

SAP HANA

SAP HANA Introduction

Description:

SAP HANA is a flexible, data-source-agnostic appliance that enables customers to analyze large volumes of SAP ERP data in real-time, avoiding the need to materialize transformations.

SAP HANA is a hardware and software combination that integrates a number of SAP components including the SAP HANA database, SAP LT (Landscape Transformation) Replication Server, SAP HANA Direct Extractor Connection (DXC) and Sybase Replication technology. SAP HANA is delivered as an optimized appliance in conjunction with leading SAP hardware partners.

What you Learn

Course Goals:

- Business Process
- How HANA Module work in R/3
- Implementation Training
- Integration with other Modules
- Real-time Training with End to End Implementation Process.

SAP HANA Contents

1. SAP HANA Overview & Roadmap (What is SAP HANA?)

1.1. SAP HANA in a Nutshell

1.1.1. Evolution of In Memory computing at SAP

1.1.2. History HANA

1.1.2.1. Early projects

1.1.2.2. 2005 Genesis

1.2. Business Impact of new architecture

1.2.1. Not about IT, its about running a real---time business

1.2.2. Increasing data volumes

1.2.3. Increasing number of users (mobile)

1.2.4. Need for Flexibility

1.2.4.1. Business needs driving changes in existing systems

1.2.4.1.1. Ad---hoc addition of new requirements

1.2.5. Operational Non---Disruption with a Disruptive Innovation

1.2.6. "Impedance Mismatch"

1.2.6.1. Load performance

1.2.6.2. Query Performance

1.3. In Memory Computing Basics

1.3.1. Faster, Better, Cheaper

1.3.1.1. Risk & Maturity of disk vs memory dbms

1.3.1.2. Platform for the future

1.3.1.3. iPod example

1.3.1.4. Moore's law

1.3.1.5. What happens when the power goes out?

1.3.2. Cost x GB x Second calculation

1.3.3. Row Store, Column Store, Persistency Layer, Architectural Concept

1.4. SAP HANA Architecture Overview

1.4.1. Engines

1.4.2. Tools

1.4.3. Data Provisioning

1.4.4. Data Modeling

1.5. SAP HANA 1.0 Use Cases

1.5.1. Agile Data Mart

1.5.1.1. HANA in Action stories

1.5.2. ERP Turbo Charging

1.5.2.1. Accelerators

1.5.3. BW on HANA

1.5.4. Application Platform (Apps powered by HANA)

1.5.4.1. SAP Built apps

1.5.4.2. Partner built apps

1.5.4.3. Custom apps (JAVA/ABAP/ETC)

1.6. SAP HANA Roadmap

1.6.1. HANA today

1.6.2. HANA 2.0 (Suite)

2. SAP HANA Architecture

2.1. Introduction

2.2. General Architecture Overview

2.3. Hybrid Row & Column store engine

2.3.1. Describe Row store

2.3.2. Describe Column store

2.3.3. Why a hybrid? Best of both worlds

2.3.3.1. Many scenarios need both transactional/metadata and it needs to be calculated/aggregated.

2.4. Compression

2.4.1. Optimized for fast access to data

2.4.2. Partial indexing

2.5. Partitioning (memory allocation)

2.6. Delta updates

2.7. Insert Only

2.7.1. Time Traveling

2.8. MDX Engine

2.9. Calculation Engine

2.10. Business Content/Semantic Functions

2.10.1. Business Function Library

2.10.1.1. Currency Conversion

2.10.1.2. Consumable pre---built functions

2.10.2. Predictive Function Libraries

2.11. HANA Studio

2.12. Client Connectivity

2.12.1. Interfaces (ODBC, JDBC, SQL, MDX)

2.13. High Availability

2.13.1. Persistency

2.13.2. Disaster Tolerance

2.14. Multi---tenancy

2.15. HANA Cloud

3. SAP HANA Business Cases & ROI Model

3.1. Introduction

3.1.1. Leverage multiple scenarios, not just one specific use case

3.1.2. Focus on things you CAN'T do today

3.1.3. Involve the business up front and along the way, not a typical IT business case

3.1.4. Think big, start small with a quick win to build momentum in business

3.1.4.1. Users will generate many new possibilities once they see something tangible

3.2. Identify Business Scenario

3.2.1. Value Discovery Workshops

3.2.2. Operational

3.2.3. Strategic

3.2.4. Transactional

3.2.5. Analytic

3.3. Building a business case for SAP HANA

EX 3.3.1. The real tools come into play after the real-time business scenario and app have been Identified

3.3.2. Map Value Drivers for scenario

3.3.3. Identify KPIS and map to value drivers

3.3.4. Describe Benchmarking Database

3.3.5. Map results of benchmarking to create reference model for scenario improvement

3.4. Build ROI Model

4. SAP HANA Applications

4.1. Application Introduction

4.1.1. How are these new apps made possible with HANA

4.2. SAP NetWeaver Business Warehouse on SAP HANA

4.3. SAP Trade Promotion Management

4.4. Sales and Operations Planning

4.5. Business Planning and Consolidation

- 4.6. Smart meter analytics
- 4.7. Predictive Text
- 4.8. Dynamic cash management
- 4.9. SAP BusinessObjects Sales Analysis for Retail powered by SAP HANA
- 4.10. Profitability analysis accelerator for SAP ERP (CO---PA)
- 4.11. SAP Finance and Controlling Accelerator.
- 4.12. SAP Sales Pipeline Analysis powered by SAP HANA

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5.1.5. Write---back scenario

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6.1.2. 7.30 background

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6.2.2. DSO

6.2.3. Data Loading

6.2.4. Integrated Planning

6.2.5. Agile Data Modeling

6.2.6. Columnar compression

6.2.7. Landscape Simplification/Lower TCO.

6.3. Implementation

6.3.1. Things to consider

6.3.1.1. Clean up and migrate

6.3.1.2. Migrate as-is

6.3.2. Big Bang

6.3.3. Incremental/Parallel

6.3.4. Prerequisites & Limitations

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6.3.6. Link to outside info or OSS NOTE

6.3.7. Link to Sizing calculator

6.3.8. Landscape Options

6.3.8.1. Things to consider

6.3.8.2. Single-node (2-tier) (dev/prod)

6.3.8.3. Multi-node (3-tier) (dev/qa/prod)

6.3.8.3.1. Start with copy of productive system

6.3.8.4. Set up Greenfield position

6.3.9. Near Line Storage w/IQ

6.3.9.1. Hot vs cold data concept

6.3.10. Connect one ERP to 2 BW systems

6.3.10.1. Post copy automation (PCA)

6.4. Database Migration

6.4.1. SAPINST tools for DB export

6.4.2. Exports flat files to temp storage

6.4.3. SAPINST tools for DB import

6.4.4. Import flat files from temp storage to HANA

6.4.5. Unicode conversion is possible as part of process

6.4.6. Key Problems: Production downtime

6.4.7. Performance details (query, data load to info cubes, DSO, remodeling)

6.4.8. Query Performance

6.4.8.1. Simple/Standard

6.4.8.2. Complex/Custom

6.4.8.2.1. Power user granular detail, millions of rows

6.4.9. DSO activation

6.4.10. Data Loading

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6.4.10.2. Large flat file (POS) import into BW (smart meter demo)

6.4.11. Remodeling

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7.1. Introduction to Data Sources

7.1.1. SAP, non-SAP (custom apps or 3rd party apps)

7.1.2. Replication approaches

7.1.2.1. Real time, batch.

7.2. Provisioning & Replication Scenarios

7.2.1. How do you extract data from source system and get it into HANA?

7.2.1.1. What tools are available?

7.2.1.1.1. DS, SLT, DEC,

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7.4.5. ODBC connection

7.5. SAP Landscape Transformation (SLT)

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7.5.2. SLT Plug In listings (supportability matrix)

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7.5.4. Trigger Based

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7.5.6. Transformation capabilities via R in ABAP

7.6. Direct Extractor Connection (DEC)

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7.6.2. Native BW extraction capability to connect to HANA

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 - 9.1.1.2. Assume super---computer capabilities for everything
 - 9.1.1.3. The CRUD dilemma
 - 9.1.2. Development tool kits
 - 9.1.3. Native development or extension
 - 9.1.3.1. Zprograms
 - 9.1.4. Data sources and pre---calculations
 - 9.1.5. New assumptions about data capabilities
 - 9.1.6. HANA artifacts
 - 9.1.7. DBSL
 - 9.1.8. Platform options
 - 9.1.8.1. ABAP, NGAP, etc
 - 9.2. ABAP Apps
 - 9.3. JAVA Apps
 - 9.4. Analytic Apps
 - 9.4.1. Explorer
 - 9.4.2. Dashboards (excelcius)
 - 9.4.3. Microsoft Excel
 - 9.4.4. Crystal Reports
 - 9.4.5. Webi
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- 9.5. Mobile Apps
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 - 10.1.1.2.2. Monitoring
 - 10.1.1.2.3. Memory allocation
 - 10.1.1.2.4. User Management
 - 10.1.1.2.5. License Key
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 - 10.6.1. Two kinds
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10.6.1.2. Software LCM

11. SAP HANA Hardware

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11.1.1. Intel E7 processors

11.1.1.1. Intel HANA story

11.1.2. SUSE Linux 11 sp1

11.1.3. SSD or Disk backup

11.1.4. T---Shirt Sizing

11.1.5. Validated by SAP

11.1.6. Additional Infrastructure

11.2. Scale Out/Multi---node options

11.3. Official HANA PAM

11.4. Listing and descriptions of all Certified SAP HANA Hardware by Vendor

11.4.1. Overview of HANA solutions provided



11.4.1.1. What's the unique value prop?

11.4.1.2. Product family

11.4.1.3. T---Shirt sizes offered

11.4.1.4. Scale---out offering

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11.4.1.8. Support Services

11.4.2. Additional HANA services

11.4.2.1. Implementation, etc

11.4.3. Customer success stories (short)

11.4.4. Contact information for inquiries

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12.2. Project Scoping and Documentation

12.3. Timelines and Key Activities

12.4. Project Team Members (Skillsets/activities)

12.5. Examples of stellar projects

12.6. SAP RDS packages

12.7. “Top Ten” Advice for HANA Projects

13. SAP HANA Resources

13.1. Experience HANA site

13.2. Key Resources for Sample Projects

13.3. SAP Support Organization

13.4. Training and skills resources

13.5. SDN

13.6. Benchmarking database

13.7. Blogs/Twitter feeds