems)—Database Products & Tools such as D3, mv.BASE, mv.ENTERPRISE & FlashCONNECT
- **jBASE**—Database Products & Tools
- **MIT**—Business Intelligence Products
- **Accusoft**—AccuTerm Terminal Emulator
- **Keynet**—Imaging Solutions
- **Symantec**—pcAnywhere & Norton AntiVirus
- **Veritas**—Backup Exec
- **Via Systems**—Viaduct Terminal Emulator
- **SurfControl**—E-mail and Web Filtering
- **AcuPrint**—Secure Printing

### **Hardware Products**

- Hewlett-Packard/Compaq—Intel-based Servers
- IBM—RS/6000 (pSeries) Servers
- Wyse—Wintervals/Thin Clients
- APC—Uninterruptible Power Supplies
- PF Micro— Intel-based Servers

### **Business Partners**

- **The Natural Intelligence Group**—Management Consultancy for business process improvement and reengineering
- **Hartley & Associates**—Professional Services include Interim Management, Organization Building, Recruiting, Sales, Marketing & Advertising

TRG's account managers, technicians and consultants work closely with its partners to develop solutions for specific customers' needs and to assist with every challenge for all types and sizes of organizations.

### **TRG Qualifications**

- IT Strategist and Nationally Recognized Business Process Improvement Experts
- Certified HELIX professionals (a formal methodology for the planning, design, development and implementation of systems)
- Manufacturing and Distribution Software Experts with over 75 years of implementation and support experience
- Microsoft Certified Partner that has expertise in supporting Windows NT/2000/2003/XP, Exchange Server, Proxy Server, IIS, Great Plains and Excel. TRG has full-time Microsoft certified staff members (MCSE, MCP, MOUS).
- Windows Terminal Server professionals on staff. TRG is giving presentations on the benefits of Citrix, Windows Terminal Services and Thin Clients. Internally, TRG uses Thin Clients and Windows Terminal Services.
- Authorized IBM reseller including UniVerse and UniData database products and tools and MITS business intelligence product and have on staff AIX operating system experts.
- Over 175 years of MultiValue/Pick application design, programming and support.
- Single Source for Hardware, Software and Services, if customer desires a single source. Or, if customer chooses, TRG can provide one piece of the puzzle if the customer has coverage in other areas.
- Authorized Hewlett-Packard/Compaq Reseller (VAR) with Certified professionals (ASE) on staff.
- Value Added Reseller for all Raining Data products and tools including D3, mv.BASE, mv.ENTERPRISE and FlashCONNECT.
- Reseller of numerous supplementary products such as APC uninterruptible power supplies (UPS), Esker VSI-FAX faxing software & DeliveryWare, Keynet Imaging, AccuTerm terminal emulator, print servers, etc. that are important and necessary for TRG customers' IT requirements.
- Windows application and Web development teams that are knowledgeable in Visual Basic, SQL Server, FrontPage, HTML, etc.
- Professional Service employee consulting staff, in addition to specialized outside consultants to assist TRG employees when appropriate to solve the business needs of TRG's Customers.

TRG has dedicated and experienced resources to work with an organization to define needs, costs, options, and possible cost savings. TRG has experts in solving business and technology problems from IT business alignment or interoperability issues between existing desktop hardware, operating system platforms and Windows NT/2000/2003-based applications. TRG's record of success is based on years of innovation and achievement.

### ***Technology Marketplace***

Organizations can choose a large and expensive consulting company that may not take the time to know the organization or their current technology. Organizations can choose a one-man shop that does not have the technology expertise in all the areas the organization needs and cannot keep pace with the ever-changing technology. A single person cannot possibly be knowledgeable in all areas of Information Technology (IT). There is also the high probability that the one-man shop might be out of business tomorrow.

TRG's team specializes in emerging technology solutions. TRG's service offerings include advisory, consulting and assessment services. TRG's close-knit team can bridge the gap between complex non-Windows based IT infrastructures such as UNIX, Linux and Windows NT/2000/2003-based environments. TRG has the expertise that can provide cost-effective solutions that are specific to organizations in all their IT needs and business-critical applications.

### ***Contact Information***

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## More Information

For the latest information about our solutions, products and services, access the following:

[www.picktrg.com](http://www.picktrg.com)

## References/Additional Resources

### Internet

- <http://www.naspa.com/PDF/2004/0204/T0402001.pdf>
- <http://techrepublic.com.com/2001-6240-0.html>
- [http://www.it-cortex.com/Stat\\_Failure\\_Rate.htm#The%20Robbins-Gioia%20Survey%20\(2001](http://www.it-cortex.com/Stat_Failure_Rate.htm#The%20Robbins-Gioia%20Survey%20(2001)
- [www.cio.com](http://www.cio.com)
- [www.ganttthead.com](http://www.ganttthead.com)

### Books

- **The Helix Factor** – by Michael R. Wood – available through [www.tnigroup.com](http://www.tnigroup.com), [www.amazon.com](http://www.amazon.com), [www.picktrg.com](http://www.picktrg.com)
- **Modernizing Legacy Systems: Software Technologies, Engineering Processes, and Business Practices** – by Robert C. Seacord, - available through [www.amazon.com](http://www.amazon.com)
- **Legacy Systems: Transformation Strategies** - by William Ulrich - [www.amazon.com](http://www.amazon.com)
- **A Guide to Software Package Evaluation & Selection: The R2Isc Method** - by Nathan Hollander - [www.amazon.com](http://www.amazon.com)
- **Budgeting : Technology, Trends, Software Selection, and Implementation** - by Nils H. Rasmussen, Christopher J. Eichorn - [www.amazon.com](http://www.amazon.com)
- **Guidelines for evaluating and selecting software packages** - by Irvin Brownstein - [www.amazon.com](http://www.amazon.com)
- **The Insider's Guide to Selecting Computer Software Consultants: Unravel the Mysteries of Buying Business Software** - by Susan Fagelson - [www.amazon.com](http://www.amazon.com)

## Articles

- **"Penn Litho Chooses IT Resources for Software Package Evaluation,"**  
*ITresources*
- **"Weed Them Out! Six Criteria for Software Vendor Selection,"**  
*www.gantthead.com*
- **"Tips for Selecting Software and Software Vendors,"** *Newport Consulting*
- **"How to Choose an IT Vendor,"** *Computerworld , IDG.net*
- **"A Vision to Effectively Execute Your Information Strategy Plan,"**  
*www.gantthead.com d*
- **"Best of Breed vs. End-to-End: Solutions for Application Development,"** *MKS*
- **"Software Selection: An Approach,"** *Technology Evaluation*
- **"What Not to Miss in a Vendor Contract,"** *www.gantthead.com*