



RED HAT
SUMMIT

Best Practices for your SAP Migration to SAP HANA®

Session: S111010

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CenturyLink Transformation

Evolving as Customer Needs Evolve



1930 → 2008

2013

2014

2016 - 2017

- Data Connectivity & Integrated Access Voice & Data
- Video and Content-Rich Apps
- Blackberry & Intro of Smart Phones

Network Expansion

IP, MPLS, Ethernet, Optical GigE

- Smart Phone Growth, BYOD
- Explosion of Apps, IoT, Online Shopping
- Online Video, File Sharing, Social Media

Data Center Expansion

Power, Uptime/DR, Security

- SaaS & PaaS Growth
- NFV & Systems of Engagement
- Data Analytics, Machine Learning

Cloud Migration

Public, Private, Hybrid

- Increased Cyber Attacks
- IT Complexity & Budget
- Software-Defined Networking

Digital Transformation

Hybrid Networks
Multi-Cloud Management

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IT Consulting & Implementation



OVER 100 ANNUAL IT PROGRAM DEPLOYMENTS FOR CLIENTS

CMMI LEVEL 5 CERTIFIED

ITIL CERTIFIED

4,000 SPECIALISTS: HELP DESK, NETWORK, COMPUTE, IT CONSULTING, ARCHITECTS, TESTING



STRATEGY & SYSTEMS CONSULTING



APPLICATION DEVELOPMENT & MAINTENANCE



DATA & ANALYTICS



SECURITY



QUALITY ASSURANCE & TESTING



INFRASTRUCTURE & APPLICATION MANAGEMENT



CLOUD ENABLEMENT



DISASTER RECOVERY



DESIGN & TRANSITION



SERVICE MANAGEMENT

Empower innovation, improve your agility, and ultimately build competitive advantage



SAP Service Partner



Business Applications

- Customer & Supplier Solutions (ECC, CRM, P2P)
- Enterprise Finance (FSCM, New GL / IFRS)
- Industry Solutions (Retail, Fashion Mgmt.)
- Manufacturing Solutions (SAP MII, ME, SCM)

Database and Technology

- Application Foundation and Security
- In-memory Computing HANA
- Upgrades & Integration Services
- Fiori , Mobility & Mobile
- LCM & Solution Manager
- Enterprise Info Mgmt.
- O/s , DB and HANA (S/4HANA) migration
- GRC and Security setup

Analytics

- Enterprise Performance Management
 - BPC
 - Financial Cons.
 - S&OP
- Business Intelligence
- Data Warehousing
- Data Services
- Governance, Risk & Comp.

Cloud

- SAP Applications
- Business Networks (ARIBA)
- SAP HANA Enterprise Cloud
- HYBRIS

Retail and AFS

Manufacturing,
Discrete, Pharma,
Metals

Mining and Power

High Tech and
Distribution

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The S/4HANA Journey

An abstract graphic of a network or data structure, composed of numerous white nodes connected by thin white lines, set against a vibrant green background. The network appears to be expanding or moving towards the right side of the frame.

SAP By the Numbers



25 Industries

Life Sciences
Retail
Wholesale Distribution
Aerospace & Defense
Automotive
High Tech
Industrial Machinery & Components
Energy and natural resources
Chemicals
Mill Products
Mining
Oil & Gas
Utilities
Banking
Insurance
Defense & Security
Healthcare
Higher Education & Research
Public Sector
Engineering, Construction & Operations
Media
Professional Services
Sports & Entertainment
Telecommunications
Travel & Transportation

300,000 SAP customers
77,000 SAP employees

The global ERP software market is expected to reach \$ 41.69 billion by 2020, registering a CAGR of 7.2% during 2014-2020

**SAP STRATEGY MANDATES
MIGRATION TO THE
SAP HANA PLATFORM FOR
CORE MODULES**

13 Lines of Business

Asset Management
Commerce
Finance
Human Resources
Manufacturing
Marketing
R&D/Engineering
Sales
Service
Sourcing and Procurement
Supply Chain
Sustainability

CenturyLink + Red Hat + SAP



CenturyLink is a strategic Red Hat Certified Cloud & Service Provider (CCSP) Partner. Red Hat's **Open Hybrid Cloud** software is integrated into our solutions for SAP HANA and Hybrid IT, including:

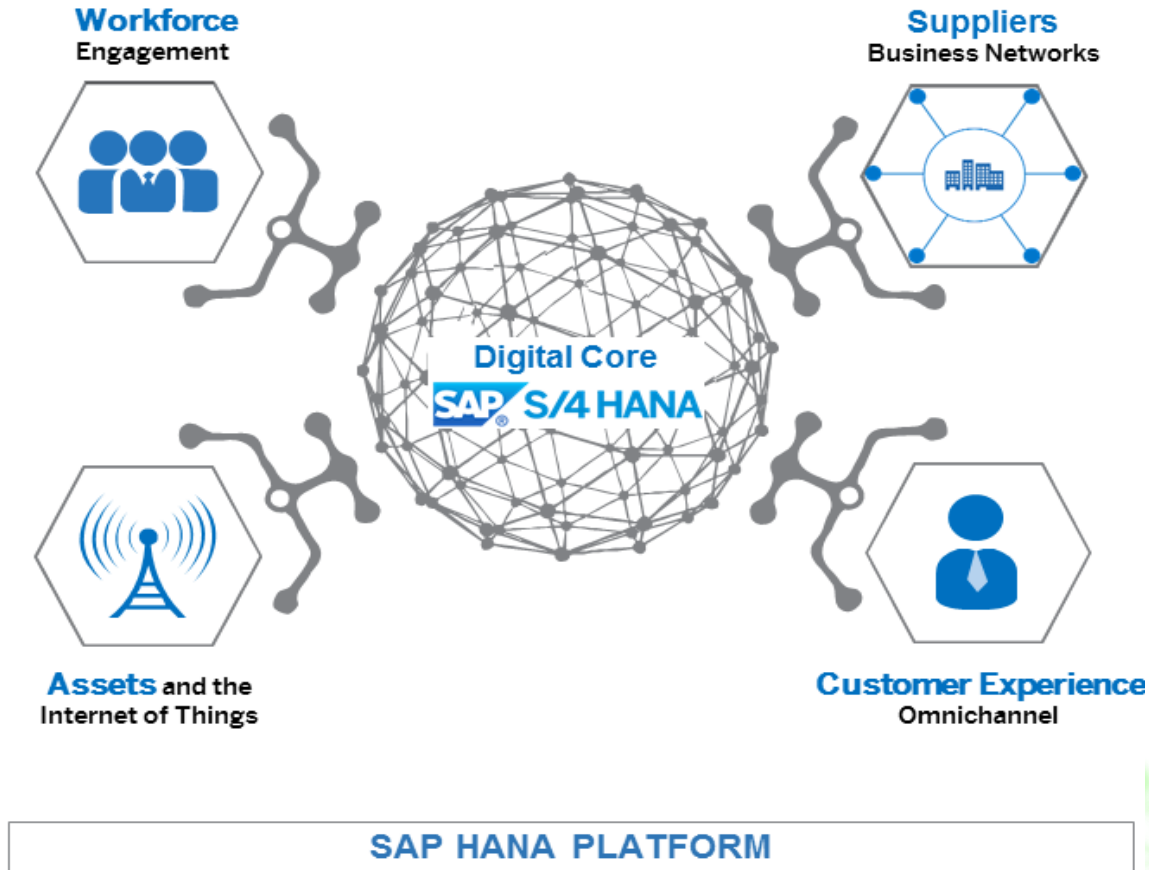
- Hybrid Hosting for SAP HANA (Cloud, Dedicated)
 - Managed Services – SAP HANA
 - HANA Enterprise Cloud (HEC)
-
- The SAP and Red Hat partnership dates back to 1999. Red Hat Enterprise Linux for SAP Applications was launched in 2007 and in 2014 RHEL for SAP HANA was introduced with certified configurations from the leading hardware vendors.
 - CenturyLink has deep expertise in [SAP applications](#), [SAP HANA platform](#), as well as our comprehensive [Big Data & Advanced Analytics](#) all delivered by industry leading IT Services Experts from CenturyLink/SEAL and built on leading infrastructure vendors.

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AGENDA

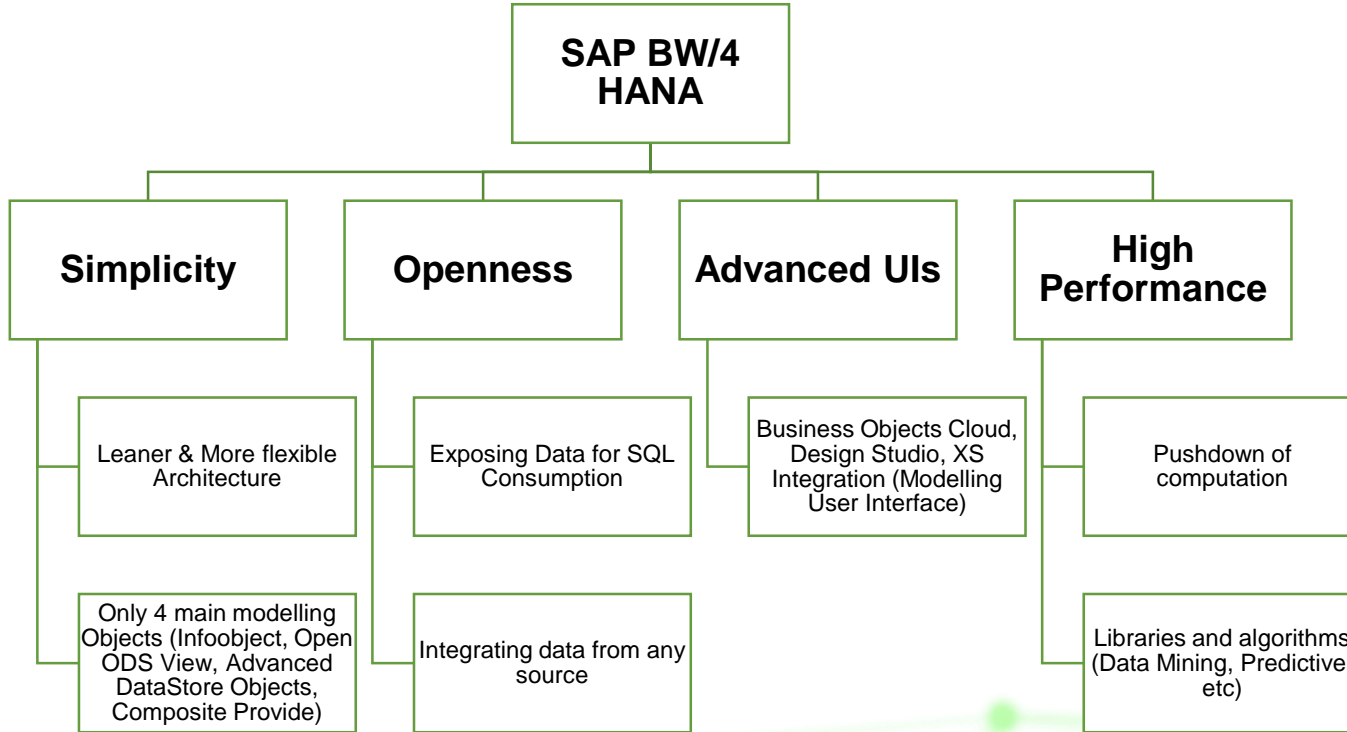
- Why HANA?
- HANA Journey – Three Scenario's
- SAP Activate Methodology for Migration
- User Case Studies
 - ECC on HANA Journey
 - BW on HANA Journey
- Challenges
- Lessons Learned
- Connect with CenturyLink

HANA Will Be the Center of Everything



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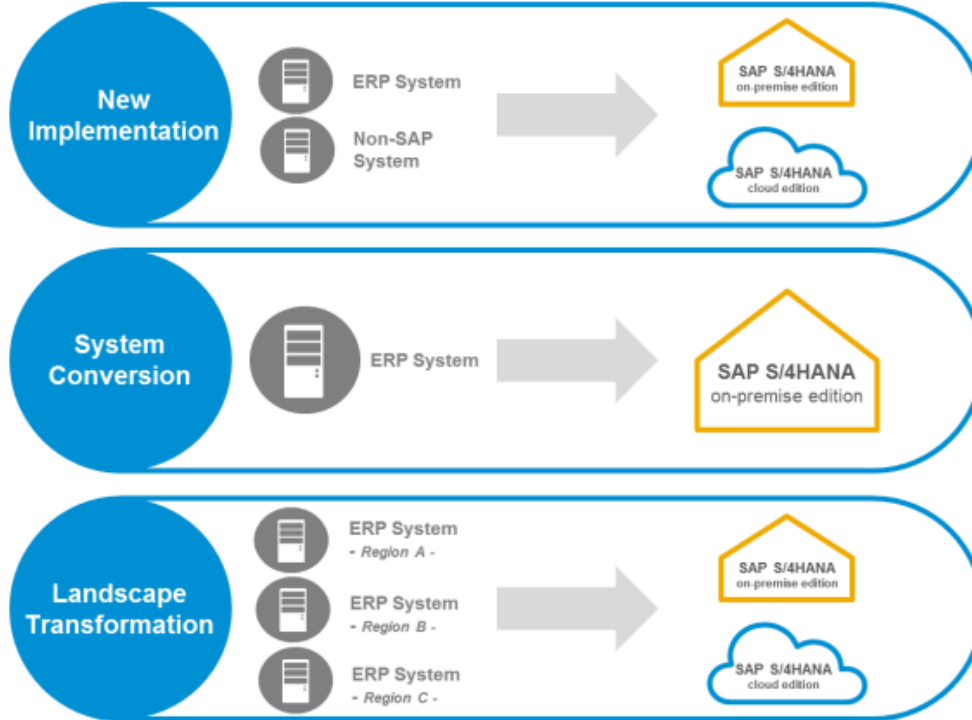
SAP BW/4 HANA



As per SAP roadmap, the plan is to enhance the solution considerably as a part of each Quarterly releases.

Transition to SAP S/4 HANA

Three Scenario's



- **Example:** New or existing SAP customer implementing a new SAP S/4HANA system with initial data load

- **Example:** Complete conversion of an existing SAP Business Suite system to SAP S/4HANA

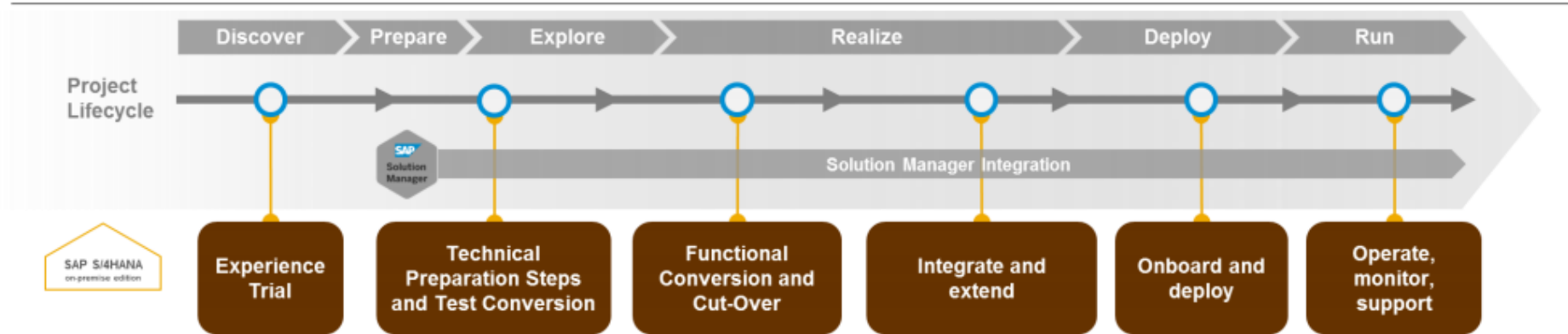
- **Example:** Consolidation of current regional SAP Business Suite landscape into one global SAP S/4HANA system

Source: SAP

Transition to SAP S/4 HANA with SAP Activate



System Conversion - Scenario



Innovations delivered with SAP Activate

- Experience preconfigured trial systems, on-premise and in the cloud
- Step-by-step system conversion
 - Technical preparation: Maintenance Planner, Software Update Manager (SUM), Database Migration Option for SUM
 - Semantic adoption tasks: Simplification list for SAP S/4HANA on-premise edition 1511, conversion pre-checks and custom code checks
- SAP best practices for integration into cloud lines-of-business solutions such as SFSF Employee Central
- SAP Fiori based "Learning Application" delivered with the product with role-based learning content for easy onboarding of end users
- Context-sensitive screen help as an overlay on each application screen
- SAP Solution Manager as Delivery Infrastructure for S/4HANA

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Case Study – Customer Overview



- Global CPG company
 - Leader in the design, manufacture and distributes of fashion, luxury, sport and performance eyewear
 - Over \$10 billion in revenue and 75,000 employees through 7000 retail stores worldwide, the company runs with massive retail data
-
- ECC Version from SAP ERP 6.0(EHP4), Oracle 11.2.0 to SAP ERP 6.0(EHP7), HDB 1.0
 - BW Version from SAP BW 7.01 SP06, Oracle 11.2 to SAP BW 7.40 SP09, HDB 1.0
 - All the retail transactions are maintained using SAP ISR (ECC) system, which hold 8TB of data and 12TB on BW reporting systems
 - The success in CenturyLink's Support & Managed Services partnership enabled CenturyLink to engage in SAP HANA migration initiative

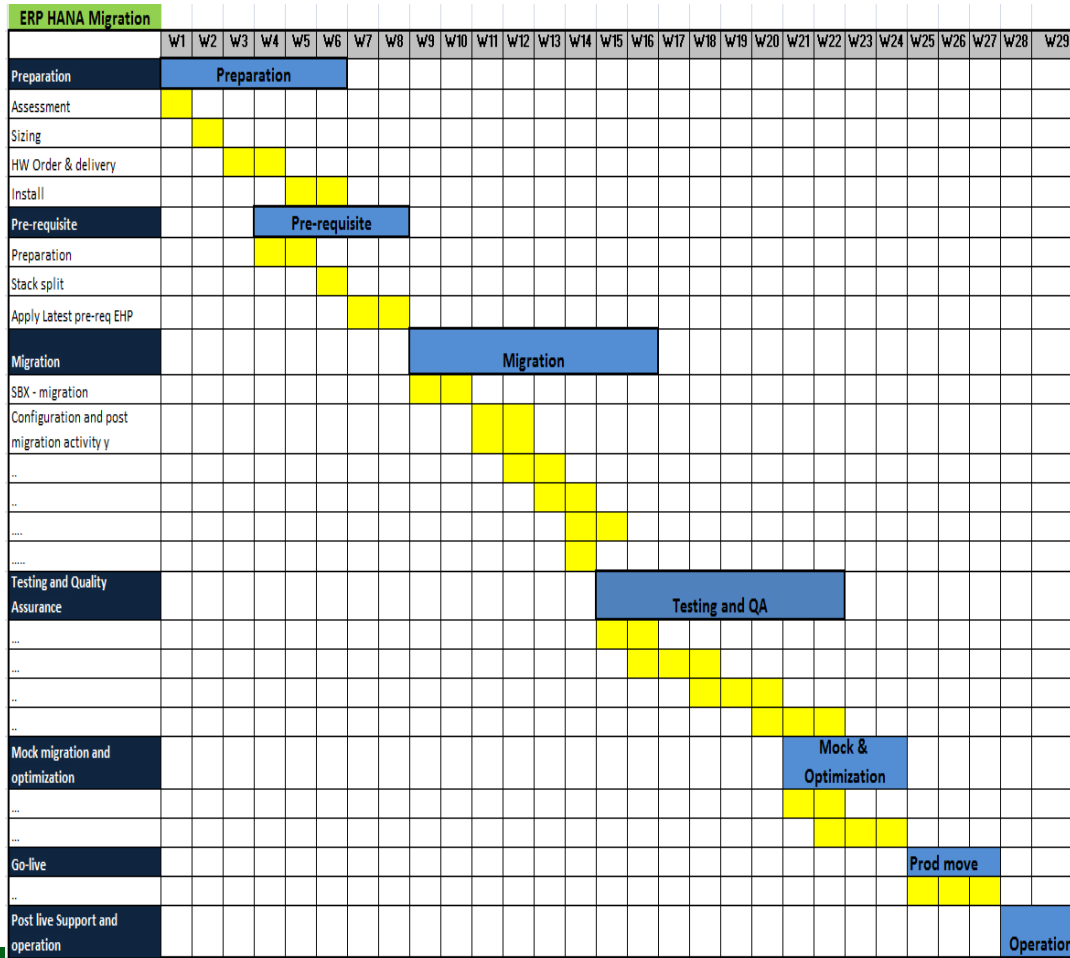
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Customer Project Key Considerations



- Both ECC and BW Migration planned for a simultaneous upgrade
- Two different application team / but used overlapping Basis resource
- SAP MaxAttention team involved whenever there was roadblock
 - DMO run stand still due to performance issues
 - Memory Issue / Parameter tweaks
- Dual landscape established for managing ongoing developments/Transports
- Dedicated Testing Management tool – HPQC
- SolMan upgrade – ChaRM, Retrofit Set up within SolMan included as a part of the plan.

Project Plan for ECC



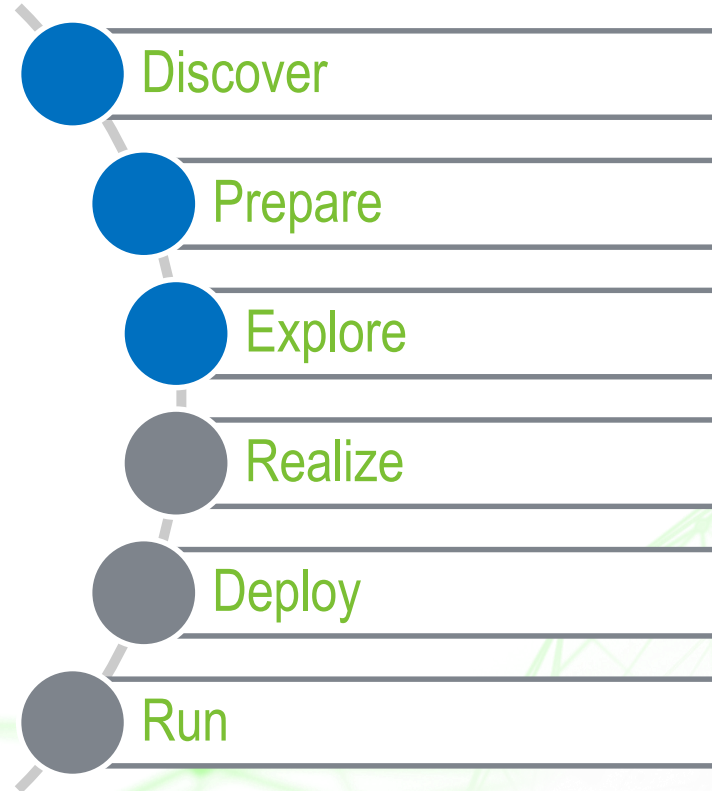
Phased roll out with Key Milestones

- Preparation
- Pre-requisite
- Migration
- Testing & QA
- Mock run & Optimization
- Production Move
- Operation (Hypercare/Support)

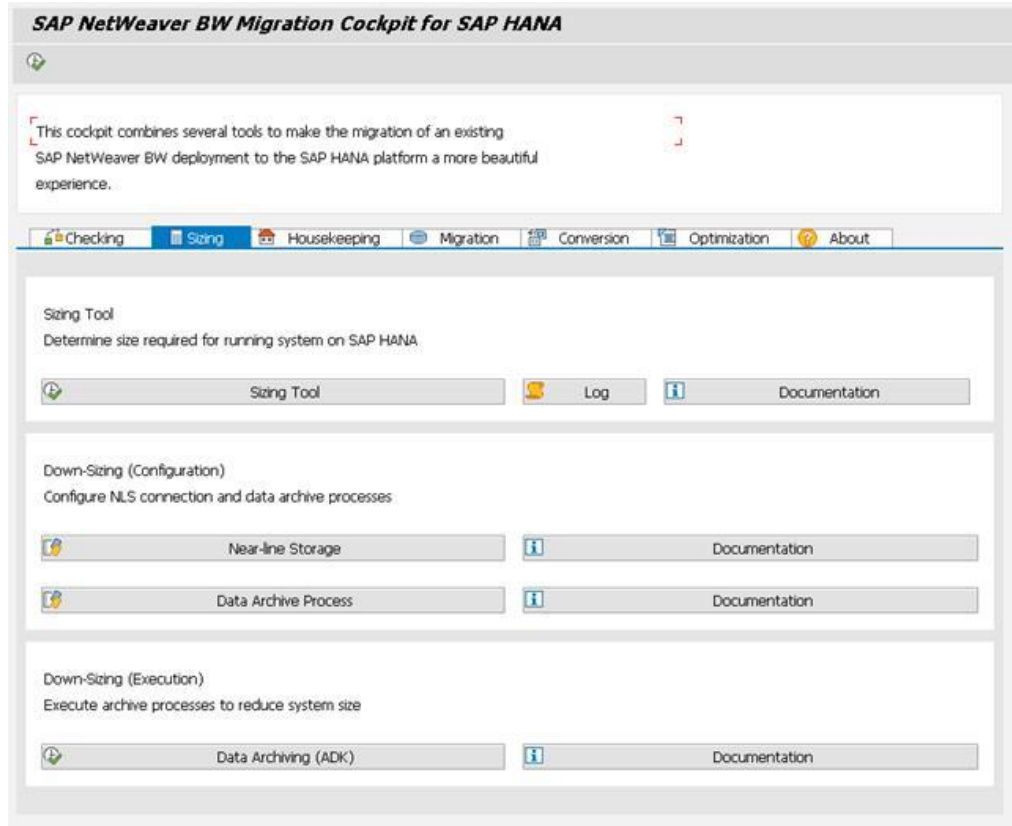
~ 30 Weeks

Suite on HANA

- Evaluate ECC SOH (Suite on HANA) and S/4 HANA option (Evaluate On Premise VS Cloud / Managed Services)
- Perform assessment , identify and validate business benefits and finalize scope
- Learn about various option like SAP HEC, Cloud partner and hardware partner choice
- Identify relevant activities, resources, tools and prepare project plan
- Archiving analysis and clean up activity (SBX, Dev, QA, PRD)
- Managing/ build dual landscape for ongoing production and development



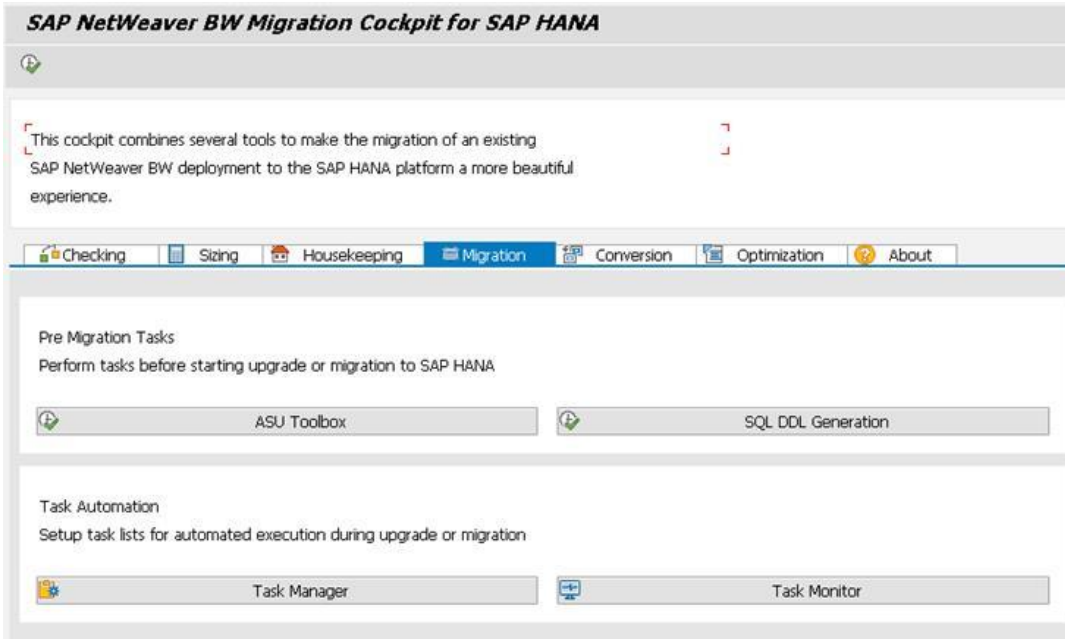
SAP Provides Migration Tools



SAP has created a Migration Cockpit to:

- Clean up the SAP BW system
- Reduce system size
- Conduct pre-checks (readiness checks)
- Size the system
- Find sub-optimal code (i.e., transformations)
- Look at table distributions and loads

Software Update Manager (SUM)

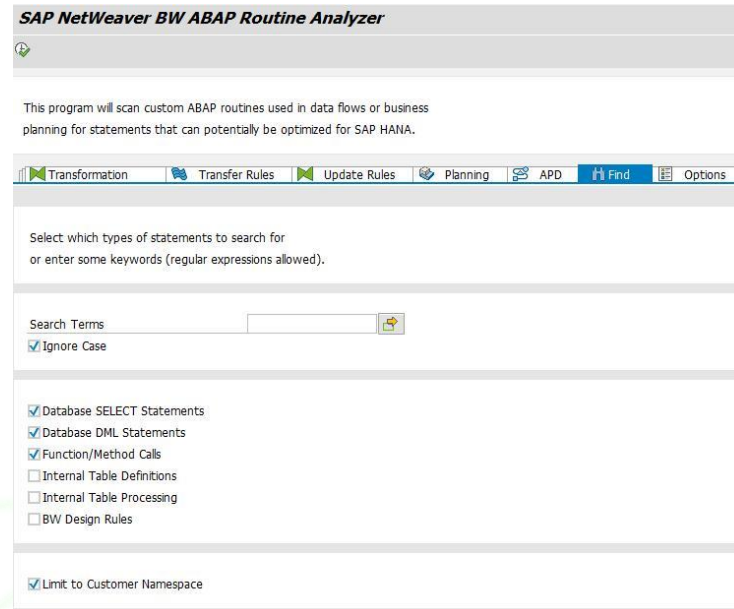
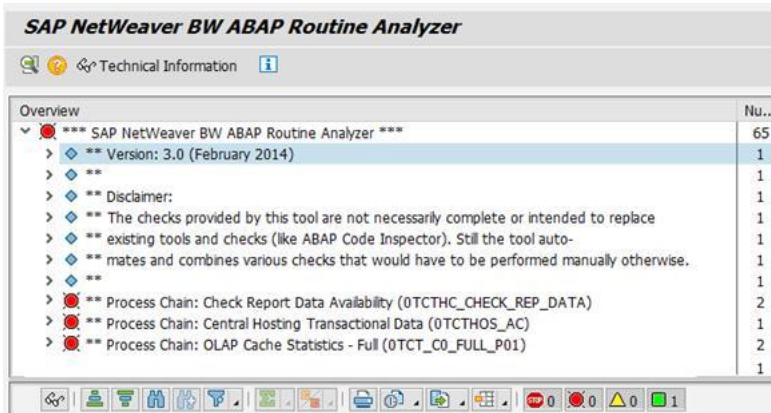


SUM now contains an option called the “Database Migration Option (DMO)”

- Migration steps are simplified
- System update, Unicode Conversion, and database migration are combined in one tool
- Business downtime is reduced
- The source database remains consistent, so a fast fallback is possible

BW TRANSFORMATION FINDER

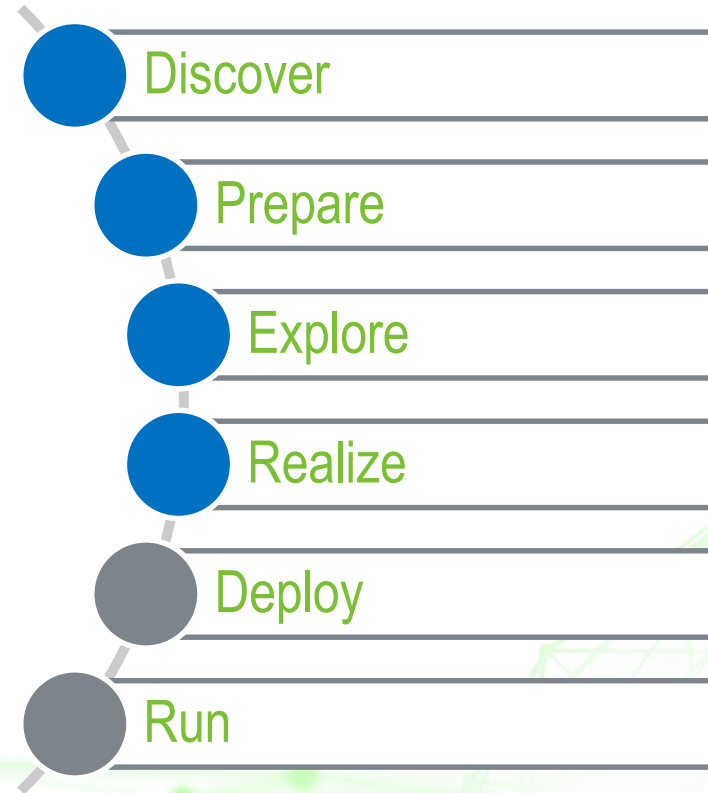
- Some custom data transformations in SAP BW can be sub-optimally written and have negative impact on HANA performance
- The BW Migration Cockpit provides a tool to help you identify them



Source: SAP Insider

BW - Direct Migration Option

- During the upgrade from BW 3.x to version 7.0 many companies decided not to complete Unicode conversions, security conversion, and other recommended steps
- Since these are now required for the BW 7.4 and the subsequent migration to HANA, some companies are planning first to do the upgrade and then do a migration project. That is a mistake!
- With the new Direct Migration Option tool you can accomplish both the 7.4 upgrade and the HANA migration in one step.



DMO is a key option in the Software Update Manager (SUM), for those with older, out-of-date, BW systems that want to migrate to HANA.

Establish - DMO Migration Runbook

- The best way to approach this is to start with the sandbox system and create a runbook with step-by-step lists on how each problem and software task are created
- The “runbook” is the key to success. You should build on this when you migrate to the Development and then the QA and the Production system



Speed is not important in the first sandbox migration. The creation of a repeatable process is far more important.

Key Challenges – BW on HANA



- Multiple priorities Ongoing projects VS Migration Projects
- Performance issue during database migration process involved hardware resource fix (4 CPU to 15 CPU)
- Issue fixes due to domain – RSCHALV change to new data type SSTRING(1333) – Domain Change from CHAR to SSTRING
- Custom ABAP Code fixes – Like VS Type, regenerate BW Transformation
- Importing catch-up transports from Non-HANA system to HANA-system(Retrofit)
- Custom Objects - SPDD/SPAU – 600 ECC Objects ECC and 200 BW Objects
- Split the POSDM tables and Optimization – Node level changes

Follow Best Practices

- Housekeeping activity is critical. It is worth investing time. And it will have an big impact on Hardware Sizing
- Provision enough lead time for Hardware procurement
- Update and maintain run-books regularly
- Establish Test Scripts and sequence of execution. (especially in a multiple application integrated with SAP environment)
- Use Centralized Testing tools to manage test cases/test scripts
- Engage MaxAttention team to overcome unexpected & Unique issues. (Performance / Parameter Tweaks)

Immediate Benefits

- 4x faster data loading
- 8M rows retrieved less than a sec
- BW Database compression from 10 TB to 1.2 TB

Lessons Learned

- Get the right team & partner, internal and external
- Get a small and experienced team on site early
- Understand and document the entire scope
- Get hardware sizing right the first time
- Build in cost optimizations
- Understand Data Tiering

Challenges

- Insufficient 'View Length' configured
- Migrated unwanted data
- Oracle configuration (Index, Statistic, Parameter file)
- DMO resource allocation

Key Takeaways

- SAP provides programs to do pre-readiness checks for an ERP and BW system for migration to HANA. Use them
- BW Migration Cockpit and new DMO tool are now robust
- Read the SAP Notes related to planning, using the migration tools and optimizing performance etc.
- Set the right expectation for Technical Migration, but to leverage the benefits of HANA you have to plan immediately for Functional Upgrade as well..
- SAP is providing guidance and support to make customers are successful. Take advantage of all of the SAP resources
- Most *well-planned* HANA projects can be done in a matter of weeks, only extremely large systems may require months

Appendix and Useful links

- Database Migration Option - <http://scn.sap.com/docs/DOC-49580>
- SAP First Guidance - Using the DMO Option to Migrate BW on HANA - <https://scn.sap.com/docs/DOC-46824>
- DMO: optimizing system downtime - <http://scn.sap.com/community/bw-hana/blog/2015/03/17/dmo-optimizing-system-downtime>
- Training – HA250 - Migration to SAP HANA using DMO <https://training.sap.com/shop/course/ha250-migration-to-sap-hana-using-dmo-classroom-012-us-en/>

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- Optimizing Resource Utilization & Flexible staffing.
- Dedicated PMO & Quality Assurance.
- Highest Level of Management attention.



- Exceed your Expectations
- Bring top Talent
- Collaborate with Business
- Provide value for Investment
- Suggest Innovative Solutions
- Actually Deliver.



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Questions



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Contact us Via the Red Hat Alliance Team

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The logo features the words "RED HAT" in a smaller, white, sans-serif font above the word "SUMMIT" in a larger, bold, white, sans-serif font. Both are contained within a red, speech-bubble-like shape with a white shadow effect.

RED HAT
SUMMIT

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EXPERIENCE
OPEN SOURCE.**