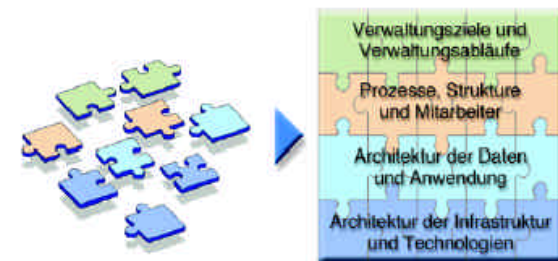# Introducing Architecture into the North Rhine-Westfalia State Government

IT-Architecture Model

A common initiative of the Regional Administrators and the Ministry of Home Affairs of the State of North Rhine-Westphalia (A Federal State in Germany)

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North Rhine-Westfalia is a federal State in Germany.
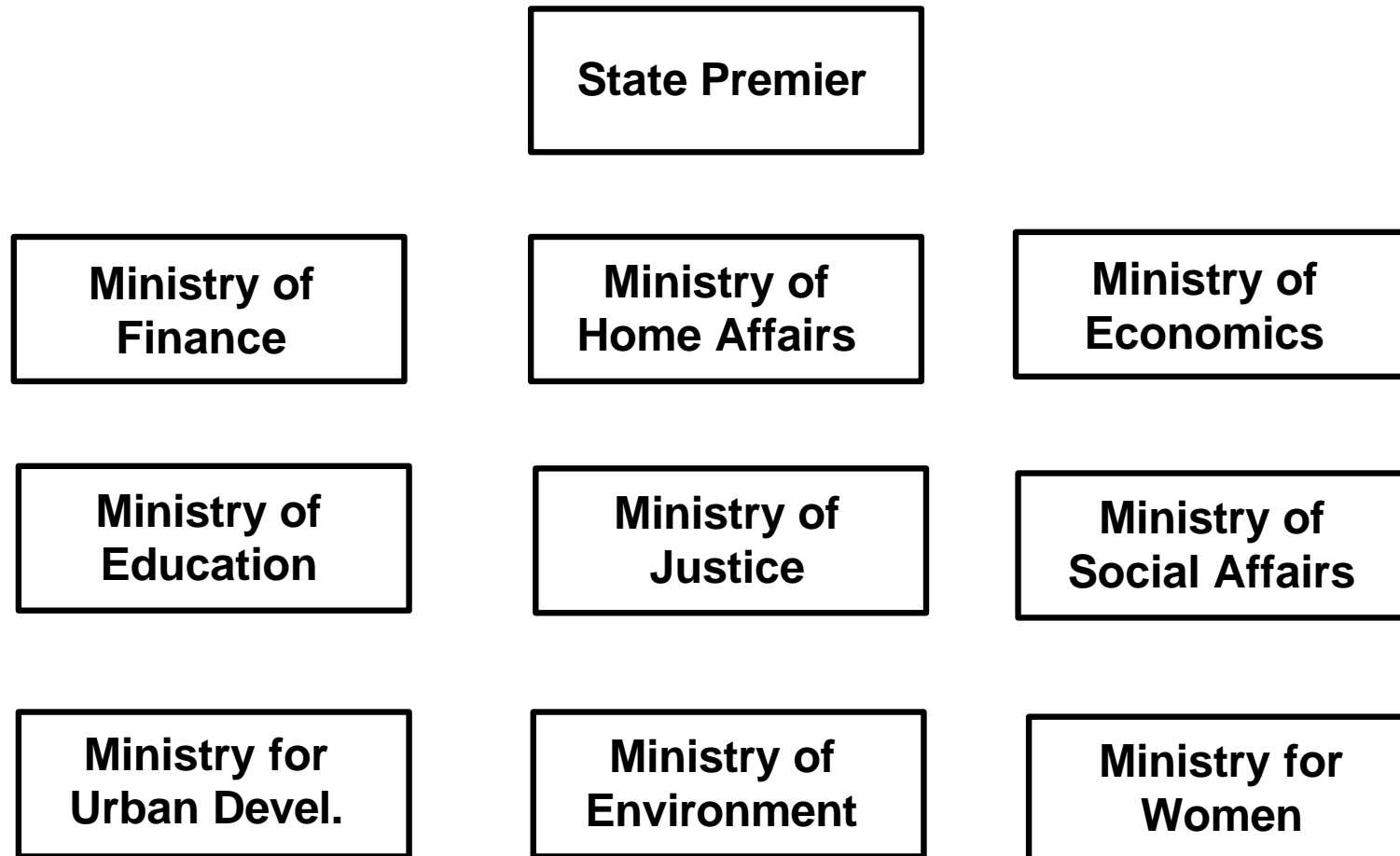
Federal Republic of Germany*

- **82M People**

- **357k km²**

- **16 states and autonomous Cities**

North Rhine-Westfalia

- **18M People** (with about 22% of the total population - the most people)

- **34k km²** (about 10 % of Germany)

- **463.963M EUR gross domestic product** (in 2002)

- **5 Regional Administrators**

- **371.729 employees (full and part time) in the federal Government**

*
31.12.2001 Statistisches Bundesamt Germany

LDS NRW / October 2002

The North Rhine-Westfalia State Government

	State Premier	
Ministry of Finance	**Ministry of Home Affairs**	**Ministry of Economics**
Ministry of Education	**Ministry of Justice**	**Ministry of Social Affairs**
Ministry for Urban Devel.	**Ministry of Environment**	**Ministry for Women**

Every Ministry has its own IT-Infrastructure as well as the agencies ranging beneath them (indicated by the same colours)

Top Level Agencies
(Ministeries)

Middle Level
Agencies

Lower Level Agencies
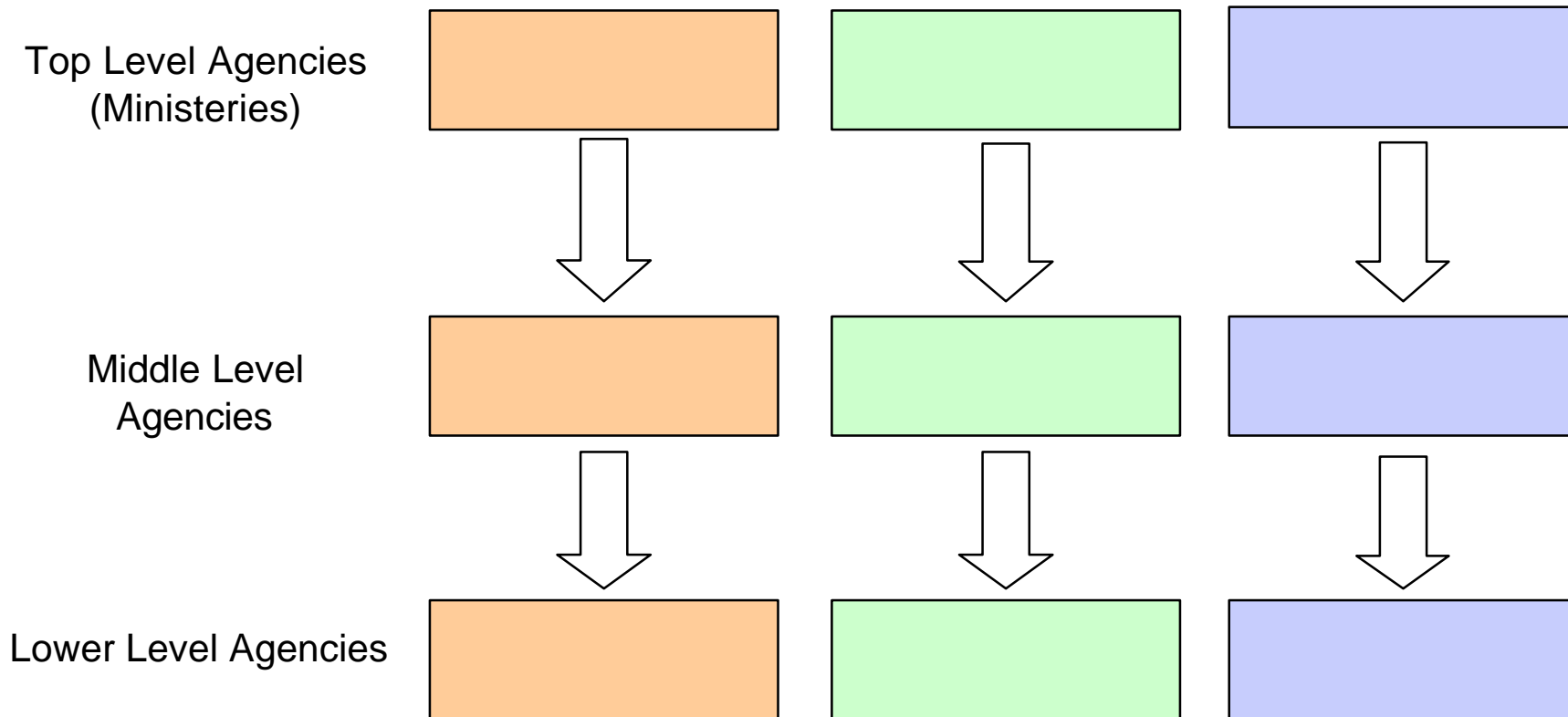
Most Middle Level Agencies are integrated into five Regional Administrators (coordinated by Ministry of Home Affairs)

Top Level Agencies
(Ministeries)

| Economics | Education | Urban Development |

Middle Level
Agencies

Regional Administrators

Lower Level Agencies

| Economics | Education | Urban Development |
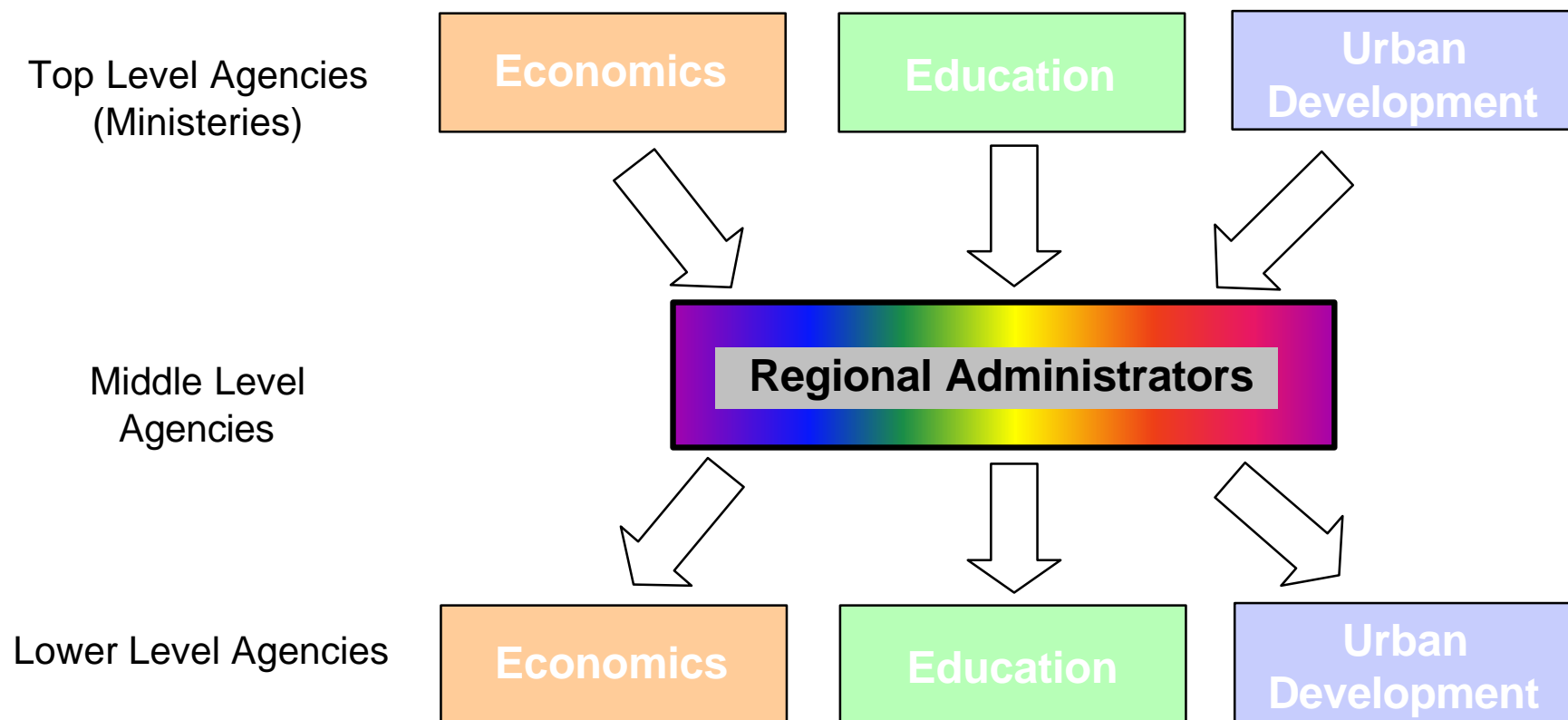
Ministry of Home Affairs and Regional Administrators must meet numerous requirements and challenges

- The special situation of the Regional Administrators regarding the supervision and technical control requires the balance of the **various interests of the departments**, the Ministry of Home Affairs and the Regional Administrators.

- Social changes lead to the implementation of new services resulting in changing and **new requirements** for the administration.

- The tight budget situation requires cost savings resulting in **short resources**.

- The public contract of the administration includes **specific requirements** regarding availability, security and usability.

This results in the implementation of specific and duplicate siloed solutions developed by the IT units.

Project Mission: Common Architecture Model for the efficient use of existing resources and for identification of optimizational potential

Up to March 2004:

- **specification of a common IT architecture** in order to describe the business, the data, applications and infrastructure
- **documentation** of the architecture specified
- **recommendations** for the Regional Governments and the Lower Level Agencies
- generation of a **roadmap** for necessary initiatives including a time schedule
- definition of the further approach for the task force IT Architectural Model (**Governance**).

Long term objectives:

- An open and general documentation of the architecture
- Standardization of components and basic building blocks
- Specification of guidelines and standards to the make the IT more effective

Success Factors

- Integration of experts from the Regional Administrators and the Ministry of the Interior

- Implementation of a sound methodology (The Open Group Architectural Framework/TOGAF)

- External facilitation by IBM Business Consulting Services in order to integrate competency and experience on comprehensive solutions for business and IT architectures into the project.

What TOGAF 8 provides; Why TOGAF

- A Method (resp. a method framework) that explains Enterprise Architecture as a whole (Business and IT)

- Vendor-neutral methodology

- A methodology that explicitly defines separation between the Architectural and Solution building blocks.

- Architecture Development Method (ADM) with some step by step recommendations and a lot of specific information and method references

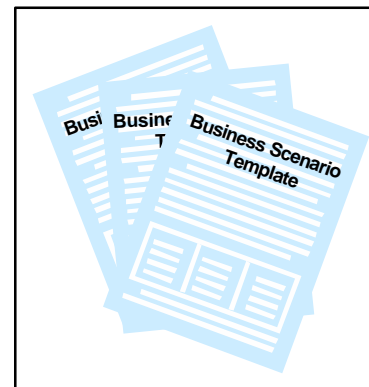➢Finally the Ministry of Home Affairs is in the Open Group Architecture Forum since a long time – so TOGAF was known

The integration of experts of the Regional Administrators and Ministry of Home Affairs necessitated the training in Enterprise Architecture modelling
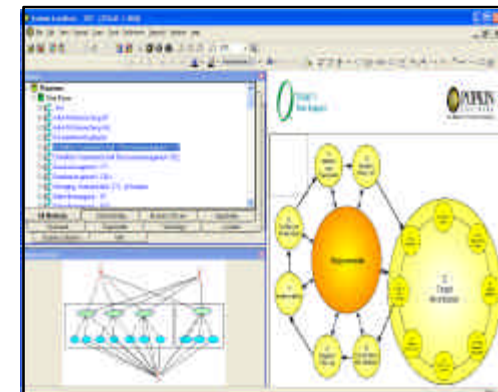

TOGAF
Method Education
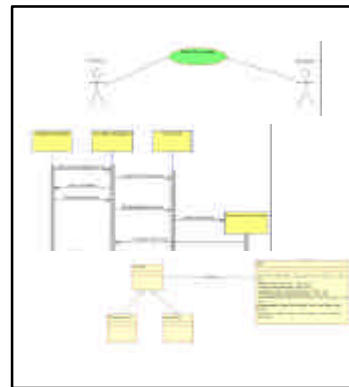
UML
Method Education

Specific guidance
Workshops

Tool for documentation
End User Training

Trained architecture team consisting of subject experts of the Regional Governments and the Ministry of Home Affairs

-Strengthening of knowledge in the use of modern methods
-Reusability for other projects
-Intensive communication and exchange of experience in the team

Current Status of the initiative

Architecture vision and business architecture are defined and documented. In the next step IT architectures have to be worked out.
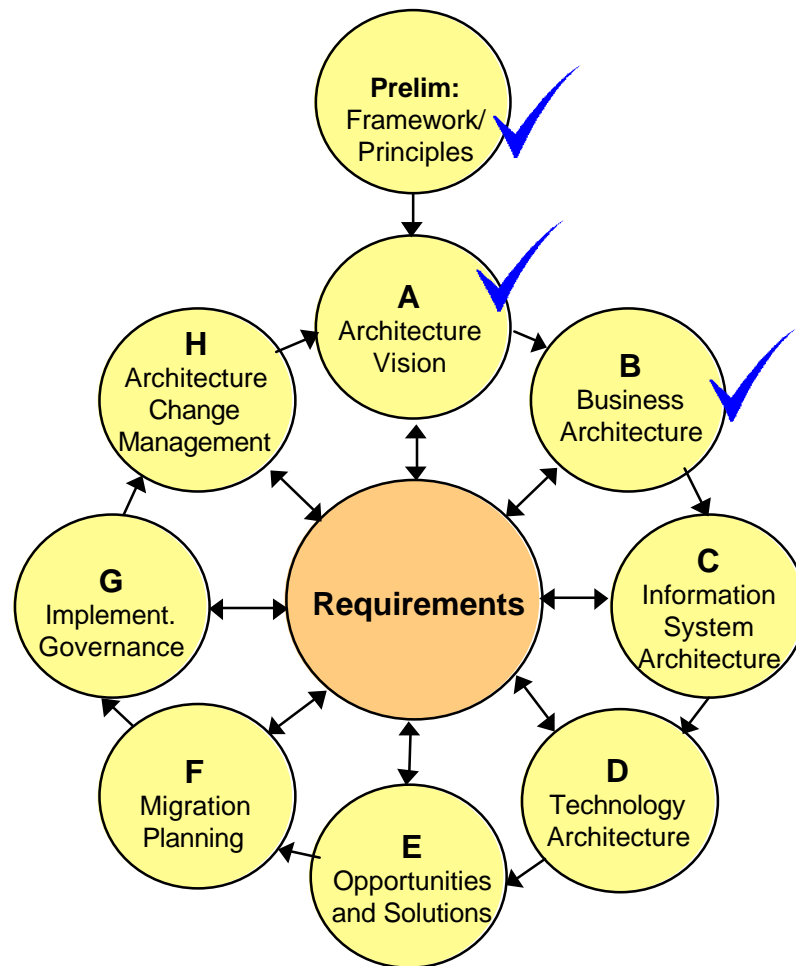
Preparation
✓ Trainings (UML, TOGAF, tool)
✓ Purchase of external support
✓ Team formation and project start
✓ Specifications of the target criteria and framework conditions

Architecture Vision
✓ Identification of strategic context
✓ Definition of the strategic principles
✓ Description of business scenarios
✓ Architecture Vision

Identification of Business Architecture
✓ Services (Products)
✓ Functions
✓ Information Model

General survey of some work results

Samples for:

- identified and described scenarios
- identified and described fundamental principles
- established common wording for the services
- identified key functions

What TOGAF does not provide

- ADM provides general method guidance, but no useful description of the objects to be produced to describe a consistent model

- a consistent and unambiguous definition of used terms (on different abstraction levels)

- guidance and examples to identify the right level of abstraction

- Tools to use the method

- A short and useful overview for experienced practitioners

We missed consistent Work Products, Work Product Descriptions and Dependency Diagrams

Lessons learned (up to now) 1/2

- TOGAF isn't a cookbook, good experience is necessary, the usage of other methodical references is useful (we used the IBM EA-Method)

- practitioners need to think on an abstract level

- fast pace and show of results is necessary

- Marketing and communication of the project targets and results (e.g. flyer)

- Specific generation of Quick Win– (It's hard on the chosen abstract level within a consistent methodology)

Lessons learned (up to now) 2/2

➢ Up to now most of the value is in the established communication and common understanding

➢ The abstract approach shows the high reusability of function-related components in an astonishing way

➢ The key architecture relevant functions are independent of politics and organizational structures

➢ Politics is needed to setup the project and implement the initiatives

Many thanks for your interest.