



e-health: from vision to implementation

Dr. med. Peter Langkafel MBA

1.2. 2006 Sofia E-Health Meeting
SAP Business Consulting EMEA

THE BEST-RUN BUSINESSES RUN SAP

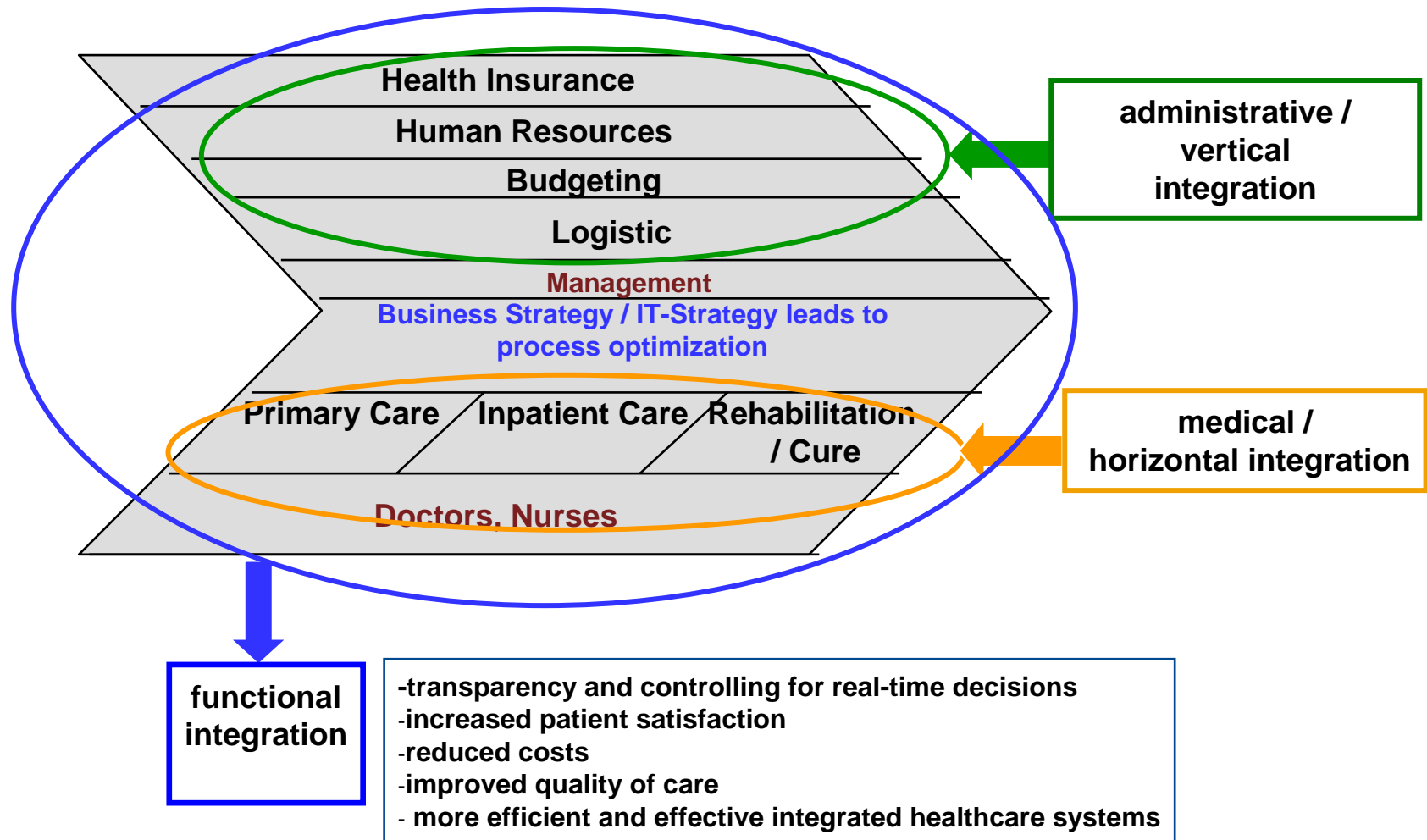


- e-health: from vision...

- ...to implementation!

Modernization of Healthcare-Systems

Key success factors: Integration and Transparency



Players in Healthcare

National Health Organizations

Social Assistance Office

Disease Control Center

...

Health Insurance

Social Funds

Unemployment Insurance

...



Policy Maker



Provider



Citizen Patient



Payer



Pharma

Hospitals

Primary Care

Doctors

...

Pharmacies

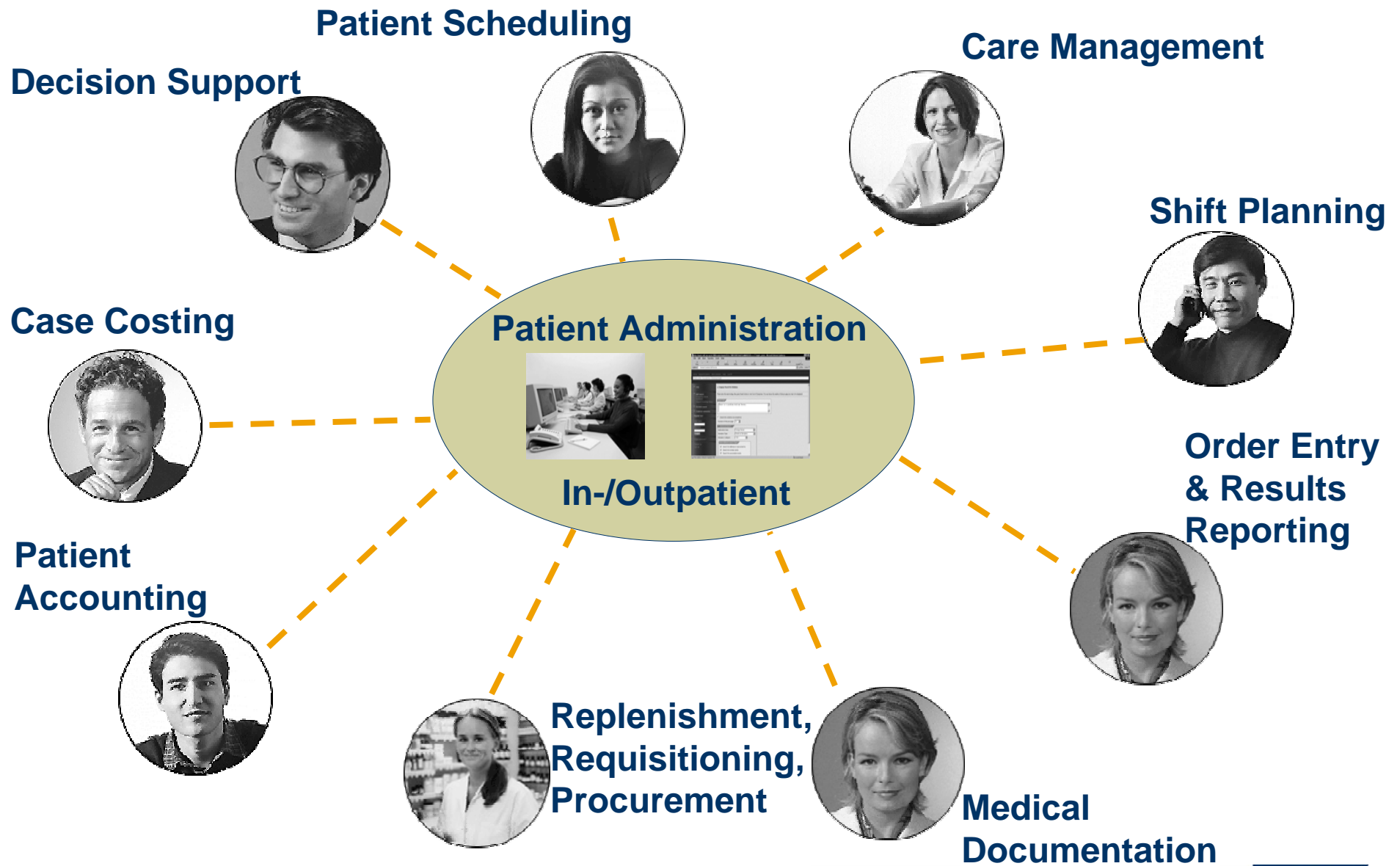
Pharmacy / Medical Products and Devices

Research

...

WHO (World Health Organization) Definition:

"E-health is a new term used to describe the combined use of electronic communication and information technology in the health sector"

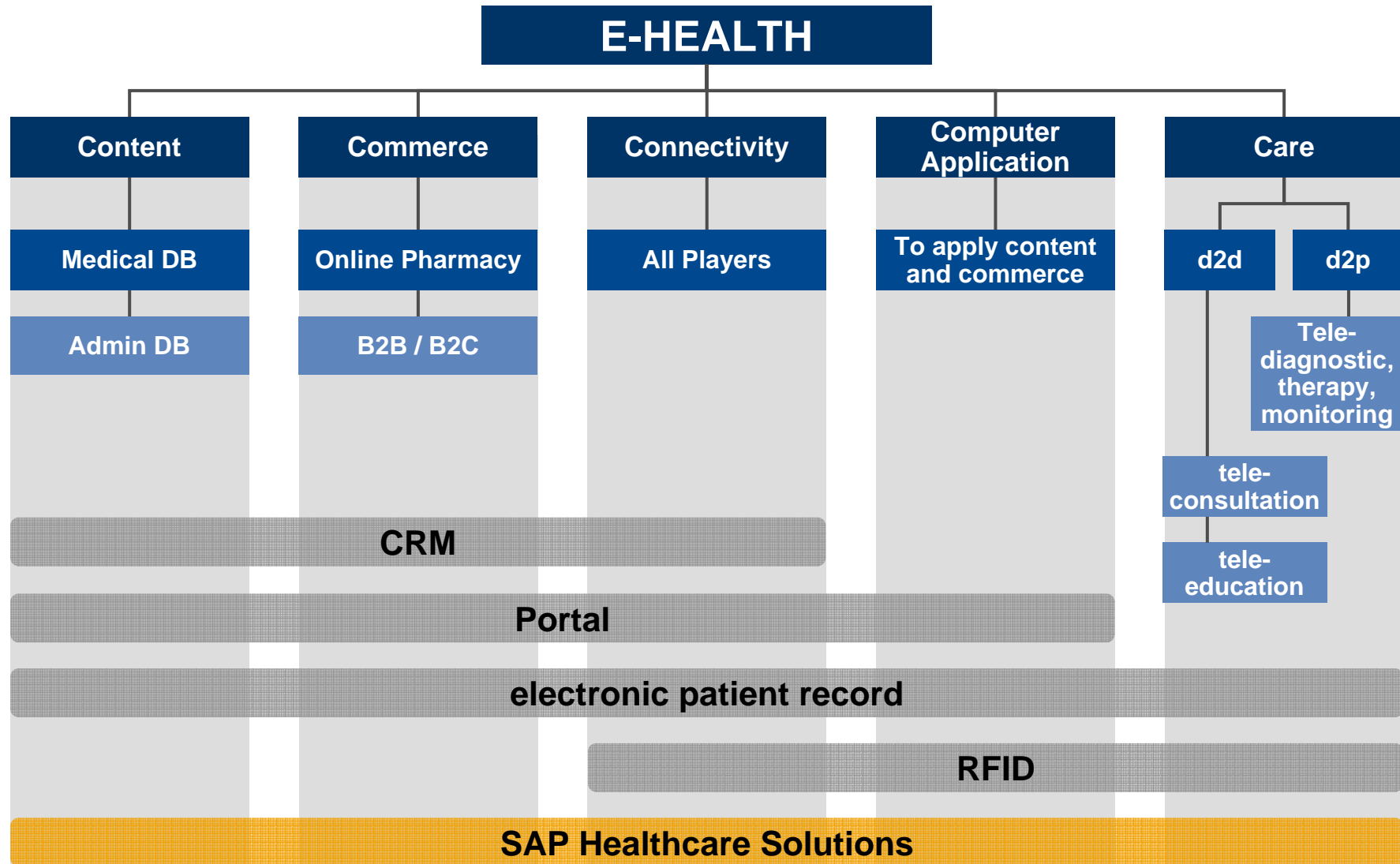


Agenda

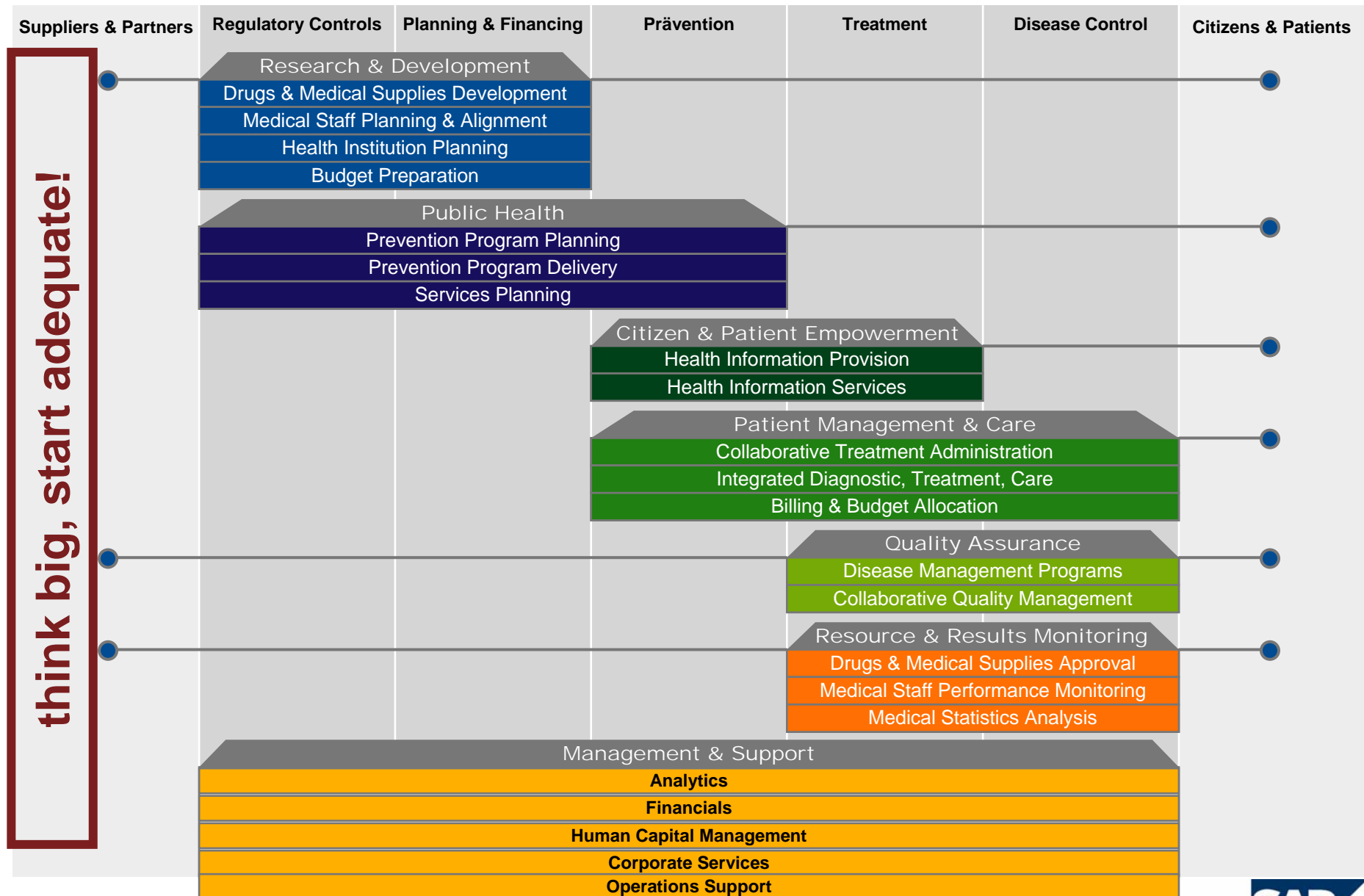
- e-health: from vision...

- ...to implementation!

The 5 Columns of E-Health by SAP



Collaborative Healthcare Network: Solution Map by SAP through the entire value chain



SAP offers integrated solutions for health care providers

1 Clinical processes

2 Patient services

3 Administrative processes



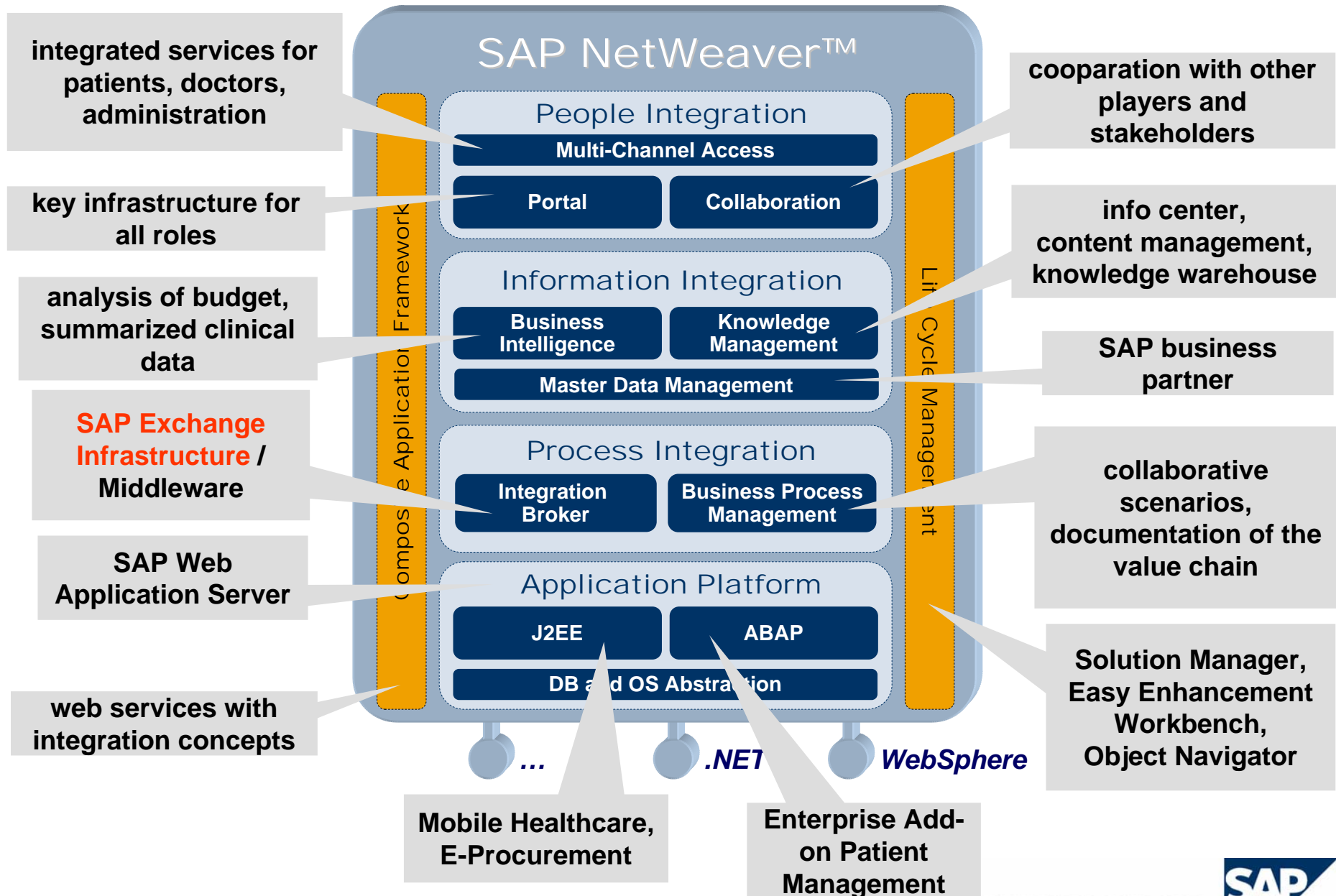
HEALTHCARE PROVIDERS Scenario-Oriented Industry Solution

- Strategic Service Offerings
- Resources and Supply Chain Planning
- Collaborative Care Support
- Patient Management
- Enterprise Management & Support

Integrated Care



SAP NetWeaver for Healthcare



SAP recognizes health care as a central market segment

- **SAP has > 1000 healthcare installations worldwide.**
- **over 25 country-specific solutions: From Walldorf/Germany to the whole world**
- **Healthcare is a major industry of SAP's Public Services practice, which is operating globally.**
- **SAP for Healthcare offers an end-to-end solution from ERP (back office) to e-Health including solutions for patient management and accounting as well as seamlessly integrated clinical solutions provided by partners**
- **Healthcare Customers live since 1994**



Guaranteed implementation in time and budget

Standardized solutions

- **SAP Solution Maps** across
 - Industries
 - Scenarios
- **Healthcare Solution Maps**
 - Healthcare Provider
 - Collaborative Health Network

Standardized methodologies

- **Accelerated SAP (ASAP)** – Repeatable Methodology and Toolkit
- **SAP Business Maps and Engagement Tools** – a robust foundation for effective knowledge transfer

Product Quality

- **Product Innovation Lifecycle (PIL)** that standardizes the way SAP invents, defines, develops, deploys and optimizes solutions
- **SAP Ramp-Up** – standardized process for introducing solutions to the market

Support / Education

- **SAP Active Global Support** – 24x7 global support, guaranteed response time
- **SAP Education** – More than 200,000 students trained annually, classes offered in 15 languages



Integrated Services I

Example of an Electronic Patient Record (medical view)

The screenshot displays a medical workstation interface. On the left, the 'INOVIT DICOM VIEWER 1.12' window is active, showing a grid of axial CT scan slices of the abdomen. The main viewing area contains four large slices in a 2x2 grid, with a vertical column of smaller slices to the right. A 'Skalierung' (Scaling) control is visible on the left side of the viewer. The right side of the workstation shows a 'Microsoft Word Viewer 97' window displaying a document from 'Kreiskrankenhaus Mittleres Erzgebirge, Haus Zschopau, Radiologie'. The document contains patient information, a date, and a detailed radiological report in German.

INOVIT
The Radiology Software Company

Kreiskrankenhaus Mittleres Erzgebirge
Haus Zschopau
Radiologie

03.11.1999
OÄ DM ST Ö/AH

ZIN2
E-2/Innere Allg. Zschopau

Stauder, Manfred,
geb. 09.05.1940

CT des Oberbauches nach Gabe von KM oral sowie nach Gabe von 100ml Ultravist 300 sowie selektiver Rekonstruktion der Leber und übrigen Bauchorgane in 5-mm-Schichtdi vom 02.11.1999:

Nativ sind Leber und Milz homogen und glatt begrenzt, wobei normale Dichtewerte nachweisbar werden. Das mitdargestellte Pankreas kommt lediglich im Übergang vom Corpus zum Caudabereich etwas aufgelockert zur Abbildung, sonst glatte Organgrenzen. Der Pankreaskopf insbesondere ist homogen. Nachweisbare Schrumpfgallenblase mit Verdacht auf Lithiasis. Beide Nieren unauffällig. Nach Gabe von KM i.v. kommt es zu einem regelrechten Enhancement in Leber und Milz, wobei auch jetzt keinerlei intrahepatische fokale Läsionen auffallen. Kalkringschatten in der Gallenblase und Schrumpfgallenblase nachweisbar. Der Pankreaskopf bleibt homogen. Nach KM-iv.-Gabe reichern auch Pankreas corpus und -cauda homogen an. Es zeigen sich keine peripankreatischen Exsudationen oder gar Nekrosestraßen. Beide Nieren sowie die Paraaorta region unauffällig.

Diagnose:

Schrumpfgallenblase bei Lithiasis. Im Bereich des Pankreas kein Anhalt für entzündliche oder tumoröse Veränderungen.

Mit freundlichen Grüßen

Integrated Services II

Digital Clinical Pathways (medical and business view)

assignment + classification + systematic arranging

Behandlungspfad zuordnen für Biernat, Axel

The screenshot displays a medical software interface with several overlapping windows. The background window shows patient information for Axel Biernat, including his date of birth (01.09.1976) and insurance details. A 'Behandlungspfad suchen' (Search Treatment Path) window is open, with search criteria: 'App*' for title, 'GALLE' for keyword, and 'ZEN_KOPFSCHMERZEN' for short code. A 'Behandlungspfad zuordnen' (Assign Treatment Path) window is also open, showing a start date of 09.01.2004 and a start time of 19:53:00. A table on the right lists treatment paths for the years 2003 and 2004, with columns for 'SymVerfüg' and 'MedStatus'. Red handwritten annotations label various parts of the interface: 'documents' points to the patient document list, 'criteria' points to the search criteria fields, 'classification' points to the assignment window, and 'search criteria' points to the search criteria fields.

documents

criteria

classification

search criteria

BehPfad	Kurzbezeichnung	Version	Verantw	Überprüf	SymVerfüg	MedStatus
2003					!	●●●
2004					●	●●●
2004					●	●●●

Information

Graphik

Dokumente des Patienten

Art	Dokument
M...	10000000668
PFD	10000001922

Suchkriterien

Titel / Kurzbezeichnung: App*

Schlagwort: GALLE

Kurzbezeichnung: ZEN_KOPFSCHMERZEN

Diagnose

Startdatum: 09.01.2004

Startzeit: 19:53:00

Prozess: VMA 0010030031 KF

Pfad zuordnen Suchen Abbrechen

Angaben zum Versicherten

Name, Vorname: Biernat, Axel

GebDat: 01.09.1976

Beschäftigt als:

seit: 01.07.2002

Anschrift: Riedemannweg

Telefon: 030-38370-220

Staatsang.: DE

Geschl.: M

Kostenträger/Unfall:

AOK Mannheim, Mitglied

Zugeordnete Behandlungspfade:

Integrated Services III Business Intelligence - Business Process (business view)

Hospital Management
"All information at a glance"



Controlling
"What do our costs and revenues look like?"



Coding Analyses
"Is the medical documentation correct and complete?"



Hospital Pharmacy
"What is the level of our drug consumption?"



Case Figures

DRG

Controlling

Purchasing

Diagnoses

HR

Financials

Insurance Providers

Profitability

Contribution Margin

Procedures



SAP R/3



Non-SAP



SAP IS-H



mySAP...



Provider



File



- *to e or not to e* -
e-health: from vision to
implementation

Dr. med. Peter Langkafel MBA

1.2. 2006 Sofia E-Health Meeting
SAP Business Consulting EMEA

THE BEST-RUN BUSINESSES RUN SAP



Contact



Dr. Peter Langkafel, MD, MBA
Senior Business Consultatn
SAP Business Consulting

SAP xxxx
Street Nr.
PLZ City

T +49 6227 7-xx
F +49 6227 7-xx
M +49 xx
E peter.langkafel@sap.com
www.sap.com

- No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.
 - Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.
 - Microsoft, Windows, Outlook, and PowerPoint are registered trademarks of Microsoft Corporation.
 - IBM, DB2, DB2 Universal Database, OS/2, Parallel Sysplex, MVS/ESA, AIX, S/390, AS/400, OS/390, OS/400, iSeries, pSeries, xSeries, zSeries, z/OS, AFP, Intelligent Miner, WebSphere, Netfinity, Tivoli, and Informix are trademarks or registered trademarks of IBM Corporation in the United States and/or other countries.
 - Oracle is a registered trademark of Oracle Corporation.
 - UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.
 - Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems, Inc.
 - HTML, XML, XHTML and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.
 - Java is a registered trademark of Sun Microsystems, Inc.
 - JavaScript is a registered trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape.
 - MaxDB is a trademark of MySQL AB, Sweden.
 - SAP, R/3, mySAP, mySAP.com, xApps, xApp, SAP NetWeaver and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and in several other countries all over the world. All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.
-
- The information in this document is proprietary to SAP. No part of this document may be reproduced, copied, or transmitted in any form or for any purpose without the express prior written permission of SAP AG.
 - This document is a preliminary version and not subject to your license agreement or any other agreement with SAP. This document contains only intended strategies, developments, and functionalities of the SAP® product and is not intended to be binding upon SAP to any particular course of business, product strategy, and/or development. Please note that this document is subject to change and may be changed by SAP at any time without notice.
 - SAP assumes no responsibility for errors or omissions in this document. SAP does not warrant the accuracy or completeness of the information, text, graphics, links, or other items contained within this material. This document is provided without a warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.
 - SAP shall have no liability for damages of any kind including without limitation direct, special, indirect, or consequential damages that may result from the use of these materials. This limitation shall not apply in cases of intent or gross negligence.
 - The statutory liability for personal injury and defective products is not affected. SAP has no control over the information that you may access through the use of hot links contained in these materials and does not endorse your use of third-party Web pages nor provide any warranty whatsoever relating to third-party Web pages

- Weitergabe und Vervielfältigung dieser Publikation oder von Teilen daraus sind, zu welchem Zweck und in welcher Form auch immer, ohne die ausdrückliche schriftliche Genehmigung durch SAP AG nicht gestattet. In dieser Publikation enthaltene Informationen können ohne vorherige Ankündigung geändert werden.
 - Die von SAP AG oder deren Vertriebsfirmen angebotenen Softwareprodukte können Softwarekomponenten auch anderer Softwarehersteller enthalten.
 - Microsoft, Windows, Outlook, und PowerPoint sind eingetragene Marken der Microsoft Corporation.
 - IBM, DB2, DB2 Universal Database, OS/2, Parallel Sysplex, MVS/ESA, AIX, S/390, AS/400, OS/390, OS/400, iSeries, pSeries, xSeries, zSeries, z/OS, AFP, Intelligent Miner, WebSphere, Netfinity, Tivoli, und Informix sind Marken oder eingetragene Marken der IBM Corporation in den USA und/oder anderen Ländern.
 - Oracle ist eine eingetragene Marke der Oracle Corporation.
 - UNIX, X/Open, OSF/1, und Motif sind eingetragene Marken der Open Group.
 - Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, und MultiWin sind Marken oder eingetragene Marken von Citrix Systems, Inc.
 - HTML, XML, XHTML und W3C sind Marken oder eingetragene Marken des W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.
 - Java ist eine eingetragene Marke von Sun Microsystems, Inc.
 - JavaScript ist eine eingetragene Marke der Sun Microsystems, Inc., verwendet unter der Lizenz der von Netscape entwickelten und implementierten Technologie.
 - MaxDB ist eine Marke von MySQL AB, Schweden.
 - SAP, R/3, mySAP, mySAP.com, xApps, xApp, SAP NetWeaver und weitere im Text erwähnte SAP-Produkte und -Dienstleistungen sowie die entsprechenden Logos sind Marken oder eingetragene Marken der SAP AG in Deutschland und anderen Ländern weltweit. Alle anderen Namen von Produkten und Dienstleistungen sind Marken der jeweiligen Firmen. Die Angaben im Text sind unverbindlich und dienen lediglich zu Informationszwecken. Produkte können länderspezifische Unterschiede aufweisen.
-
- The information in this document is proprietary to SAP. No part of this document may be reproduced, copied, or transmitted in any form or for any purpose without the express prior written permission of SAP AG.
 - This document is a preliminary version and not subject to your license agreement or any other agreement with SAP. This document contains only intended strategies, developments, and functionalities of the SAP® product and is not intended to be binding upon SAP to any particular course of business, product strategy, and/or development. Please note that this document is subject to change and may be changed by SAP at any time without notice.
 - SAP assumes no responsibility for errors or omissions in this document. SAP does not warrant the accuracy or completeness of the information, text, graphics, links, or other items contained within this material. This document is provided without a warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability, fitness for a particular purpose, or non-infringement.
 - SAP shall have no liability for damages of any kind including without limitation direct, special, indirect, or consequential damages that may result from the use of these materials. This limitation shall not apply in cases of intent or gross negligence.
 - The statutory liability for personal injury and defective products is not affected. SAP has no control over the information that you may access through the use of hot links contained in these materials and does not endorse your use of third-party Web pages nor provide any warranty whatsoever relating to third-party Web pages