



SAP Adaptive Server Enterprise (SAP ASE) Road Map

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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

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- 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 transactional-intensive environments** for custom-developed and SAP Business Suite applications with reduced TCO.

Mission-critical transactional-intensive workloads

- Extreme online transaction processing (XOLTP)-focused database engine with in-memory techniques for linear scalability (scale-up vs. 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 and is much easier to manage



SAP ASE

For faster, more reliable transaction-intensive applications

SAP Database and Data Management

SAP HANA in-memory platform

Transactional
RDBMS

Data warehousing
DBMS

Enterprise mobility

Embedded RDBMS

OLAP on Big Data

Data integration,
quality, master data
management

with specialized data management capabilities

Mission critical | Trusted | Low TCO

SAP ASE

In the database and data management product portfolio



SAP ASE, platform edition

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

3-in-1 solution



SAP ASE, enterprise edition

Power mission-critical database management systems for a single-node environment

Large enterprises



SAP ASE, Edge edition

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

Startups/small business



SAP ASE, evaluation license

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

Developers/education



MemScale option

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

XOLTP



TCO

Workload analyzer option

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



High availability

Always-on option

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

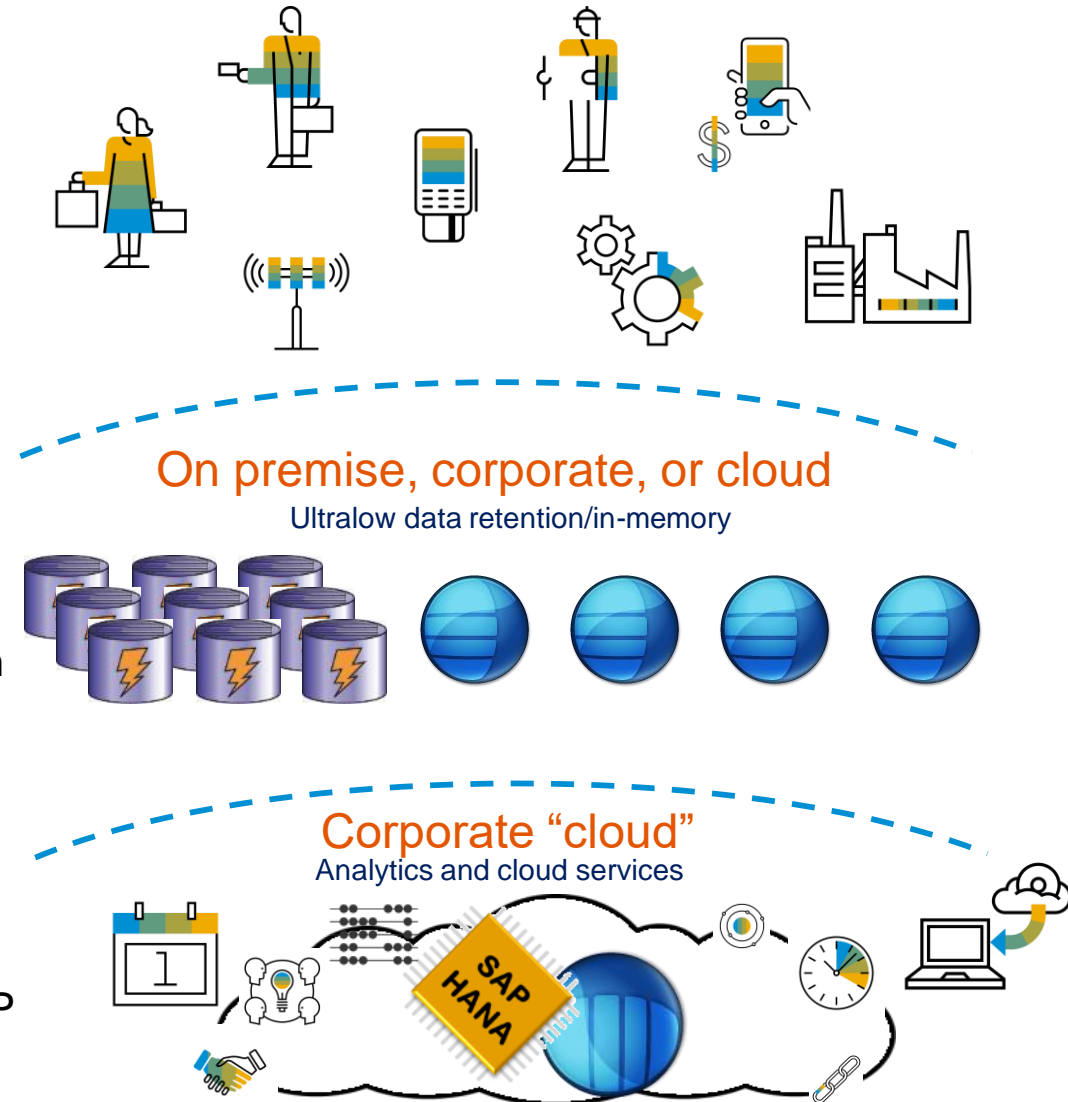
SAP's vision for SAP ASE

XOLTP engine for disk-based RDBMS

- Use information lifecycle management (ILM) principles to provide **automated** XOLTP for **existing** and new applications at multi-TB database size without extensive HW investments
 - Leverage new HW trends (SSD, in-memory, high-density cores) to provide dramatic performance gains for existing applications without changes
 - Exploit high CPU core counts without data sharding and distributed query processing required by NewSQL and other DBMS
 - Support very high concurrent workloads with low resource utilization and low-latency query support without application changes
- Leverage SAP Replication Server or SAP Data Hub to replicate data in real time/near real time to SAP HANA or SAP IQ for analytics, text, geospatial, graph, or integration with Hadoop systems for cross-functional applications

General-purpose OLTP with TCO focus (SAP applications)

- Support common hardware for disk-based general-purpose OLTP where enterprise reliability and security are desired – for example, SAP Business Suite



SAP ASE

Moving to the digital world

Business need/ capability	Product today If you run this product today ...	Go-to product You might want to consider a move to ...	Additional information
OLTP + real-time analytics	SAP ASE → SAP Replication Server → SAP ASE	a) SAP ASE, platform edition b) SAP ASE, platform edition + SAP HANA accelerator for SAP ASE (A4A)	SAP ASE, platform edition, includes SAP ASE, SAP Replication Server, and SAP IQ with flexible deployment plus common security, partitioning, and compression options
High availability (HA)	SAP ASE Cluster Edition SAP ASE, enterprise edition, high-availability option and disaster recovery option	SAP ASE, database always-on option	Always-on option supports cloud/hardware agnostic deployments and removes limits on SAP ASE functionality due to cluster edition
XOLTP	Multiple SAP ASE instances in loose cluster	SAP ASE, platform edition + MemScale	MemScale may allow multiple sharded SAP ASE instances to be recombined into a single less-complex deployment
Production workload simulation/testing	Ad hoc manual test scripts	SAP ASE cockpit + workload analyzer option	Leverage capture/replay to accurately capture production workloads to replay for testing to mitigate risks and improve performance tuning capability

This mapping table only reflects possibilities and suggestions for the digitalization plans of enterprises and should not be understood as an individualized, verified path for your enterprise. SAP does not warrant that the content of this presentation is error-free or fit for a particular purpose; in particular SAP does not warrant applicability for your enterprise and disclaims any liability with regards to the statements.

This is the current state of planning and may be changed by SAP at any time.

SAP ASE

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 (10s □ 100s K)
- 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

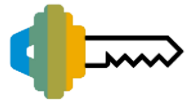
SAP ASE value propositions



- XOLTP capable/cloud-enabled
- Vertical scalability for best TCO
- In-memory scalability without app rewrite
- Integrated replication for global autonomy/real-time analytics
- Gov't-certified security (encryption, ...)
- Hardware/software independent HADR with multisite availability

SAP ASE

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/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/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.



Transactional intensive



Highly available



Multilayer secure



Cloud enabled



Global/regionally distributed

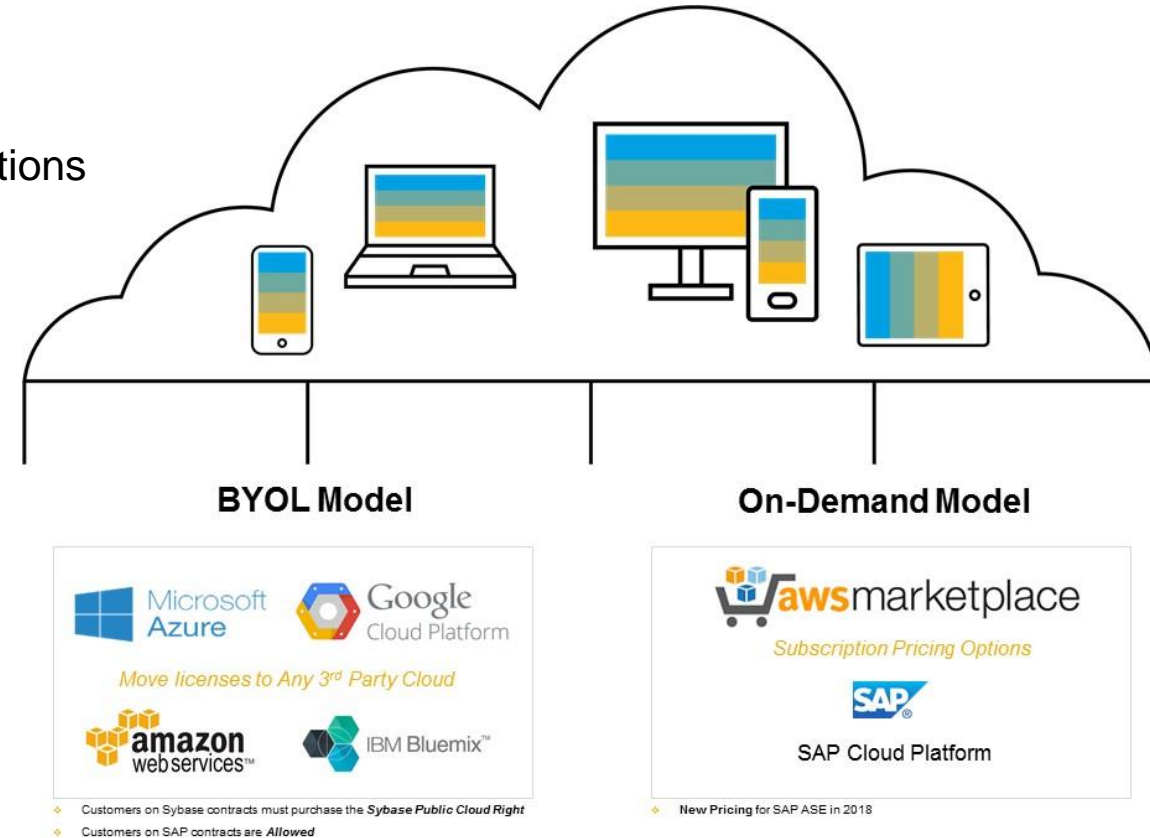


Low TCO

SAP ASE

Product/portfolio areas of future investment

- Vision:
 - Market-leading XOLTP DBMS
 - High-performance/low-TCO DBMS for SAP and custom applications
- Recent areas of focus
 - Core XOLTP functionality
 - SAP Business Suite and SAP R/3 development compatibility
- 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
 - Ongoing XOLTP/scalability enhancements
 - Continued support for SAP Business Suite development



SAP ASE

Product road map overview – key themes and capabilities (cloud and ops/sec)

Recent innovations

Data center operations and security

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

Cloud enablement

- SAP ASE backup to the cloud (AWS)
- Google Cloud SAP ASE certification
- AWS Cloud Subscription Service (phase 0)

2018 – Planned innovations¹

Data center operations and security

- Always-on enhancements
 - End-to-end security
 - Application redirection list
- Security enhancements
 - Back-up server with SSL
 - Secure password store
 - Secure key storage (HSM for root key)
- SAP Business Suite
 - FRUN-based SAP ASE monitoring
 - DR (3rd node) with always-on functionality
- Shrink-DB enhancements
- BALDR (historical monitoring) enhancements

Cloud enablement

- Cloud certifications: Google, Huawei, Alibaba
- Always-on (within cloud)
- Always-on monitoring for managed cloud from SAP
- AWS Cloud Subscription Service (phase 1)

2019 – Product direction¹

Data center operations and security

- XA support for always-on
- Role-based resource limits
- Log analyzer
- SAP Business Suite
 - TMC SAP ASE administration

Cloud enablement

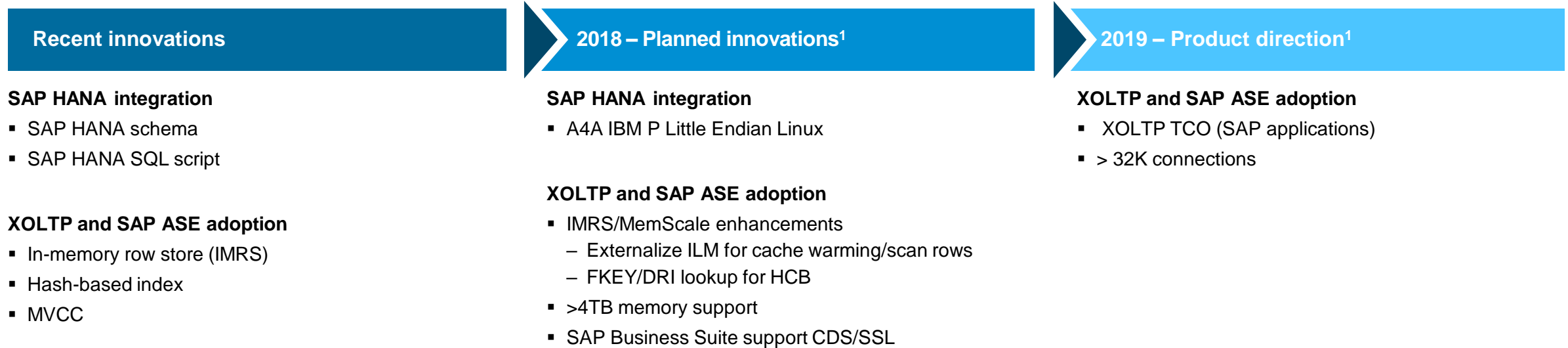
- Cloud sizing tool
- Cloud data migration tool
- Always-on administration for managed cloud from SAP
- AWS Cloud Premier Subscription Service

SAP ASE 16 SP03 PL03 is the current release.

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

SAP ASE

Product road map overview – key themes and capabilities (XOLTP+)



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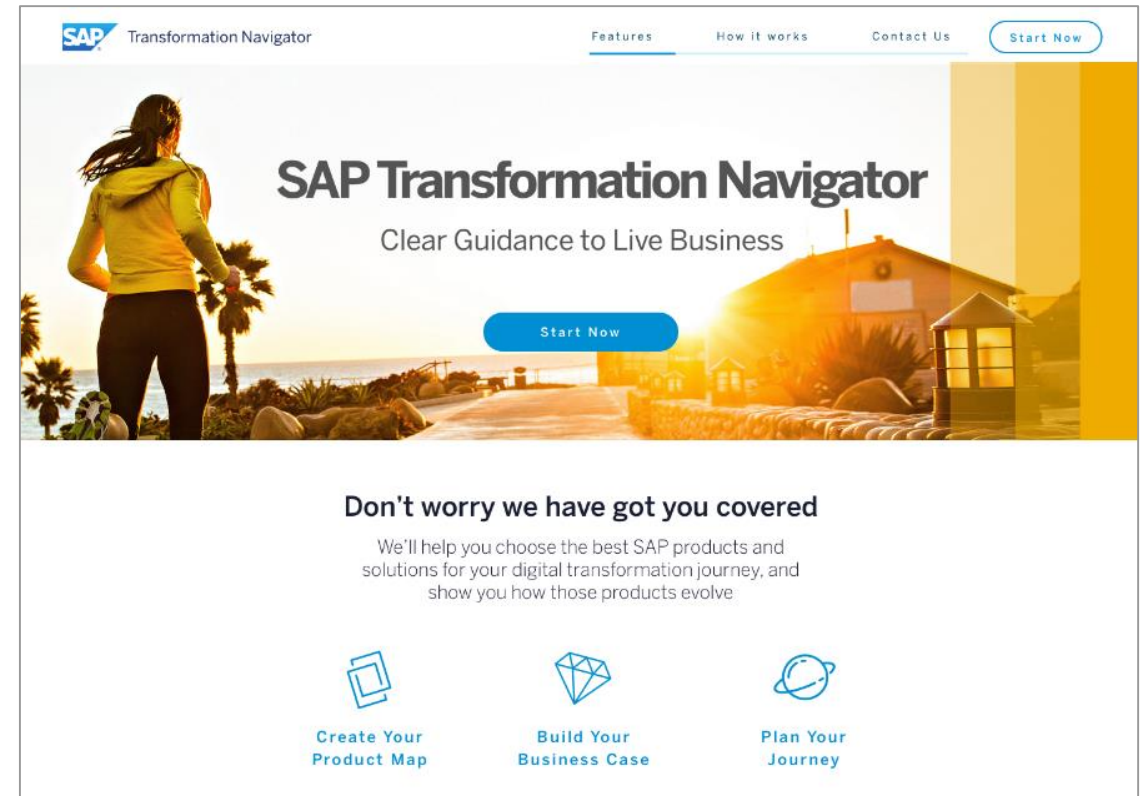
SAP ASE 16 SP03 PL03 is the current release.

SAP Transformation Navigator

Our customers are asking for clear guidance for their digital journey to reimagining business models, business processes, and how their people work.

The self-service SAP Transformation Navigator tool recommends an SAP S/4HANA–centric product map based on the products a customer is currently using and on their business and IT priorities.

SAP Transformation Navigator builds on SAP road maps and produces an individualized document that highlights business value, shows integration from SAP S/4HANA to our cloud solutions, explains available transformation services, and provides license information for additional products and solutions.



Discover [SAP Transformation Navigator](#)* for guidance to your future SAP S/4HANA–centric product map.

*Accessible to all internal users and S-users as of May 15, 2017

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Related road maps

As an OLTP DBMS, SAP ASE is rarely used by itself and often is 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 Replication Server
- SAP IQ
- SAP HANA
- SAP SQL Anywhere



Learn more

SAP customers and partners

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