

# SAP Technology Strategy Getting Started



## Applies to:

SAP Technology Strategy

[Technology Innovation](#) homepage on SDN

## Summary

SAP's technology strategy defines key foundational tenets of SAP's future technology platform, e.g. all the technologies that SAP needs to underpin the next generation of SAP products and solutions. It provides a long-term vision as well as a practical technology roadmap for SAP applications, products, and solutions.

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## SAP's Technology Strategy

### Positioning and Scope

Businesses operate in an environment of continuous change. Managing that change successfully requires a deep understanding of how a business performs and the business opportunities on offer supported by strong execution. Businesses are also no longer "islands". To succeed a business needs to both reach out to customers and collaborate more closely with the other organizations in its business network.

However, realizing these goals requires technology to help achieve them. It will require new business applications and faster, more rapid insight into business performance. At the same time technology is evolving through the introduction of cloud computing and the widespread adoption of mobile technologies. All within the context of a drive to reduce costs and improve efficiency.

SAP and the applications we produce will also need to change to meet this challenge and, as a software company, technology is a key component. SAP therefore needs a strategy for its use of technology that helps realize these goals, builds on where we are and helps both SAP and its customers succeed.

The purpose of this page is to outline SAP's approach to its Technology Strategy, the key assumptions on which that strategy is based and to highlight key areas on which SAP is focusing. But let's start with a definition:

**SAP's technology strategy defines key foundational tenets of SAP's future technology platform, e.g. all the technologies that SAP needs to underpin the next generation of SAP products and solutions. It provides a long-term vision as well as a practical technology roadmap for SAP applications, products and solutions.**

The technology strategy does not define SAP applications that are built on SAP's technology platform nor the infrastructure that powers the technology platform. Instead, SAP's technology strategy is focused on meeting customer requirements for future applications and the future technology infrastructure required to support them, and defines the roadmap for how SAP can help SAP help its customers.

### Assumptions for Applications and Infrastructure

Future enterprise applications will look very different from yesterday and today, yet these new applications will coexist with existing ones. Given the current trends, we can predict a number of characteristics of these applications with high confidence. The applications we are focused on complement SAP's current ERP offering and, in certain cases, may even replace current SAP ERP functionality.

The application characteristics include:

- Businesses need to take rapid advantage of new functionality in their business software. "On demand" offers the opportunity to both realize faster time to value and lower implementation and operational costs
- *Pervasive Access:*
  1. *Access for Everybody:* Modern applications will be used by everybody that can benefit from the data and the functionality of the application. The hard company borders of the past will be less well defined in the future. New users include not only the employees of a company using the application, but also people in the extended business network of that company, and maybe even people in general as consumers and citizens. 'Trained users' cease to exist; there are simply users of the application.
  2. *Access for everything:* True automation is the goal of many business processes and functions. By connecting real world devices to business systems, we can achieve such automation in many areas. As devices become more intelligent, they are also becoming more capable of communicating directly with applications. Applications must be ready to communicate with devices, which, in many cases, is very different from communication with people.

3. *Access from anywhere*: As the applications support everybody and everything, they will increasingly need to be accessed through multiple channels. The rapid innovation in front end devices such as smart phones and other handheld devices will continue. New form factors will revolutionize the way people interact with each other and with business applications. The applications must be designed independent of the access channel, and be able to adopt new access channels when they appear in order to meet these needs.
- *Diverse interaction models*: Modern applications have to support many working models. Often, a single interaction for a single task will require transactional data inspection and entry, pushing of tasks to people and devices, real-time collaboration between people and between people and devices, social network-like interactions with asynchronous updates and comments, analytics, planning, what-if analysis, and so on.
  - *Complete enterprise information*: Businesses are learning to leverage more and more of their data. New applications will be based on and utilize essentially all data available to the enterprise, independent of where or in what format it resides. Just as the applications will support a broad spectrum of interaction models within a single interaction, they will also support a broad spectrum of data formats, including transactional business data, text, pictures, video, and so on. Different types of data will be freely mixed to create optimal user experiences and drive faster results.
  - *Different experiences*: People will experience the application in different ways. Traditional UIs, delivered through different channels, will be complemented and sometimes replaced by natural language interfaces. Guided navigation through applications and data sets will be offered. Applications will feed data and functionality into augmented reality and various 3D experiences.
  - *New concepts* such as presence, location and proximity will be incorporated into business applications. Not only the current location of a person performing a particular task, but location-based historical data collected by the organization can be combined with analytical capabilities to provide new insights and further improve business processes.

Many of these characteristics result in extreme scalability requirements for the platform. To meet these needs we will require use of the modern-infrastructure “scale-out” model where higher workloads are supported by running processes on highly parallel technologies rather than the more traditional “scale-up” model where single workloads run on ever faster, more powerful, hardware. Also, the next generation applications will be very heterogeneous in nature, with one application using different channels, data types, interaction models etc., requiring a platform that can support this while maintaining a low total cost of development (TCD) and total cost of ownership (TCO).

SAP will design the enterprise application platform to take advantage of the new commodity hardware based infrastructure of the future.

We believe that the following infrastructure characteristics are strong enough today to describe the commodity hardware of tomorrow:

- *Cloud*: Cloud computing, defined as an abstraction of resources from the consumer and an elastic behavior, will revolutionize all aspects of the software lifecycle. Additionally, the sheer size of large computing clouds will give rise to qualitative differences in how we think about applications and platforms. Somewhat naively, you can think of the cloud as enabling enterprise access to unlimited resources, and as long as the economics make sense, there is no reason not to utilize these resources.
- *Programmability*: Virtually all modern infrastructure is programmable, i.e. it has APIs that enable new management applications to communicate and interact with the component (e.g. determine the component state, tell it what to do). The behavior of the infrastructure can be expressed and controlled through policies, which allows for a “conversation” between the infrastructure and the platform, and by extension, the applications.
- *In-memory and multi-core*: New processor designs change the way we think about data and processing power. More memory close to the processor allows us to perform calculations on vast

amounts of data at high speeds. Multiple cores close to each other allow us to parallelize processing resulting in dramatic increases in efficiency.

- *Data stores:* New data storage technologies are changing the speed/access/cost equation, allowing us to keep much more data in stores where it can quickly be retrieved. Keeping the data closer to the processing power where the business logic is executed will boost performance. Applying application knowledge to data storage, so that the right data is kept in the right store, will further reinforce this to a point where it becomes qualitatively different.
- *Network bandwidth:* All networks are becoming significantly faster. This not only allows us to run current architectures faster, but it allows for completely new architectures based on distributed data and processing logic. It will allow us to leverage vast amounts of data, for example through video streaming, into applications in real time.
- *Ubiquitous connectivity:* Our planet increasingly is covered by the Internet, cell phone networks, satellite networks, and others. These networks have some interesting characteristics in common: they are inherently unreliable and introduce latency, despite ever increasing bandwidths. We need to design for those characteristics. As the costs of connectivity continue to come down, more and more devices will be connected.
- *Intelligent devices:* Devices of all kinds are becoming intelligent, connected, and service enabled. They are aware of their state, location, environment, and so on. As software becomes more important in devices, such devices will expose their data and functionality in such a way that they can interact directly with applications.

What these trends have in common is that they will lead to qualitatively different ways of solving problems. Not only can we do things faster, but we can, perhaps more importantly, do things we could not do before. The next generation platform will need to utilize these new infrastructure capabilities.

Our assumptions on future applications and future infrastructures drive requirements for the next generation platform.

Those requirements are not trivial and are complicated by our commitment to our customers to pave non-disruptive evolutionary paths to the SAP's next generation platform.

Although we are making progress, we are not ready yet to share SAP's vision for our future technology platform.

### Long-term Technology Strategy

Instead the following paragraphs and more generally the Technology Innovation page will provide insight into SAP's current technology directions along five major areas of investment at SAP: Openness and Consumption, On Demand Applications and Platforms, Virtualization and Cloud Infrastructure, In Memory computing, and SAP's Ecosystem.

Here is a summary of SAP's current technology directions along the five areas:

- *Openness and Consumption:* Increased consumption of existing applications, especially on mobile devices

SAP customers have amassed a significant amount of data in their SAP Systems. Such information is currently hard to access, even by experts. Our customers need to make this information accessible by many people in their organizations, most of them with little or no SAP knowledge.

Project Gateway is the first step in this direction: it enables easier access to content in our existing on premise products. SAP's general approach to consumption is the standards based SAP Data Protocol. By basing the protocol on standards like REST and OData, the SAP Data Protocol will easily enable consumption by a wide array of front-end devices. The protocol will be implemented by all "consumable" SAP applications and platforms.

- *On Demand Applications and Platforms:* An On-Demand platform to extend and complement existing applications

We have been building an On-demand platform for productized on-demand solutions from SAP and partners, or custom developed applications. The platform is currently only used by SAP and the first application on it, SAP Carbon Impact 5.0 On Demand, was released on September 15<sup>th</sup>, 2010. Partners are currently evaluating the platform and SAP is considering opening it up for use by customers and partners

- *Virtualization and Cloud Infrastructure*  
We want to enable customers to flexibly deploy SAP applications across an external/internal cloud and across virtualized machines. This is currently useful to rapidly provision less-critical systems (development, test, training and demo systems), and over time will mature to support production workloads as well. SAP today already has a certification program for cloud service providers in place that includes support for production systems.
- *In Memory*: In memory data base for real time analytics against existing applications  
We will provide in-memory database capabilities that enable real-time analytical capabilities on all transactional data and the ability to build new classes of applications, for example for planning and simulation, on top of that data.
- *Ecosystems*  
The SAP Ecosystem of IT leaders is, and will be, a significant differentiator and a key success factor for both SAP and our customers. Our combined future success depends on our ability to evolve, grow and sustain the right ecosystems of customers, partners, users and developers. In each of the above four themes, SAP is working and co-innovating with partners, customers and members of the SAP Community Network to ensure a vibrant and successful ecosystem.

## Technology Innovation – How to Get Involved

There are many ways in which you can collaborate and co-innovate with SAP.

We have started an initiative that increases awareness around innovations from customers and partners. If you want to make others aware of your innovations visit InnoJagd!

We are eager to get your feedback and ideas on products, solutions, services and more. Check active sessions on Idea Place.

We warmly invite you to collaborate with others on code that they have decided to share on Code Exchange. Check it out!

To see the architectural advice SAP gives to partners, see Best Built Apps (<http://bestbuiltapps.sap.com>)

Research at SAP offers multiple research collaboration opportunities to University professors and students. If you are interested please visit our Sponsored Academic Program and our Academic Research Center.

SAP's Global Co-Innovation Lab (COIL) Network is a globally distributed set of teams and lab facilities aimed at driving and facilitating innovative projects between SAP and its partners, both globally and regionally. COIL can be your co-innovation platform too!

Each year the TechEd demo jam competitions create unique opportunities for the winners and the finalists to influence SAP and its communities of developers. Take your chance too!

Last but not least share your thoughts with us and blog on SCN!

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