

# INTEGRATING DIGITAL INNOVATION

*Integrating in 'System of Systems' World...  
How utilities are managing the proliferation of new  
innovations and point solutions within their  
integrated digital ecosystems*

## INNOVATION AREAS

*The Landscape of Digital Innovations*

*Finding the Right "On Ramps"*

*Consolidate vs Componentize?*

*Emergence of 'System of Systems' Integrations*

# TREND 9

*Bringing the Digital  
Utility to Life*



# TREND 9: INTEGRATING DIGITAL INNOVATION

In areas across the utility value chain, software vendors and solution partners are providing utilities new and bolder ways of digitally enabling their business. Whether introduced within the stream of regular enhancements to enterprise utility software, or promoted to the market organically as an innovative point solution, the volume of opportunities for digital innovation has clearly expanded exponentially in recent years.

The challenge for utilities today is twofold: 1) how to best identify and prioritize among the myriad of innovations being introduced into the market and 2) determining how to best integrate these innovations into the fabric of their digital ecosystems. Helping utilities address these challenges has begun to redefine the value proposition for systems integrators and, in many cases, changed the very nature of their relationship with their utility clients.

## THE LANDSCAPE OF DIGITAL INNOVATIONS

Today's digital innovations run the gamut, from technologies that fill critical gaps in core applications required to operate basic utility functions, to more sophisticated modeling, optimization and orchestration engines that will likely define competitors in tomorrow's utility markets. Four broad areas that underpin the utility innovations landscape include:

- **DIGITAL ENABLEMENT** – technologies that are addressing gaps in today's current application portfolio – examples of which vary from improvements in database and data-lake environments, to advanced analytics platforms that are being introduced by vendors to help streamline the creation and delivery of actionable insights to key business functions
- **DIGITAL EXECUTION** – technologies that are filling critical gaps in customer and workforce applications, and facilitate the expansion of customer engagement channels
- **DIGITAL ORCHESTRATION** – Platforms that direct customer-centric workflows across business silos, continuously coordinating and optimizing between business, infrastructure and customer objectives
- **DIGITAL OPTIMIZATIONS** – Configurable models and optimization platforms that help utilities optimize assets, supply resources and workforce

Regardless of where these technologies originate or are ultimately positioned within the portfolio, they are collectively making utility digital ecosystems more robust. New artificial intelligence and robotic process automation-enabled solutions have already demonstrated significant reductions in back-office workloads and unit costs. New optimization and orchestration engines emerging in just the last 18 months are being credited by utilities to have successfully delivered more frictionless customer and user journeys. Even without further commercialization or adoption, many of these innovations have paid for themselves several times over.

## ASSIMILATING NEW DATA STREAMS

As organizations look to further build on these innovations and extend their potential value across the business, determining when and how to integrate these solutions into their digital roadmaps and scaling their value across the application portfolio is important. Rarely is it a question of if, but rather of when and how to effectively orchestrate a broader introduction of these innovations across the enterprise. One of the biggest challenges for today's Chief Digital and Innovation Officers is finding the right "on-ramps" for merging these innovations into the organization's digital roadmap.

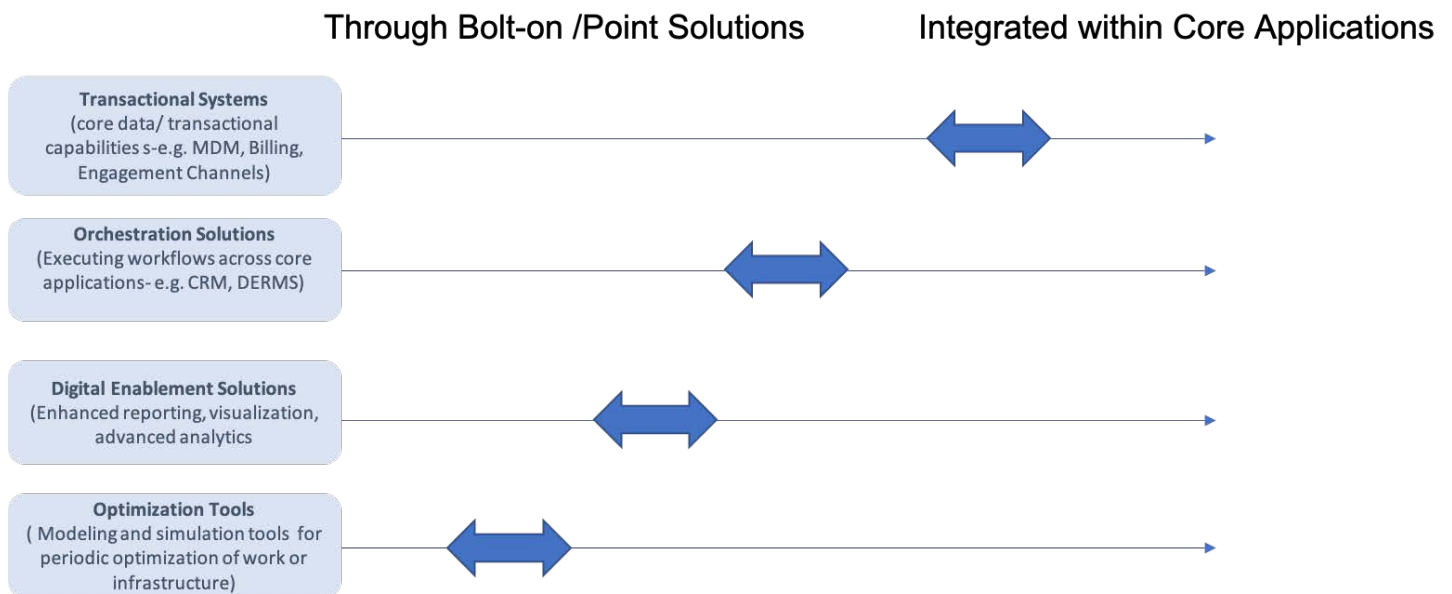
Many organizations have developed formal structures for nurturing innovations and allowing them to flourish in a way that coexists with the current digital ecosystem until they are ready to be commercialized, scaled, and embedded more directly into the workflows of the business. This includes finding the most optimal homes for incubating and maturing these technologies, either within existing application suites or as integrated components within a broader ecosystem of applications.

## COMPONENTIZE OR CONSOLIDATE?

The way in which new innovations are introduced into the mainstream of the business has become a bit of a contentious debate within the IT function, and across the utility’s network of software vendors and systems integrators - a debate that in the end has no single “right answer.” This is further complicated by changes in energy delivery technologies, customer expectations, and the increased demand for better decision-making considering the exponential expansion of data that is becoming available.

***“The next challenge for utilities is finding the right on ramps that will allow these innovations to be assimilated more broadly across their digital ecosystems.”***

### HOW UTILITIES ARE SOURCING NEW DIGITAL CAPABILITIES



On one end of the spectrum are fully-integrated solution suites, offered by high-profile software vendors who have already begun to integrate many of these newer innovations into their core or extended offers. A key advantage of these the preconfigured integrations with their existing applications, enabling utilities to capture efficiencies associated with current implementations, or extend the life of their recent deployments.

On the other side of the spectrum are a growing contingent of utilities who hold fast to the view that a componentized collection of applications stitched together by a modernized, efficient and high-speed microservices or even an integration service bus environment is most ideal. Their view is having these capabilities detached from core applications allows the organization to retain more control and flexibility to adapt and reuse components across their digital environments. While theoretically appealing, and quite possible in the longer term, there is little evidence today of a componentized “system of systems” environment existing on a massive scale.

*“Far more likely, and well evidenced is a hybrid approach, one that protects scale advantage within an open & cloud friendly integration environment.”*

Far more likely, and well evidenced in its application, is a hybrid approach - one that allows utilities to achieve the scale efficiencies of a solution’s embedded integrations while providing a more open and cloud friendly environment that accommodates these integrations more quickly and flexibly than their initial application suites were intended to.

## IMPLICATIONS FOR VENDORS, INTEGRATORS AND UTILITIES

*“Utilities are demanding more solution driven approaches that balance the efficiencies of bundling with the need for more dynamic integrations with best of breed innovations.”*

The age old dilemma for software vendors has been building their solutions to deliver on the business needs of the utility while preserving the continuity of their applications, reducing complexities associated with customizations, optimizing implementation costs, and maximizing profitability of their products. While full bundling of innovations into core applications might seem like the path of least resistance to accomplish those objectives, the sheer magnitude of emerging innovations, and the reluctance of clients to wait for the downstream integration to occur makes that a virtual impossibility - at least in the short term.

Demands that vendors and integrators work seamlessly to provide flexible, “solution driven” approaches (over traditional “requirements based” approaches) that strike an effective balance between the efficiencies of bundling and the benefits of more dynamic integrations with “best of breed” capabilities. For the time being, look for a combination of approaches to integration, with each iteration producing more speed and flexibility for how these manifest themselves for clients:

- **INCREASING SPEED AND EFFECTIVENESS OF BUNDLED INTEGRATIONS** – Software vendors will continue to strengthen their bundled solutions, continuing a trend of replacing their organic development with acquisition-driven strategies to close critical gaps and accelerate new innovations. This puts an increasing integration burden on their own organizations to ensure benefits are quickly harvested and reflected in new offering and releases. All too familiar are cases where

costly acquisitions take years before the benefits of bundling into their applications manifest themselves in clear, compelling and seamless offers to clients.

- **PARTNER-BASED ASSIMILATION** – As an alternative to fully integrated product offerings, many vendors have expanded partnerships with innovative external platforms and solution providers, incorporating them directly into the price lists with investments in preconfigured integrations to enable a more symbiotic relationship between their products. Although often non-exclusive, these relationships frequently carry a strong mutual benefit to both organizations both from a product and business development standpoint. These relationships can, and often do, serve as precursors to downstream acquisitions or mergers between the vendor organizations themselves.

- **DYNAMIC INTEGRATIONS (TOWARD “SYSTEM OF SYSTEMS”)** – While it may be some time before a fully mature “systems of systems” environment emerges; evidence has started to materialize, with some solution providers claiming this as their primary advantage. As utilities today are increasingly open to evaluating a somewhat more componentized evolution of their application portfolio, more opportunities are emerging for point solutions that can accelerate the introduction of needed capabilities, and systems integrators who can execute the more complex integrations this approach demands. While not yet a significant threat to large established offerings, they are representing a distraction to their current strategies, and, in some cases, are causing some utilities to rethink or delay larger, more conventional implementations.

As long as innovation continues to emerge at the rate it is today, utilities will be forced to make critical choices like those discussed above. Emerging software and solutions vendors will continue to develop new capabilities, and some of these may require a core value proposition that requires separation or compartmentalization from a bundled solution. Enterprise vendors will certainly move to bring many of these new capabilities to scale, and work them into their portfolios as core differentiators, either through partnerships or acquisition of the point solutions themselves. Successful SIs will be those who offer true solutions-based roadmaps that help utilities navigate these choices as they assimilate new capabilities into their business.