



SAP Adaptive Server Enterprise Road Map

September 2018

CUSTOMER

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About SAP road maps

Companies today are planning their digital journeys – transforming business models, reengineering business processes, and reimagining work.

SAP road maps highlight innovations that may help you plan and implement your digital journey. They span products relevant to lines of business in your industry and explain how our innovations may add value to your business.

In our road maps, you can learn about our innovations along three different timelines:

1. **Recent innovations** for our products that have been launched in the past weeks or months and can already be purchased
2. **Planned innovations** for our products that are intended to be launched in the short term or midterm
3. **Product direction**, providing a long-term perspective on high-level development plans for innovations for our solutions – inspired by your requirements

*Following the 2025 announcement of end of mainstream maintenance for some products covered in this road map, SAP is offering **guidance on recommended products**, which can be evaluated in the [SAP Transformation Navigator](#).*

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Product overview

- Product description
- Key trends and customer needs
- Road map overview and major product updates

Product road map

- Recent innovations
- Planned innovations
- Product direction

SAP Adaptive Server Enterprise (SAP ASE)

Product description

SAP ASE is a high-performance relational enterprise database management system that is designed for **mission-critical, transaction-intensive environments** for custom-developed and SAP Business Suite applications with reduced TCO.

Mission-critical, transaction-intensive workloads

- Database engine focusing on eXtreme Online Transaction Processing (XOLTP) – leveraging in-memory processing techniques for linear scalability – scale up versus scale out
- #1 SD benchmark 2, 4, 16 socket Linux x86

Trusted legacy for performance and robustness

- Used to manage many of Wall Street's largest trading environments
- Used to manage over 10,000 customer systems running SAP Business Suite

Reduced TCO

- Fewer resources used to achieve same performance as other OLTP DBMS systems with much easier management



SAP Adaptive Server Enterprise

In the database and data management product portfolio



SAP Adaptive Server, platform edition

Secure deployment flexibility by incorporating SAP ASE, SAP IQ, and SAP Replication Server in one licensing model

Large enterprises



SAP ASE, public cloud edition

On-demand, preconfigured public cloud instances of SAP ASE with subscription pricing and licensing in a highly secure environment

Cloud/On-demand



SAP ASE, Edge edition, advanced version

Enable solutions for smaller database deployments and applications with a limitation of 8 cores

Midmarket and ISVs



SAP ASE, express edition

Start building transactional applications on a free, full-use license for development and deployment

- 50 GB disk
- 4 engines

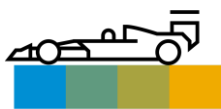
Start-ups/small businesses



SAP ASE evaluation license

Take advantage of a free download for development environments (unlimited with all options available)

Developers/education



Database MemScale option

Leverages in-memory and HW optimizations to achieve linear scalability for high-concurrency XOLTP workloads

XOLTP



Workload analyzer option

Employs “capture and replay” techniques to allow production workloads to be replayed in dev/test environments to mitigate upgrade risks and enable more-accurate server tuning

TCO



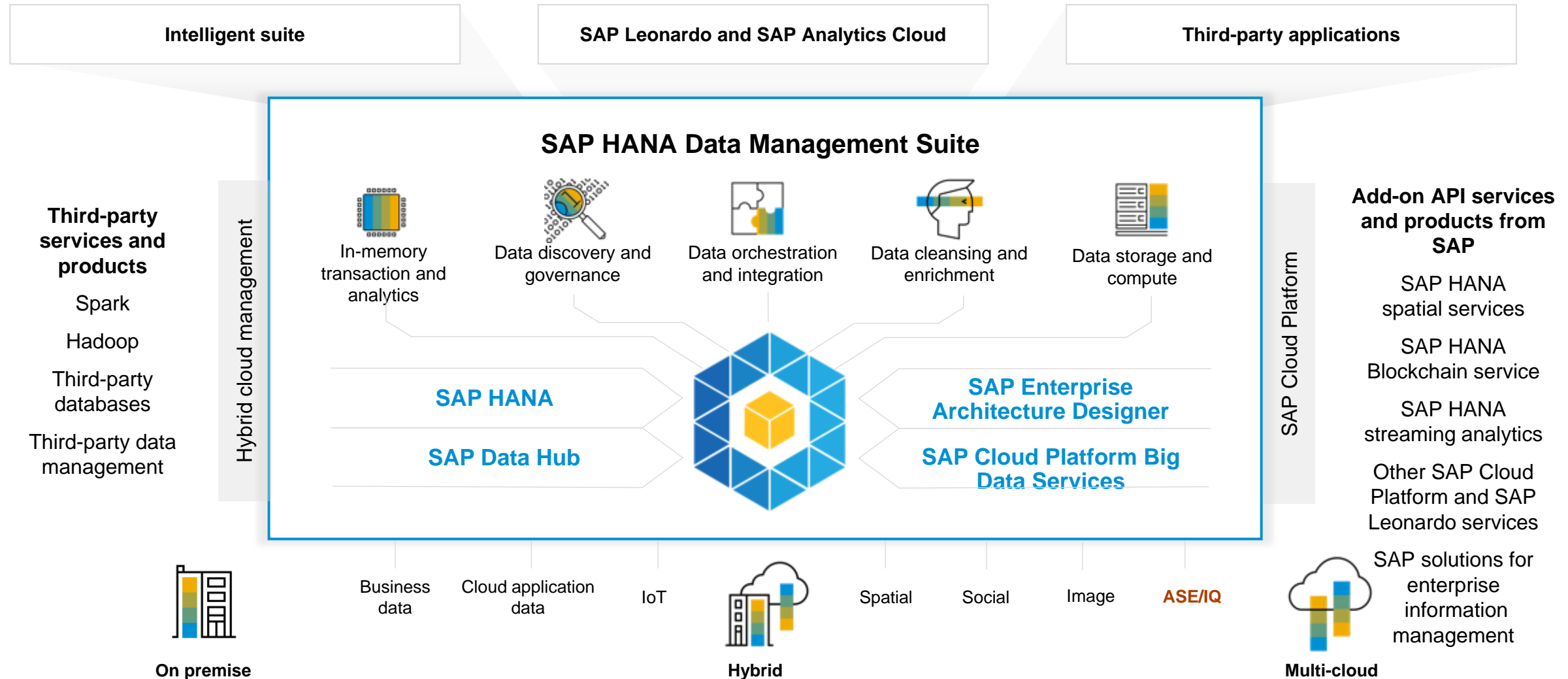
Always-on option

Leverages streaming replication to provide HADR clustering to support both high availability and disaster recovery including near-zero-downtime maintenance and major upgrades

High availability

SAP Adaptive Server Enterprise

In the SAP HANA product portfolio



SAP Adaptive Server Enterprise

Key technology trends, business impacts, customer needs, and value proposition

Technology trends



- High-density, large-memory computing
- Low TCO, high-performance hardware
- Virtualization and cloud deployments
- High-speed, highly automated processing
- Budget constraints, fiscal consciousness
- High instance counts, rapid deployment

Customer requirements



- XOLTP with multi-TB data sets
- Very high concurrency (10,000s–100,000s)
- Cloud-enabled, self-provisioned
- Highly secure (cloud, off premise)
- Highly available
- Ease of administration

Business impacts



- Extreme transaction volumes
- Low-latency transactions
- Long-term data retention
- Increased legislative requirements
- Increased security threats and risks
- Reduced IT staff and infrastructure

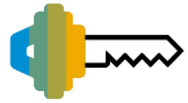
SAP ASE value propositions



- XOLTP capable, cloud enabled
- Vertical scalability for best TCO
- In-memory scalability without app rewrite
- Integrated replication for global autonomy and real-time analytics
- Government-certified security (encryption and such)
- Hardware- and software-independent HADR with multisite availability

SAP Adaptive Server Enterprise

Product description



Key capabilities

- **XOLTP:** SAP ASE supports tens of thousands of transactions per second through use of in-memory processing techniques to allow vertical scaling on high-density, large-memory systems with high concurrent user access.
- **Availability:** In addition to supporting HADR clustering, SAP ASE provides a number of resiliency and robustness features such as resource governors, logical process and workload management, and virtual partitioning of resources.
- **Security:** SAP ASE supports native full database as well as column encryption along with typical enterprise-class security features such as auditing, role-based access controls, granular permissions and predicated privileges, row-based access controls, network security, and more.
- **Replication:** SAP ASE is integrated with replication capabilities to provide multisite availability and global autonomous operations as well as real-time analytics support.



Transaction intensive



Highly available



Multilayer secure



Cloud enabled



Global and regionally distributed



Low TCO

SAP Adaptive Server Enterprise

Product or portfolio areas of future investment

Vision:

- Market-leading disk-based XOLTP DBMS
- High-performance/low-TCO DBMS for SAP and custom applications

Recent areas of focus:

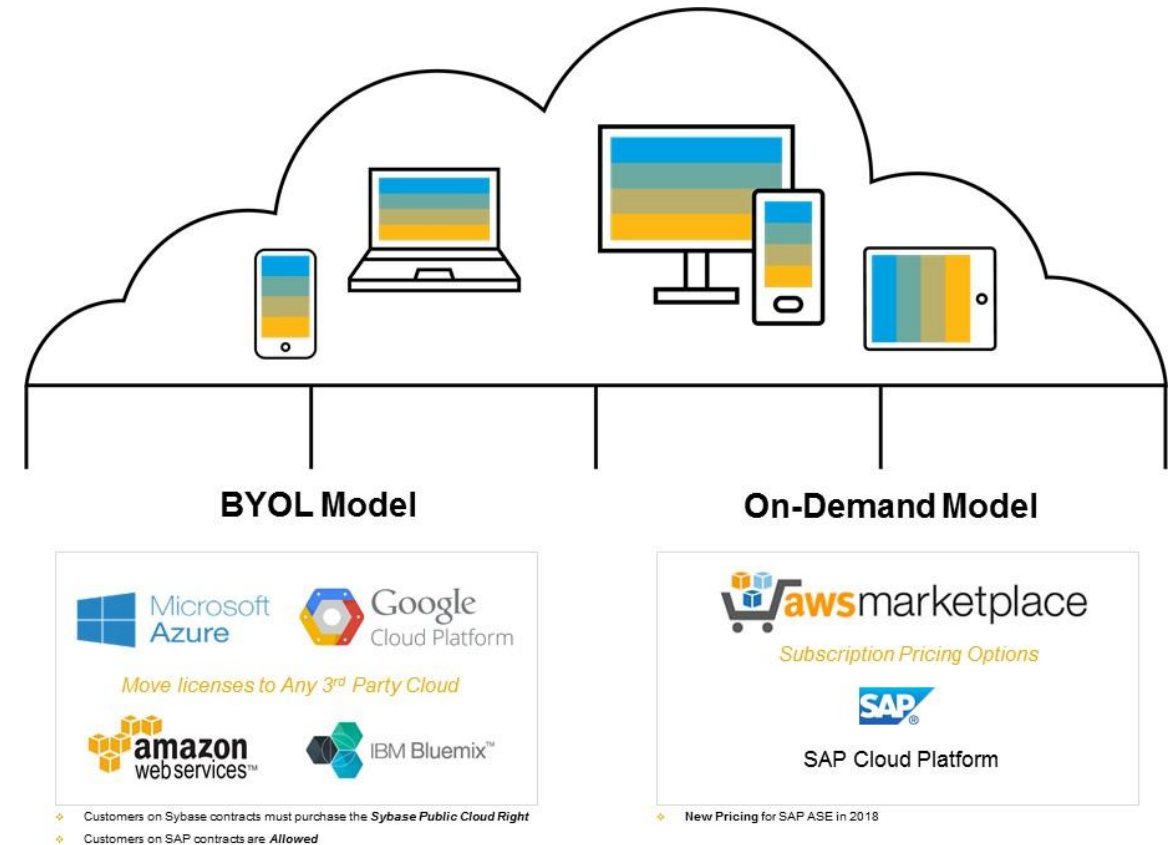
- Core XOLTP functionality
- Cloud/cloud enablement
- Datacenter operations (high availability, security, and more)

Next big steps to reach our vision:

- Providing enterprise-class cloud enablement capabilities
- Common SAP tooling/framework adoption

Areas of investment and path forward:

- Cloud/cloud enablement
- Continued support for SAP Business Suite development



SAP Adaptive Server Enterprise

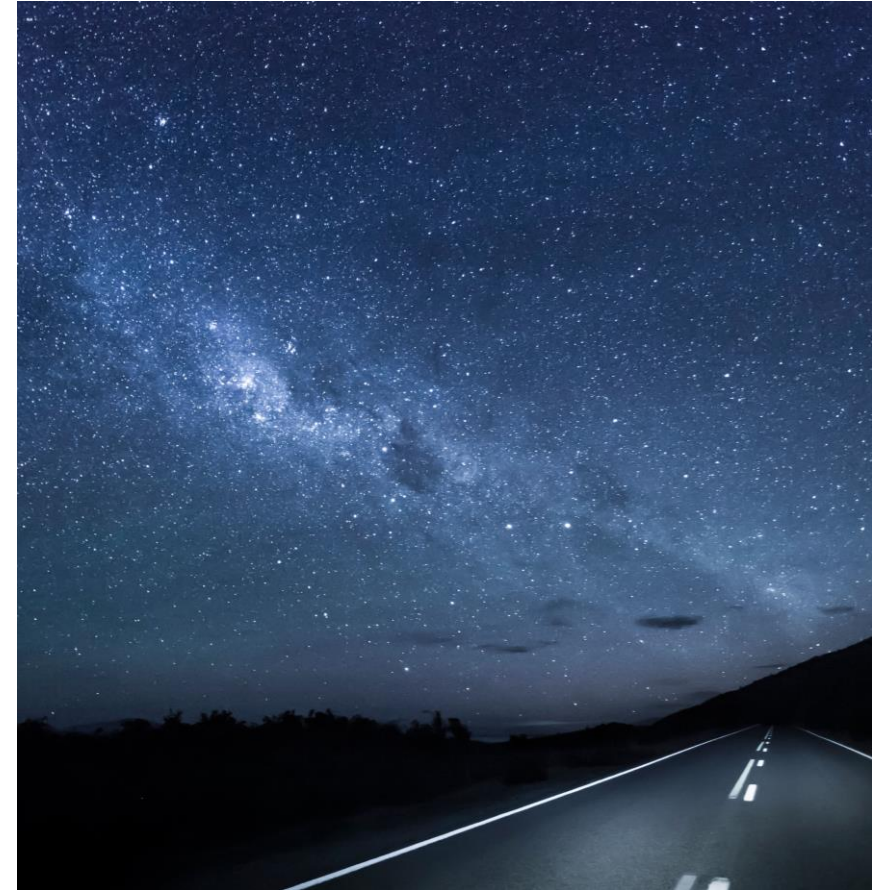
Major product trends or direction update

Feature/functionality deprecations

- Process kernel → January 2019
 - Switch to threaded kernel
- OpenSSL → deprecated as of SAP ASE 16sp03
 - SAP ASE and SRS now utilize SAP's FIPS-certified CCL SSL as of 16sp03

Version end of mainstream maintenance

- SAP ASE 15.7 (all versions) → December 2020
 - Upgrade to SAP ASE 16.0sp02 or later
- SAP ASE Cluster Edition 15.7 → December 2020
 - (Solaris SPARC, Solaris x86, HP-UX, AIX)
 - Upgrade and switch SAP ASE 16.0sp02+ with always-on option
- SAP ASE Cluster Edition 16.0sp01 → December 2024
 - (only available on Linux)
 - Upgrade and switch SAP ASE 16.0sp02+ with always-on option



SAP Adaptive Server Enterprise

Upcoming short-term and midterm innovations

2018 development focus

- Complete XOLTP features by adding ease of use/usability features such as precaching and ILM controls
- Cloud enablement including AWS premium public cloud edition for SAP ASE with core options such as MemScale and always-on option
- Continued evolving of cloud support such as auto-backups

2019 planned innovations

- Continued evolving of cloud services and cloud deployment capabilities



SAP Adaptive Server Enterprise

Product road map overview – Key innovations

Recent innovations

Data center operations and security

- Always-on enhancements
- CCL for SSL
- Idle timeout
- Granular auditing
- On-demand network encryption

SAP HANA integration

- SAP HANA schema
- SAP HANA SQL script

XOLTP and SAP ASE adoption

- In-memory row store (IMRS)
- Hash-based index
- MVCC

Cloud enablement

- SAP ASE backup to the cloud (AWS)
- Google Cloud SAP ASE certification
- SAP ASE, public cloud edition, on AWS

SAP ASE 16 SP03 PL05 is the current release.

2018 – Planned innovations¹

Data center operations and security

- Always-on enhancements
 - Cloud enablement and security
- Security enhancements
 - Secure password store
 - Secure key storage (HSM for root key)
 - XERCES and ZLIB updates
 - Memdump and core password obfuscation
- SAP Business Suite
 - “Focused Run” (FRUN) SAP ASE monitoring
 - DR (3rd node) with always-on option
 - SAP Business Suite support for SSL

Cloud enablement

- Cloud certifications: Google, Huawei, Alibaba
- Always-on monitoring for managed cloud from SAP
- AWS subscription service (phase1)

2019 and beyond – Product direction¹

Data center operations and security

- Always-on enhancements
 - XA transaction failover
 - See SAP Replication Server road map for external replication improvements
- SAP Business Suite
 - Technical monitoring cockpit (TMC) for SAP ASE administration
- Keep up with changing OS landscape, language drivers/APIs

XOLTP

- Enhancements to IMRS/MemScale options
 - Configurable ILM for cache warming and scan rows
 - Table precaching and cache warming

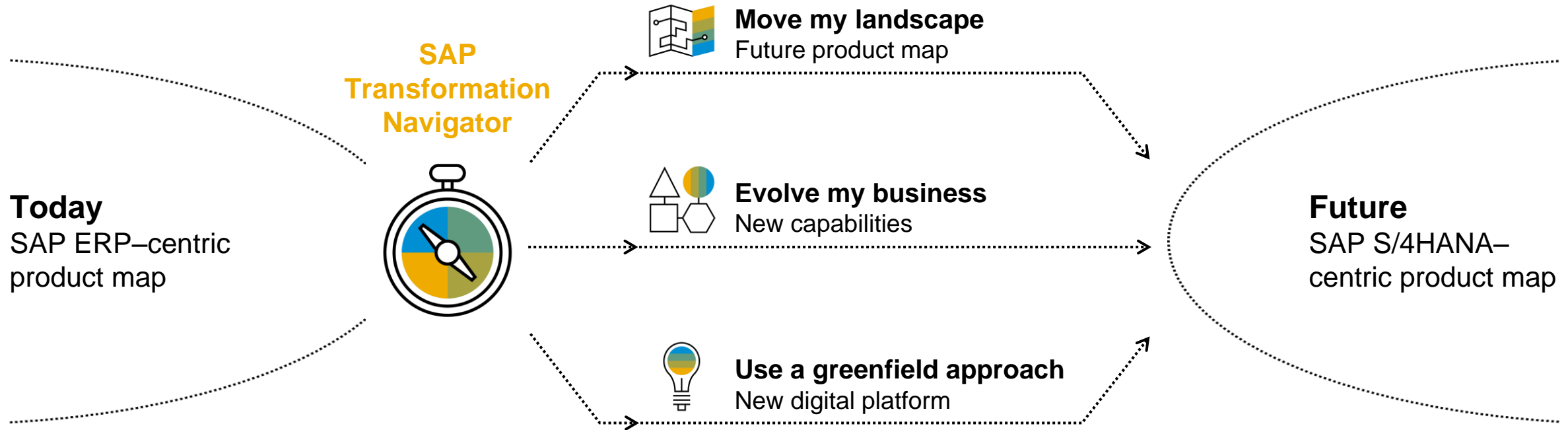
Cloud enablement

- Always-on administration for managed cloud from SAP

1. This is the current state of planning and may be changed by SAP at any time without notice.

SAP Transformation Navigator

Supporting your digital transformation



SAP Transformation Navigator provides you with clear guidance to chart the Intelligent Enterprise:

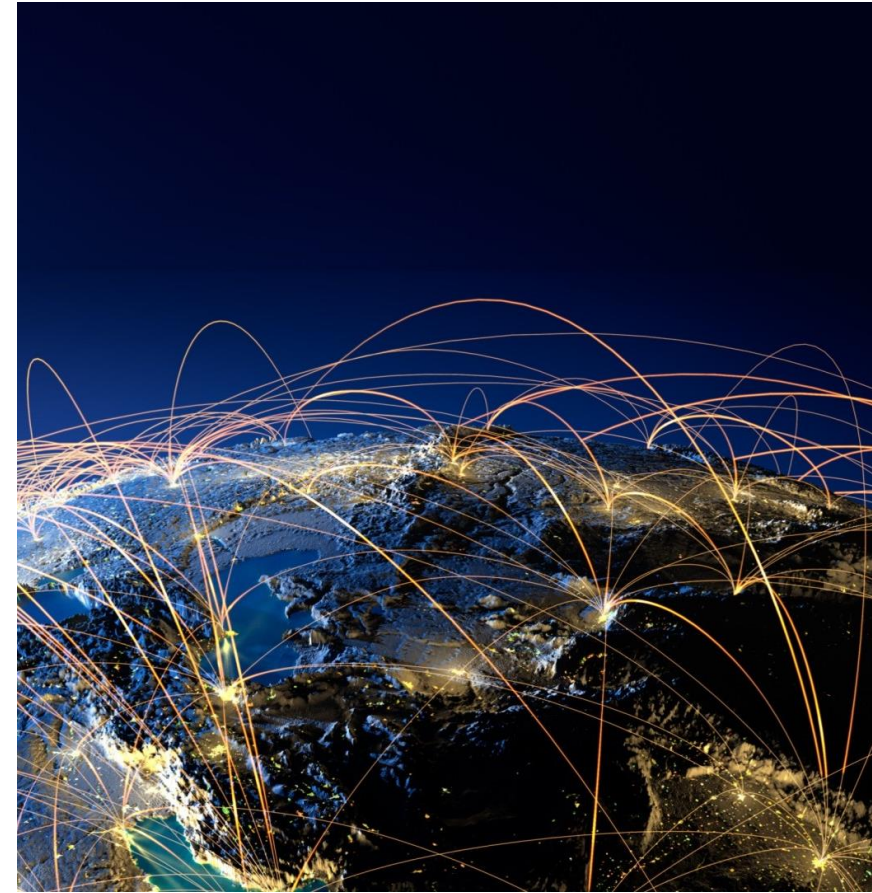
- Based on your currently used products, this free self-service produces an individualized report highlighting business value, detailing integration to SAP S/4HANA and other cloud products, and explaining transformation services and license information.
- With the new time-slider feature, you can even identify the best point in time to engage in your journey to becoming an intelligent enterprise.
- Discover the tool and your transformation path at <https://support.sap.com/stn>.

Related road maps

As an OLTP DBMS, SAP ASE is rarely used by itself and is often embedded in complex systems that rely on other SAP products. Where applicable, this road map may discuss integration functionality with these products. Other details about usage may be found in related product road maps.

Related product road maps available on sap.com/roadmaps:

- SAP HANA



Learn more

SAP customers and partners

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- ▶ [SAP ASE Product Home Page](#)
- ▶ [SAP ASE Solution Brief](#)
- ▶ [SAP ASE Product Availability Matrix](#)



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