ARIS Design Platform

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ARIS Design Platform

Advanced Process Modelling and Administration

Springer

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DEDICATION

For Sally,
who makes this all worthwhile.

Acknowledgements

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Finally I would like to thank Sally for putting up with me for a second year of book writing.

Rob Davis

Contents

Chapter 1 Introduction

This chapter gives an overview of the ARIS Platform and the ARIS products. The structure of the book is described with advice for different reader groups.

1.1 Introduction to the ARIS Platform

The ARIS products are aligned to the Business Process Management (BPM) lifecycle and offered in an integrated software solution grouped into four ARIS Platforms:

- **The Strategy Platform**,
- **The Design Platform**,
- **The Implementation Platform**,
- **The Controlling Platform**.

The system architecture of the ARIS Platform allows globally distributed organisations to set up common scenarios for designing, analysing, and optimising processes, IT, and software architectures.

Web-based products such as *ARIS Business Optimizer*, *ARIS Business Architect*, *ARIS Business Designer*, and *ARIS UML Designer* can access a centrally managed *ARIS Business Server* from anywhere in the world via a three-tier architecture. These products are designed to use utilise low bandwidth connections (e.g. dial-up, ISDN, etc.). Web-based clients can be started directly from within a Web browser or, alternatively, they can be installed as a desktop application manually or by automated software distribution. In both cases, any necessary client updates can be set up and controlled centrally to facilitate the rollout process.

The integrated software solution of the ARIS Platform has two key characteristics:

- Central data repository,
- Common language and semantics.

ARIS is based around a central database for all modelling items (e.g. models, objects, connections, etc.) and all administration information. Everything described, designed and analysed within the different ARIS products is stored in this central data repository. All ARIS clients access the database server via the *ARIS Business Server* and thus work with a common database.

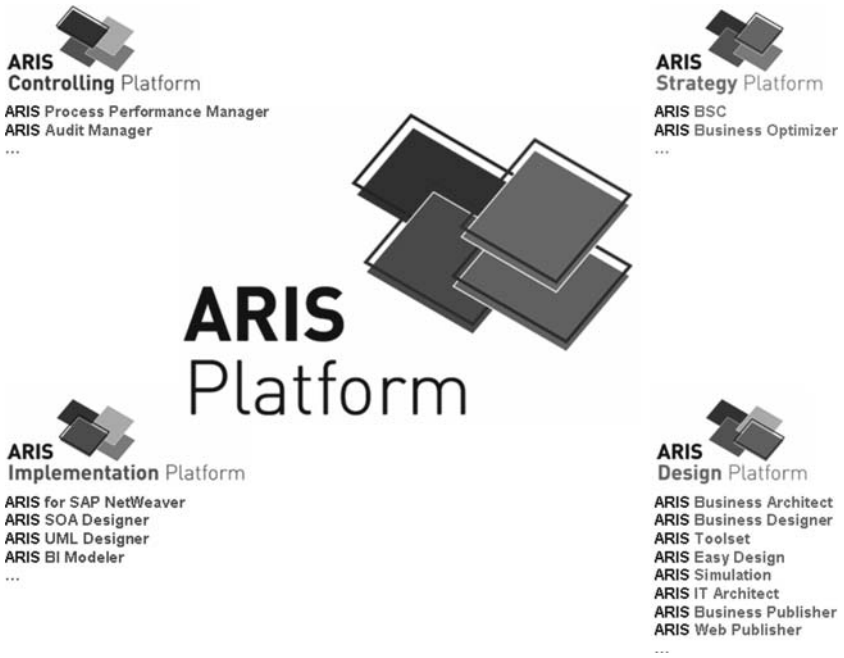

Fig 1.1 ARIS Platform – Major Products

All the ARIS products have been developed by IDS Scheer without the need to integrate any external software not based on the central repository concept. Integration also means everything you model and describe using the ARIS Platform products is based on common language and semantics that can be understand by all users. The semantics of describing process models and enterprise information is based on the underlying concept which gave ARIS its name.

"ARIS – Architecture of Integrated Information Systems"

The ARIS Platform offers a high level of system scalability and availability. For instance, the majority of modellers can use *ARIS Business Designer*, while a smaller number of expert users can provide central administrative functions (e.g. management of access privileges, available reports, conventions/filters, etc.) using *ARIS Business Architect*. It is these expert users that this book is intended for.

1.2 What's in this Book

After the success of my first book on ARIS Toolset:

"Business Process Modelling with ARIS – A Practical Guide",

I teamed up with Eric Bräbender from IDS Scheer to work together on a new book:

"ARIS Design Platform: Getting Started with BPM".

In this book we provided a practical 'how-to' guide to using the *ARIS Design Platform* and gave an introduction to starting out on Business Process Management (BPM) based on ARIS modelling. We covered the basic principles of using *ARIS Business Architect* and *ARIS Business Designer* to design processes and introduced many of the key concepts, models and objects including:

- How to establish BPM with ARIS,
- Background to modelling and the ARIS Method,
- Basic instructions for using *ARIS Business Designer*,
- Selected information on using *ARIS Business Architect*,
- How to structure a business process architecture,
- How to set and use standards,
- Hints and tips on *ARIS Business Architect* and *ARIS Business Designer*.

Following on from that, this latest book complements the *ARIS Design Platform*, updating some material from the original *ARIS Toolset* book while adding new material on topics such as the Matrix Editor, Database Administration and Configuring the ARIS Method. In particular, it covers in detail the following topics aimed at more expert users:

- Issues to consider before starting a modelling project,
- Advanced modelling concepts and tools,
- Database administration and configuration.

This book is not a substitute for attending any of the ARIS training courses offered by IDS Scheer Academies worldwide (which are strongly recommended). However, using the guidance in this book you should be able to use *ARIS Business Architect* effectively in complex modelling situations and be able to administer ARIS to support enterprise-wide modelling projects.

There are several target groups for this book:

- People familiar with *ARIS Business Architect* who wish to use some of the more advanced modelling concepts and tools,
- People who need to manage ARIS modelling projects,
- People who need to Administer ARIS databases for projects and organisations,
- People who need to define and configure the ARIS Method and modelling conventions for their organisation,
- People who wish to use the *ARIS Design Platform* for the development of organisation-wide BPM systems,
- People with experience and knowledge of *ARIS Toolset* or *ARIS Easy Design* who want to migrate to the web-based ARIS products.

For all these groups the book provides a practical 'how-to' guide to what are complex topics, however plenty of space is given to providing lots of hints and tips regarding the practical use of *ARIS Business Architect*.

I have been using ARIS in British Telecommunications plc for more than ten years and was responsible for implementing ARIS in BT. I introduced ARIS, both to process modellers familiar with other tools, and to people with little experience of tools or modelling. My colleagues and I had to work out what standards to define, how to publish them, how to review them and how to overcome natural resistance to change. Although most users had been trained, what they needed above all was an easy-to-understand guide to how to apply the tool for modelling their business.

I have tried to mix detailed advice about how to operate key aspects of *ARIS Business Architect*, along with guidance on how to go about process modelling using ARIS in your organisation and wherever possible I have stuck to the ARIS Method. My approach won't suite everyone, but if you use it as a starting point you can develop your own style and techniques as you progress.

Inevitably, this is *my* pragmatic approach to modelling *your* business in ARIS based on my experience. It is not intended to replace the published information on the ARIS Method or the ARIS product range, the ARIS help files, or any training you may receive from IDS Scheer.

I have described and illustrated *ARIS Business Architect* version 7.02 (as of December 2007). There may be small differences with later versions of ARIS, but nevertheless the basic principles of modelling with *ARIS Business Architect* should remain the same. Where I have indicated 'bugs' or 'limitations' with the current release, these have be reported to IDS Scheer and may well have been fixed by the time you read this book.

I have prepared this book with due care and attention, but can take no responsibility for the consequences of any actions readers take as a result of reading this book. If in doubt, consult IDS Scheer AG.

1.3 How to Use this Book

Unlike the previous book, which was intended be read through from beginning to end, this book is more of a reference manual of the more advanced *ARIS Business Architect* facilities. You should be able to read a chapter on any topic that interests you in isolation. However there is a great deal of interaction between some topics (i.e. Database Administration and User Administration) so you may find yourself having to refer to other chapters to get a full understanding of what you need.

I would not recommend anyone to try to read the book in one go. Using ARIS successfully is based on practice and experience. It is best to read a few chapters and try out the techniques described, moving on to more complex material as you become more familiar and confident.

Depending on your interest you may wish to concentrate on chapters in the following areas:

- **Issues to consider before starting a modelling project:**
  - Chapter 2 – Before You Start Modelling,
  - Chapter 3 – Process Capture and Modelling.
- **Advanced modelling concepts and tools:**
  - Chapter 4 – The Matrix Editor,
  - Chapter 5 – Find and Query,
  - Chapter 6 – Model Generation,
  - Chapter 7 – Modelling in Rows and Columns,
  - Chapter 8 – Modelling Process Variants,
  - Chapter 9 – ARIS Evaluations.
- **Database administration and configuration:**
  - Chapter 10 – Database Administration,
  - Chapter 11 – User Administration,
  - Chapter 12 – Configuring the ARIS Method,
  - Chapter 13 – The Symbol Editor,
  - Chapter 14 – Method Filters and Evaluation Filters,
  - Chapter 15 – Defining and Using Templates,
  - Chapter 16 – Administration Reports,
  - Chapter 17 – Model Verification,
  - Appendix A – ARIS Admintool Commands.

1.4 References

Davis R (2001) Business Process Modelling with ARIS: A Practical Guide, Springer-Verlag, London.

Davis R, Brabänder E (2007) ARIS Design Platform: Getting Started with BPM, Springer-Verlag, London.

1.5 Icons Used in This Book

To draw your intention to hints and tips, and to make you aware of possible problems, I have used the following icons:

Warning – this is a warning symbol. These warnings should not be ignored, otherwise dire effects will be experienced which will influence your work with ARIS. You have been warned so there is no excuse if you go ahead and do so. I take no responsibility for any subsequent loss or damage.

Hint – hints will help you to work more efficiently with *ARIS Business Architect*. Following these hints will speed up your daily work or, at the very least, will allow you to impress your colleagues!

Expert Tip – these tips will give you examples of more detailed, and sometimes more complex, facilities you may wish to try once you have mastered the basics.

FAQ – I have often heard the same questions from different people working with ARIS. I have tried to identify the most common '*Frequently Asked Questions*' and provide you with some answers.

ARIS 7 – this highlights new facilities available in *ARIS Business Architect* that weren't available in ARIS prior to release 7 and new facilities that may be available in release 7.1 due in 2008.

1.6 Conventions Used in this Book

I have described the use of the keyboard and the mouse to operate *ARIS Business Architect* in plain English wherever I can. I have used the English spelling of words like 'reorganise' in the main body of the text, but show the actual spelling and capitalisation used in *ARIS Business Architect* (e.g. US English – "reorganize") in command strings. In order to save space when listing commands, I have used the conventions shown in Table 1.1 and Table 1.2 as shortcuts for complex commands.

Table 1.1 Text Formatting Conventions Used in this Book

Description in Text	Action Required
'*ARIS term*'	Highlighting the use of a specific ARIS term or tool.
Designer Window	Reference to one of the ARIS windows.
"*relationship*"	An ARIS relationship.
`Userinformation`	Text to be entered as shown.
`<Alt+B>`	Keyboard shortcut for a command.
Objectname	The name of an ARIS object, database or model as shown in an example.
Menuitem 1	Item on menu to be selected.
Dialog Box	Name of a dialog box.
Attribute	Name of ARIS attribute in which data can be viewed or entered.
Field	Name of menu field in which data should be entered or an option chosen.
{MenuGroup}	Label for items grouped in a dialog box.

Table 1.2 Command Descriptions Used in this Book

Description in Text	Action Required
Click Button	Hover the mouse over the button on the displayed window and click the left mouse button. The underlined character shows the shortcut for the button (i.e. `Alt+b`).
Select Menuitem	Hover the mouse over the item on the *Main Menu* or pop-up *Right-Click Menu* and click the left mouse button.
Select Menuitem1> Menuitem2	Hover the mouse over item1 on the *Main Menu* (if necessary, click the left mouse button). When a submenu appears click the left mouse button on item2.
Select ***Object***	Hover the mouse over the object and click the left mouse button. The object should appear selected.
Double-Click ***Object***	Hover the mouse over the object and rapidly click the left mouse button twice. This will normally open up a new window.
Select *Tab*	On window bar, select the tab by hovering the mouse over the tab title and clicking the left mouse button.
Right-Click > Menuitem1 [*Dialog Box / Sub Dialog Box*]	With an object already selected, hover the mouse over the selected object and click the right mouse button. When a floating menu appears, hover the mouse over item1 on the menu and click the left mouse button. When the dialog box appears, select the sub-dialog box from the list on the left-hand side of the dialog box.
Right-Click > Menuitem1 [*Dialog Box* {fieldname}] enter `givenvalue`	Enter the value given into the text field called fieldname in the dialog box.

Chapter 2 Before You Start Modelling

This chapter looks at the issues you need to consider before starting to model with ARIS. Of particular importance is the need to define your objectives and viewpoint.

2.1 Objectives for Modelling

Before starting any modelling project it is important to be clear about why you are modelling. It is surprising how many people start modelling without any idea of what the model is for, who will use it, what type of information is required and in what format the output will be needed. Remember, a process model is not a replica of the real world; it is merely a representation – a viewpoint. It is essential the viewpoint is tailored for its intended use and the people who will view it. Different viewpoints may be needed for different purposes. One of the key strengths of ARIS is its ability to produce different viewpoints based on common underlying data. Some views can be produced automatically (e.g. using Model Generation), while others are constructed manually.

The objectives of your modelling may change during the life of the project. This may be due to changing requirements, discovery of new opportunities or planned enhancement of the model. Do not assume that models created to meet one set of objectives will be suitable for other objectives. Sometimes models developed with one viewpoint may even conflict with models produced for other purposes. For instance, a high-level abstract model of the business may oversimplify interactions between business units and appear to conflict with what actually goes on. Ideally, we would like to create a set of hierarchical models which provide increasing levels of detail about our business, but sometimes we must be aware that a high-level abstract model will not 'cleanly' decompose into more detailed models because its viewpoint is very different.

It is strongly recommend you explicitly write down your objectives, agree them with your stakeholders and document them in the database (you can use the *Objectives Diagram*). Below is a list of some of the key questions you should ask yourself:

- Why are you modelling?
- What are you modelling?
- Who are you modelling?
- When are you modelling?

2.1.1 Why Are You Modelling?

What is the main purpose of the modelling work? Table 2.1 shows some possible reasons.

Table 2.1 Why Are You Modelling?

Reasons for Modelling	Aspects to Consider
Business Planning	Concentrate on business objectives, customer needs and metrics. Use *Value-added chain diagrams*, *Balanced Scorecard Models*. Look at the high-level business functional breakdown.
Business Restructuring	Concentrate on the organisations carrying out tasks and the hand-offs between them. Look at the value added by each task. Use *EPC (row display)* to provide organisational swim-lane view.
Baseline the Business	Usually impractical in all but the simplest and static businesses. It takes too much time and the world moves on in the meantime. Concentrate instead on key processes that need to change or where you already know there are problems. "Don't model the Universe."
Operational Process Design	Concentrate on getting the flow of the process correct. Use *EPCs* and *FADs*. Identify the key decisions being made. Look for failure paths as well as the normal process flow. Identify inputs and outputs for all tasks. Identify key documents and sources of information.
Systems Development	Requires very detailed logic flow to be modelled. Exception handling is very important. Detailed data models, data flow and systems interfaces should be modelled.

2.1.2 What Are You Modelling?

You may be modelling a process, an organisation, the data or the many other aspects of an organisation that ARIS can represent. Normally you will be modelling several of these. However you should decide the main viewpoint from which you will be modelling. Typical viewpoints are shown in Table 2.2.

In the middle of a process capture or design exercise it is very easy to become confused about the viewpoint you are using. The worst offence is to mix up viewpoints as this leads to confusing models that omit or gloss over key elements. Particular care has to be taken when a process 'hands-off' to another organisational unit. Do you follow the process into the other unit or ignore the detail of what happens and wait for that unit's response?

Table 2.2 What Are You Modelling?

Modelling Viewpoint	Approach
Follow a business entity	Possibly the easiest approach to take. Select a key business item (e.g. a customer order) and follow it through the process. See what actions are performed on it, who handles it and where it ends up. This is also useful for testing other model viewpoints.
Model the business	Modelling what the whole business does is one of the hardest approaches. It can normally only be done at high levels of abstraction and it is often difficult to identify the triggers and outcomes.
Model a business function	The most common approach is to model a particular business function (e.g. order-handling, fault-reporting, etc). This will normally involve many different organisational units. Modelling organisational hand-offs will be essential. Can lead to very 'company oriented' models that don't focus on the customer.
Model a business process	The most useful approach (but not often done) is to model the end-to-end processes a business performs. Particularly valuable when done from a customer perspective. Better than the business function approach as it helps ensure the whole process fits together to deliver a good customer experience. Helps identify failure modes.
Model an organisation	Another common approach is to model what an organisation does. This may not necessarily be the most useful approach. Organisations change over time and the range of tasks an organisation performs may have evolved historically.
Model an organisational unit	This model just focuses on what a single unit does. The model shows the interfaces with other units, but doesn't worry about how they accomplish their tasks. Provides a very focused model, but can over-simplify what is going on. It may also encourage an out-of-sight, out-of-mind approach, which doesn't spot gaps and failure points in the end-to-end process.

The choice of where you follow the process depends on the viewpoint you are taking. If you are modelling the end-to-end process, then you must follow the process wherever it goes. If you are just modelling the processes operated by a particular unit, then you do not. Keeping track of your modelling objectives and viewpoint is essential. It is worth pausing occasionally, standing back from your model and checking you are still on the right path.

2.1.3 Who Are You Modelling?

Related to the choice of viewpoint, you also need to think about what level of organisation you are considering, as shown in Table 2.3.

Table 2.3 Who Are You Modelling?

Modelling Viewpoint	Things to Consider
Business unit	Business units (e.g. Sales, Manufacture, etc.) provide a pragmatic modelling abstraction. They are well understood and have major significance to the business. They do not change frequently, but when they do they have a significant impact on business processes.
Line management team	To be avoided at all costs. Have very little business significance, change frequently and have little impact on processes when they do.
Operational centre	A very useful modelling abstraction. Normally have a very significant impact on process, change infrequently and fit within business units. Consider whether it is sufficient just to nominate the operational centre that does a task (e.g. Sales Office) or whether it is necessary to be more explicit about the roles within the centre (e.g. Sales Office Customer Service Advisor).
Management layer	Many business sectors have functional layers. For instance in Telecommunications we talk of Service Management, Network Management, etc. They can provide a useful level of abstraction, but can be problematic because often there is no clear definition of what they mean. Useful when modelling 'to-be' scenarios, but business units are better for 'as-is' models.
Roles	The lowest practical level of organisational unit. If used in process models you should make sure they are unique. The role 'Customer Service Advisor' or 'Planner' when attached to a task doesn't convey very much as many operational centres will have such roles. You can model their parentage in an *Organizational chart*, but it is better to make the names unique and meaningful (e.g. Sales Office – Customer Service Advisor).

2.1.4 When Are You Modelling?

It is important to consider both the time-frame within which you are modelling and also the granularity of time that is important to you (Table 2.4).

Table 2.4 When Are You Modelling?

Timeframe	Things to Consider
'as-is'	The process as it is now. But be careful to define what 'now' means. Does it mean what should be happening now, as documented now or as actually operated now? If you know the documented process is not being followed and a 'work-around' is being used, you need to decide which you are going to model. If changes are being made while you are capturing the process, will you include them or freeze the model at a certain point in time?
'to-be'	How far in the future are you considering? Are you starting from scratch with a new business model or re-engineering what you already have? How radical can you be? What constraints have you got?
Time-scale	Complex processes can sometimes complete within seconds, while simple processes can often last for weeks. What time-frame is important to your model?
Delays	Are potential delays in the process important to you? Populating Function attributes with process times may not make delays explicit to people viewing the model. Consider explicitly modelling delays as additional steps in the process if you want to draw attention to them.
Simulation	Simulation can be used to analyse process delays and optimise performance. A very powerful tool, but requires good quality models and good quality data. Models must conform to certain rules. Consider seeking advice from specialist simulation experts.

Again it is important not to get confused about the time-frame. If you have decided to model the process as it is currently documented, don't get tempted into altering things you know are wrong. If you want to capture errors and issues, create a separate model. If you are modelling a future 'to-be' process, then think about how much freedom you really have. There is not much point modelling a radical new world at the high-level and then trying to decompose it into detailed processes constrained by old ways of working. Think about the ground rules before you start.

2.2 Modelling Requirements

We will have already captured some requirements by considering our modelling objectives and thinking through the viewpoints we wish to take. However, we need to think further about how our models are to be used. For instance:

- Who are our customers for the models?
- What are they expecting the models to tell them?
- Do they want to see the models or just the results?
- How are they going to view the models?
- How much time will they spend viewing the models?
- How widely will models be promulgated?
- Will different groups of people require different views?
- Will they use ARIS themselves?
- Will they want printed reports?
- Is this a one-off exercise or will the models be maintained?
- How will models be validated?
- Will the models be used for system, workflow or software design?
- Will the models be used for analysis or BPR?
- Is simulation required?

These are important questions and you may find it more difficult than you expect to find the answers; it is quite common for people to ask for models to be built without any clear idea of what they are going to do with them. You may go through the objectives-setting exercise described above and quite clearly define what models are required, but still be no wiser about what the customers plan to do with them. This is often because people are tempted to believe that, simply by having a process (or business) model, this will solve all their problems and the business will automatically operate as described in the model.

Of course it is not fair to blame the customer; the onus is on process modellers to work with customers to 'tease' out exactly what the models are for and to suggest innovative ways in which the models can be used. However, don't take at face value what the customer initially asks for. A good example is the use of ARIS Reports to generate printed documents. Business teams often start by stating a key requirement is that ARIS should automatically generate printed documents in the same format as they currently use. When asked why, typically they reply:

- Senior managers only want documents,
- Operational people wouldn't understand the ARIS models,
- ARIS models are too big,
- People needed to read the documents when out of the office.