SAS + SAP = SANT

SAS på SAP HANA
SAS and SAP have a long history

- **1975**
  - R/1
  - R/2

- **1990**
  - R/3

- **1995**
  - BW

- **2000**
  - mySAP ERP
  - SAP ECC 6.0

- **2005**
  - Acquires Business Objects
  - HANA

- **2010**
  - SAS Forecasting for SAP APO
  - 2010

- **2013**
  - SAS/ACCESS to HANA
  - 2013

- **1994**
  - SAS/ACCESS Interface to R/2

- **1995**
  - SAS/ACCESS Interface to R/3

- **2001**
  - SAS/ACCESS to BW

- **2003**
  - Data Surveyor for SAP

- **2004**
  - Dataflux df Connector for SAP

- **2013**
  - SAS/ACCESS to HANA

- **2001**
  - SAP Certifies: SAS OLEDB for O (2001)

- **2005**

- **2008**

- **2010**

- **2012**
  - SAP Certifies: dfConnect 1.1 (2012)

- **2012**
  - SAP Certifies: SAS 9.3 (2012)

SAS & SAP Announce Strategic Partnership
SAS and SAP Strategic Partnership

"SAS and SAP can help companies manage the massive volumes of information they are constantly dealing with and make sense out of it."

Jim Goodnight, SAS CEO

“Combining the power of SAP HANA platform with SAS advanced analytics applications is the first wave of innovation we plan to deliver to our joint customers.”

Bill McDermott, SAP CEO

- Supported at highest levels of SAS and SAP
- Partnership to-date:
  - Primarily focused on technology & development
  - Limited Co-Selling Program
  - SAP building a SAS COE
HANA is the fastest growing DW platform

As of 2Q14 …

Number of Customers

<table>
<thead>
<tr>
<th>Platform</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANA 2Q14</td>
<td>3,600</td>
</tr>
<tr>
<td>HANA 4Q13</td>
<td>2,100</td>
</tr>
<tr>
<td>Teradata 4Q13</td>
<td>1,400</td>
</tr>
<tr>
<td>Pivotal Greenplum 4Q13</td>
<td>500</td>
</tr>
</tbody>
</table>

71% Increase

HANA:
- In-Memory Database
- Launched in 2010
- Seven major releases

Data Warehouse Platform

Oracle continuing its long-standing leadership of this market with 31% share and 4% growth in 2013. It was followed by IBM, Microsoft, and Teradata — the perennial data warehousing market leaders.

However, of the top 5 vendors, **SAP has shown the greatest growth in recent years and now has 7.5% of the data warehouse platform market.**

IDC, April 2014
Complementary methods for different requirements

**SAS/Access® to SAP® HANA**
- Extract data into SAS
- Push down SQL queries into SAP HANA

**SAS® Embedded Processing**
- Push SAS processing into SAP HANA
- Run native SQL in SAP HANA

**SAS® In-Memory Analytics**
- SAS native distributed in-memory computing for fast advanced analytics
- In-memory data exchange

---

SAS/Access® to SAP® HANA
- Extract data into SAS
- Push down SQL queries into SAP HANA

SAS® Embedded Processing
- Push SAS processing into SAP HANA
- Run native SQL in SAP HANA

SAS® In-Memory Analytics
- SAS native distributed in-memory computing for fast advanced analytics
- In-memory data exchange
Key Benefits

Reduced Data Movement

- Processing where the data resides

Massive Performance Boost

- In-memory parallel processing for analytic workloads.

Simplified IT Landscape

- Analytical and Transactional processing on a single data store.

Operationalize Analytics to Transform Business
### SAS for SAP HANA Roadmap

<table>
<thead>
<tr>
<th>2013</th>
<th>2014</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2</td>
<td>Q2</td>
<td>Q3</td>
<td></td>
</tr>
</tbody>
</table>

- **2013**
  - SAS Access to SAP HANA

- **2014**
  - SAS Marketing Automation for SAP HANA

- **2014**
  - SAS Predictive Modeling Workbench for SAP HANA
  - SAS High Performance Predictive Modeling Workbench for SAP HANA
  - SAS Asset Performance Analytics for SAP HANA

- **2015**
  - … More to come!

---

Released August 5, 2014
SAS 9.4 M2
SAS for SAP HANA Roadmap

- Provides Marketers with an easy to use solution to plan, test and execute marketing campaigns
- Increased number of accurately targeted promotions resulting in greater success rates & higher sales revenues
- Cross Industry

- SAS Customer Data Model sits within HANA
- Data is not persisted outside of HANA
- Minimizes data duplication and movement

Marketing Automation
SAS for SAP HANA Roadmap

Asset Performance Analytics

- SAS Data Model sits within HANA
- Data is not persisted outside of HANA
- Minimizes data duplication and movement

<table>
<thead>
<tr>
<th>Description</th>
<th>Value Proposition</th>
<th>Target Industries</th>
</tr>
</thead>
</table>
| Analyzes sensor data and machine to machine data to identify hidden patterns that predict probably failures | Improves the utilization of high-capital equipment and reduces non-scheduled downtimes, improves production yields, improves asset efficiency | • Utilities  
• Oil & Gas  
• Manufacturing  
• Medical Equipment  
• Transportation |
• Native access to HANA from SAS predictive modeling environment
• Reduce “data to compute” distance for model execution by scoring predictive models directly in SAP HANA

Description: Accelerates full analytical lifecycle deploying and running predictive models in-database on HANA

Value Proposition: Increased speed in running models and improved results with ability to run more iterations. Simplified IT landscape.

Target Industries: • Cross Industry
SAS for SAP HANA Roadmap

• Distributed in-memory predictive model development and execution
• Reduce “data to compute” distance for model development and execution by scoring predictive models directly in SAP HANA

Description
Accelerates the full analytical lifecycle using the SAS HP Platform and running predictive models in-database on HANA

Value Proposition
Through the HP platform, HP Predictive Modeling Workbench further accelerates the analytic lifecycle by:
• Significantly improving data access time for model development.
• Reducing the model building and testing time. And, a Simpler IT landscape.

Target Industries
• Cross Industry
## SAS for SAP HANA Roadmap (Wave 2)

<table>
<thead>
<tr>
<th>2015 Q1</th>
<th>2015 Q4 Release Data To Be Defined</th>
</tr>
</thead>
<tbody>
<tr>
<td>• SAS Field Quality Analytics for SAP HANA</td>
<td>• SAS Forecast Analyst Workbench for SAP HANA</td>
</tr>
<tr>
<td>• SAS Marketing Optimization for SAP HANA</td>
<td>• SAS Asset Performance Analytics for SAP HANA (version 2 for HANA)</td>
</tr>
<tr>
<td>• SAS Energy Forecasting for SAP HANA</td>
<td></td>
</tr>
<tr>
<td>• Risk for Banking DDS</td>
<td></td>
</tr>
</tbody>
</table>
How does SAS VA/VS and SAP HANA work together

**Key Points:**
1) Data moves into SAS in-memory,
2) Data is not persisted in SAS,
3) Single data feed today, with VA/V$ 7.1 (October 2014), parallel data transfer
SAS & SAP HANA use cases

- Cross Industry
  - Smarter Customer Insights for personalized real-time offers
- Manufacturing
  - Minimize time for emerging issues and root cause detection to maximize product quality
  - Maximize asset performance by minimizing unscheduled outages, and avoiding performance degradations and catastrophic failures
- Health Care
  - Optimization of acquiring and managing customers
  - Personalized management of high-risk patients
- Life Sciences
  - Optimized drug development process based on advanced analytics of granular data
- Utilities
  - Maximized customer insight in deregulated retail utility market based on new type of data with smart grids
- Insurance
  - Personalized product pricing based on new telematics data
  - Optimized claim management
Data Integration options:

SAP Business Suite
Powered by SAP HANA

**Business Suite**
- ERP
- CRM
- SCM
- SRM
- PLM

**liveCache**
- Tables
  - Transparent
  - Pool
  - Cluster
- BAPIs

**ERP**

**BW** "Classic" *
- InfoCubes

Available

ERP, CRM, SCM, SRM, PLM

**SAS Data Surveyor**

**SAP Certified**
- Powered by SAP NetWeaver

**SAP Certified**
- Integration with Applications on SAP HANA

Available

**SAS/Access for HANA**

Available

**BAPIs**

Available

**SAS EP**

available

**HANA: BW**

"optimized"

- InfoCubes
- DSOs

Available

**HANA: Database**

Available

- Tables:
  - Row
  - Columnar

Views:
- Attribute
- Analytical
- Calculated

* BW on non-HANA RDBMs i.e. Oracle, DB2, etc.
## SAS & SAP Hana - Events

### 2014

<table>
<thead>
<tr>
<th>September</th>
<th>October</th>
<th>November</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAP for Utilities conference</strong>&lt;br&gt;Sep 7-9, Hollywood, Florida</td>
<td><strong>Joint Customer Webinar</strong>&lt;br&gt;Oct. 8, 2014&lt;br&gt;PBLS/A2014</td>
<td><strong>SAP d-Code</strong>&lt;br&gt;Berlin&lt;br&gt;Nov 11-13</td>
</tr>
<tr>
<td><strong>Arrow: Big Data Symposium</strong>&lt;br&gt;Sep 9-11, Amelia Island, Florida</td>
<td><strong>Las Vegas</strong>&lt;br&gt;Oct 21-24&lt;br&gt;SAP d-Code</td>
<td></td>
</tr>
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<td><strong>SAP for Utilities conference</strong>&lt;br&gt;Sep 7-9, Hollywood, Florida</td>
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*SAP for Utilities conference, Sep 7-9, Hollywood, Florida<br>Arrow: Big Data Symposium, Sep 9-11, Amelia Island, Florida"
Q&A
SAS® Forum
Stockholm 2014
make connections • share ideas • be inspired