



Welcome

The BIT Architect - Data modeller

- Responsibilities
- Skills
- IPO
- Deliverable

Hello and welcome to this You Tube presentation on the Business information technology architect – also known as the data modeller. My name is Charles Richter and I am the principal consultant of Ripose Pty Limited. In my introduction to the Information Architect, I mentioned that I would be delivering this presentation on the responsibilities of the fourth category or class of the information architect. In this presentation I will describe, the responsibilities, inputs, processes, outputs, skills and an example of the deliverable of the business information technology architect or the data modeller.



What is a BIT Architect?

The Business information technology architect or data modeller establishes the facts of the corporate conceptual knowledge model, defining the essential attributes. In my opinion the Business information technology architect and data modeller are synonymous and should be defined by their: Responsibilities; Skills; Inputs; Processes and; Outputs

Responsibilities:

Collect, define and record the attributes or facts required by the enterprise

Skill: Data modeller

RA 4

So what is a Business information technology architect? As I could not find a reference to the words Business information technology architect anywhere on the net, I decided to start my search by using the words data modeller in a Google search and found the following Wikipedia reference “Data modelling in software engineering is the process of creating a data model by applying formal data model descriptions using data modelling techniques”. But this is still not clear to what a data modeller is or ought to be as what are the data modelling techniques? As I see the Business information technology architect and the data modeller as one and the same concept, and should be defined by their Responsibilities; Skills; Inputs; Processes and; Outputs. Hence I will state that the Business information technology architect or data modeller is responsible for identifying and recording the formal facts or attributes of the corporate conceptual knowledge model. In Ripose speak, this is the skill of the Ripose architect grade 4 or RA4. In the case where there is no corporate information model, the data modeller will need to record the facts in either a spread sheet or a word processing document.



IPO of the BIT architect

Inputs, processes and outputs

Input:	Ideal - Knowledge model; Prioritised systems Additional – existing documentation
Process:	Facilitate sessions with operational mgt
Output:	Logical data model

So what are the inputs, processes and outputs of the Ripose Architect grade 4? Ideally, the input a data modeller needs are the knowledge model produced by the Ripose Architect grade 2 and the prioritised system model produced by the Ripose Architect grade 3 as well as existing documents, reports, data bases, data structures, transactions and such like. These documents contain the data elements currently used by the business. So what is data? According to a Wikipedia reference “Data are pieces of information that represent the qualitative or quantitative attributes of a variable or set of variables. Data (plural of ‘datum’, which is seldom used) are typically the results of measurements and can be the basis of graphs, images, or observations of a set of variables. Data are often viewed as the lowest level of abstraction from which information and knowledge are derived”. The purpose of the data modelling sessions is to get business operatives to clarify their need for the data elements.



Techniques used by a BIT architect

Two methods can be used to identify data:

1. Data flow diagrams
2. Rationalisation – natural selection

Both these methods will need the following resources:

- Facilitator – the BIT architect
- Business operatives
- White board or butchers paper or a computer program

Let me provide you with 2 ways a business information technology architect can identify data. The first is to use existing transactions and documents and transpose them into data flow diagrams. The second uses a technique called rationalisation or natural selection and uses the corporate knowledge model together with the existing transactions and documents. Both will require the business information technology architect to facilitate a number of sessions with the business operatives in order to clarify the use of the data elements. The following resources will also be required in order to record the data elements: white board; butchers paper and/or a; computer using a spread sheet or word processing program, or a computer assisted data element recording tool.



Existing data sources

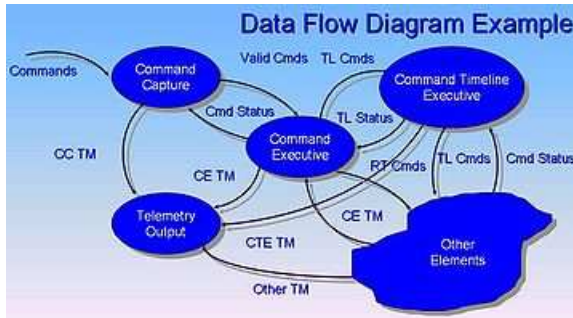
These come in many disguises:

- Reports
- Forms – eg invoices, receipts, order pads
- Existing computer program source files
- Existing data bases – eg spread sheets, production files

In order to avoid lengthy brain storming sessions, data modellers often resort to seeking out as many existing documents used by business operatives in the day to day running of the business. These include printed reports, forms such as invoices (both receivable and payable) , receipts, cheques, credit notes, booking sheets, order pads etc and existing program source files (to discover file layouts containing data elements) and data bases (whether they exist in spread sheets or on production data files). The data modeller will however have to ensure the accuracy of the data by getting the business operatives to confirm the validity of the data elements.



Data flow diagrams



As I mentioned earlier, there are 2 ways a business information technical architect can use to identify the data the business requires. The first approach is to use data flow diagrams. So what is a data flow diagram? According to a Wikipedia reference “A data-flow diagram (DFD) is a graphical representation of the ‘flow’ of data through an information system” (as can be seen in the diagram below) and were, according to Wikipedia, invented by Larry Constantine. The problem with this technique is that it requires all data flows, or transactions to be known before being able to identify all the data elements. This approach requires business operatives to sit through many lengthy sessions as the data can only be clearly defined by way of its usage.



Rationalisation – natural selection

The following resources will be required:

- Facilitator – RA 4
- Conceptual data model
- Prioritised systems
- Transaction diagrams

The second approach is to use a technique called rationalisation, or natural selection. Using this approach, the data modeller will reference the conceptual knowledge model developed by the Ripose architect grade 2, the prioritised systems model developed by the Ripose architect grade 3, as well as any documents available to them. However as the corporate conceptual model provides the data modeller with a hierarchy of entities, and as the systems priorities, provide the focus as to which entities to use, the data modeller or Ripose architect grade 4 is able to facilitate focused sessions with business operatives. During these short (no longer than 30 minute) session, the data modeller will assist the business operatives identify and define the attributes by placing them in their rightful entity. For example when focusing on the entity called a birth certificate the natural attribute named a person's date of birth would be discovered and recorded accordingly. Hence date of birth is an attribute of the birth certificate and is associated with a person through the link to the birth certificate which should have been discovered during the knowledge modelling sessions undertaken by the Ripose architect grade 2 (or at least should have been if the knowledge architect had done their job correctly).



Example of a screen shot from Caspar

Attribute recording workbench



This is an example of a screen shot taken from Caspar – In my introduction I mentioned Caspar – which stands for computer assisted strategic planning and reasoning, the program I wrote to support the Ripose Technique.. It shows the birth certificate entity with the three attributes, namely the primary key (which ensures the uniqueness of each birth certificate) the attribute called date of birth and the foreign key, which links the birth certificate to its appropriate person. As soon as the Ripose Architect grade 4 populates the corporate data model with the attributes, the output, namely the attribute list is ready to be passed on to the next information architect, namely the logical data base designer.



Deliverable of the RA 4

Line Dance Association of Australia

01:07

Entity attribute list

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Entity

Birth Certificate

PK

birth certificate

BIRTH CERTIFICATE KEY ATTRIBUTE

date of birth

The date on which a person was born

FK

person

PERSON KEY ATTRIBUTE

Total Attributes 3

This is an example of a deliverable developed by the Ripose Architect grade 4. Unfortunately due to the constraints of YouTube, the font size I am using may make the reading of this very difficult. However, we run an on line training course for the Ripose Architect grade 4 and provide a number of case studies of knowledge models to help with the identification of the attributes. It can take between 7 and 14 hours to train an Ripose Architect grade 4 and this includes the use of Caspar engine. It should be noted that this deliverable provides the input into the data base design phase and using the corporate conceptual knowledge model, a competent Ripose architect grade 4 should not take more than 2 weeks to fully populate a corporate conceptual knowledge model of between 350 and 500 entities.



Close

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The next lecture you may wish to view will address the responsibilities, inputs, process and outputs of one of the IT Architect (ITA) grades 1 through 6 as well as the 2 Test Architect (TA) grades.

Thank you for viewing this presentation

In closing I would like to thank you for viewing this presentation. The pdf of this presentation is available (for a small fee) should you want to assist us further the aims of Ripose.com and especially Ripose.org. You can find the aims of [ripose.org](#). You can reach me by sending [me an e mail](#). As I mentioned at the start of this presentation, I will be creating presentations covering the responsibilities, the inputs processes and outputs and possibly examples of the output for each of the remaining information architecture grades, namely the information technology architect grades 1 through 6 as well as; the 2 test architect grades. It may take a while for me to complete all the presentations, so please bear with me. If you are eager to pursue a presentation of a grade that I am not yet ready to post, please visit our web site [www.ripose.com](#), select the Quick links drop down menu and select Ripose architects. You can always email me for more information. Once again, thank you for your attention.