An Introduction to the

Gartner Pace-Layered Application Strategy

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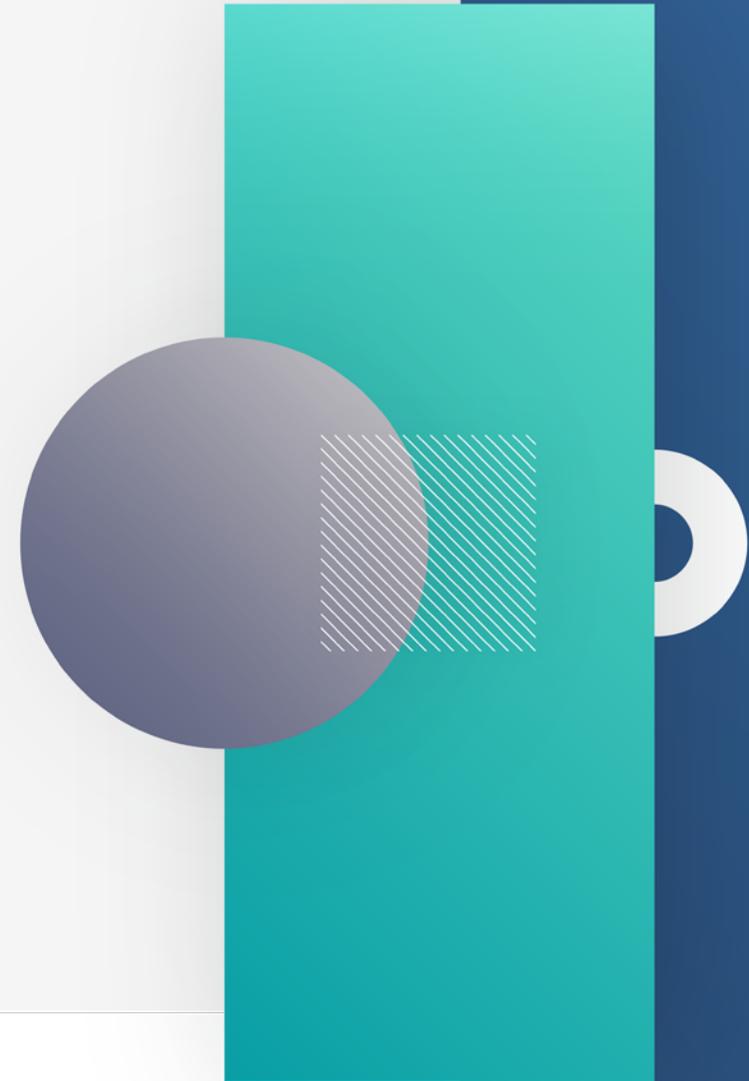# An Introduction to the Gartner Pace-Layered Application Strategy

The Gartner Pace-Layered Application Strategy, or Gartner Pace Layer, was released in 2010 and became popular, offering a unique tool for Application Portfolio Management. Having fi rst covered the Pace Layer in 2015, we're taking another look at new developments involving business capability modeling & the pace layer, as well as refreshing the definitions and guidance on the overall strategy.

With Application Portfolio Management (APM) rising in popularity, it could be noted there aren't an array of methods being offered to help support application portfolio managers. Some commonly used methods have been around for many years such as the Application Portfolio Matrix by McFarlan in the 1980's, and a few have come to light in recent years such as the Federal Segment Architecture Methodology (FSAM). This updated paper aims to provide the reader with a summary of the Gartner Pace-Layered Application Strategy, with a focus on new developments.

What is the Gartner Pace-Layered Application Strategy™?

The Gartner Pace-Layered Application Strategy is a method to categorize applications, according to their role in the organization, to support business change, differentiation, and innovation. This categorization is performed with the aim of applying different IT governance procedures to different types of applications and accepting that different expectations, with regards to the rate of change, should be applied to different applications.

Gartner summarizes the Pace-Layered Application Strategy as below:

"A new methodology for categorizing applications and developing a differentiated management and governance process that refl ects how they are used and their rate of change"
(Gartner 2012)
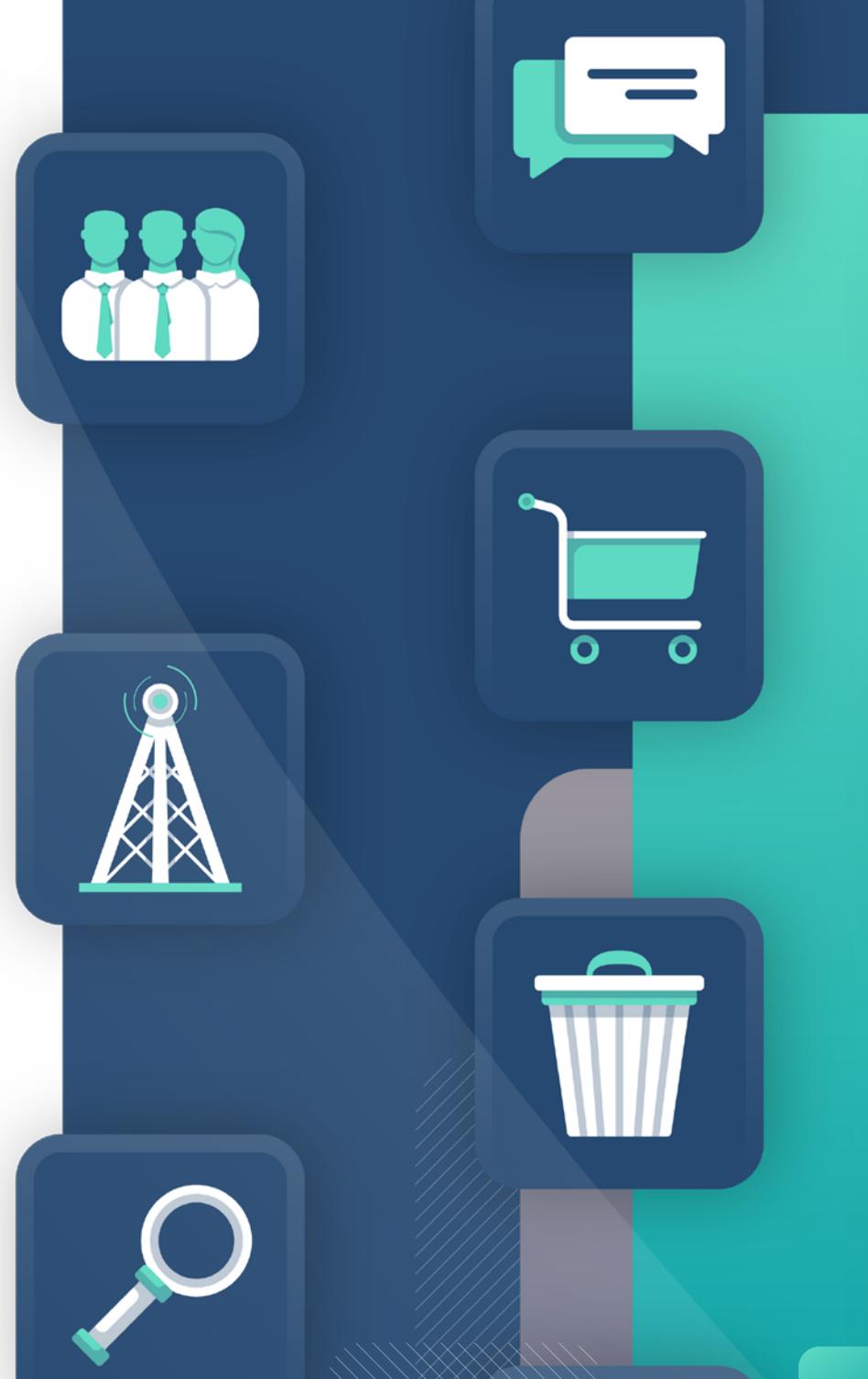
Pace Layers are described as follows:

"Gartner applies the term "pace layers" to the evolution of applications in an organization…

These architectural layers have different "paces" of change, but they must be designed to work together so that the building can function effectively." (Gartner 2020)

It is worth noting that applications are not classified as entities themselves, this wouldn't be effective since value is achieved not from the application itself, but rather from the usage of the application. Pace Layering therefore, classifies the application and the processes it supports. This means that you cannot find lists of applications and their pace layer classification, and an application may move between layers over time as usage changes.

Dennis Gaughan, Managing VP at Gartner makes it clear "The same application may be classified differently in one company than in another, based on its usage and relationship to the business model. We expect to see applications move among layers as they mature, or as the business process shifts from experimental to well established to industry standard" (Gartner 2012).

The below describes the criteria used to categorize applications when Pace Layering:

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Systems of Record

Simple Definition: Applications which support standard, foundational business processes (Gaughan 2012).

Detailed Definition: Established packaged applications or legacy home-grown systems that support core transaction processing and manage the organization's critical master data. The rate of change is low, because the processes are well established, common to most organizations, and often are subject to regulatory requirements (Gartner 2012).

Systems of Differentiation

Simple Definition: Applications which support non-standard differentiating processes (Gaughan 2012).

Detailed Definition: Applications that enable unique company processes or industry-specific capabilities. They have a medium lifecycle (one to three years), but need to be reconfigured frequently to accommodate changing business practices or customer requirements (Gartner 2012).

Systems of Innovation

Simple Definition: Applications which support new, experimental processes (Gaughan 2012).

Detailed Definition: New applications that are built on an ad hoc basis to address new business requirements or opportunities. These are typically short lifecycle projects (zero to 12 months) using departmental or outside resources and consumer-grade technologies (Gartner 2012).

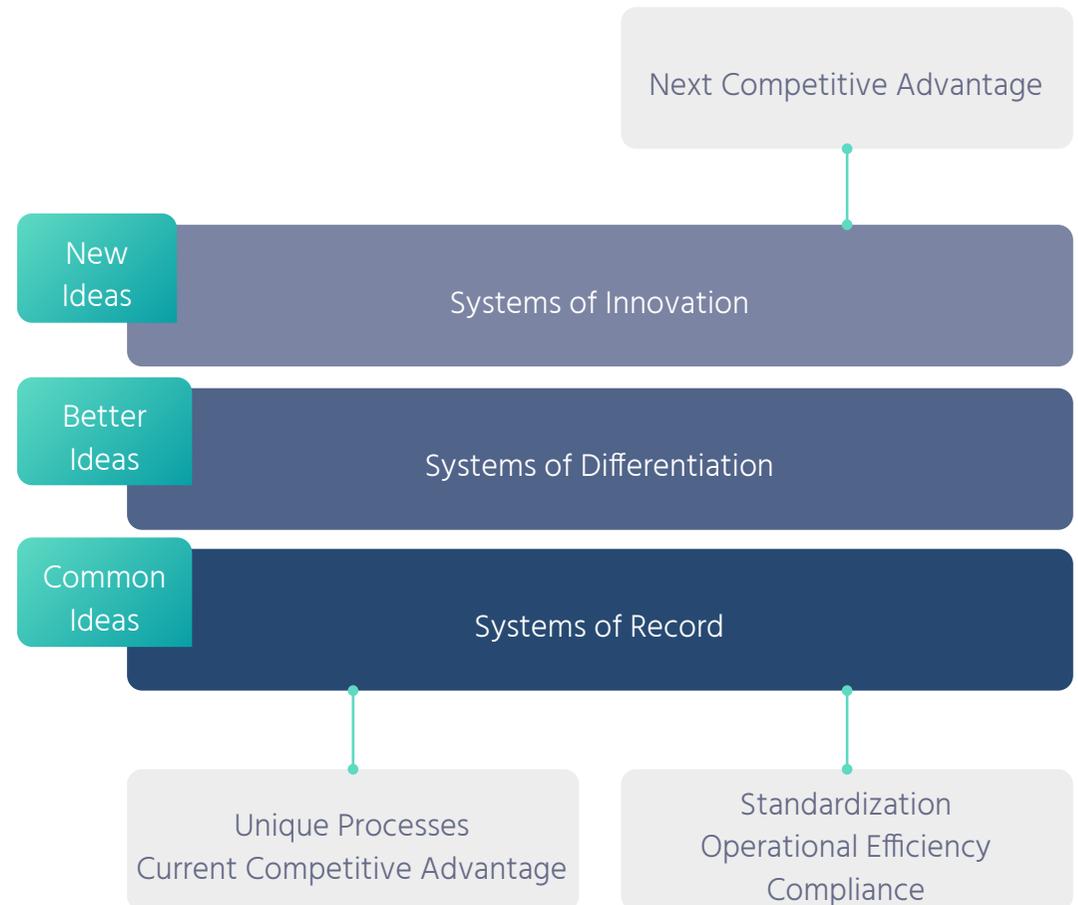Figure 1 shows a quick reference summary of the layers at a glance along with a brief explanation:

Next Competitive Advantage

New Ideas

Systems of Innovation

Better Ideas

Systems of Differentiation

Common Ideas

Systems of Record

Unique Processes
Current Competitive Advantage

Standardization
Operational Efficiency
Compliance

Figure 1: Gartner's Pace-Layered Application Strategy (Gartner 2020)

Why Use the Gartner Pace Layer?

Gartner suggest that there is a fundamental disconnect in the strategies pursued by leadership, by management, and by IT. Management seek applications that are easy-to-use and reliable. Leadership want to be able to mitigate risk and take advantage of new opportunities. IT aim to reduce cost, minimize complexity and improve security. This leads to the conflicting desires for both continuous change, and tight control on any change. The Pace-Layered Application Strategy aims to help this issue.

Gartner developed the pace layer after discovering organizations commonly applied the same investment strategy and governance approaches to all applications regardless of their scope or usage. As Gaughan puts it.

"The one size fi ts all approach does not work and you need to look at applications in the context of the business value they provide for the organization and their rate of change differs as a result" (Gaughan 2012).

The idea of pace layering is based upon the concept of shearing layers in building architecture (Gartner 2020), whereby different layers within the building change at different rates. One example of this is that while the structure of the building may last for thirty to one hundred years, the skin of the building may change to accommodate new styles or to incorporate more energy efficient designs. With this is mind, the fundamental concept of the Gartner pace layer is that different types of systems should develop more quickly than others and as such they should be treated differently.

The pace layer suggests that different types of system require different IT governance strategies which may range from strict control for systems of record through to ad-hoc for systems of innovation.

"The Gartner Group has introduced the concept of Pace Layering, encouraging us to not only acknowledge that things need to change at different paces, but also to embrace a strategy for IT governance that fosters innovation alongside prudent change control." (Syx 2011)

One of the primary drivers behind usage of the pace layer is to enable applications to be treated differently, this works on the premise that an organization is prepared to treat applications differently dependent on their category. The benefit, according to Gartner, is that by enabling this special treatment for specific applications organizations can achieve a faster response time and a better Return on Investment.

As previously mentioned, the Pace Layer is built more around application usage classification than application classification, since the categorization method calls for implementers to "Analyze the characteristics of each application and process", and as Gaughan states, an application can be classified differently at one organization versus another, based on the business processes the application supports, and is expected that applications move among layers as they mature, or as the business processes evolved. (Gaughan 2012)

"We believe this same idea of pace layers can be used to build an application strategy that delivers a faster response and better return on investment, without sacrificing integration, integrity or governance" (Gartner 2020).

The Pace Layer and Business Capabilities

One of the new developments for the Pace Layer has been a focus on aligning the strategy with business capability modeling. Gartner state that "we have found that starting with discussion and mapping of business capabilities into the three pace layers is critical for success."

Business Capabilities are now considered to be the starting point for the strategy, as opposed to diving straight into the categorization of applications to different layers. By using a capability model, communication between IT and the wider business is improved, leading to greater engagement.

Figure 2 demonstrates a Business Capability Model that has been segmented into pace layers:

Research & Development	Market to Opportunity	Opportunity to Order	Supply Chain	Manufacturing	Order to Cash
Strategic Architecture Definition	Product Planning	Opportunity Management	Forecast and Demand Management	Production Scheduling	Order Management
Platform / Ingredient Lifecycle	Product Marketing and Roadmap	Order Tracking	Production and Supply Planning	Assembly	Finished Goods Inventory Management
Product Data Management	Channel Management/ Reseller	Sales Compensation Management	Materials Sourcing Design and Strategy	Work in Progress Inventory Management	Invoicing
Product Environmental Compliance	Customer Account Management		Materials Requirements Planning	Performance Monitoring	Accounts Receivable and Collections
	Pricing			Outsource Manufacturing	Customer and Post-Sales Support
Sourcing	Supplier Sourcing and Selection	Plan Materials Requirements	Procure Goods and Services	Plan/Manage Inventory and Warehousing	Contingent Workforce Management
Finance	Investment and Capital Management	Budgeting and Reporting	Accounting Controls and Compliance	Treasury	Accounts Payable
Human Capital	Recruit and Hire	Leadership/ Workfoce Engagement	Talent/Workfoce Management	Core Services and Employee Retention	Learning and Development
Fecilities		Fecilities and Asset Planning	Facilities Operations	Environmental Health and Safety Compliance	Physical Security and Mitigation
Legal		Intellectual Property Management	Competition and Litigation	Compliance, Privilege and Privacy	Corporate Affairs

Figure 3: Governance Difference between the Layers (Guay 2011, 17)

How to Implement the Gartner Pace Layer

In order to implement pace layering the below steps have been suggested:

1 Engage key stakeholders in the pace layer concept.

2 Define a new Business Capability Model or review an existing capability model.

3 Segment business capabilities according to the different layers.

4 Compile an application portfolio or inventory, decomposing existing suites into individual applications.

5 Match each application with the corresponding capabilities that it supports; Use the pace layered application characteristics as a starting point.

6 Review the fitness and value of applications.

7 Adapt your application governance model to fit the objectives and needs of the three layers.

8 Establish a set of connective technologies to facilitate the interoperability of the application within and between layers.

9 Regularly measure the impact of the application strategy. Encourage users to think about applications and processes based on their probable rate of change.

(Guay 2011), (Gartner 2020)
These steps refer to the pace-layered application characteristics, which are defined as below, however this is not a prescribed set of characteristics but rather a suggestion:

Systems of Record

Process Characteristics: Structured, repeatable

Data / Information: Highly Structured, Well Managed, Mainly

Internal, Audited

Content: Static / Stable

Change Control / Governance: Strict Control and Testing

Business Engagement: Formal Governance Process

Planning Horizon: 7+ Years

Systems of Differentiation

Process Characteristics: Configurable, Autonomous

Data / Information: Internal and External, Some Unstructured,

More Dynamic

Content: Both (Static / Stable & Dynamic)

Change Control / Governance: More Streamlined

Business Engagement: Part of the Team

Planning Horizon: 1-2 Years

Systems of Innovation

Process Characteristics: Dynamic / Ad Hoc

Data / Information: Structured and Unstructured Data,

Heavy Reliance on External Data

Content: Both Dynamic

Change Control / Governance: Ad-Hoc

Business Engagement: Doing the Work

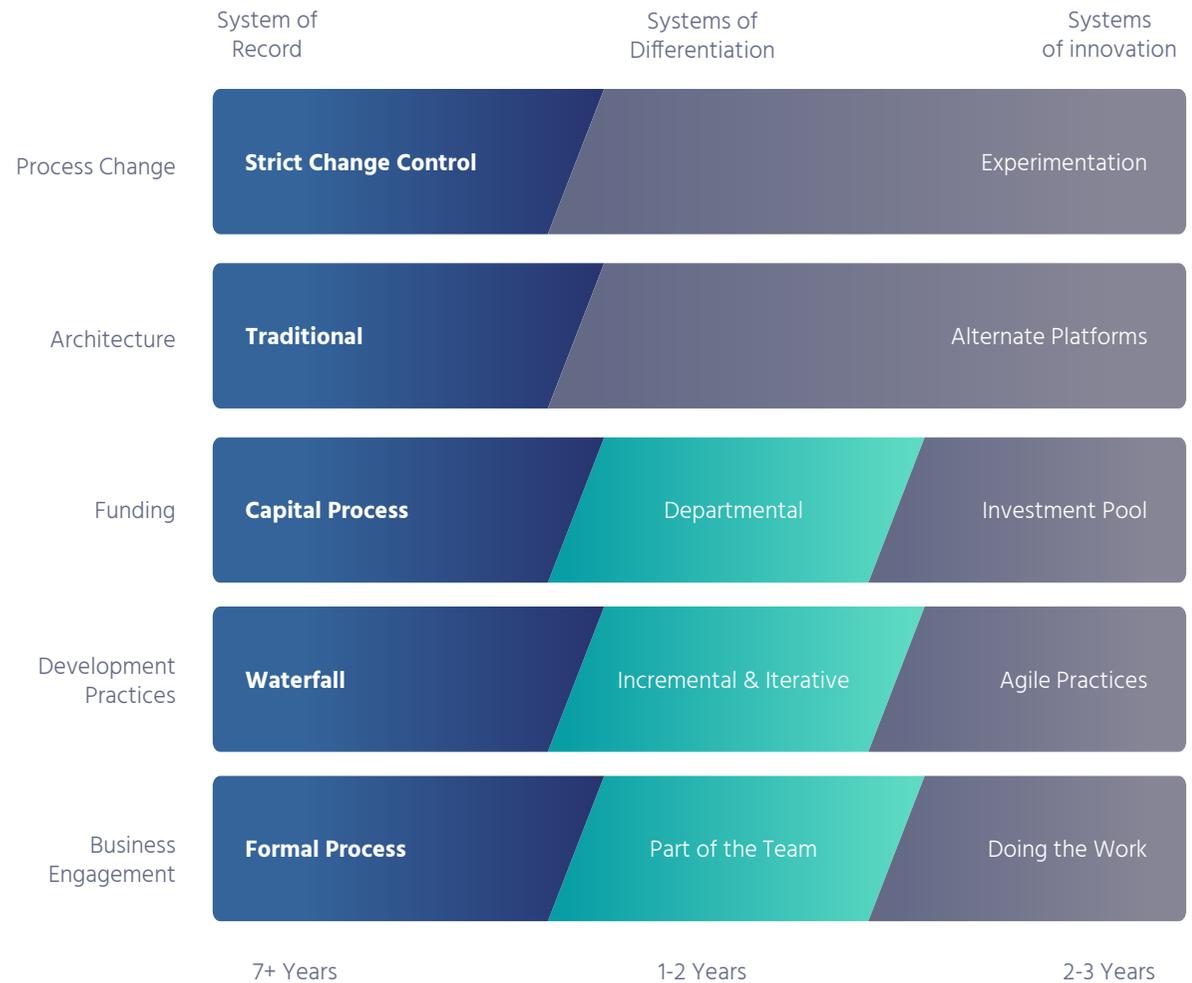Planning Horizon: 2-3 Months (Guay 2011)

	System of Record	Systems of Differentiation	Systems of innovation
Process Change	Strict Change Control		Experimentation
Architecture	Traditional		Alternate Platforms
Funding	Capital Process	Departmental	Investment Pool
Development Practices	Waterfall	Incremental & Iterative	Agile Practices
Business Engagement	Formal Process	Part of the Team	Doing the Work
	7+ Years	1-2 Years	2-3 Years

Figure 3: Governance Difference between the Layers (Guay 2011, 17)

Conclusion

The Gartner Pace-Layered Application Strategy can offer organizations a way to categorize applications, therefore feeding into decision making in a number of areas. Provided the technique is rigorously applied, this should lead to a multitude of benefits.

Gartner have continued to develop the strategy since its release, with the most notable development being the interlinking with business capability modeling. Capability Modeling is another growth area for business strategy, and this link may enable the more rapid adoption of both for forward looking enterprises.

Having another technique in this area (APM) published and promoted by Gartner has led to widespread adoption. This technique is becoming well recognized and adopted already and there are some success stories beginning to emerge. With this in mind, it is a technique all APM implementers should consider when looking to defi ne different strategies to complement the application roadmap.

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