SAP Enterprise Architecture Framework Unveiled: Aligning IT to the Business

Franck Lopez
Global Director, Enterprise Architecture & Enterprise SOA Portfolio
SAP Field Services, Global Strategic Initiatives

TechTour ’07, Palo Alto, 9th August 2007
The SAP Enterprise Architecture initiative: a full package

Drivers and benefits for Enterprise Architecture
### Recognize any of these?

#### Some IT requests
- “I wish I could get the business to recognize the need for an Enterprise Architecture”
- “How can I explain the benefits of Enterprise Architecture?”
- “How can I get the business owners to listen to me?”

#### Some Business requests
- “Where can I get a big picture of IT?”
- “What are the best practices to drive enterprise SOA adoption?”
- “Can you show me the value of EA… and the costs?”
- “We want short-term solutions with a demonstrable, early payback. Why do we need the grand vision?”
- “Isn’t SOA the solution?”
What is Enterprise Architecture?

Enterprise Architecture Definition
The description of the future state of an organization to best support the organization's business strategy

How to get from the current architecture to future desired state

Enterprise Architecture Goal
Bring together Business and IT people in a common understanding of how people, process, data and technology must converge to take the business strategy from vision to reality

Why Enterprise Architecture?

The successful adoption of enterprise SOA requires Enterprise Architecture:

- How do I get there? What are the best practices?
- How do I control and govern in the deployment of an enterprise SOA?
- How can I ensure that IT is aligned to the business?
- How do I integrate solutions across the organisation?
Benefits of Enterprise Architecture to the Business

- Achievement of a company’s business strategy or of external drivers
  - Without a full understanding of business, application and technical architectures, a business doesn’t know what it has or doesn’t have

- Business processes and information consistency
  - EA unlocks the power of information whilst unifying information silos that inhibit business processes
  - Identify processes, applications and data that need to be consistent

- Faster time-to-market
  - If IT can introduce new technologies and functionalities faster, the organization can respond to competitive pressures faster
  - These areas are most likely to be spotted when business and IT staff collaborate closely in the EA process

- More reliability and security, less risk
  - EA provides clear traceability between business processes, data, user roles, applications and infrastructure
Benefits of Enterprise Architecture to IT

- Lower IT costs
  - Faster design and development due to standard designs and components
  - IT procurement efficiencies due to economies of scale

- Better traceability of IT costs
  - Greater understanding of the interrelated nature of business, application and infrastructure assets

- More manageable complexity
  - Clear vision of As-Is and To-Be architecture and migration plan
  - Comprehensive view of apps, software, infrastructure and their interrelatedness diminishes duplication and overlap

- Less IT risk
  - Developing a managed transformation plan means IT is prepared to deliver new capabilities in a timely manner
  - IT effort is aligned with the strategy and expectations set at the right level
The successful delivery of Enterprise SOA needs a guideline and an alignment model to the business.

There is a need for a coherent delivery model to ensure the success of Enterprise SOA.

Enterprise SOA enables you to:

- Deploy new capabilities rapidly
- Remove the point-to-point connections between applications
- Deliver encapsulated services providing clearly defined capabilities
- Maximise reuse of these services

Enterprise SOA needs:

- Control and governance in the ES deployment
- Clear understanding of business requirements and current architecture
- Integrated solutions across the organisation

Without these, there are some serious risks:

- Rapid increase in uncontrolled services that rapidly spin out of control
- Duplicated capabilities across services
- Gaps, unforeseen errors and data integrity issues

The Plan

To avoid this
What happens when Architecture doesn’t drive decision-making...

**Winchester House**
- 38 years of construction
- 160 rooms, 40 bedrooms, 6 kitchens, 2 basements, 950 doors
- 65 doors to blank walls, 13 staircases abandoned, 24 skylights in floors
- 147 builders, 0 architects
- No architectural blueprint

**Enterprise Complexity**
- Unmanageable project durations
- Inconsistent data across business units
- Sub-utilized applications and investment
- Lack of documented process models
- ...

© SAP AG 2007, SAP EAF Unveiled, TechTour ’07 Palo Alto, 9th August 2007, Franck Lopez, page 8
Drivers and benefits for Enterprise Architecture

The SAP Enterprise Architecture initiative: a full package
SAP Consulting: SAP Enterprise Architecture Framework for Enterprise SOA

The framework methodology has been gaining rave reviews from customers, guiding them through their business and IT architectures to ensure smooth transitions to enterprise SOA. The framework not only provides a tool to drive business network transformation with customers, but it also contains a fully packaged toolset that reconciles the views of all stakeholders from a business and IT perspective. To support demand, a global hub of enterprise architects has been created to assist customers, supported by a three-tier certification program and an enterprise architect training curriculum available to partners, customers, and SAP employees.
Enterprise Architecture initiative

NEW SKILLS & RESOURCES

Global Hub of Enterprise Architects

NEW METHODOLOGY

SAP Enterprise Architecture Framework for Enterprise SOA

NEW TOOLS & PRODUCTS

SAP EAF toolset
Available under Roadmap Composer
Integrated with SAP tools

NEW SERVICES

Enterprise Architecture Services
Enhanced eSOA Portfolio

NEW TRAINING

Dedicated training and certification for Enterprise SOA roles

NEW COMMUNITY

Global EA Community, including user groups, customers and partners
How can Enterprise Architecture Frameworks help?

Traditional EA Frameworks generate a wealth of benefits for the Enterprise

- **Business-IT Alignment**
- **Comprehensive Architecture development method**
- **Large adoption in the market**
- **Can be used across a wide variety of industry types and geographies**
- **Available under a free perpetual license**
- **Vendor-agnostic open standard**
- **Technology- and Solution-independent**
- **Avoids re-inventing the wheel**
- **Tailorable to meet different organizations and industry needs**
- **Possibility to participate in the evolution of the Framework**

There is still a black hole…
What is missing in the traditional EA Frameworks?

Two critical features are missing in traditional Enterprise Architecture Frameworks:

- **Packaged Applications**
- **Enterprise Service Oriented Architecture**
What is missing in the traditional EA Frameworks?

Traditional Enterprise Architecture Frameworks also lack...

- A clear definition of process
- A clear definition of terms
- Accelerated timelines
- Practical guidance
- Comprehensive Enterprise description
- Best Practices
- A clear transition between Enterprise Architecture and Solution delivery
- An explicit Metamodel
- A complete delivery tool
- Robust and mature reference models
- Fully packaged toolset incl. methodology
- Templates, concrete examples and an applied case study

Packaged Applications

Enterprise Service Oriented Architecture

© SAP AG 2007, SAP EAF Unveiled, TechTour '07 Palo Alto, 9th August 2007, Franck Lopez, page 14
The SAP Enterprise Architecture Framework is a methodology and toolset primarily to support the effective adoption of Enterprise SOA.

It is based on an extension of The Open Group Architecture Framework specifically designed for packaged solutions and enterprise SOA.
Why TOGAF?

- The Open Group Architecture Framework
- A reliable, proven method for developing an Enterprise the Open Group
- An open standard
- Vendor neutral
- TOGAF considered to be the most relevant Framework (54% of ASUG members and 2006 TechEd attendees)
- Freely licensed
- Intended to be tailored
- http://www.opengroup.org

Graph 11: Importance of enterprise architecture frameworks (108 responses)

Results from 2006 survey of TechEd attendees and online ASUG survey
Customer quotes regarding the SAP EAF

“I am really impressed by the work your team has done. This is something SAP-shops like us needed. Our Enterprise Architecture and CIO Board have just decided to adopt SAP-EAF.”
Lead Enterprise Architect, Fortune 100 Healthcare and Technology Company

“We are really excited about what you and your team are doing. As we talked about, we are looking at a couple of initiatives to bring in the SAP EA framework to review and align with.”
Enterprise Architect, Fortune 100 Consumer Products Company

“I am very interested in leveraging the SAP EA framework offering. I would like to promote the SAP EAF internally within my organization and with the EA research group from Ohio State University.”
Chief Enterprise Architect, Fortune 500 Manufacturing Company

“This will be very valuable to us as we are, like many, an SAP shop focused on using [a generic framework which needed an Enterprise SOA approach].”
Group ERP Architect, Top 3 Oil & Gas Company

“SAP EAF is the best framework I have seen, and I have seen them all.”
Chief Enterprise Architect (SAP and non-SAP), Top 3 Automotive Company

"I am very optimistic about the applicability of many of the already-delivered objects in the SAP EA framework."
Architecture Manager, World-leading composite manufacturer
SAP Enterprise Architecture Framework: Overview

- **SAP Enterprise Architecture Framework extensions**
  - Usage Guidelines
  - Architecture Development Method
  - Content Metamodel
  - Templates, Examples and Case Studies

- **Resource Base Extensions**
  - SAP Business Reference Models
  - SAP Technology Reference Models

- **SAP Mapping Extensions**

- **SAP Tooling Extensions**
  - SAP Content Tools
  - SAP Implementation Tools
  - EA Modelling Tools

- **TOGAF Foundation**
  - TOGAF Architecture Development Method

- **TOGAF Resource Base**

© SAP AG 2007, SAP EAF Unveiled, TechTour ‘07 Palo Alto, 9th August 2007, Franck Lopez, page 18
The Key Differentiators

SAP Enterprise Architecture Framework for Enterprise SOA

SAP Enterprise Architecture Framework extensions
- Usage Guidelines
- Architecture Development Method
- Content Metamodel
- Templates, Examples and Case Studies

Resource Base Extensions
- SAP Business Reference Models
- SAP Technology Reference Models

SAP Mapping Extensions

SAP Tooling Extensions
- Content Tools
- SAP Implementation Tools
- EA Modelling Tools

Architecture Method
- Iterative architecture process extending TOGAF ADM
- Worksheet for each architecture phase identifying inputs, steps and outputs
- Narrative for each architecture phase explaining how to conduct the phase

TOGAF Resource Base
The SAP EAF Agile Iterative Process

- Can be tuned for different engagement models instead of a “one size fits all” waterfall approach
- Defined Iterations more suited to Package and SOA-based scenarios

SAP EAF provides a set of pre-defined patterns depending on the Architecture development style

<table>
<thead>
<tr>
<th>SAP EAF Phase</th>
<th>Initial Iteration</th>
<th>Iteration 1</th>
<th>Iteration 2</th>
<th>Iteration n n</th>
<th>Iteration 1</th>
<th>Iteration n n</th>
<th>Iteration 1</th>
<th>Iteration n n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prelim</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td>Vision</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td>Business Architecture</td>
<td>As-Is</td>
<td>Informal</td>
<td>Core</td>
<td>Light</td>
<td>Core</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>To-Be</td>
<td>Informal</td>
<td>Core</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td>Application Architecture</td>
<td>As-Is</td>
<td>Informal</td>
<td>Core</td>
<td>Light</td>
<td>Core</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>To-Be</td>
<td>Informal</td>
<td>Core</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td>Data Architecture</td>
<td>As-Is</td>
<td>Informal</td>
<td>Core</td>
<td>Light</td>
<td>Core</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>To-Be</td>
<td>Informal</td>
<td>Core</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td>Technology Architecture</td>
<td>As-Is</td>
<td>Informal</td>
<td>Core</td>
<td>Light</td>
<td>Core</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>To-Be</td>
<td>Informal</td>
<td>Core</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
</tr>
<tr>
<td>Opportunities and Solutions</td>
<td></td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
<td>Core</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
</tr>
<tr>
<td>Migration Planning</td>
<td></td>
<td>Informal</td>
<td>Light</td>
<td>Light</td>
<td>Core</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
</tr>
<tr>
<td>Implementation Governance</td>
<td></td>
<td>Informal</td>
<td>Informal</td>
<td>Core</td>
<td>Core</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
</tr>
<tr>
<td>Change Management</td>
<td></td>
<td>Informal</td>
<td>Informal</td>
<td>Informal</td>
<td>Core</td>
<td>Core</td>
<td>Informal</td>
<td>Informal</td>
</tr>
</tbody>
</table>
The Key Differentiators

SAP Enterprise Architecture Framework for Enterprise SOA

SAP Enterprise Architecture Framework extensions
- Usage Guidelines
- Architecture Development Method
- Content Metamodel
- Templates, Examples and Case Studies

Resource Base Extensions
- SAP Business Reference Models
- SAP Technology Reference Models

SAP Mapping Extensions

SAP Tooling Extensions
- Content Tools
- SAP Implementation Tools
- EA Modelling Tools

Architecture Method
- Iterative architecture process extending TOGAF ADM
- Worksheet for each architecture phase identifying inputs, steps and outputs
- Narrative for each architecture phase explaining how to conduct the phase

Metamodel
- Architecture metamodel, aligned with TOGAF terms
- Defined set of architecture catalogs, views and matrices
The SAP EAF Holistic Metamodel

- Formalizes the definition of your enterprise Architecture
  - Aids communication and understanding
  - We know what we need when
- Formalizes the relationships between objects
  - Clearer Business-IT traceability and alignment
- Enables SAP Specific Mapping
  - Allows the use of SAP Reference Models
- Enables EA Tool Mapping
  - Allows a ‘quick start’ for an EA Tool implementation
## Example of a Governance Metamodel extension: Service Contract

<table>
<thead>
<tr>
<th>General</th>
<th>Technical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference</td>
<td>Invocation</td>
</tr>
<tr>
<td>Name</td>
<td>Invocation Preconditions</td>
</tr>
<tr>
<td>Description</td>
<td>Master Data Impacted</td>
</tr>
<tr>
<td>Source</td>
<td>Behaviour Characteristics</td>
</tr>
<tr>
<td>Owner</td>
<td>Post Condition</td>
</tr>
<tr>
<td>Type</td>
<td></td>
</tr>
<tr>
<td>Version</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business</th>
<th>Non-Functional Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACI</td>
<td>Throughput</td>
</tr>
<tr>
<td>Service name 'caller'</td>
<td>Throughput period</td>
</tr>
<tr>
<td>Service name 'called'</td>
<td>Growth</td>
</tr>
<tr>
<td>Business Objects (CRUD)</td>
<td>Growth period</td>
</tr>
<tr>
<td>Functional Requirements</td>
<td>Service times</td>
</tr>
<tr>
<td>Importance to the process.</td>
<td></td>
</tr>
<tr>
<td>Quality of information required</td>
<td>Peak profile short term</td>
</tr>
<tr>
<td>Contract control requirements</td>
<td>Peak profile long term</td>
</tr>
<tr>
<td>Result control requirements</td>
<td>Security requirements</td>
</tr>
<tr>
<td>Quality of Service</td>
<td>Response requirements</td>
</tr>
<tr>
<td>Service Level Agreement</td>
<td></td>
</tr>
</tbody>
</table>
How SAP EAF addresses Stakeholders

An EA Stakeholder Map determines the views that are relevant for each stakeholders’ groups.
The Key Differentiators

SAP Enterprise Architecture Framework for Enterprise SOA

- SAP Enterprise Architecture Framework extensions
  - Usage Guidelines
  - Architecture Development Method
  - Content Metamodel
  - Templates, Examples and Case Studies

- Resource Base Extensions
  - SAP Business Reference Models
  - SAP Technology Reference Models

- SAP Mapping Extensions

- SAP Tooling Extensions
  - Content Tools
  - SAP Implementation Tools
  - EA Modelling Tools

- Architecture Method
  - Iterative architecture process extending TOGAF ADM
  - Worksheet for each architecture phase identifying inputs, steps and outputs
  - Narrative for each architecture phase explaining how to conduct the phase

- TOGAF Resource Base

Reference Content
- SAP Business Maps
- SAP-TOGAF TRM Reference Model
- SAP Product Availability Matrix

Metamodel
- Architecture metamodel, aligned with TOGAF terms
- Defined set of architecture catalogs, views and matrices

SAP-Specific Mappings
- SAP Enterprise Architecture Framework terminology to SAP terminology mapping
- SAP product to TOGAF TRM mapping
- SAP Enterprise Architecture Framework method to SAP method mapping
- SAP Glossary

© SAP AG 2007, SAP EAF Unveiled, TechTour '07 Palo Alto, 9th August 2007, Franck Lopez, page 25
Benefits of SAP Specific Mappings

SAP Reference Model content
- Reusable models and patterns
- Use directly or as template

SAP Landscape content
- Accurate view of the AS-IS situation
- What is running?
- What is installable?
- What is buyable?

SAP Business Reference Models
- Business view

SAP Technology Reference Models
- Application view
- Technology view

SAP Landscape Content

Resource Base Extensions

Solution Composer (Solution Maps)
- Product Availability Matrix (PAM)
- Enterprise Service Repository (ESR)
- Scenario & Process Component List
- System Landscape Directory (SLD)

Accelerate Enterprise Architecture development
- Use SAP’s Product Architecture standards
- Achieve a consistent taxonomy
- Promote Standardization and Re-use

Create consistent, quality architectures quicker

© SAP AG 2007, SAP EAF Unveiled, TechTour '07 Palo Alto, 9th August 2007, Franck Lopez, page 26
The Key Differentiators

Enterprise Architecture Framework for Enterprise SOA

Usage Guidelines
- Framework tailoring
- Engagement Initiation
- Using EA to implement SOA
- Business Capability Assessment
- Technology Capability Assessment
- IT Governance Impact Assessment
- Solution Architecture Scoping
- Glossary
- ...

Reference Content
- SAP Business Maps
- SAP-TOGAF TRM Reference Model
- SAP Product Availability Matrix

Metamodel
- Architecture metamodel, aligned with TOGAF terms
- Defined set of architecture catalogs, views and matrices

SAP-Specific Mappings
- SAP Enterprise Architecture Framework terminology to SAP terminology mapping
- SAP product to TOGAF TRM mapping
- SAP Enterprise Architecture Framework method to SAP method mapping
- SAP Glossary

Architecture Method
- Iterative architecture process extending TOGAF ADM
- Worksheet for each architecture phase identifying inputs, steps and outputs
- Narrative for each architecture phase explaining how to conduct the phase

Case Studies and Examples
- Case studies from real-world SAP architecture engagements
- “BEEST case study” worked example
- Examples for all defined architecture views and matrices
- Candidate Architecture Principles

SAP Tool Guides and Integration
- IDS-Scheer / ARIS Implementation of Framework

Released to the Open Group
SAP Enterprise Architecture Framework

TOGAF Architecture Development Method

Resource Base Extensions

SAP Business Reference Models

SAP Technology Reference Models

SAP Mapping Extensions

SAP Tooling Extensions

Templates, Examples and Case Studies

Content Metamodel

Usage Guidelines

Architecture Development Method

SAP Implementation

EA Method

Content
EAF Case Study and Reference Implementation in ARIS IT Architect

- Easier maintenance of architecture as the business and IT landscape changes
- More effective knowledge sharing across the whole organization
- Provides stakeholders with models most relevant to their role
- More effective governance
- Promotes re-use of models
- Promotes more consistent quality as the models are integrated
- Provides one source of the truth properly managed
- ......not unmaintained, unconnected Visio and Excel files!
Analysis of the Resource Base

Analysis of impacted artifacts

Impact Flow Chart

Systems impacted by a Function
SAP EAF content populated within Roadmap Composer

SAP provides some standard roadmaps for projects across the Customer Engagement Lifecycle. These roadmaps are either activity-based, or more recently produced, deliverable-based. It will be possible to update these roadmaps with the latest content when connected to the SAP network.

These standard SAP roadmaps are available to view but can also be used to compose a customer project specific structure using the My Roadmaps structure.

It is possible to load the following Standard SAP Roadmaps into the Roadmap Composer:

1. Customer Solution Strategy
2. SAP Field Services Project Management Methodology
3. ASAP Implementation Roadmap (v3.5 May 2006)
4. Global Template
5. Upgrade Roadmap (v3.1)
7. ASAP Focus: Evaluation
8. ASAP Focus: Implementation
9. ASAP Focus: Implementation - Spanish
10. ASAP Focus: Implementation - Portuguese
11. ASAP Focus: Evaluation - Spanish
12. ASAP Focus: Evaluation - Portuguese
13. ASAP Focus: Implementation - Portuguese
14. Solution Management
15. CBI (Continuous Business Improvements)
16. ESA Composer INTERNAL
17. Project Management Review

TOGAF ADM Phases
SAP EAF content populated within Roadmap Composer

Accelerators added
- Overview Manual
- MetaModel
- Useful URL links
SAP EAF content populated within Roadmap Composer

TOGAF ADM Steps
SAP EAF content populated within Roadmap Composer

The SAP Enterprise Architecture Framework is an extension of the TOGAF Enterprise Architecture Framework specifically designed to support the effective adoption of packaged solutions in the Service-Oriented Enterprise.

This description describes how to complete this task.

BUSINESS ARCHITECTURE

OBJECTIVES

The TOGAF ADM is a generic method for architecture development, which is designed to deal with most system and organisational requirements. However, it will often be necessary to modify or extend this ADM to suit specific needs. The SAP EAF (Enterprise Architecture Framework) provides all the necessary information and guidance to deliver an Enterprise Architecture definition within a package and services oriented environment.

The objective of the SAP EAF phase is to ensure that the As-Is and To-Be Business Architectures fit the organisation, detailing the roadmap towards the To-Be architecture, and to identify key work packages in the roadmap. In SAP EAF, the Business Architectures phase also provides the first cut definition of Functions and services, mapping these functions and services to organisational areas, and maps these services to delivery components (Application components and Technology components as defined in the SAP EAF methodology).

APPROACH

The approach for this phase follows the TOGAF 8.1 approach with particular emphasis placed on ensuring clear identification of business functions and owners, and on ensuring the delineation between functions and services as defined in the SAP EAF method. The SAP EAF approach assumes that some functionality will be delivered through a packaged or service oriented solution, the approach therefore is to look at the business functions required and ensure delivery can take place through a service approach. SAP EAF works on the assumption that the Business Architecture is analyzed from an As-Is perspective and a To-Be perspective. The gap analysis between these two architectures then enables the organisation to define a roadmap to achieve the desired To-Be environment. General information regarding the approach to completing an As-Is and To-Be architecture and how to carry out an effective Gap Analysis is covered in reference material and not within this document.

This narrative instead identifies the key steps that would be carried out in both these analysis phases and identifies the outputs of the phases and the rationale for carrying out these activities.

In general, SAP EAF assumes that architecture definition is an iterative activity and that all answers cannot be completed in a single cycle. Business Architectures define, follow this assumption, and will execute at least two iterations, the first cycle focusing on As-Is with some discussion on To-Be, and the second iteration focusing on To-Be with reference back to the As-Is phase. It is likely however, particularly in complex environments, that further iterations will be carried out until a clear definition of the To-Be architecture and the consequent roadmap is effectively defined. For this reason it is important to note that all steps identified below may be completed in each iteration, additionally...
New Education and Certification programs

- New role-based education program
- 3-tier certification

<table>
<thead>
<tr>
<th>Business Process Expert</th>
<th>Enterprise Architect</th>
<th>Technology Professional</th>
<th>Enterprise Service Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Master</strong></td>
<td><strong>Professional</strong></td>
<td><strong>Associate</strong></td>
<td></td>
</tr>
<tr>
<td>SAP Certified</td>
<td>SAP Certified</td>
<td>SAP Certified</td>
<td>SAP Certified</td>
</tr>
<tr>
<td>Business Process Expert</td>
<td>Enterprise Architecture</td>
<td>Technology Master</td>
<td>ES Developer Master</td>
</tr>
<tr>
<td>Expert Master</td>
<td>Master</td>
<td>Master (NW Admin)</td>
<td>(NW ABAP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Master (NW Security)</td>
<td>ES Developer Master (Java)</td>
</tr>
<tr>
<td>SAP Certified</td>
<td>SAP Certified</td>
<td>SAP Certified</td>
<td></td>
</tr>
<tr>
<td>Business Process Expert</td>
<td>Enterprise Architecture</td>
<td>Technology Professional</td>
<td>ES Developer Professional</td>
</tr>
<tr>
<td>Professional</td>
<td>Professional</td>
<td>Professional (NW Portal)</td>
<td>(ABAP UI, SI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional (NW Security)</td>
<td>ES Developer Professional</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Java UI, Java SI)</td>
</tr>
<tr>
<td>SAP Certified</td>
<td>SAP Certified</td>
<td>SAP Certified</td>
<td></td>
</tr>
<tr>
<td>Business Process Expert</td>
<td>Enterprise Architecture</td>
<td>Technology Associate</td>
<td>ES Developer Associate</td>
</tr>
<tr>
<td>Associate</td>
<td>Associate</td>
<td>Associate</td>
<td>(ABAP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ES Developer Associate (Java)</td>
</tr>
<tr>
<td>SAP Certified</td>
<td></td>
<td>SAP Certified Managed Service</td>
<td></td>
</tr>
<tr>
<td>Business Process Expert</td>
<td></td>
<td>Managed Service Engineer (BPI, TQM, ...)</td>
<td></td>
</tr>
</tbody>
</table>

NEW SKILLS & RESOURCES
NEW METHODOLOGY
NEW TOOLS & PRODUCTS
NEW SERVICES
NEW TRAINING

© SAP AG 2007, SAP EAF Unveiled, TechTour ’07 Palo Alto, 9th August 2007, Franck Lopez, page 34
**Master Level:**
Expert knowledge in Enterprise Architecture

**Professional Level:**
Advanced knowledge in Enterprise Architecture

**Associate Level:**
Foundation level knowledge in Enterprise Architecture. Skills to contribute to EA projects.

---

**Master**
- 7+ years of experience in Enterprise Architecture
- In- and externally recognized as an expert in his/her Enterprise Architecture field
- Deep practical EA experience, integration, optimization and architectural knowledge
- Ability to provide strategic vision and realization
- Ability to articulate EA at CxO level
- Leading teams and projects

**Professional**
- 3-7 years of experience in Enterprise Architecture
- Professional ERP experience, advanced solution and process knowledge, industry expertise
- Deep knowledge of at least 1-2 domains in Enterprise Architecture
- T-shaped: broad view across several dimensions, plus deep capability to understand a specific area
- Works independently within teams to realize EA projects, capability of mentoring others

**Associate**
- 1-3 years of experience in Enterprise Architecture
- Hands-on skills to successfully implement ERP solutions
- Foundation knowledge of at least one domain in Enterprise Architecture
- Works in a mentored position within an experienced team
SAP Enterprise Architect Curriculum

Certified Associate SAP Enterprise Architect Curriculum

- **SAP01** 5 Days
  - Master Data Management - Fundamentals

- **SAPNW** 3 Days
  - SAPNetWeaver Overview

OR

- **NW001** 8 hours
  - Technology Solutions Powered by SAP NetWeaver

  - SOA100 2 Days
    - Enterprise SOA Fundamentals
  - SOA110 2 Days
    - Enterprise SOA Roadmap
  - SOA200 5 Days
    - SAP Enterprise Architect Framework Level I

Certified Associate SAP Enterprise Architect

Certified Professional SAP Enterprise Architect Curriculum

- **SOA220** 4 Days
  - TOGAF Training & Certification

- **SOA230** 2 Days
  - Aris Toolset for SAP Enterprise Architect Framework

- **SOA250** 5 Days
  - SAP Enterprise Architect Framework Level II

Certified Professional SAP Enterprise Architect

NEW
- SKILLS & RESOURCES
- METHODOLOGY
- TOOLS & PRODUCTS
- PROCESSES
- SERVICES
- TRAINING
- PROCESSES

NEW
- SKILLS & RESOURCES
- METHODOLOGY
- TOOLS & PRODUCTS
- PROCESSES
- SERVICES
- TRAINING
- PROCESSES

NEW
- SKILLS & RESOURCES
- METHODOLOGY
- TOOLS & PRODUCTS
- PROCESSES
- SERVICES
- TRAINING
- PROCESSES

© SAP AG 2007, SAP EAF Unveiled, TechTour '07 Palo Alto, 9th August 2007, Franck Lopez, page 36
Enterprise Architecture Framework: the methodology for enterprise SOA adoption

- The New SAP Enterprise Architecture Framework is based on open standards and may be used free of charge by our customers and partners.
- It is specifically designed to support the effective adoption of packaged solutions in an Enterprise SOA environment.
- The New SAP Enterprise Architecture Framework is holistic, practical and agile.
- Education materials, certification and service offerings are available.
- Join the vibrant ASUG Enterprise Architecture Community!
- Come and learn more at the EA Pre Tech-Ed Bootcamp in Vegas!
Q&A

THANK YOU FOR YOUR ATTENTION!

Contacts:   franck.lopez@sap.com