Enterprise Architecture Practitioners Conference

March 11-13, 2007
Arabella Sheraton Grand Hotel, Cape Town, South Africa

Enterprise Architecture
Enabling Application
Portfolio Management

Presented by
Philip Venter
Agenda

1. Anglo Platinum Technology Background
2. Application Architecture History
3. EA Endeavour
4. Application Architecture Approach
5. Application Portfolio Management (APM)
6. APM leveraging on EA
7. Way Forward
8. Questions and Answers
9. Discussion
Technology Background

- 500 Commercial Servers
- 7500 Desktop and Laptops
- 400 process control servers
- Single instance for SAP HR and FI/LOG
- 5 Networks (Commercial/security/Process/Blast/Audio communication)
- Microsoft and SAP technologies
- Specialised applications
- Diverse Value Chain
- Computer literacy is diverse
- Central ICT Function
- Technology Standards by Architecture and Standards Board
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9. Discussion
Application Architecture History

1. < 1996 Mainframe
2. > 1996 Client Server Application
3. 1997 First implementation of SAP – 7 Instances
4. 1998 Rewrite all mainframe Technical Systems
5. 1999 Engineering Design – Lotus
6. 1999 Server and Desktop management: In-house
7. 2005 SAP Consolidation
8. Introduced Server and Client Monitoring – COTS
9. 2005 Enterprise Architecture - ARIS
10. 2006 Interfacing of EA, ERP, CMDB and related technologies
11. 2007 Project Unity
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EA Maturity Assessment – February 2007

The diagram illustrates the maturity assessment in various domains such as Tools, People, Content, Process, and Products/Services. The assessment includes current, target, and 2005 data points.
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Application Architecture Growth

March 2006 to March 2007

- Application Portfolio Management
- Application Portfolio
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Application Portfolio

1. Application Structure

2. Application attributes and classification
   ‣ Functional View
   ‣ Application Type view
     - Business Intelligence, Commercial off the shelf, Developed, Infrastructure
   ‣ Technical view

3. Application Business Process attributes
   ‣ Utilisation
   ‣ Support
   ‣ Adoption
   ‣ Time

4. Application – Application
   ‣ Interfaces
   ‣ Dependencies
   ‣ Vertical Integration
What is an Application Level?

1. Application levelling provides a structured view on applications for a specified set of criteria. This could be defined by number of users, function points, cost, lines of code, cost per user, maintenance cost, functional decomposition or licensed entity.

2. Application levels are an organised hierarchically structure. The lower the application level the more detailed it would expose to a transaction, a service, an object, report, screen etc.
1. Purpose of Application Levelling

**Application levelling is important to:**
- Ensure consistency of detail at each level
- Provide a defined view of an application for planning, control and monitoring
- Clarifies the functional grouping of software suites
- Ensure that levels are not randomly added or omitted
- Where an application does not belong to a group no parent will be added
- If an application does not have multiple transactional or functions, no detail at lower levels exist

"Good work ... but I think we might need just a little more detail right here."
Levelling in Practice

- It seems natural to conceive a hierarchical structure and then segment each layer of the hierarchy into a number of separate models. But, most people can’t visualize the structure they need sufficiently knowledge at the outset, to be able to do this.

- In practice, you have to proceed using a more trial and error approach.

- Create an initial structure to provide a rough framework to build on.

- Limit the time spend fiddling about with high-level structures. It is important, but could go on forever. At some stage put a stake in the ground, and then start with the detail modeling. Only a limited number of applications will have parent (to level 0) and child (to level 5) structures.

- Be clear on which level the detail modelling must be done, and then start doing some detail modeling for all the other associations in the application portfolio.

- Be flexible to change high-levels structures, once detailed modelling prompts you to make changes to top levels. (Bottom-up check)
# Application Level - Definitions

<table>
<thead>
<tr>
<th>Level Name</th>
<th>Level Definition</th>
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</thead>
<tbody>
<tr>
<td>Level 0</td>
<td>Suite</td>
</tr>
<tr>
<td></td>
<td>This contains a product or suite of products e.g. SAP, Lotus</td>
</tr>
<tr>
<td>Level 1</td>
<td>Suite Edition</td>
</tr>
<tr>
<td></td>
<td>This contains a subset of a suite of products e.g. SAP Business Suite</td>
</tr>
<tr>
<td>Level 2</td>
<td>Application Group</td>
</tr>
<tr>
<td></td>
<td>This contains a group of applications e.g. SAP ERP</td>
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<tr>
<td>Level 3</td>
<td>Application</td>
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<tr>
<td></td>
<td>This contains a deployable applications e.g. SAP ERP Financials, MS Word, Daycall, Websphere, Domino.doc, Autocad etc.</td>
</tr>
<tr>
<td>Level 4</td>
<td>Module</td>
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<td></td>
<td>A module comprises of composite services and can't be deployed as stand alone application</td>
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<tr>
<td>Level 5</td>
<td>Function</td>
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<tr>
<td></td>
<td>OLTP, Objects, services, screens, stored procedures, reports, triggers are Transaction types</td>
</tr>
</tbody>
</table>

Note: Application is the only mandatory level for all software products
Application Architecture

Extended meta-model to support Application Portfolio Management.

Extensions (examples):

- Versions
- Standards
- Ownership
- Cost
- Licensing
- Vendor
- Distribution
- Integration
Application Portfolio Management

Extract application data from ARIS and populate data mart

Dimensional Model

Generate APM reports from data mart
Application Star Schema

Audit

Organisation Unit

Position

Data

Document

Bridge

Server

Application

App Navigation Bridge

Application Class

Process

Bridge

Bridge

Bridge
# Application Fact Table Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
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<tbody>
<tr>
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<td>Foreign Key of the Application Dimension</td>
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Application portfolio Management leveraging on EA

1. Business and technology ownership
2. Project management and SDLC
3. Application dependency
4. Application upgrade
5. Change Management
6. Network impact analysis
Example Graphs from Impact Analysis

Functionality Usage:
- Low: 70%
- Medium: 26%
- High: 4%

Usage Complexity:
- Low: 27%
- Medium: 12%
- High: 61%

Training Required:
- No: 41
- Yes: 63

Support Complexity:
- Low: 22%
- Medium: 64%
- High: 14%
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Way Forward

1. Decomposition of all significant applications
2. Mature Application Business and technical Ownership
3. IT application – scorecard
4. SOA in ARIS
5. Anglo American Global Infrastructure (Currently)
6. Anglo American Application Consolidation
7. Potential common services in Shared Services (Globally)
# SAP and Remedy functional comparison

## Customer Service

<table>
<thead>
<tr>
<th>Customer Service &amp; Support</th>
<th>Complaint Management</th>
<th>Help Desk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Identification &amp; Maintenance (S14)</td>
<td>Case Management for Customer Service (S14)</td>
<td>IT Help Desk (S14)</td>
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<tr>
<td>Registered Product Identification (S14)</td>
<td>Complaints Processing (S14)</td>
<td>Customer Care (S14)</td>
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<tr>
<td>Interaction History (S14)</td>
<td>Credit Memo Integration (S14)</td>
<td>Interaction Record (S14)</td>
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<tr>
<td>Scratch Pad Notes (S14)</td>
<td>Returns Processing (S14)</td>
<td>Case Management for Customer Service (S14)</td>
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<tr>
<td>Service Order &amp; Request Management (S14)</td>
<td>Return Material Authorizations (S14)</td>
<td>Solution Database (S14)</td>
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<td>Multi-level Categorization (S14)</td>
<td>Escalation and Follow-Up (S14)</td>
<td>Solution Attachments (S14)</td>
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<td>Content Management Integration (S14)</td>
<td>Complaints Analysis (S14, B12)</td>
<td>Knowledge Search (S14)</td>
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<tr>
<td>Spare Parts and Services (S14, S59)</td>
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<td>Information Security Profile (S14)</td>
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<tr>
<td>Appointment Scheduling (S14)</td>
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<td>Solution Search Statistics Report (S14)</td>
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<td>In-House Repair Request (S14)</td>
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<td>E-Mail and Chat Integration (S14)</td>
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<tr>
<td>Service Quotations (S14)</td>
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<td>Auto Acknowledge (S14)</td>
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<tr>
<td>Contract &amp; Entitlement Management (S14)</td>
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<td>Auto Response (S14)</td>
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<tr>
<td>Service Level Management (S14)</td>
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<td>Interactive Auto Suggest of Solutions (S14)</td>
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<tr>
<td>Escalation Management (S14)</td>
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<td>Employee Interaction Center (S14, S23)</td>
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<td>Warranty Management (S14)</td>
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<td>Help Desk Analysis (S14, B12)</td>
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<td>Installed Base Management (S14)</td>
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<td>Service Product Proposal (S14)</td>
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<tr>
<td>Customer Service &amp; Support Analysis (S14, B12)</td>
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</table>
APM Landscape

SAP PA

SAP MM

HR

STD

CMDB

Audit

ARIS Platform

Microsoft SQL Server
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