

## Comparing approaches for Enterprise Architects

There are at least 21 different approaches to modeling a complex evolving object, such as a business. These range from brain storming to more structured and formalized approaches.

The following table provides a quick reference guide to the approaches an enterprise architect can use to assist business operatives describe the business under the 3 sub phases of information architecture:

| Method     | Information architecture          |              |                         |                         |                             |                       |                              |                              |            |      |
|------------|-----------------------------------|--------------|-------------------------|-------------------------|-----------------------------|-----------------------|------------------------------|------------------------------|------------|------|
|            | Conceptual architecture           |              |                         | Logical architecture    |                             |                       | Physical architecture        |                              |            |      |
| Bachman    | *                                 |              |                         | Entities & associations | *DFDs                       | Application generator |                              |                              |            |      |
| *Bal sc    | Objectives                        | Strategies   |                         | Data                    |                             |                       | *                            |                              |            |      |
| *BPR 1     | Vision and Objectives             |              | Baselines               | *                       |                             |                       | Prototype                    |                              |            |      |
| *BPR 2     | Ontology                          | Information  | Function                | Data                    |                             |                       | *                            |                              |            |      |
| *BPR 3     | Plan                              |              | Analyse                 | Design                  |                             |                       | Implement                    | Evaluate                     |            |      |
| *BPR 4     | Plan                              |              | Analyse                 | *                       |                             |                       | Plan                         | Evaluate                     |            |      |
| *BPR 5     | Business modeling                 |              | System design           |                         |                             | Implementation        |                              |                              |            |      |
| *Br storm  | 7 rules                           |              |                         | *                       |                             |                       | *                            |                              |            |      |
| CoPR       | Transcendental doctrine of method |              |                         | Transcendental Logic    |                             |                       | Transc. doctrine of elements |                              |            |      |
| FEAF       | Enterprise architecture           |              |                         | Segment architecture    |                             |                       | Solution architecture        |                              |            |      |
| Geram      | Identification                    | Concept      | Requirement             | Design                  | Implementation              |                       | Build                        | Operate                      | Change     |      |
| I E        | Plan                              | Analyse      |                         | Design                  |                             |                       | Construct                    |                              |            |      |
| *KM        | *Story telling - sharing ideas    |              |                         | Expert systems          |                             |                       | Knowledge repositories       |                              |            |      |
| Macroscope | Strategy                          |              | Enterprise architecture |                         | Enterprise value management |                       |                              | Busn transformation & change |            |      |
| NIST EA    | Business                          |              | Information             |                         | Data                        | Applications          |                              | Technical infrastructure     |            |      |
| PEAF       | Foundation                        |              | Management              |                         | MetaModel                   | Governance            |                              | Communication                |            |      |
| Ripose     | Strategic planning architecture   |              |                         | Logical architecture    |                             |                       | Solutions architecture       |                              |            |      |
|            | Grammatical architecture          |              | Systems architecture    | Data architecture       | Applications architecture   |                       | Prototype                    | Production                   |            |      |
|            | Objectives                        | Knowledge    |                         |                         |                             |                       |                              |                              |            |      |
| TOGAF      | *F&p                              | *Arch vision | *Busn arch              | *O&s                    | *Acm                        | Information systems   |                              | *Tech arch                   | *Migr plan | *I g |
| T&Q        | Trivium                           |              |                         |                         |                             |                       | Quadrivium                   |                              |            |      |
|            | Rhetoric                          |              | Grammar                 |                         | Logic                       |                       |                              |                              |            |      |
| UML        | Foundation                        |              |                         |                         |                             |                       | Behaviour                    |                              |            |      |
|            | Core                              |              | Auxiliary               |                         | Data types                  |                       |                              |                              |            |      |
| Zachman    | Contextual                        |              | Conceptual              |                         | Logical                     |                       | *Phys                        | *A b                         | *F e       |      |

How does one make up their mind as to which approach to use? Here are a few benefits you should look for in relation to the approach, namely the approaches:

- Effectiveness - capability; economic viability; unique features - Common wealth
- Efficiency - speed of deliver; how practical it is to apply; how streamlined it is - Common wellbeing
- Ethics - equitability; honesty; transparency - Common good
- Ease of use - fluency; simplicity; intuitive - Common sense

### \*Notes:

- If we have missed an approach and you would like us to analyse it for comparison's sake, please email us at [info@ripose.com](mailto:info@ripose.com)
- Each phase may have multiple sub phases. Examine the method in detail for more information. We have fact sheets on most of these approaches comparing them to our baseline, namely the Ripose Technique
- The grey area suggests no deliverable or phase could be identified
- Hyperlinks may or may not work - some approaches may have been removed
- Bal sc - Balanced scorecard
- There are about 5 different BPR (business process re-engineering) approaches
  - 1) Davenport & Short
  - 2) KBSI - Knowledge Based Systems, Inc
  - 3) ProSci - A BPR education series
  - 4) ECOPI - Electronic College of process innovation
  - 5) Proforma
- Br storm - Brain storming
- DFD - data flow diagram
- KM - Knowledge management
- TOGAF architectures - F&p = Framework & principles; Arch vision = Architecture vision; Busn arch = Business architecture
- O&s = Opportunities & solutions; Acm = Architecture change management; Tech arch = Technology architecture;
- Migr plan = Migration planning; I g = Implementation governance
- Zachman scopes - Phys = Physical; A b = As built; F e = Functioning enterprise

## A history of methodologies, frameworks and techniques

The following table shows a time line outlining the development of the approach:

Table 1: Developer by era

| Era           | Charlemagne | I Kant | Bachman | Codd | Dijkstra | MA Jackson | Drucker | Yourdon | Richter | Porter | Finklestein | Martin | Zachman | Fujitsu    | BPR | Geram | Kaplan | NIST EA | TOGAF | UML |
|---------------|-------------|--------|---------|------|----------|------------|---------|---------|---------|--------|-------------|--------|---------|------------|-----|-------|--------|---------|-------|-----|
| 782           | C de V      |        |         |      |          |            |         |         |         |        |             |        |         |            |     |       |        |         |       |     |
| 1755          |             | CoPR   |         |      |          |            |         |         |         |        |             |        |         |            |     |       |        |         |       |     |
| 1960s & 1970s |             |        | RDM     | 3NF  | SP       | JSD        | BSP     | SADT    | JSD 3NF |        |             |        |         |            |     |       |        |         |       |     |
| 1980s         |             |        |         |      |          |            |         |         | IA IE   | BSP    | IE          | IE     | ZF      | P+         |     |       |        |         |       |     |
| 1990s         |             |        |         |      |          |            |         |         | Ripose  |        | ZF          |        |         | Macroscope | BPR | Geram | BS     | Nist EA | TOGAF | UML |

Table 2: Developer, method and description

| Developer     | Method     | Description   | Era         |
|---------------|------------|---|-------------|
| Bachman C     | RDM        | Role data model   | Early 1970s |
| BPR           | BPR        | Business process re-engineering                               | 1990s       |
| Charlemagne   | C de V     | Capitulare de villis - Governance of the royal estates        | 782         |
| Codd E        | 3NF        | Third normal form - normalisation                             | Late 1960s  |
| Dijkstra E    | SP         | Structured programming  | Early 1970s |
| Drucker P     | BSP        | Business strategic planning                                   | Early 1970s |
| Finklestein C | IE         | Information Engineering                                       | Early 1980s |
| Fujitsu       | Macroscope | Based on DMR's S+ P+ A+ B+                                    | 1987        |
| Geram         | Geram      | Generalised Enterprise Reference Architecture and Methodology | 1990        |
| Jackson M A   | JSD        | Jackson system development                                    | 1974        |
| Kant I        | CoPR       | Critique of pure reason                                       | 1755        |
| Kaplan R      | BS         | Balanced scorecard  | 1992        |
| Martin J      | IE         | Information Engineering                                       | Early 1980s |
| NIST          | NIST EA    | National Institute of Standards and Technology                | 1990        |
| Porter M      | BSP        | Business strategic planning                                   | 1980        |
| Richter C     | 3NF        | Learnt how to normalise                                       | 1975        |
|               | JSD        | Learnt how to structure a program from data                   | 1977        |
|               | SADT       | Studied SADT  | 1978        |
|               | IE         | Information Engineering                                       | 1982        |
|               | IA         | Information architecture                                      | 1989        |
|               | Ripose     | Ripose  | 1990        |
| TOGAF         | TOGAF      | The open group architecture framework                         | 1995        |
| UML           | UML        | Unified modelling language                                    | 1994        |
| Yourdon E     | SADT       | Structured Analysis and Design Technique                      | 1975        |
| Zachman J     | ZF         | Zachman framework   | 1982        |

## The information architect

The following table shows the sub classifications of an information architect and the skills an information architect needs to be a virtuoso in:

| Information architect                      |                     |                   |                   |                    |                       |                                  |            |                |                   |
|--|---------------------|-------------------|-------------------|--------------------|-----------------------|----------------------------------|------------|----------------|-------------------|
| Conceptual / enterprise/business architect |                     |                   | Logical architect |                    |                       | Physical /solutions architecture |            |                |                   |
| Business analyst                           | Knowledge architect | Systems architect | Data architect    |                    | Application architect | Data base admin                  | Programmer | Test architect |                   |
|  |                     |                   | Data modeler      | Data base designer |                       |                                  |            | Systems tester | Deployment tester |

The stakeholders, skills, inputs, processes and outputs are as follows:

| Stakeholder     | Skill  | Input                                      | Process                           | Output  |
|-----------------|--|--|-----------------------------------|---|
| Strategic mgt   | Business analyst   | Existing organisation chart                | Refinement                        | Refined organisation chart                      |
|                 |  | Generic business statements                | Facilitated sessions              | Business objectives                             |
| Tactical mgt    | Knowledge architect  | Business objectives                        | Facilitated sessions              | Knowledge model                                 |
| Strategic mgt   | Systems architect  | Knowledge model                            | Facilitated sessions              | Prioritised systems                             |
| None            | Enterprise architect   | Refined organisation chart                 | Prepare document                  | Business plan - proof of concept                |
|                 |  | Business objectives                        |                                   |   |
|                 |  | Knowledge model                            |                                   |   |
|                 |  | Prioritised systems                        |                                   |   |
| Operational mgt | Data modeler   | Prioritised systems                        | Facilitated sessions              | Logical data model                              |
|                 |  | Knowledge model                            |                                   |   |
| None            | Data base designer   | Logical data model                         | Rationalisation                   | Logical data base design<br>Subject area design |
| Operational mgt | Application architect  | Subject area design                        | Rapid application design sessions | Logical applications                            |
| None            | Data base admin  | Logical data base design                   | Data base generation              | Physical data base                              |
|                 | Programmer   | Physical data base<br>Logical applications | Program code                      | Unit tested code                                |
| Operational mgt | Systems tester   | Unit tested code                           | Systems testing                   | Error free code<br>Operating instructions       |
|                 |  | Deployment tester                          |                                   | Stress testing                                  |
|                 | Target hardware & software platforms<br>Operating instructions | Update operating instructions              |                                   |   |

### Output content:

|                        |   |
|------------------------|---|
| Business objectives -  | Purpose statement; Benefits; Values; Performance indicators   |
| Business plan -        | Financial budgets, risk analysis, production plan, quality assurance, governance, resource plan, project plan |
| Logical applications - | Screen designs, menus, reports, pseudo code   |