Enable a Pace-Layered Approach to Business Technology

How business users interact with software applications vary based on role. Yet many IT application strategies of the past purchased and managed applications according to technological viability or cost. Such an approach led to purchasing or building solutions that merged many functions together into large suites of applications.

But widespread Internet access and mobile adoption have changed business forever. Users have grown accustomed to apps that help them quickly complete tasks and update data in a matter of seconds. That limited set of applications suites that they must use at work is frustrating, complicated, slow and unwieldy.

While aware of the complexity of digital business, business users cannot understand why their business applications don't work the way their mobile apps do. They have run out of patience. And IT has run out of time. Adopting a pace-layered strategy in order to serve as an enabler of business innovation can bridge the gap.

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What is a Pace-Layered Application Strategy?

Developed by analyst firm Gartner, Inc., the Pace-Layered Application Strategy is a methodology for categorizing applications based on how they are used, and how fast they change. Pace layers can be used to build a portfolio strategy that delivers faster response and better ROI while preserving integrity, integration and governance. The three pace layers defined by Gartner are:

▶ **Systems of Record:** Established package or legacy homegrown systems that support core transaction processing and manage critical master data

▶ **Systems of Differentiation:** Industry- or business process-specific applications that enable unique capabilities used by the organization

▶ **Systems of Innovation:** Ad hoc applications built to address new requirements or opportunities
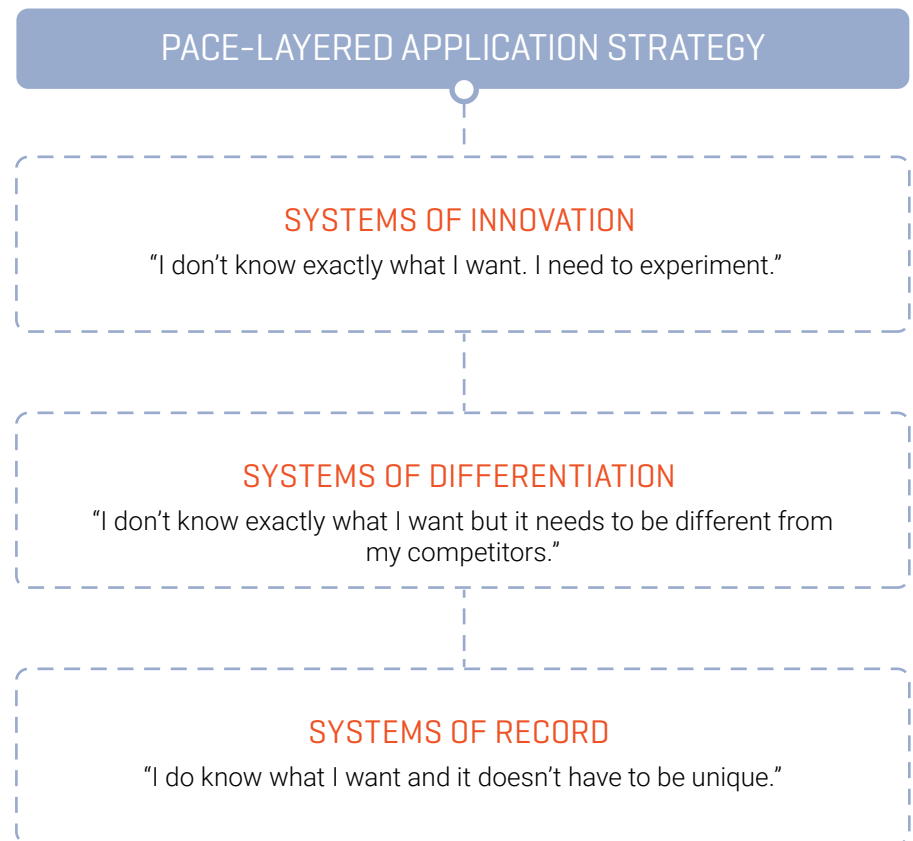
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Mapping Business Apps to Pace Layers

The first step is mapping existing applications in your portfolio to one of the three pace layers. Your application layering strategy should be defined only by your business requirements, not by a vendor-defined packaging scheme. To make this process simple, it can be helpful to map business needs to layer attributes by acknowledging simple facts about each project:

▶ **Record Layer:** Core transaction processes that helps to "run the business"

▶ **Differentiation Layer:** Processes or workflows that can improve efficiency and execution of current business applications

▶ **Innovation Layer:** Enabling additional interaction for expanded users in new situations/experiences

Pace layers map to competing forces. Systems of Record (SOR) are concerned with compliance; they are the more traditional back office and transactional applications. These systems are usually subject to regulatory requirements and must be stable. SORs are usually accessed by traditional core system users.

Figure 1:
Map business needs to Pace Layers by acknowledging simple facts about each project.

PACE-LAYERED APPLICATION STRATEGY

SYSTEMS OF INNOVATION

"I don't know exactly what I want. I need to experiment."

SYSTEMS OF DIFFERENTIATION

"I don't know exactly what I want but it needs to be different from my competitors."

SYSTEMS OF RECORD

"I do know what I want and it doesn't have to be unique."

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Systems of Differentiation (SOD), on the other hand, must be adaptable to change while still conforming to departmental regulations and other policies. SODs are usually business workflows that enable an organization to improve in areas to differentiate themselves from the competition.

Finally, Systems of Innovation (SOI) are wholly focused on flexibility and speed. Often the source of critical business innovations, these systems must be more responsive than typical IT application development projects. Business users should be able to use SOIs to quickly piece together and/or prototype fast solutions to unique business problems. They also are focused on unique experiences for new and expanded users of business applications.

The table below, originally devised by Gartner in the report, "How to Use Pace Layering to Develop a Modern Application Strategy," describes the characteristics of the pace layers.

Figure 2: Gartner's Characteristics of Pace Layers.

CHARACTERISTIC	RECORD	DIFFERENTIATION	INNOVATION
Process Characteristics	Well understood	Well understood	Unique
	Slow to change	Unique	Not well understood
	Highly integrated	Highly configurable	Dynamic
		Autonomous	Ad hoc
Data/Information	Highly structured	Internal and external	Structured and unstructured data
	Well managed	Some unstructured	Heavy reliance on external data
	Mainly internal	More dynamic	
	Audited		
Content	Static/stable	Both	Dynamic
Analytics	Reporting	Planning	Predictive
	Historical	Budgeting	Scenario-based
Security	Tightly controlled	Distributed control	Federated control
	Managed complexity	Manageable complexity	High potential complexity
Collaboration	Limited	Moderate	High

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Technology Enabling the Pace-Layered Approach

Once mapped into pace layers, most companies find that custom-built applications fit into SOD and SOI layers. To enable true differentiation and spark innovation, IT must provide technology, governance and guidance to a wider core of business developers. IT organizations are in a prime position to offer businesses the agility they need to move growth skyward. Such agility is provided by:

▶ **Moving process definitions out of code:** Implementing a Business Rules Engine (BRE) enables business users to work directly with rules without endless code changes and delays, while IT can create high performing software

▶ **Establishing Business Process Management:** Achieve efficiency without losing agility and identify workflows that address changing business requirements

▶ **Looking for common practices adoptable by all layers:** Standardize common practices accordingly, such as business user collaboration features, DevOps or automated testing

▶ **Enabling rapid application development:** Provide a low-code environment managed by IT where skilled business developers and other app devs can quickly build apps using a modular approach

▶ **Adding application governance:** Provide aggregated views across layers, even if delivery approaches differ by layer

▶ **Deployment Flexibility:** Assess cloud, on-premise and hybrid deployment options and make a choice based on business service

▶ **Business intelligence (BI)/analytics:** To support a new range of information-driven systems of differentiation and innovation, and to ensure the effective use of data

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With flexible and robust application development tools being critical to achieving a pace-layered approach, IT organizations need to partner with a technology vendor that can address the requirements of each of the three application layers. Progress is well-positioned to be that vendor with its diverse portfolio of products and services that provide developers the ability to deliver responsive capabilities that can move a technology strategy toward a more agile, layered approach.

With one of the industry's most agile business rules engines, Progress® Corticon®, IT organizations get the reliable, high-performance automated business decisions needed to change rules in hours—not days or weeks—for optimized productivity.

Progress® OpenEdge® BPM offers an intuitive and productive way to modernize and streamline applications, making businesses more operationally responsive. With OpenEdge BPM, old hard-coded processes and workflows can be extracted and replaced with configurable and flexible workflows that enable applications to be tailored for and by the consumers of the applications. Both of these technologies support the flexible requirements associated with development of the SOD layer.

Telerik® Platform delivers the powerful web and mobile application development tools needed to power the business forward. Telerik Platform not only helps developers to rapidly build cross-platform mobile apps, but also provides a complete solution that supports the entire scope of an IT organization's mobile strategy.

Telerik® Sitefinity™ CMS and the Digital Experience Cloud allows organizations to grow their online businesses, engaging, converting and retaining customers by tracking, analyzing and shaping every step of the customer journey.

Progress® Rollbase® provides rapid application development in the cloud, with minimal coding. IT organizations and citizen developers alike can build, deploy and manage cloud-based applications with a single tool designed to get developers up and productive fast, enabling rapid development of the SOI layer.

And finally, Progress® OpenEdge® Analytics360™ Business Intelligence offering takes a technology agnostic approach, uncovering KPIs that will be of real value to an organization, and identifying business process improvement opportunities that will directly impact the bottom line.

For over 30 years, Progress has been committed to delivering market-leading technology innovations that empower ISVs and customers to dramatically improve the development, deployment and management of business applications. Progress technology is used by nearly 140,000 organizations in more than 180 countries, and powers a community of over 1.7 million developers.

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