Drive Results.

Regulatory Compliance in Agile Environments

Anders Ekman
Principal Consultant
anders.ekman@celeris.se

IBM

RUC2014
Rational User Conference

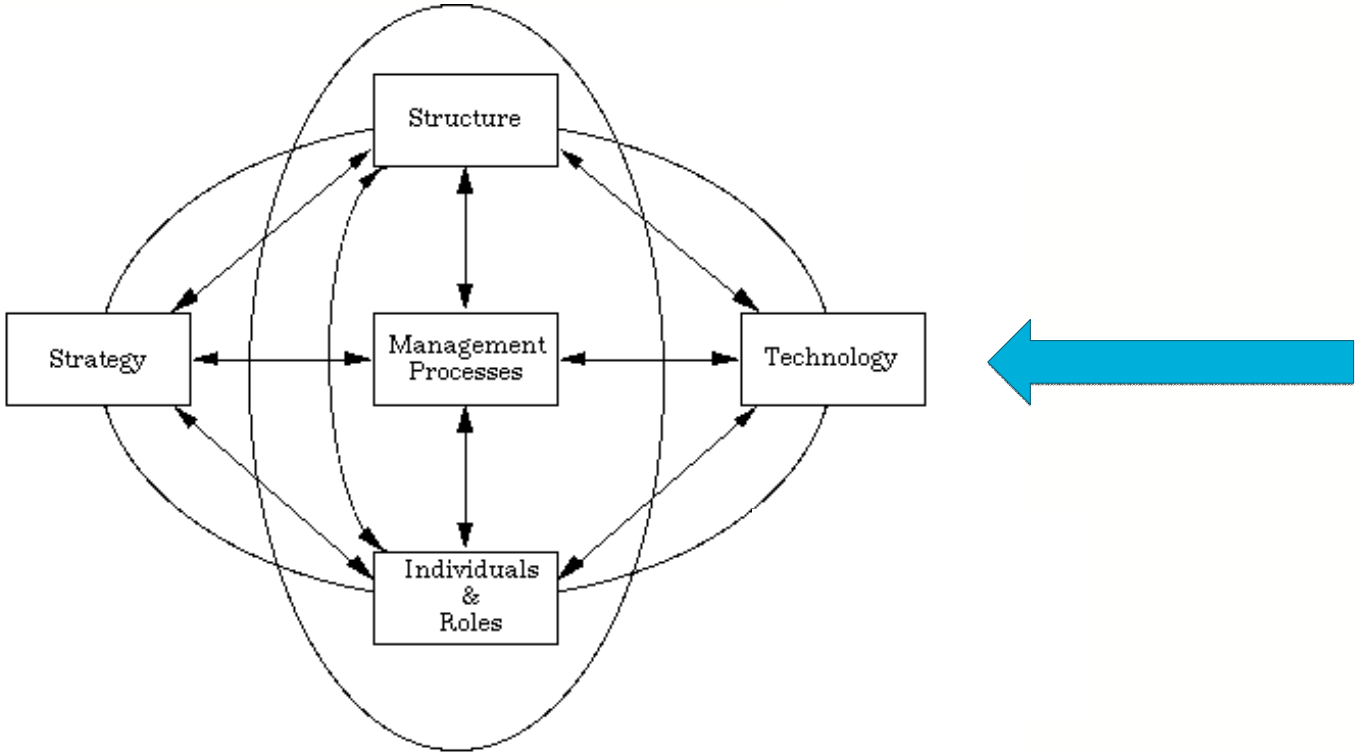
Introduction

- Increasing regulatory complexity
- Demand for productivity gains
- How cope?

Organization of Presentation

- Enterprise Agility
- Regulatory Compliance
- A Banking Example
- Summary and Conclusions
- References

Enterprise Agility – Interplay of Five Elements



[Scott-Morton 1991, Ekman 2007]

Enterprise Agility – Multi-Level Agile Capabilities

1. **Individual Level**
2. **Team Level**
3. **Organisational Level**
4. **Inter-Organisational Level**

Regulatory Compliance

- **Business Process compliance**
  - Financial Risk Management
  - Segregation of Duties
  - Client Advisory

- **Technology compliance**
  - Static aspects (interfaces, components, security, …)
  - Dynamic aspects (performance, fault modes, safety, …)
  - Miscellaneous aspects (documentation, sustainability, …)

Financial compliance within the Banking Industry

- Internationalization of banking requires global regulatory frameworks
- Multiple stakeholders / national priorities
- Evolutionary development of banking regulation
- Regulation prone to change at late stage
- Ever-increasing level of detail in report templates
- Increased frequency and speed of reporting

→Data-intense reporting solutions

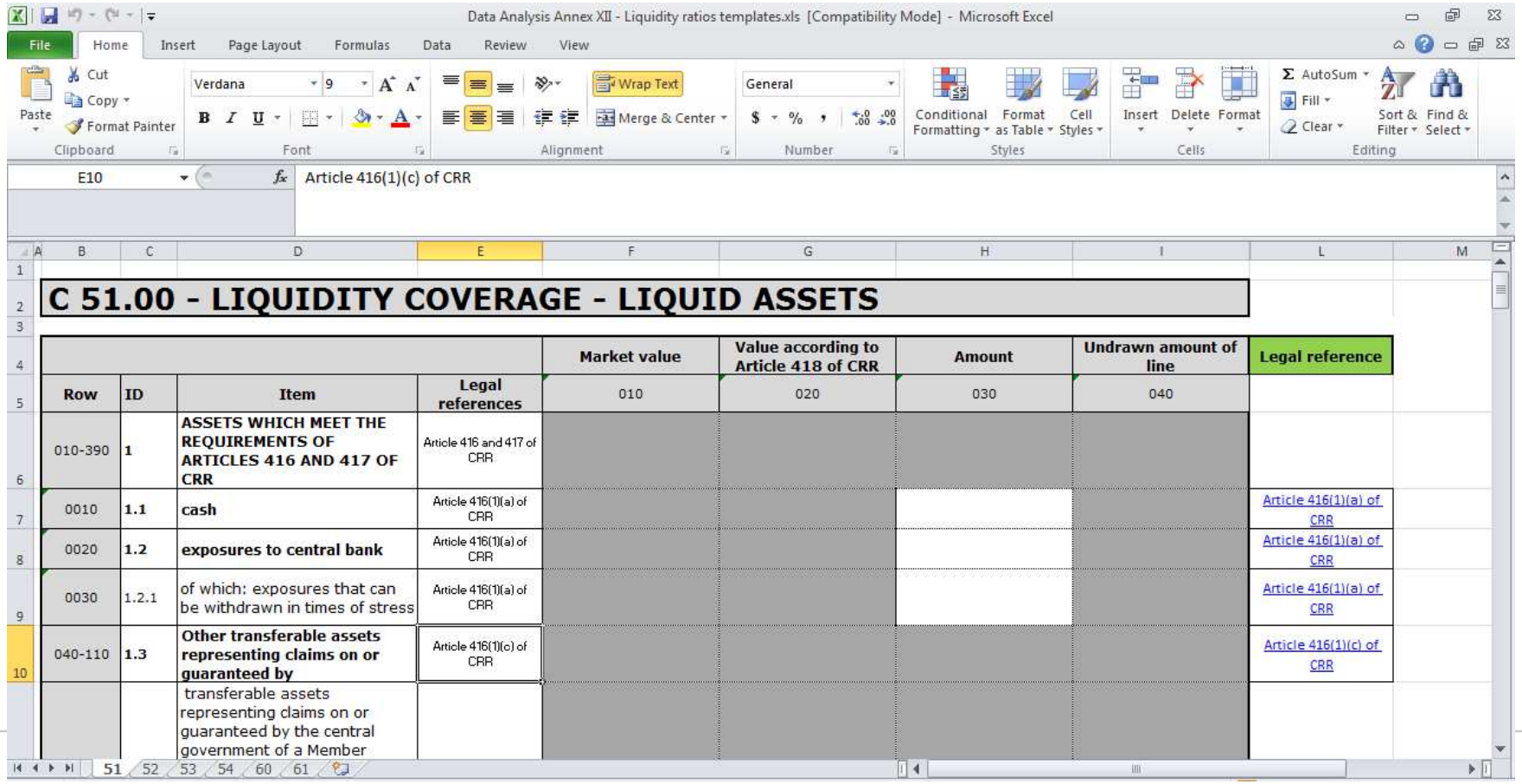
Banking Example (Regulatory Reporting Project)

- **Objective**
  - Develop a system for reporting of Financial Risk Exposure (Basel III)
- **Process**
  - Agile development (2-week sprints) within scaled-down RUP framework
  - Recurring retrospects / lessons learned
- **Tools**
  - SCRUM board
  - IBM Rational RequisitePro (requirements)
  - HP Quality Center (defects and change requests)
  - MS Team Foundation Server (source code)
- **Team**
  - Cross-functional team of business and IT experts

Regulatory Reporting Project – Data Analysis Planning

1. **Establish environment** for analysis of regulatory requirements and development of reporting solutions
   (team, tools, templates, change management, governance, ...)
2. **Download regulations** from regulatory bodies (European Banking Authority, Finansinspektion, …) and convert these to desired format (e.g., MS Word)
3. **Download report templates** from regulatory bodies (European Banking Authority, Finansinspektion, …) and convert these to desired format (e.g., MS Excel)
4. **Establish traceability** between report cells and regulatory articles

Establish Traceability between Report Cells and Regulatory Articles



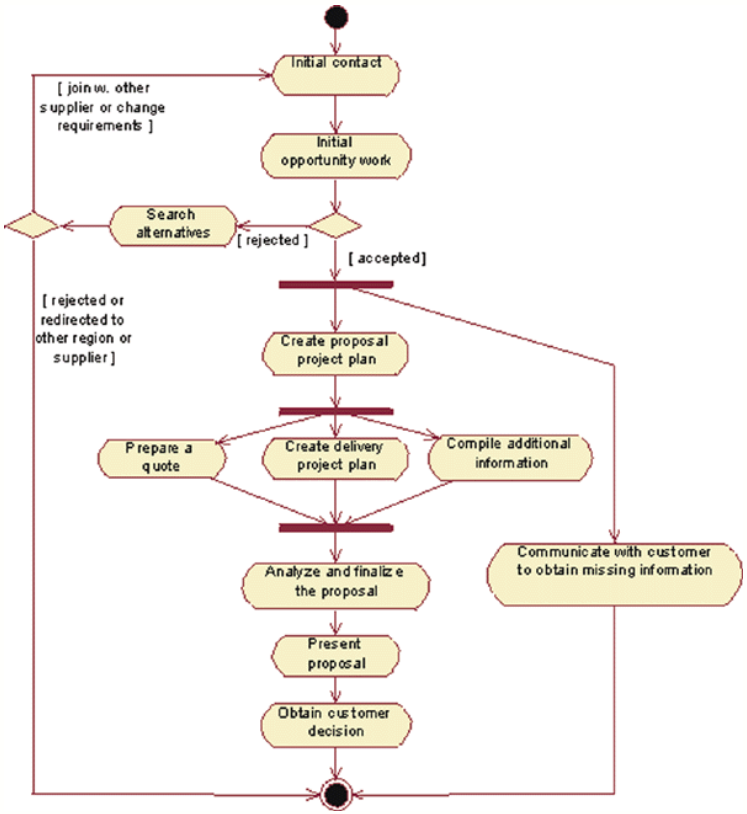
Regulatory Reporting Project – Data Analysis Execution

5. **Schedule workshop series** with stakeholders from business (Finance, Treasury, Risk, …) and IT (System Architect, Data Architect, Developers, …)
6. **At each workshop,** review individual report cells with the aim to identify:
    1. The system (if any) holding the data needed to populate the report cell. Record data gaps as needed.
    2. Regulatory articles that relate to the report cell and assign responsibility for defining relevant business rule logic.
    3. Key terms (to be included in the information model / data model)
7. **Define business rules**

Define Business Rules – How to express Business Rules?

1. Natural language
2. Unified Modeling Language (UML) diagrams
3. Extended Bachus Nauer Form (EBNF) Business Rule templates
4. Natural language with well-defined terms

2. Unified Modeling Language (UML)



[ibm.com/developerworks]

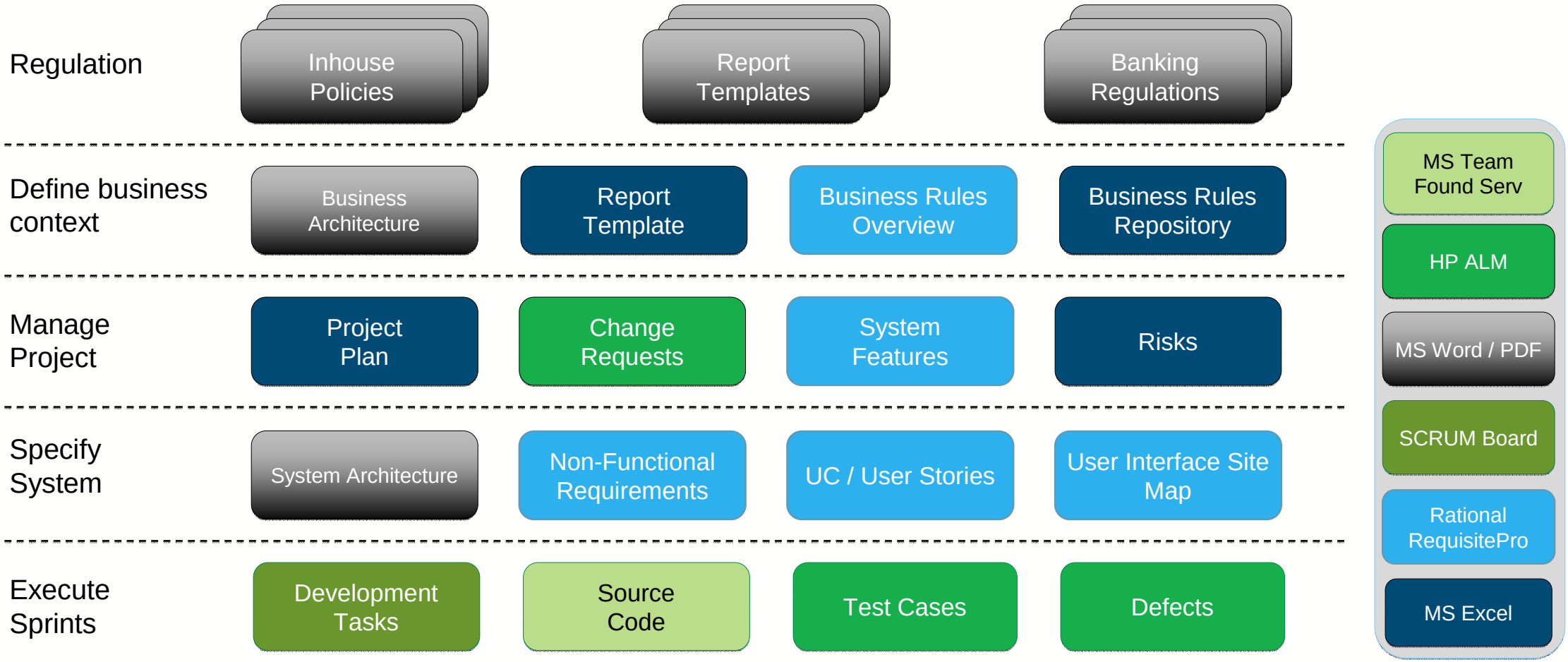
3. Business Rule Templates (EBNF)

- **Customer** has **Customer Identifier** **(**Fact**)**
- **Customer's Identifier** is *unique* (Constraints)
- IF **Customer's Credit limit** is greater than **Customer's Order estimate** THEN **Customer's Order state** = *accepted*. (Inference rule)
- IF **Customer's Credit limit** is less than **Customer's Order estimate** THEN make report about **Customer's Order limit.** (Action rule)

4. Natural Language with Keywords

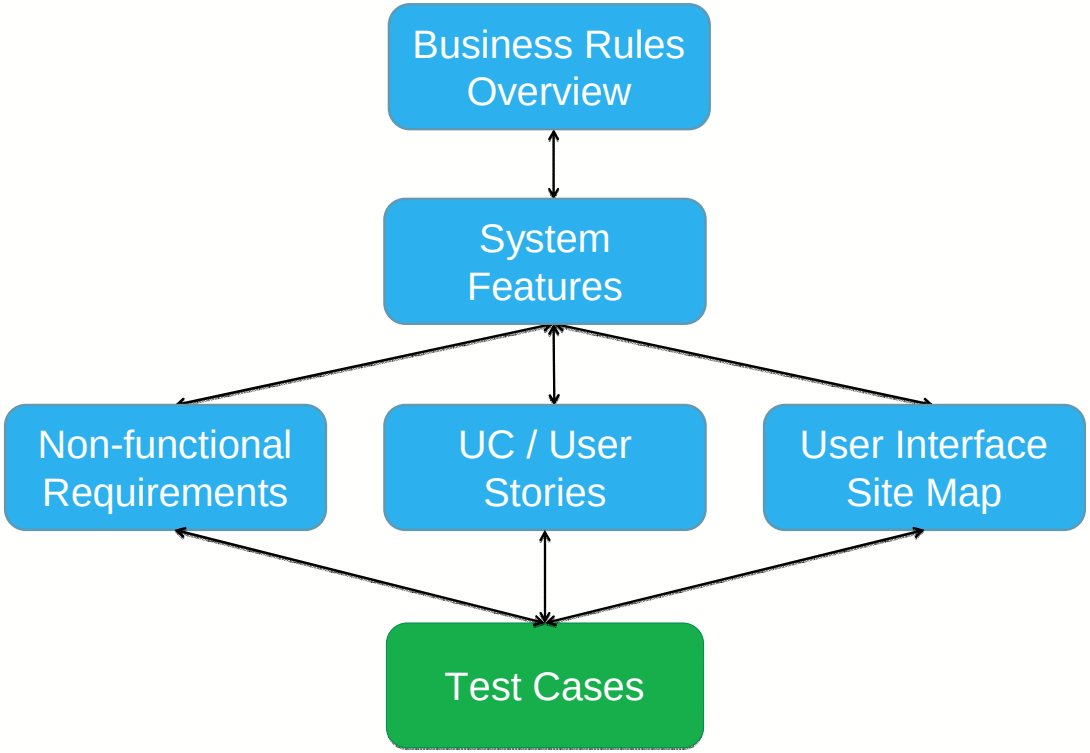
- **Customer** has **Customer Identifier** **(**Fact**)**
- **Customer's Identifier** is *unique* (Constraints)
- IF **Customer's Credit limit** is greater than **Customer's Order estimate** THEN **Customer's Order state** = *accepted*. (Inference rule)
- IF **Customer's Credit limit** is less than **Customer's Order estimate** THEN make report about **Customer's Order limit.** (Action rule)

Regulatory Reporting Project Environment



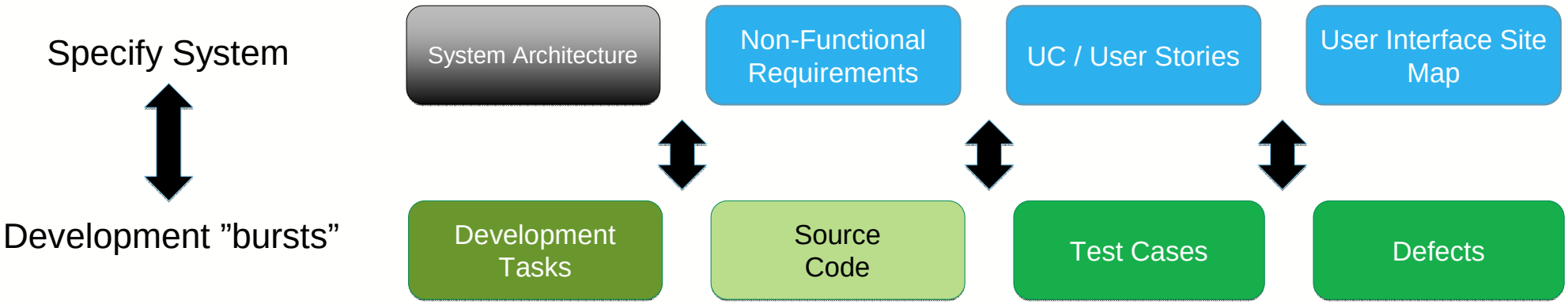
Requirements Management with RequisitePro

- **The use of RequisitePro**
  - Requirements Traceability
  - Requirements Versioning
  - Requirements Baselines
- **Strengths**
  - MS Word Interface
  - Time to productivity
- **Weaknesses**
  - Stability
  - Parallel Development
  - …



Project Summary and Conclusions

- SCRUM boards and development tools necessary but not sufficient conditions for productivity
- Build a nimble project culture, reflect and learn as you go
- Be pragmatic on process, tools and techniques
- Specify for communication, develop with reuse in mind
- Complex regulatory reporting solutions benefits from ”2-stroke development setup”



General Summary and Conclusions

- High-productivity / high-velocity environments commonly involve lightweight techniques
- Banking compliance not only requires control, it also requires speed → Agile Compliance Management
- Process and tools must support speed and control
  - Collaboration / Parallel Development
  - Tool-Chain Integration (e.g., OSLC)
  - Platform-Independence

About Celeris

- Spin-off from Adocus AB
- Requirements Management process and tool experts
  - DOORS Classic-based success story from Elekta (2012)
  - Large-scale implementation of Rational Requirements Composer / DOORS NG at Trafikverket (2013 – 2014)
  - Configuration and implementation of compliance management solutions for banking
- Further information: Celeris booth in the Partner Exhibition Hall
  - Roland Johansson
  - Sam Lund
  - Anders Ekman
- Contact details
  - anders.ekman@celeris.se
  - +46 736 500 115

References

i. Breu, K., Hemingway, C. J., Strathern, M., & Bridger, D. 2001. *Workforce agility: The new employee strategy for the knowledge economy*. Journal of Information Technology, 17: 21-31.

ii. Christopher, M. 2000. *The Agile Supply Chain: Competing in Volatile Markets.* Industrial Marketing Management, 29: 37-44.

iii. Ekman, A. (2006) *Industry patterns of agility – a study of the role of IS/IT as an antecedent of agility within European organisations*, Diss. WBS0260309, Warwick Business School, University of Warwick.

iv. Ekman A., *Industry Patterns of agility: a study of the role of Information Systems and Information Technology as an antecedent of strategic agility within European organizations*, Int. J Agile Systems and Management, Vol 2, No. 4, 2007

v. Kumar, A., & Motwani, J. 1995. *A methodology for assessing time-based competitive advantage of manufacturing firms*. International Journal of Operations & Production Management, 15 (2): 36-53.

vi. Lund S., *Semi-automated Risk Analysis for MedTech - A DOORS-based system safety risk analysis framework at Elekta Sweden*, Rational Innovate 2013

vii. Scott Morton, M.S. (1991) *Information Technology and Organizational Transformation*, Oxford University Press.

viii. Skersys, T., Pečiulis V, Simutis, R., *Business Rules Specification using natural language-based templates*, 2008. 14th International Conference on Information and Software Technologies.

ix. Yusuf, Y., Gunasekaran, A., Adeleye, E., & Sivayoganathan, K. 2004. *Agile supply chain capabilities: Determinants of competitive objectives*. European Journal of Operational Research, 159: 379-392.

Drive Results.

Questions?

IBM

RUC2014
Rational User Conference