e-business

Solution Series for SAP Business Information Warehouse Offering Description

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Introduction

Solution Series is an IBM brand name for complete end-to-end solutions that combine hardware, software and services to solve important business problems. The purpose of the Solution Series program is to create compelling end-to-end offerings with our software partners that provide tangible benefits that include a faster implementation schedule, lower project risk, lower schedule risk, offering extensions and performance guarantees which when combined together translate into a real value.

The Solution Series for SAP Business Information Warehouse offering (Solution Series for SAP BW) is a data mart / data warehouse that provides all the essential elements necessary to get the SAP Business Information Warehouse software operational. This document will describe this offering which encompasses IBM's complete line of hardware, software and services that gives you the flexibility to develop, maintain and expand a business information system that satisfies your unique business needs.

Solution Description

IBM has built its reputation on developing business solutions that combine hardware, software and services to solve important business problems. This document describes the Solution Series for SAP Business Information Warehouse (BW), a compelling business intelligence solution for companies that use SAP's R/3 enterprise resource planning system.

The Solution Series for SAP Business Information Warehouse (BW) offering combines IBM's award winning servers and DB2 UDB relational database with SAP's Business Information Warehouse software and IBM installation / integration services. This complete, pre tested, end-to-end offering reduces the complexity and risk of building a data warehouse and helps to insure a organizations business intelligence needs are met.

The Solution Series for SAP Business Information Warehouse offering is an extension to a SAP operational system and it is the primary source of information for the SAP Customer Relationship Management, Supply Chain Advanced Planning and Optimization module and Business to Business strategic initiatives. It is an individual, stand-alone system designed to extract critical information from the SAP transactional system and combine this data with other types of data to provide knowledge workers with access to a single, comprehensive, and accurate view of the business. As an independent system, any number of knowledge workers can simultaneously access the system without affecting the performance of the operational system and knowledge workers can be assured of consistent performance.

The Solution Series for SAP BW offering consists of:

- SAP Software designed to extract information from the SAP transactional system.
- IBM DB2 Universal Data Base software
- IBM Database Server (AS/400, Netfinity, RS/6000, S/390)
- SAP Data Model and function specific reporting templates (Personnel, Sales, Marketing, Manufacturing, etc.)

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- SAP End User reporting tool and OLAP engine
- IBM consulting, installation, and integration services
- **OPTIONAL** Intelligent Miner for Data Mining Analysis

The following table summarizes the Solution Series for SAP BW offering:

Category	Solution Series for SAP Business Information Warehouse
Architecture	
Supported Servers	AS/400, Netfinity (NT or Linux), RS/6000, S/390
Recommended Database	DB2 UDB
Meta Data	SAP R/3 metadata definitions
Distributed Support	Centralized data warehouse (no distributed data mart capabilities)
Data Model	
Modeling Technique	SAP Enhanced Star Schema
Modeling Tools	InfoCube and ODS configuration
Model Flexibility	Strong hierarchical management capabilities
Business Content	54 InfoCubes; 288 standard reports installed One to three standard InfoCubes configured, populated and tested
Scalability	Recommendations from SAP: 16 Dimensions Per InfoCube Maximum of 16 characteristics per dimension 20,000 rows per dimension table Maximum InfoCube size 100,000 GB
Analysis Tools	
Access to Analysis Tools	Microsoft Excel and API access to “certified tools” Imbedded OLAP processor is “aggregate aware”
Web Access	Web access provided through “My SAP function
Data Transformation	Must write ABAP/4 code for SAP data or flat files. Must utilize certified tool (e.g. Mercator) for non SAP data sources
Performance	Asynchronous update to InfoCubes
Implementation	Typically 6 - 8 weeks by team of 4 individuals assuming no custom requirement for Infocubes and a standard BW configuration is implemented

The standard BW business reports that are provided as part of the Solution Series for SAP BW offering allows end users to analyze financial, logistics, human resources, and external data to better understand trends and associations though an easy to use, customizable interface as shown in the following example:

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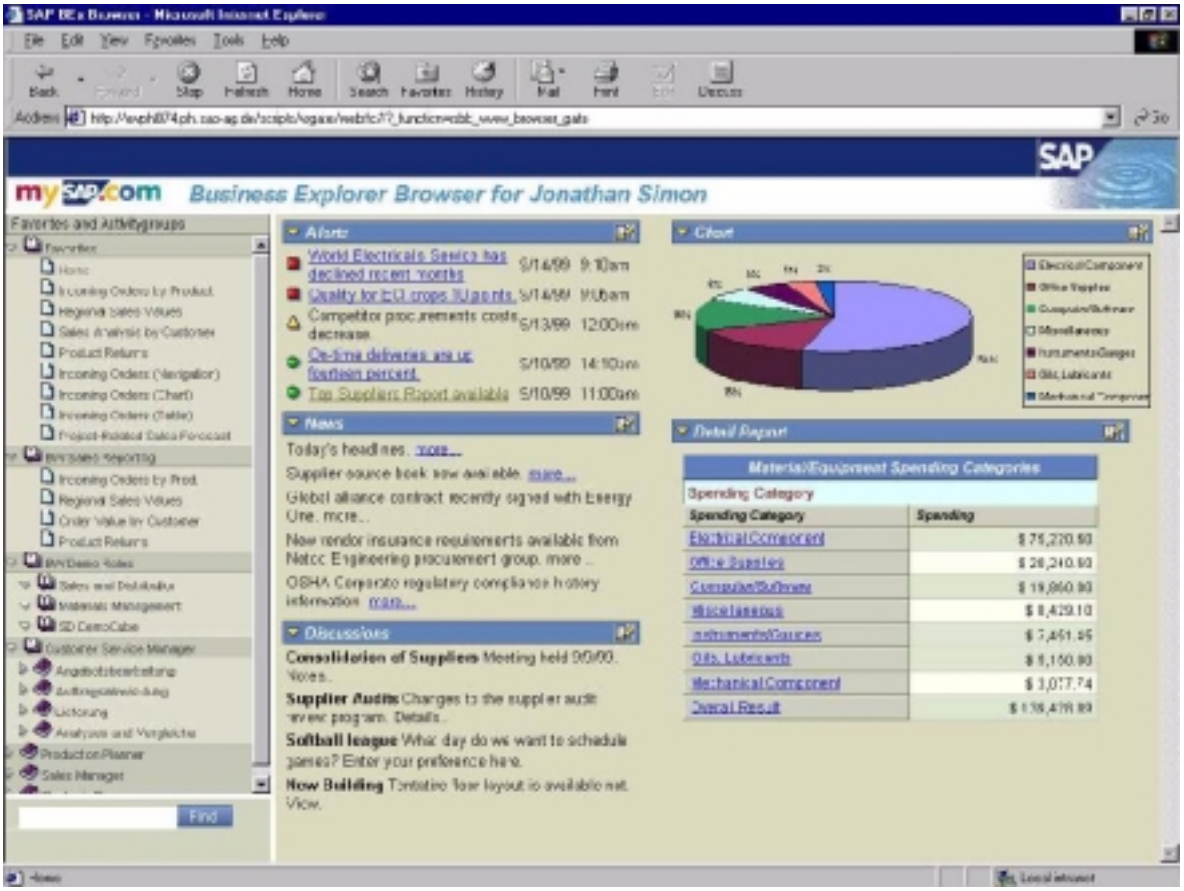
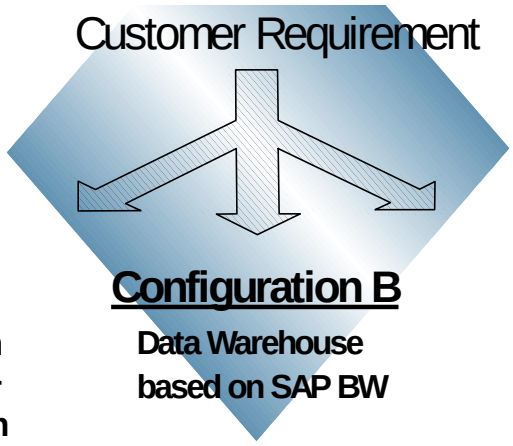


As an extension to the Solution Series offering, IBM can also provide additional analytical capabilities through the Intelligent Miner. The Intelligent Miner can scan through the vast amount of data in the Solution Series data mart and provide new business insights.

Solution Components

IBM Servers

The Solution Series for SAP BW offering is supported on IBM's full line of servers including the AS/400, Netfinity, RS/6000, and S/390. The following chart shows the different configurations that are available to support requirements from simple reporting up to expansive data warehouses.



Configuration A

R/3 Reporting solution or SAP SEM system or Datamart or Evaluation system

R3 Platform	BW Platform
AS 400	LPAR 2 Tier
RS/6000	2 Tier RS/6000 SMP or SP Node
S/390	2 Tier RS/6000 SMP or SP Node
All Servers	2 Tier Inexpensive NT

Configuration B

Data Warehouse based on SAP BW

R3 Platform	BW Platform
AS 400	AS400 2 Tier
Netfinity	Netfinity 3 Tier
RS/6000 / S/390	2 Tier RS/6000 SMP or SP Node
S/390	390 LPAR w/ AIX or NT application server

Configuration C

Enterprise Data Warehouse based on BW

R3 Platform	BW Platform
AS 400	AS400 3 Tier
Netfinity	Netfinity 3 Tier
RS/6000 / S/390	3 Tier RS/6000 SMP or SP Node
S/390	390 LPAR w/ AIX or NT application server

LPAR = Logical Partition on same system
2tier = Apps & DB server on same system
3tier = Apps & DB server on different systems
DB2 EEE = Several database instances on different servers

The preceding diagram contains three general BW configurations. Configuration "A" is recommended for R/3 reporting, Strategic Enterprise Management, Data Mart or an Evaluation system. The underlying assumption with this configuration is there will only be a small amount of data on a second tier server. As a reporting server, clients can replicate summary R/3 reporting data into BW to use the advanced OLAP capabilities for more advanced data analysis. As an SEM server, the platform would support one of five SAP SEM applications which include Business Planning & Simulation, Business Consolidation, Business Information Collection, Corporate Performance Monitor or Stakeholder Relationship Management. As a Data Mart or Evaluation platform, the server would only store summary data in simple infocubes or a single module of BW.

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The general assumption with the data warehouse configuration "B" is that it would contain both detailed and summary data for in-depth data analysis. This configuration represents the most common BW implementation used to date.

Finally the enterprise configuration "C" would build on the data warehouse by including syndicated data from third party sources like AC Neilson, Equifax, or Axciom. This would be a large warehouse implementation that requires a significant amount of processing capability.

In analyzing initial customer SAP BW configurations for first pilot implementations, Table 1 represents the typical configurations seen in customer implementations for configurations up to 80 concurrent users.

Table 1

Server Hardware Configurations for Initial SAP BW Implementations

I	SAP Size	named BW users	Con-current BW users	HW prerequisites	Netfinity Server	RS/6000 Server	AS/400 Server	S/390 DB Server
	~XS	25	20	- ca. 230 SAPs (R/3 4.5) - 1,5GB Memory - 30GB netto disk space > no mass data > temporary space - RAID n	5500 M10 450MHz, 2way	44P 270, 2-way 36.1GB disk	720-2063, 2way (incl. DB2)	9672-Y16 with 2GB
II	~S	50	40	- ca. 450 SAPs (R/3 4.5) - 2GB Memory - 70GB netto disk space > real mass data > aggregates - RAID n	5500 M20 500MHz, 4way	H70, 2 way 81.9GB disk	730-2066, 2way (incl. DB2)	9672-Y26 with 3GB Plus Netfinty or RS/6000 application servers
III	~M	100	80	- ca. 800 SAPs (R/3 4.5) - 3GB Memory - 100GB netto disk space > real mass data > aggregates > I/O path optimization - RAID n	DBS=5500 M20 500MHz, 2way APS1= 5500 M20 500MHz,3w APS2=5500 M20 500MHz, 3way	S80, 6way 127.4 GB Disk	730-2067, 4way (incl. DB2)	9672-Z37 with 6GB Plus Netfinity or RS/6000 application servers

IBM Software

The key IBM software products used in the Solution Series for SAP BW offering include:

- DB2 Universal Database
- Intelligent Miner (optional)

DB2 UDB

As of January 31, 2000, SAP BW version 2.0A supports the following databases:

- DB2 UDB EEE for Unix and NT on AIX, Solaris, NT
- DB2 UDB for AS/400
- DB2 UDB for OS/390

Large-scale data warehouses require quick responses, across large amounts of data, to ever-increasing hordes of end users armed with ad hoc query tools. Even additional and more powerful hardware can't stand up to situations such as user-submitted runaway queries. What is required is a balanced system with the right combination of hardware and software optimized for specific workloads and duties.

The Extended Enterprise version of DB2 UDB divides complex queries into many parts, which can be run on tens, even hundreds, of processors simultaneously. Suddenly, queries that used to run for hours are often completed in a matter of minutes. And queries that weren't feasible before are now practical. The strength of the DB2 UDB EEE optimizer ensures high performance for complex queries on very large databases. IBM is recognized as an industry leader in optimization technology and has incorporated years of parallel research technology into DB2 UDB EEE. In addition to understanding the parallel nature of the environment, the optimizer has a full query rewrite capability to ensure that even poorly written SQL performs optimally -- an important feature when point-and-click query tools are used to generate the query to be run.

DB2 UDB EEE also incorporates a new join technique for use with Star Schema databases -- those with a very large fact table with attributes that match other dimension tables. Queries in this environment typically involve joining dimension tables (for example, time, location, product type, company division) with the fact table (for example, sales transactions). If a bad plan for the query is generated, it can be very costly for the whole system. The DB2 optimizer can recognize this structure and will apply techniques using indexes and bit maps to return the results with minimal I/O to the fact table.

Intelligent Miner -- An Important Differentiator (Optional)

Information technology has developed rapidly over the last three decades. Many organizations store increasingly large volumes of data on their computer systems. Useful information might be hidden in the data in the form of implicit patterns and connections that are not easy to discern using conventional data queries and statistical calculations. Therefore in addition to the basic query and OLAP capabilities of BW, IBM can also provide the Intelligent Miner to mine the data stored in the BW warehouse and discover new information about a business.

Data mining is the process of discovering valid, previously unknown, and ultimately comprehensible information from large stores of data. You can use extracted information to form a prediction or classification model, or to identify similarities between database records. The resulting information can help you make more informed decisions.

Data mining is an iterative process that typically involves selecting input data, transforming it, running a mining function, and interpreting the results. The Intelligent Miner assists you with all the steps in this process. You can apply the functions of the Intelligent Miner independently, iteratively, or in combination. Mining functions use elaborate mathematical techniques to discover hidden patterns in your data. After interpreting the results of your data-mining process, you can modify your selection of data, data processing and statistical functions, or mining parameters to improve and extend your results. Functions supported in the Intelligent Miner include:

1. Association discovery
2. Sequential pattern discovery
3. Clustering
4. Classification
5. Value prediction
6. Similar time sequences

More information on the Intelligent Miner including a tutorial and screen capture demo can be found on the following IBM web site:

http://www-4.ibm.com/software/data/iminer/fordata/downloads.html#demo

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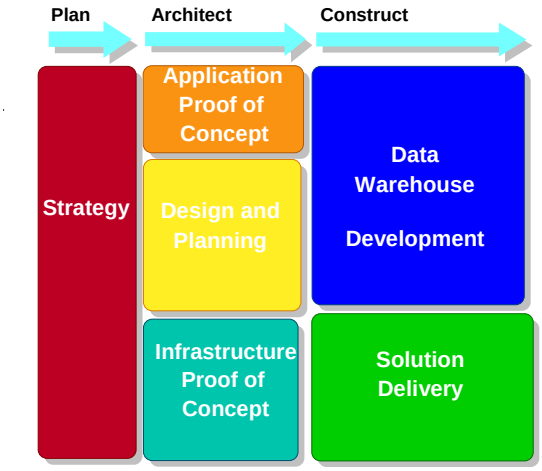
IBM Services

IBM has developed an IGS practice that is dedicated to providing excellence in SAP BW technical skills. In order to address the needs of a broad audience, the IGS SAP practice developed a series of offerings that address the end-to-end process of planning, architecting, and implementing the Solution Series offering.

The services component of the Solution Series for BW offering is based upon a staged approach which starts with strategy and solution evaluation consulting to identify your businesses information and analysis needs and then we select the optimal solution for their business. We also provide early feedback throughout the project to help ensure that each step meets your requirements, adds value and delivers a return on investment to your business.



Stage 1: Plan

Staged planning results in a optimal offering

Strategy

Critical areas are identified to determine where better use of information will have the greatest impact on the your organization. Then we help to prioritize these areas before making recommendations on how best to address your business needs.

Stage 2: Architect

We help you customize a solution that meets your organization's unique business needs. As part of this phase, you has the option of developing an application proof of concept and/or an infrastructure proof of concept. Whether you need consultation in both of these areas or if you are ready to proceed directly to design and planning, IBM can help.

Application proof of concept

An application proof of concept during the architect stage can identify the scope of untapped information in existing SAP systems and help demonstrate the benefits of the proposed solution. The information is presented in a flexible, usable format so it can be applied in support of your business strategies.

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Infrastructure proof of concept
An infrastructure proof of concept can highlight technology issues before you spend time, money and resources to implement a complete data warehouse system. This proof of concept validates the proposed data warehouse design, the products to be used and the estimated cost and effort of integrating them into your existing infrastructure

Design and planning
At this point, experienced IBM data warehouse architects and consultants design the technical infrastructure and data architecture and make recommendations for the technical extensions to the solution. We also work with you to produce an implementation plan, including estimated costs, required resources and expected time frames.

Stage 3: Construct
At this stage, you have the option of taking a strategic, enterprise wide approach or a more tactical, departmental approach. We work with you to implement the most appropriate offering configuration for your requirements.

Solution Series warehouse development
We help you design, build and implement a scalable, enterprise wide Solution Series warehouse or tactical data mart using well defined templates proven to be accurate through numerous engagements. This strategic information system will address you need for data application, availability, reliability and performance.

Configuration Workshop

Each SAP BW implementation is unique based on a company's business intelligence strategy, information requirements, system implementation and integration requirements, the number of Infocubes used, the required level of customization, number of data sources, and product extensions. To determine these variables IBM is offering a configuration workshop on your site, which is a three (3) day engagement with trained SAP BW professionals.

The three day planning session is priced at $25,000 and will cover the following topics at a minimum:

1. Which Data Architecture best fits your company based on your strategy and business requirements?
2. What is the "scope" of the initial (3) DW implementation phases?
3. What is the expected complexity of data transformation?
4. What is the likelihood you will require a data staging or ODS area?
5. Which Multidimensional analysis technology best fits your requirements?
6. What level and complexity of Data Model maintenance is required?
7. What is the requirement for Change Data Capture or Incremental Update capabilities?
8. What is the level of tool flexibility (multiple tools) required?
9. What are our Technical Architect requirements for the DW?

At the conclusion of planning session the business intelligence service professional will provide estimates for system implementation and integration. From this information detailed hardware/software system configuration and pricing will be provided. **With this information a firm price can be developed for a system optimal for your needs.**

SAP Business Information Warehouse Software

SAP's Business Warehouse is an "end-to-end" Data Warehouse solution which includes R/3 and non-R/3 data extraction. It contains "Rich Business Content" through predefined information models (InfoSources, InfoCubes, Queries) which allows for company benchmarking, and business process performance analysis. SAP provides "Business Content" for all major modules of SAP, and for a number of SAP enhancements for Supply Chain, Customer Relationship Management, and Business to Business initiatives. BW includes end user analysis tools that support simple "ad hoc" and standard reporting with 11 functional modules that provide over 288 Data Warehouse reports that answer the following types of questions:

What are the 10 most profitable products this quarter ?
- *Who buys them ?*
- *Who are our best customers ?*
- *What do they have in common ?*
- *Which suppliers are the least reliable?*
- *Who are alternatives?*
- *What are our critical success factors?*
- *Who are our competitors?*
- *Where or what are our competitive advantages"*

Major components of SAP/BW include:

- Administrator Workbench

The administrator workbench controls all aspects of SAP/BW build from modeling and definition, through loading and storing of data in the warehouse. Design, transport, scheduling, recovery are all controlled and managed from a central point of control in a single user interface.

- Production Data Extractor (for SAP R/3 data)

BW's production data extractor loads data primarily from the IS (SIS, FIS, LIS, etc.) layer of SAP R/3 reporting. SAP transactions are captured in structures in the IS Layer, and the data is transferred from "change logs" which allows SAP to capture just the new data. Changes are serial numbered as they are transferred to BW, allow SAP to recover from data or process errors (i.e. multiple loads) within the data warehouse.

- Non R/3 Production Data Extractor

SAP created a API and management mechanism to allow non-SAP data to be brought into the warehouse and the OLAP engine. By default, SAP can incorporate flat files, CSV files, and / or spreadsheet data. A number of vendors have been certified to write to the full function API's .

- Business Information Warehouse Server ("OLAP Engine")

The Warehouse Server houses the data warehouse with both InfoCubes and an on-line data system (ODS). InfoCubes are described as “SAP Enhanced Star Schema’s” and can be thought of similar to a typical Star Schema data warehouse design.

- Business Explorer (front end tools)

SAP’s front end analysis tool, Business Explorer is an add-in to Microsoft Excel. It provides for saving / restoring queries, public and private libraries, and provides full “spreadsheet functionality” for analyzing data (charts, graphs, etc.). The Business Explorer communicates with SAP’s Business Information Warehouse server to obtain a 2 dimensional view of the data and present it to the user.

- OLE-DB for OLAP provider (for non SAP front end tools to access the server).

The OLE-DB for OLAP provider is an interface for other tools to access the data contained InfoCubes and ODS. A number of front end tool vendors have been certified for this interface.

- Business Data Models

BW contains predefined data models and standard reports that focus on the Finance, Treasury, Controlling, Investment Management, Enterprising Controlling, Product Management, Human Resources, Materials Management, Quality Management, Production Planning, and Sales / Distribution. The specific report types are defined in Appendix 1 of this document.

IBM - Enabling the Right Information In The Right Place At The Right Time

IBM Solution Series for SAP BW is designed to help businesses uncover hidden trends and associations that lead to better decision making. Understanding “who is buying what and where” or “who your best clients are” or “which suppliers are providing the best service” are just a few examples of the business issues this offering addresses. Having this type of information is no longer optional -- it is a necessity in today’s competitive environment and IBM is a partner you can trust in to insure the solution is done right -- the first time.

IBM is the only partner that can provide you a true end to end solution for SAP BW, combining IBM award winning hardware and software with proven methodologies, “know how” and experience of IBM Global Services to get your Business Information Warehouse operational quickly. Solution Series for SAP BW was designed with your needs in mind - faster implementation, lower total cost, years of IBM Business Intelligence Expertise, all combined to get your SAP BW solution operation fast to enable you to make accurate and insightful business decisions on a daily basis issues that need attention.

To Get Started with IBM Solution Series for SAP BW

To get started, please contact your local IBM Sales or ERP representative. Or please call 1-800-IBM-7777 or outside North America, 416 383-9224, and reference Priority Code 6C0EP003. Or request a representative to contact you through our web site: www.ibm.com/shop/solutionseriesbw.

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Appendix 1
BW Data Models

FINANCE	
Asset History Sheet (for Depreciation)	FI-AA
Asset History Sheet (for APC)	FI-AA
Asset Acquisitions on a Quarterly Basis	FI-AA
Asset Acquisitions	FI-AA
Value Comparison Between Depreciation Areas	FI-AA
Asset List	FI-AA
Accounts Payable: Overview (Summary Values)	FI-AP
Accounts Receivable: DSO Analysis, current period	FI-AR
TREASURY	
Planned Amount by Currency/Day	TR
Planned Amount by Day/Currency	TR
Liquidity Forecast by Currency/Day	TR
Liquidity Forecast by Day/Currency	TR
Cash Position by Currency/Day	TR
Cash Position by Day/Currency	TR
CONTROLLING	
Production Variance	CO
Costs for Output Quantities	CO
Target Costs, Actual Costs, Cost Differences	CO
WBS Element: Statistical Key Figures, Plan/Actual/Variance	CO
Element: Plan/Actual/Variance	CO
WBS Element: Budget/Commitment/Actual/Available	CO
Orders: Statistical Key figures Plan/Actual/Variance	CO
Orders: Overall Plan/Commitment/Actual/Allotted	CO
Orders: Plan/Actual/Variance	CO
Orders: Budget/Commitment/Actual/Allotted	CO
Cost Center: Statistical Key figures Plan/Actual/Variance	CO
Cost Center: Target/Actual/Variance	CO
Cost Center: Plan/Actual/Variance current/cumulated Period	CO
Cost Center: Plan/Actual/Variance	CO
Cost Center: Orders Plan/Actual/Variance	CO
INVESTMENT MANAGEMENT	
Available Budget	IM
Available Plan	IM
Budget for investment program and measures	IM
Plan for investment program and measures	IM
ENTERPRISE CONTROLLING	

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Asset History Sheet	EC
I/S by functional area	EC
Sales by Region	EC
Development of consolidated value ((local valuation)	EC
Consolidation unit/Consolidation group comparison	EC
Consolidation group comparison	EC
Consolidation unit comparison	EC
Version Comparison	EC
Comparison local/group currency	EC
Month Comparison	EC
Quarter Comparison	EC
Multi-year comparison	EC
Previous year comparison with variance	EC
Current year with structure - % Balance sheet	EC
Statistical Key figures	EC
Return on Investment	EC
Profit after capital costs	EC
Plan/actual/variance - balance sheet accounts	EC
Time comparison plan result	EC
Time comparison actual result	EC
Current period / YTD / complete year - result	EC
Plan/Actual period comparison - result	EC
Plan version comparison - result	EC
Plan/actual profit center comparison - results	EC
Plan/actual variance - profit and loss accounts	EC

PRODUCT MANAGEMENT

Analysis of damage codes - Notifications	PM
Analysis of notifications - Technical objects	PM

HUMAN RESOURCES

Wage Types Overview for Germany	HR
Annual Wage Types Overview	HR
Quarterly Wage Types Overview	HR
Monthly View of Select Employee Times	HR
Comparing Employee Times & Cost Centers To Previous Year	HR
Comparing Overview of Employee Times to Previous Year	HR
Overtime Rate	HR
Leave Per Planned	HR
Illness Rate	HR
Productivity Rate	HR
Take Up Rate for Job Offers	HR
Application Hiring Rate	HR
Annual Comparison of Hires/Offers/Rejected Contracts	HR
Hires/Offers/Rejected Contracts	HR

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Unsolicited Applications & Applications in Response to Advertisements	HR
Percentage Breakdown of Applications	HR
Applications per Advertisement Showing Costs	HR
Number of Applications in Response to Advertising	HR
Average Number of Applicants	HR
Percentage Breakdown of Applicants with Master Data	HR
Number of Applicants with Master Data	HR
Ratio Applications to Applicants	HR
Average Number of Applications	HR
Percentage Breakdown of Applications with Master Data	HR
Number of Applications with Master Data	HR
Leaving Rate	HR
Percentage Breakdown of Leavers	HR
Number of Leavers	HR
Net Entry Rate	HR
Entry Rate	HR
Percentage Breakdown of Entries	HR
Number of Entries	HR
Number of Personnel Actions	HR
Employees' Average Age	HR
Percentage Breakdown of Employees According to Characteristics	HR
Average Head count	HR
Head count/Change in Staffing level	HR
Training and Education Fees by Target Audience	HR
Training and Education by Target Audience	HR
Training and Education Fees Bases on Organizational Assignment	HR
Annual Comparison of Business Event Costs	HR
Annual Comparison of Revenues	HR
Fee Rates/Event	HR
Fee Distribution of Internal and External Bookings/Event	HR
Attendance and Cancellation Fees/Event	HR
Business Event Duration/Training	HR
Attendance and Cancellation Rates/Training	HR
Annual Comparison of Bookings/Training	HR
Number of Attendees and Cancellations/Training	HR
Wage Types Comparison for Personnel Areas	HR
Wage Types Overview USA	HR

SALES AND DISTRIBUTION

Sales Overview/Faultless Sales Order Processing	SD
Sales Overview/Order,Delivery, and Sales Quantities	SD
Sales Overview/Sales Values	SD
Sales Overview/Fulfillment Rates	SD
Overview/Billing Documents	SD

Sales Overview/Deliveries	SD
Sales Overview/Credit Memos	SD
Sales Overview/Incoming Orders	SD
Sales Overview/Returns	SD
Sales: weekly deliveries	SD
SD: Returns: Quantities + values	SD
SD: Incoming orders/revenue: months of current year	SD
Sales : Plan/actual/variance current year/previous year	SD
Customer Sales Volume	SD
Customer Credit Memos	SD
Customer Incoming Orders	SD
Customer Returns	SD
Backlog Analysis	SD
Order Fulfillment Analysis	SD
Order Trend Analysis (Order Type)	SD
Average Fill Rate by Shipping Point	SD
Customer Ranking	SD
Quarterly Sales Volume by Channel	SD
Monthly Sales Volume by Channel and Geography	SD
Monthly Sales Volume by Channel	SD
To-Date Sales Volume by Channel	SD
Sales Volume by Channel/Customer/Geography	SD
Quarterly Sales Volume Analysis by Channel	SD
Monthly Sales Trend by Channel	SD
Monthly Sales Volume Analysis by Channel within Geography	SD
Monthly Sales Volume Analysis by Channel	SD
Daily Sales Volume Analysis by Channel	SD
Product Sales by Sales Organization/Product Hierarchy	SD
Product Ranking	SD
Monthly Sales Volume Analysis by Geography	SD
Monthly Sales by Product Hierarchy	SD
MTD Sales Volume by Product	SD
Product Sales Analysis by Sales Territory (Organization)	SD
Product Sales Analysis by Sales Organization	SD
Quarterly Sales Volume Trend by Product Families	SD
Monthly Sales Trend by Product	SD
Monthly Sales Volume Analysis by Geography	SD
Monthly Sales Volume Analysis by Product	SD
Daily Sales Volume Analysis by Product	SD

MATERIALS MANAGEMENT

Purchasing Group Analysis	MM
Vendor Comparison with the Vendor Evaluation	MM
Country Comparison Raw Materials - Goods Receipt	MM

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Vendor Comparison re: Purchasing Values	MM
Order Activities	MM
Order Quantities	MM
Delivery Date Variance	MM
Delivery Quantity Variance	MM
Purchasing values According to purchasing organization	MM
Average Delivery Time - Material	MM
Fulfillment Rate- Deliveries	MM
Service Level Vendor	MM
Average Delivery Time-Vendor	MM
Valuated stock Receipts vs. Issues	MM
Consignment Stock Receipts vs.. Issues	MM
Process Performance Measure	MM
Material Consumption	MM
Stock Quantity	MM
Stock Values	MM
Inventory Aging	MM
Inventory Obsolete	MM
Raw Materials Days of Supply - Value	MM
Raw Materials Sales of Supply - Quantity	MM
Finished Goods Inventory Days of Supply - Value	MM
Finished Goods Inventory Days of Supply - Quantity	MM
Inventory Dales of Supply - Value	MM
Inventory Days of Supply - Quantity	MM
Warehouse Inventory Turnover	MM

QUALITY MANAGEMENT

Analysis of non conformities- Notifications	QM
Analysis of notifications - Quality Management	QM
Vendor Analysis - Inspection Lots	QM
Material Analyses- Inspection Lots	QM

PRODUCTION PLANNING

Material consumption Repetitive production	PP
Goods receipts repetitive manufacturing	PP
Material consumption	PP
Material consumption target/actual	PP
Actual quantities in the work center	PP
Capacity load utilization	PP
Operation quantities	PP
Capacity load utilization	PP
Schedule and quantity deviations work center view	PP
Schedule deviations work center view	PP
Operations times	PP
Operations times detailed	PP

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Lead time and relative schedule deviation Work center	PP
Execution time and scrap variance: Work center view	PP
Quantity of Goods Received and Scrap	PP
Schedules Achievement	PP
Production Lead Time	PP
Order Quantity	PP
Negative/Positive Schedule Deviation Order View	PP
Total Schedule/Lead time Deviation Order View	PP
Detailed Order Delivery Date Deviations	PP
Detailed Order Start Date Deviations	PP
Detailed Order Release Deviations	PP
Total Schedule Deviation Order View	PP
Schedule/Scrap Deviation Order View	PP
Schedule and Scrap Deviation Order View	PP

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