
My View



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Some people still maintain the view that the messages around SAP HANA and SAP S/4HANA are more marketing hype than reality and the business value is missing.

Many large organizations have signed up for both products and smaller companies are following. The numbers of net new customers speaks for itself.

WHY DO WE TALK ABOUT 'SIMPLE' AND 'REVOLUTION'?

With SAP HANA, SAP is able to break with a 45+ old tradition: enterprise systems are based on three data pillars: master data, transactional data and aggregations of transactional data were the foundation for all these years. The real time management of aggregated data was the cornerstone of the system, enabling users to have instant insights along predefined hierarchies. Any change of these aggregations required programming and painful data restructuring.

This new architecture is based on the assumption that all reports, statutory or analytical, key figures, prediction, simulation and optimization are a mapping between millions to billions of data and presentations of a few hundred characters. Only at that level of aggregation can we make sense of the data. Therefore it is necessary to have as many different views, meaning aggregations, available to get a better understanding of the data. Any pre-aggregation, especially the one performed in the data entry transactions, creates an unnecessary reduction of flexibility while increasing the overall complexity of the system. The pre-aggregations are now completely replaced by algorithms, which can run any time, change any time without producing any redundant materialized data structures. The simplification effect is huge and the stability of the system greatly improved. All what it needs is a superfast database – that was the reason to research and develop a pure in-memory database.

SAP HANA is a pure in-memory column store and not a hybrid (row and column store on disk and in memory) like the competition. SAP HANA scans and aggregates data so fast that a pre-aggregation is not necessary any more. SAP S/4HANA is purposely built for the SAP HANA in-memory database and shows major generic technological breakthroughs:

- No pre-aggregation of transactional data only data inserts
- Dramatic reduction of data updates (no processing risks)

- Data entry transaction can run in parallel without database locking
- Much higher transactional performance
- Much lower data footprint
- Much faster reporting directly on transactional system
- Both scale out and scale up is possible
- Much faster data backup/restore (>10X)
- Much less data storage on disk (<1/10)
- Nearly no database indices needed, that means less DBA work
- Dramatically simplified application code (no totals, full use of SAP HANA sql as single database)
- Most batch programs run now as transactions (101,000 times faster)
- Very simple customer data extensions, even on the fly
- All UIs will be replaced by SAP Fiori (priority based on usage)
- Nearly unlimited capacity for BW
- major enhancements for key data elements (e.g. 36 character material number for auto industry)
- Extensions of ERP on the SAP HANA Cloud Platform

The application advances in SAP S/4HANA are most prominently visible in the following areas:

1. The integration between demand chain and supply chain greatly improves with the speed of data access.

- A new multi-channel CRM approach (sales and marketing)
- Monitoring of social media data and IoT data in combination with marketing initiatives
- Analysis of point of sales data for signals and trends in real time
- Predictive analytics for forecasting new planning applications with more intelligence and speed
- New applications for simulation and optimization
- New intelligent availability to promise with conflict resolution
- Several MRP2 runs per day now possible
- New sourcing of goods and labor through SAP Ariba and SAP Fieldglass
- Greatly improved transaction rate for the physical warehouse
- new applications based on IoT data as custom solutions

2. Finance and controlling

- Real-time monitoring of company's performance (SAP Digital Boardroom)
- Any aggregation can be changed on the fly (acquisitions, divestments, management changes). Most important change as stated by an influential professor
- Reintegration of external and internal (managerial) accounting (less reconciliation)
- New applications for the financial industry (e.g. SAP Bank Analyzer on SAP HANA)
- New travel and expense handling through Concur
- Combination of ERP data with external data sources in the SAP HANA Cloud Platform

- New applications based on IoT data as custom solutions

Major adoption of SAP S/4HANA in retail, consumer goods and serial manufacturing. New industries like healthcare now coming.

System deployments

- SAP S/4HANA in the public cloud
 - o Sharing the code and data layout with multiple tenants
 - o Functional scope like a1 of business suite
 - o Full Fiori UI available
- SAP S/4HANA in the SAP HANA Enterprise Cloud
 - o All industries
 - o Operation and maintenance by SAP
 - o Individual customer applications could be integrated
 - o SAP S/4HANA on premise

I acknowledge that it is difficult to believe all these advances as long as the competition is not following. But they started with in-memory extensions and will have to follow with the application architecture on an in-memory column store. The new architecture is so superior that a change is inevitable.

The developments in the HW with multi core CPUs and multi terabyte memory allowed for the SAP HANA development and SAP has a head start of several years. The combination of SAP S/4HANA and the SaaS applications SAP SuccessFactors, SAP Ariba, SAP Fieldglass, and Concur offer the finest enterprise solution available in the market today.

SAP HANA and SAP S/4HANA build the platform for the next wave of innovation. The massive simplification of the ERP system was overdue and allows now for much faster development of new functionality and thanks to the cloud deployment a much earlier availability to the customer.

So, run simple is not a slogan but an architectural fundamental. And why call it a revolution? Because no one in 45+ years ever thought about an ERP architecture free of totals. Thanks to SAP HANA it became possible. The architectural change is more important than the SAP R/2 (mainframe) to SAP R/3 (client server) move. It took SAP R/3 two years to take off, SAP S/4HANA has already a much faster start. By the way, SAP Business One (B1) has passed 50,000 deployments and the SAP HANA-based version goes to the Cloud.

