A once-in-a-generation opportunity

the path to SAP S/4HANA®

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Sometimes, a problem that requires a solution can also be an opportunity to introduce a radical new approach – an approach that delivers significant and even unforeseen benefits.

The need to move on from current enterprise resource planning (ERP) systems is a case in point. An enterprise may already be using an SAP platform, or it may simply be planning to use one – but either way, it's going to need to make the move to SAP S/4HANA and the many digital advantages it provides.

That's the subject of this paper. We're looking at the outstanding opportunity this requirement creates to map out a successful course for the digital journey being undertaken by major enterprises. It's a once-in-a-generation chance for them to undertake a root-and-branch transformation of their operations.

Everyone is a consumer now

All businesses are subject to universal and abiding principles. Among several others, these principles include the need to govern cashflow, profitability, cost management, and the supply chain.

In recent years, one such important factor has risen to a position of dominance. It is the drive wheel of business – the key element of the mechanism that governs all the others. It is customer experience and service; and in particular, it is the need to conduct it on consumer principles, regardless of the market in which an organization operates.

Why so? Why should, say, an investment bank, or a manufacturer of industrial pumps, be obliged to operate in this way, when their revenue is not directly dependent on consumers? Indeed, some businesses are several stages removed from the general public: think, for instance, of ammonia production.

The answer is that we increasingly live in a digital world. Every business, every public body, is part of it. In this world, the pace has been set by consumer technology. Everyone is a consumer, and every employee brings his or her consumer-based assumptions into the workplace. The levels of flexibility, responsiveness, cost-competitiveness and choice they expect at home are the same they expect from their suppliers at work, regardless of the markets in which they are employed. What's more, this mindset has found its way into the boardroom and into management meetings. Senior executives know that, regardless of the number of

steps removed their world is from the consumer market, they have to meet the needs of the market they serve in just the same way. They need to make their customers happy, and to keep them that way – because if they don't, in this digitally fast and flexible world, it's increasingly easy for those customers to find other suppliers.

Legacy systems

SAP, the software vendor of the leading ERP system on which many enterprises are based, now has 30,000 customers worldwide. The user base was established when this, the world's first ERP platform, was originally written in the mid-1980s, for IBM mainframes.

As time passed, various additions were made to the original core. It wasn't open – no APIs were provided – and as new devices became available, it wasn't optimized for them. Nor did it reflect changing business processes. At the same time, enterprise landscapes have become even more complex, with the adoption and integration of multiple technical solutions and the insertion into the ERP platform of complex custom code to fulfill day-to-day business needs.

Because of the integrated and validated nature of ERP data, ERP platforms have been used for 20 years as development platforms to enhance core ERP processes with thousands of custom-developed applications. That is the real problem: this huge amount of custom code, most probably where the unique business value of the enterprise resides, is built on an obsolete platform, inflexible, and with no easy use possible of the technology enablers that are available now.

Today's platform is ill-equipped to address the demands of the digital age, and in particular of a customer-service-oriented business model. That's why SAP has introduced SAP S/4HANA, an intelligent ERP solution that removes common obstacles associated with legacy ERP applications, such as batch latency, complex landscapes like the one illustrated, and manually driven processes.

The current SAP ECC platform will not be supported after 2025, so all current users are going to need to make the transition. But it's not only a case of 'have-to' – it's also an opportunity to rethink the organization's approach, and to frame it not just for the current, digital world, but for future and as-yet-unknown challenges.

Why do organizations need to think this way?

In order to stay competitive and profitable, they need to become more agile, harness their data into insights, and rethink their current business processes. The pressure to support modern business needs for real-time, actionable insights and process agility increases every single day.

Those needs are to:

- Leverage the overwhelming volume of data that is accessible to them, and draw truly meaningful insights
- Operate with visibility, focus, and agility to achieve game-changing outcomes
- Do more with less, and empower employees through process automation
- Deliver a best-in-class customer experience, by proactively responding to customer expectations
- Invent new business models and revenue streams

SAP S/4HANA benefits

Early in 2019, Americas' SAP Users' Group (ASUG) conducted a membership survey in conjunction with Capgemini. Current users of SAP S/4HANA reported measurable success, with 43 percent already seeing improved performance and 39 percent experiencing faster access to analytics. "While an idea like improved performance can mean different things to different people," ASUG said, "the returns people are getting from their SAP S/4HANA systems are definitive."

SAP S/4HANA provides an opportunity for enterprises to transform not just their approach to digital, but the entire way their businesses are organized.

Organizations that transition to SAP S/4HANA benefit from a proven technology platform for disciplined operations and predictable business growth. What is key is that they also gain a foundation to leverage emerging capabilities – from real-time analytics to the Internet of Things (IoT), blockchain, artificial intelligence (AI), and machine learning (ML). SAP S/4HANA, especially when sitting in cloud (being it the simple IaaS model or the SaaS one either single or multi-tenant) can easily be augmented with other applications, leveraging microservice architectures and all the "intelligent" services cloud platforms can offer. All the custom code that used to be built inside ERP platforms, can now sit in cloud platforms and reach the new world of IoT data, AI, Blockchain, ML. API is the new integration paradigm to make all these components interact with agility.

SAP S/4HANA is built on the SAP HANA business data platform. Available for on-premises, cloud, or hybrid deployments, it makes the most of the power of SAP HANA, enabling organizations to manage and analyze vast data volumes in real time coming from the cloud apps, in combination with core ERP data.

The work does not stop once organizations have made this transition. Most of them are moving to SAP S/4HANA to reap the benefits of the SAP cloud platform, and not merely to get the core done. They include rolling out Industry 4.0, new business scenarios, IoT, customer engagement, UI, and RPA. Artificial intelligence will not stop with the first drop; it's likely that the projects will not ramp down immediately, as in a traditional technical upgrade. DevOps is becoming established as the new standard approach to infuse innovation into enterprise application architectures. Business evolution never stops, so the evolution of applications needs to proceed at the same fast pace.

Moving fast

The first step in the transition to SAP S/4HANA is about simplifying the legacy core and finalizing what it needs to include to be sustainable and agile in the future. Key elements will include finance and logistics, and others will need to be judged on their business value to internal users.

Organizations can use this preparatory stage to explore new ways in which the system can help them perform their core functions better, such as robotic process automation (RPA) and machine learning (ML). They can – and indeed, must – also look at improving the final customer experience, because, as we have seen, this is the key driver for digital transformation. To do this effectively, they need to ensure they understand what the customer wants.

Businesses need to move fast. Many organizations may doubt whether SAP S/4HANA and the intelligent enterprise technologies is the right way forward – but they never doubt that their customers' expectations are changing, and they recognize that they need to provide for those expectations. If a customer outside work doesn't get what he or she is expecting from a smartphone app from the get-go, they will switch it – and their inclinations in the workplace will be no different.

Organizations know no doubt that they need to change: they just need to figure out how.

Future-proof implementation

The key to success in making the change is, of course, preparation. To use a building analogy: before the main work begins, organizations need to make some strategic but practical decisions about the scope and size of their construction site, and to ensure it is obstacle-free and ready.

In enterprise IT terms, this means, first of all, simplifying the core by removing bolt-ons, workarounds, and redundant processes that have crept in over time, and moving innovation and customization outside the core. It means strengthening what's left – in other words, retaining in the core anything that works for the organization, and that is aligned with industry practices. It also means forming a new resolve and sticking to it – and that is to be more selective henceforth about what really constitutes a core process and keeping it clean.

We can see these principles expressed in figure 1 ('Shrinking the Core'): as organizations move from one platform to one integrated architecture, complexities are removed, making future upgrades easier, and allowing for greater future innovation.
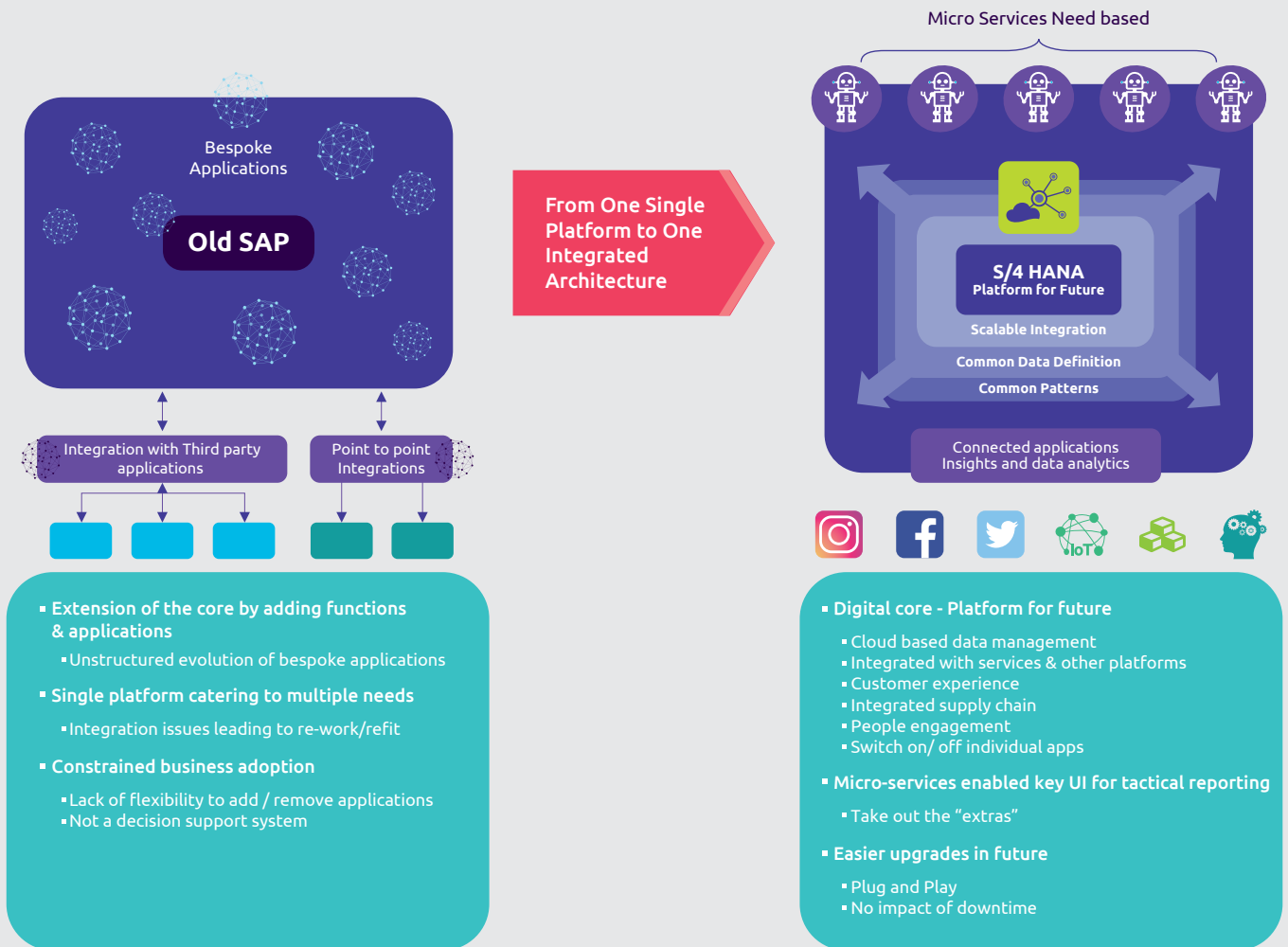
With the groundwork done, organizations can start to build. This means exploring opportunities currently outside their core that may form a useful part of the design they have defined. Such opportunities might include digital applications, third-party tools, other systems, other applications, and developments tailor-made for individual organizations by a knowledgeable services provider. They then need to consolidate these into the strong architecture they have established in order to stop it turning into chaos. (Remember: they have a new sense of resolve now, and they need to maintain it.)

As the process continues, enterprises need to ensure that events and stages along the way don't distract them from the path they have set for themselves – and that is to develop and sustain a core that is strong, safe, and intelligent, and that retains sufficient flexibility to evolve in line with the needs of the times and of their organizations.

How could all this look in practice?

A comprehensive architecture would have SAP S/4HANA at its base level, supported by the CloudFoundry SAP Cloud Platform. Layered on this would be the organization's Digital Core, comprising,

Figure 1. Shrinking the core

Micro Services Need based

From One Single Platform to One Integrated Architecture

Old SAP

Bespoke Applications

Integration with Third party applications

Point to point Integrations

S/4 HANA
Platform for Future

Scalable Integration

Common Data Definition

Common Patterns

Connected applications Insights and data analytics

- **Extension of the core by adding functions & applications**
  - Unstructured evolution of bespoke applications
- **Single platform catering to multiple needs**
  - Integration issues leading to re-work/refit
- **Constrained business adoption**
  - Lack of flexibility to add / remove applications
  - Not a decision support system

- **Digital core - Platform for future**
  - Cloud based data management
  - Integrated with services & other platforms
  - Customer experience
  - Integrated supply chain
  - People engagement
  - Switch on/ off individual apps
- **Micro-services enabled key UI for tactical reporting**
  - Take out the "extras"
- **Easier upgrades in future**
  - Plug and Play
  - No impact of downtime

first, a lean SAP S/4HANA core of must-have elements as described above, all conforming to SAP processes; and second, side-by-side extensions with strong coupling to SAP data and extensions.

Outside this core, but complementary to it, are the organization's individual base-level and custom-developed applications, which may have at best only loose coupling to SAP data and processes.

An architecture such as this enables an enterprise to prepare for constant change. It embraces not just the ERP architecture, but also the organization's entire business landscape. It protects the integrity of the

core, while allowing the agility necessary for the transformation of key business processes. The result ought to be a platform that can take the enterprise into the future.

There's one further point that needs to be made about implementation, and it's an important one. Moving from SAP to SAP S/4HANA would be a huge and daunting undertaking if it were conducted as one big 'lift and shift.' But it doesn't have to be this monolithic. With support and guidance, it can be handled incrementally, gradually creating a "Renewable Enterprise" along the way, in one integrated architecture:

The Renewable Enterprise

What's needed is a comprehensive and renewable response to a digital business world. A Renewable Enterprise, as Capgemini named it, is powered by data and driven by people, ready for the future and better adapted to the fast-paced, everchanging and intensely competitive environments that companies face today.

In short, it is:

- Architected to allow speed and agility for technical change at the pace of business
- Built to allow for DevOps and modern delivery approaches
- Built to allow change to be introduced, while protecting mission critical applications that run the business
- Designed to put the user experience at the center, and allow for customization
- Constantly changing to meet the needs of the business, and its customers
- Providing savvy use of cloud architecture, APIs and Microservices.
- It can constantly renew its processes, products and services at the fast pace of the business evolution.

Its Digital Core can also be complemented by a suite of cloud-based tools and processes that tailor performance in line with the needs of specific industries. These can provide sector-optimized applications support in areas including artificial intelligence, machine learning, and analytics; manufacturing and the supply chain; customer experience; network management; and the incorporation of ancillary technology, such as IoT devices and VR hardware.

Such a suite can create smart, connected products, services, assets, and operations that offer the potential for time-to-market reduction, productivity gains, cost savings, and new revenue streams.

Conclusion

Finding a workable solution to the transition to SAP S/4HANA will enable organizations not merely to move seamlessly to the new SAP digital platform, but to use the transition as a unique opportunity to make their operations the very best they can be – streamlined, cost-effective, responsive, flexible, and ready for anything the future can fling at them.

Figure 2. Renewable Enterprise
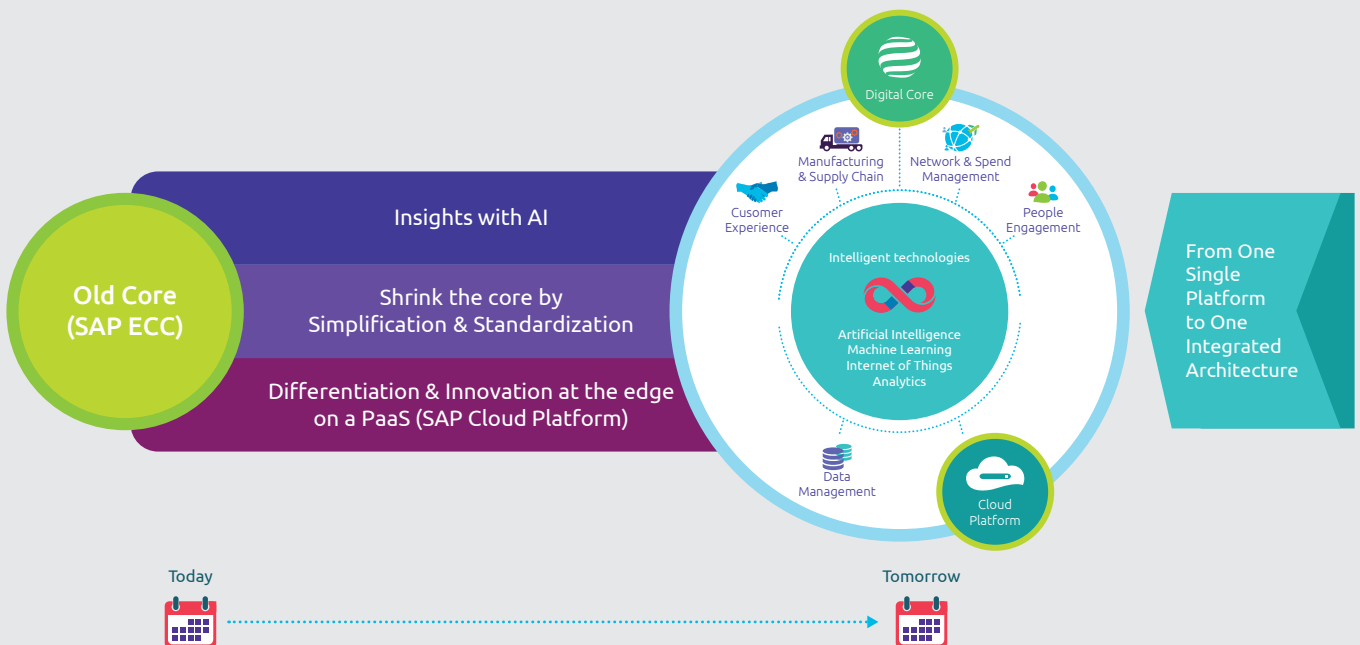
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About Capgemini

A global leader in consulting, technology services and digital transformation, Capgemini is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital and platforms. Building on its strong 50-year heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. It is a multicultural company of over 200,000 team members in more than 40 countries. The Group reported 2018 global revenues of EUR 13.2 billion.

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People matter, results count.

For more information about Capgemini's Digital Core with SAP S/4HANA offer, please visit:

https://www.capgemini. com/service/digital-core/

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