SIS201

All You Need to Know About Security with SAP HANA

Andrea Kristen, Holger Mack / TIP In-Memory Platform SAP TechEd 2012



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Agenda

SAP in-memory computing and SAP HANA

SAP HANA security

- Security approach
- Security architecture and functions
- Data center integration and compliance

Summary

Q&A

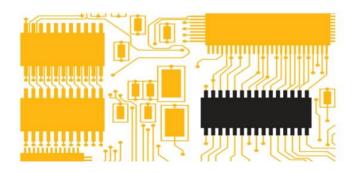
SAP in-memory computing and SAP HANA



Breakthrough innovation with in-memory computing

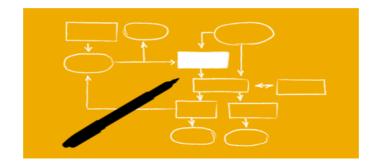
In-memory computing is a technology that **analyzes massive quantities of data in local memory** so that the result of complex analysis and transactions is available at your fingertips

— and business decisions can be executed without delay



Breakthrough analytics

Deliver real-time insight and manage 'big data' with SAP HANA



Amazing new applications

Drive rapid innovation and meet strategic challenges with a new wave of in-memory business applications

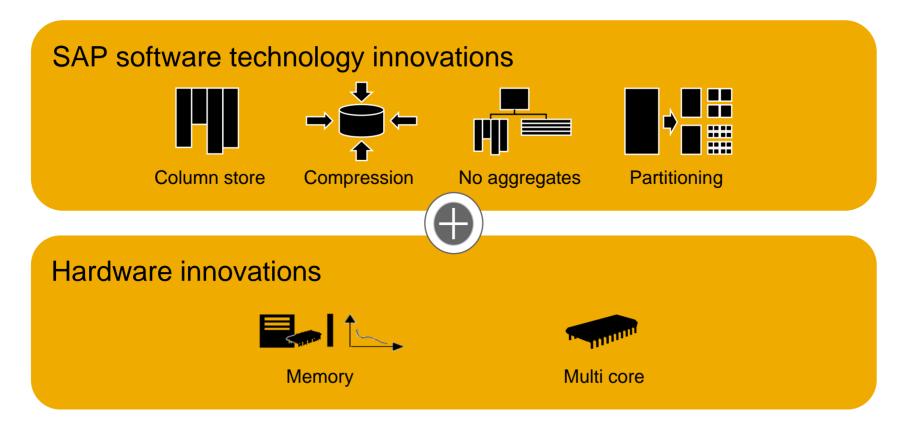


Dramatic simplification

Reduce complexity to lower cost and accelerate value delivery from IT

In-memory computing orchestrates technology innovations

Software and hardware innovations now make it possible to deliver on SAP's vision of a real-time enterprise with in-memory business applications



SAP in-memory strategy

"Transformation"

"Innovation"

"Introduction"

Side-by-Side

 SAP HANA real-time operational analytics

Capabilities

 Complete BI Suite with BI 4 runs on SAP HANA

Primary Persistence

- SAP BW powered by SAP HANA
- SAP HANA platform for inmemory apps
- Further optimization of BI 4 Suite for SAP HANA
- Industry and LOB Analytic Apps
- Primary persistence and optimized for SAP BW

One Store

- SAP Business Suite optimized for in-memory computing
- SAP HANA only persistence layer for SAP Business Suite

Benefits

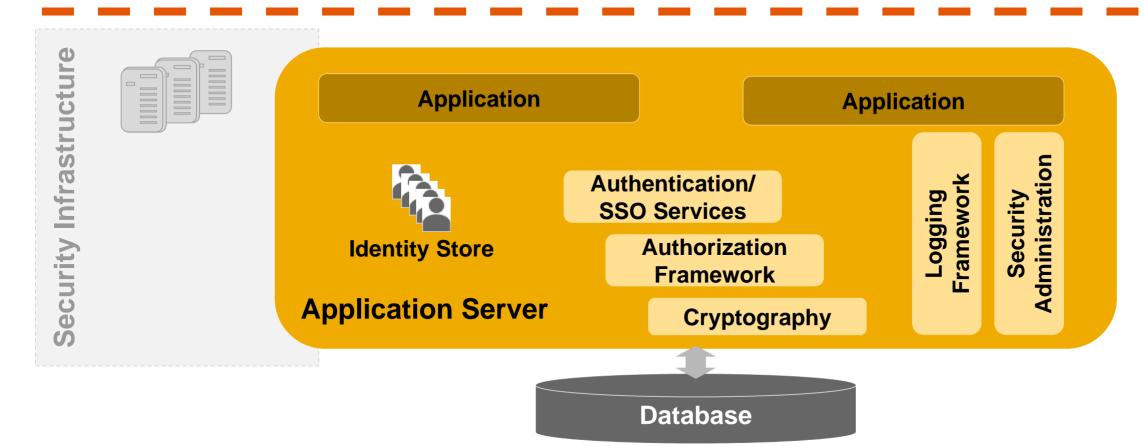
Flexible real time analysis of operations on detail level

- Reduced landscape complexity
- Value chain transformation

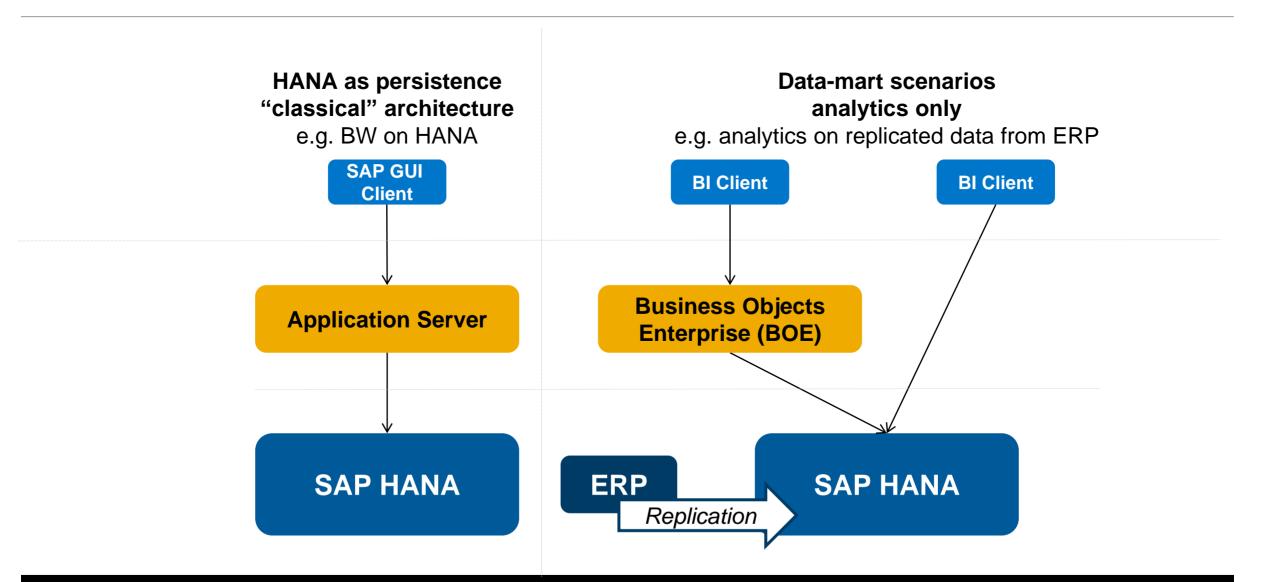
This is the current state of planning and may be changed by SAP at any time.

Traditional security architecture





SAP HANA scenarios

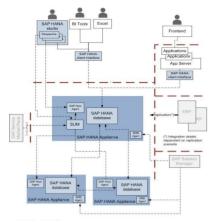


SAP HANA security

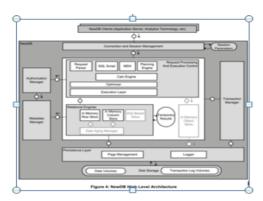
Security approach



SAP HANA – security approach

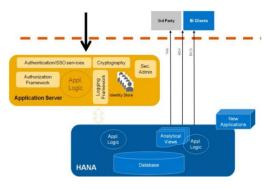


Secure SAP HANA Landscape

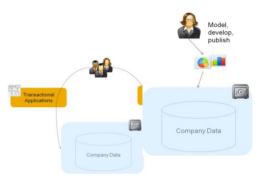


Secure In-Memory Architecture





Secure Application Architecture



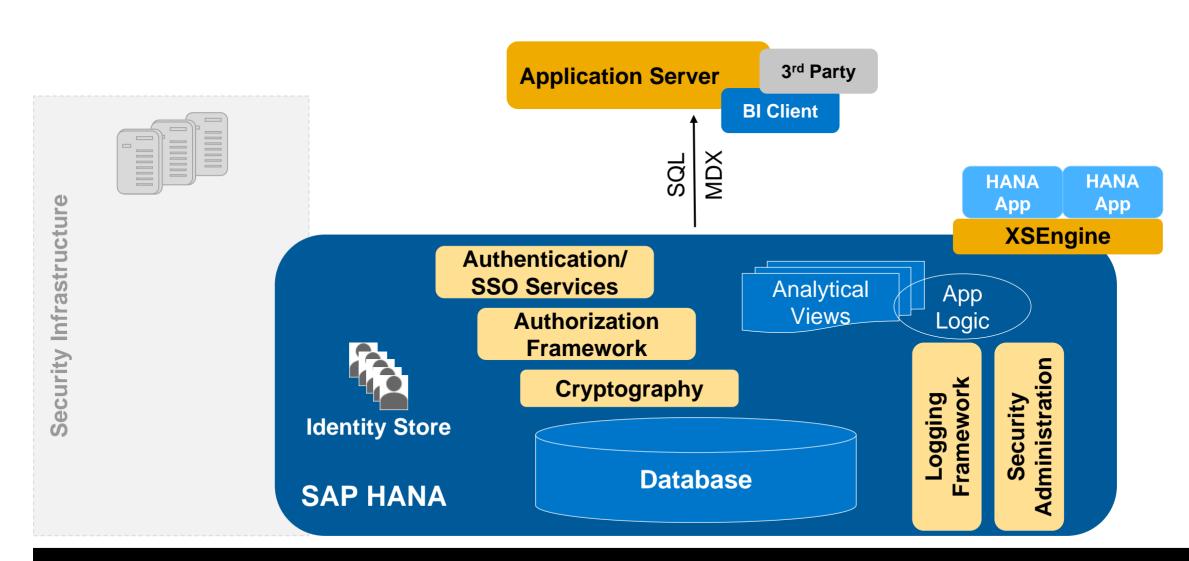
Secure Data Access and Management

SAP HANA security

Security architecture and functions

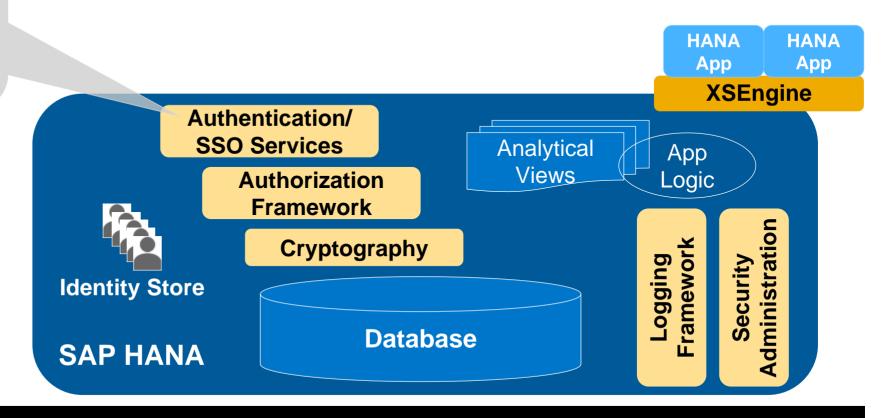


SAP HANA – security architecture



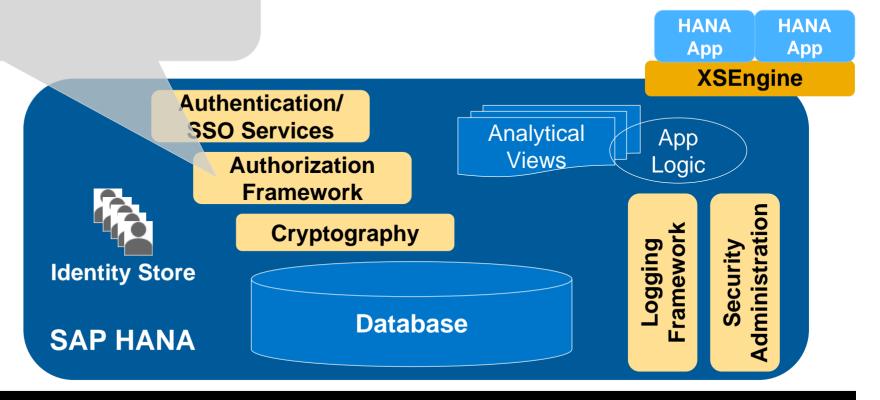
SAP HANA – authentication and single sign-on

- User name and password
 - Password policy
- Kerberos
 - Incl. delegation
- SAML
 - Bearer token



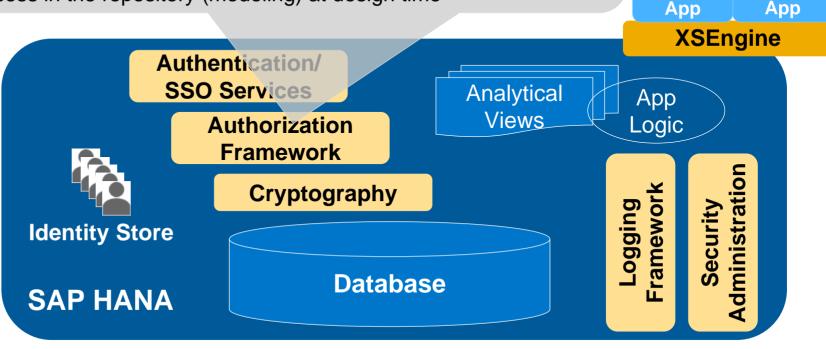
SAP HANA – user and role management

- Privileges control what users can do
- Privileges or roles can be assigned to users
- Roles are used to bundle and structure privileges
 - E.g. business roles (Modeler)
 - Role hierarchies



SAP HANA – authorization framework

- System privileges: Authorize execution of administrative actions
- SQL privileges: Authorize access to data and operations on database objects
- Analytical privileges: Authorize read access on views at run-time; row-level access based on dimensions of the respective view (analytical, calculation, attribute)
- Repository privileges: Authorize access in the repository (modeling) at design time



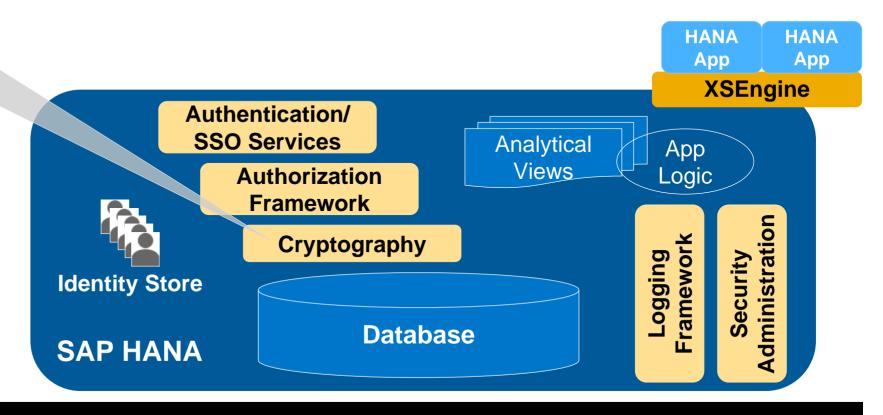
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HANA

HANA

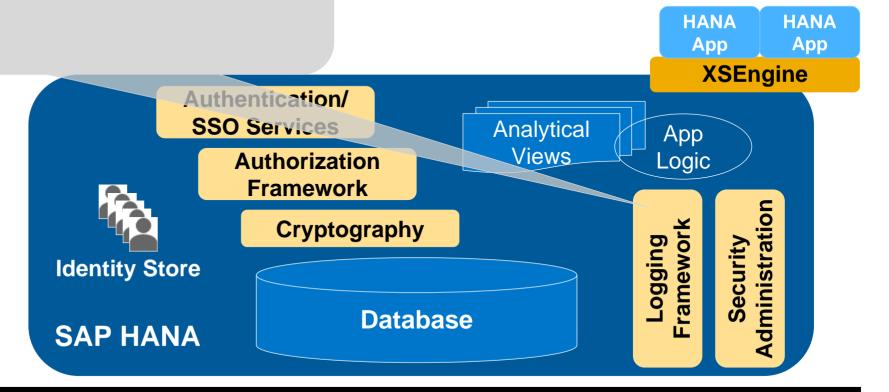
SAP HANA – secure communication and encryption

- Communication encryption
 - SSL
- Encryption at rest
 - On the roadmap



SAP HANA – audit logging (I)

- Logging of critical events for security and compliance
 - Users/roles
 - Authorization
 - Configuration
- Data access logging
 - On the roadmap



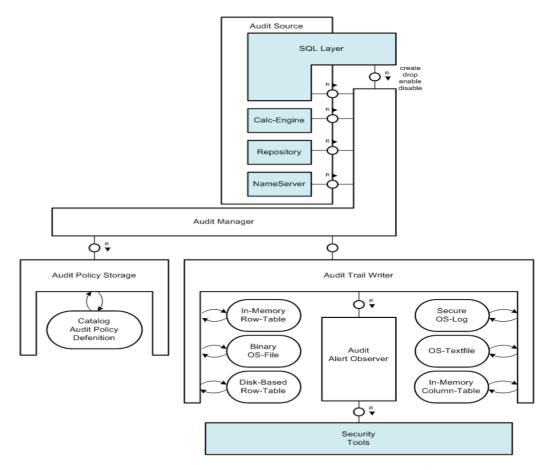
SAP HANA – audit logging (II)

Audit logging infrastructure

- Creates audit trails
 - Logging of successful and unsuccessful events
- Audit policies

Audit logging of critical events

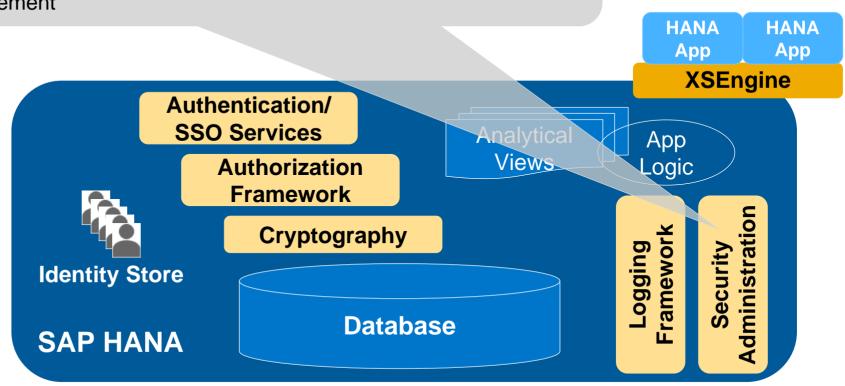
- Create/drop user/role
- Create/drop analytic privilege
- Grant/revoke SQL/system/analytic privilege
- Grant/revoke role
- Enable/disable audit policy
- User connects to the database
- Configuration changes
- License key installation



Audit logging infrastructure (incl. examples of possible future extensions)

SAP HANA – security administration

- Security management and administration via SAP HANA Studio
 - Authentication policies
 - User/role management etc.
- SQL interface for user/role management

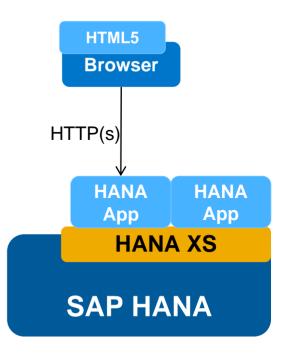


SAP HANA – application services (I)

Rationale:

Enable application development and deployment – minimize "layers"

- For applications with an http-based UI (browser, mobile apps)
- Applications run directly on SAP HANA, without an additional external application server => minimizes TCO
- Leverages the built-in strengths of the SAP HANA database for the best possible performance



SAP HANA – application services (II)

Application services security is based on the SAP HANA database security model

Authentication and single sign-on

- User name/password (HTTP Basic Authentication)
- SAML, SPNego (Kerberos) and SAP Logon Tickets on roadmap

User and role management

Based on SAP HANA database user management

Authorization

Based on SAP HANA database authorization system

Secure communication and encryption

SSL support (server authentication)

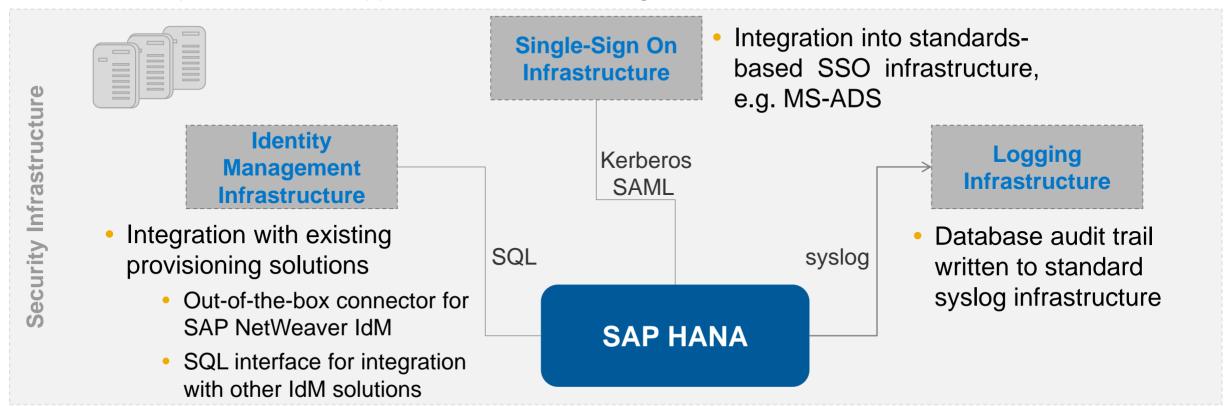
SAP HANA security

Data center integration and compliance



SAP HANA – data center integration

- SAP HANA supports standard interfaces to enable integration with customer security network and datacenter infrastructures
- Secure set-up of SAP HANA appliance and network integration



Summary



Summary

SAP HANA comes with security features that allow implementation of different security policies

SAP HANA is used in different scenarios

Security architecture of the scenario determines security approach

Q+A



Further Information

SAP Public Web

http://help.sap.com/hana_appliance -> Security Guide
http://experiencehana.com



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Please complete your session evaluation for SIS201.

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Thanks for attending this SAP TechEd session.



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