Tool Support for Federated EA Model Management – An Industrial Case Study

Master's Thesis: Introductory Presentation; 9.12.2013

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Agenda

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1. Motivation
2. Context of this Work
3. Research Methodology and Questions
4. Challenge of Real-World Data
5. Demonstration of ModelGlue Functionality
6. Conclusion and Outlook

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Motivation

Current problems in EA model maintenance:

EA documentation is still being done manually…

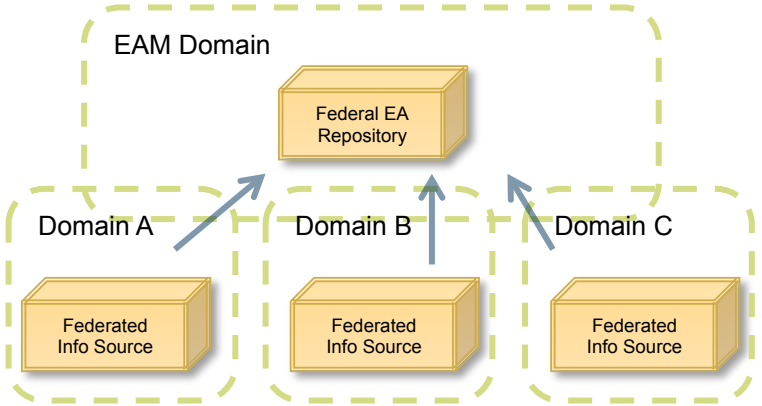
…and thus costly, resulting in models of low quality.

Type of collection	% of all
Manually from applications/databases	76.00%
Manually via interviews	68.00%
Manually modeled in workshops	52.80%
Manually via questionnaires	36.80%
Partially collected automatically	35.20%

Challenge	% of all
Huge data collection effort	55.00%
Low EA model data quality	55.00%
Insufficient tool support	34.29%
…	

Goal: High quality of data, up-to-date information, little collection effort

Retrieve reliable data basis from federated, autonomous information sources



[Ro13a]

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Research History

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Problem Domain: EA Documentation

Survey by Grunow et. al. [Gr12]: Data quality for automated EA documentation

Buschle et. al. [Bu12]: Coverage to which productive data can be used for EA documentation

Survey by Hauder et. al. [HMR12]: Challenges for automated EA documentation

2012

2013

Survey by Farwick et. al. [Fa13]: Appropriateness of information sources for EA documentation

Survey by Roth et. al. [Ro13a]: Current practices in EA documentation

Technical Fundament: Hybrids and Visualisation Framework

PhD Thesis Neubert [Ne12]: Concept and implementation of Hybrid Wikis

Schaub et. al. [SMR12]: Framework for interactive EAM visualisations

Conflicts and Conflict Resolution

[Ro13c], [Ha13e]: Conflict Resolution of Models for Automated EA Documentation

[Ro13e]: Collaborative Evolution of EA Models

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Context of this Work

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My **Guided Research**:

"Towards a Federated EA Model Management: N-Way Merge of Models for Repositories with Loosely Coupled Schema and Data" (accepted at MKWI2014)

- Extension of the Tricia role and responsibility concept
- Implementation of model merge functionality
- Tasks as a means for conflict resolution

EA Models + Conflict Resolution

Hybrids and Visualisations

Bachelor's Thesis Tobias Schrade:

- Graphical visualisation of merge results
- Holistic visual conflict resolution dashboard
- Collaborative conflict resolution facilities

ModelGlue

2013

2014

My **Master's Thesis**:

"Tool Support for Federated EA Model Management - An Industrial Case Study"

Goal: Evaluation of ModelGlue in the industry

- Evaluation in the industry
- Improvement of ModelGlue based on feedback
- Model differencing functionality

Research Questions

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1. Does the concept of federated EA model management reflect industry needs?
   1. Have all relevant use cases been identified?
   2. Are there other potential application scenarios for this concepts?

2. How does ModelGlue support EA practitioners who seek to automate EA model maintenance?

3. What are technical industry constraints and what are technical implications?
   1. How frequently are information sources synchronised with the EA repository?
   2. What amount of data is relevant in EA models?
   3. Does ModelGlue scale considering realistic data loads?

4. Does the implementation of ModelGlue (behaviour, UI, …) meet user expectations?

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Research Methodology: Case Study

Evaluation in the insurance industry

- Import of real-world industry data
- Adaption of ModelGlue to realistic data loads

4 It.

- Semi-structured interviews
  - Goal: Evaluation of ModelGlue
- Application / refinement

- Cross-check findings in iterative interviews with second industry partner

Conceptual assessment

- Usefulness of solution
- Relevance of application scenarios
- Adaption by users

Technical assessment with regard to

- Completeness of merge results
- Correctness of output
- Performance facing realistic amounts of data

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Federated Model Management for the HUK

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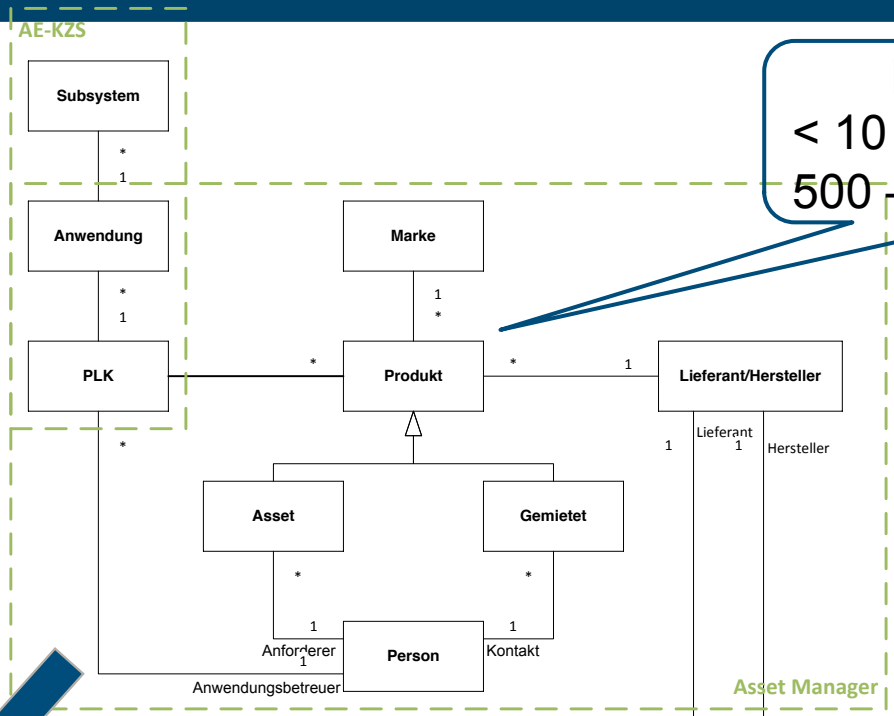
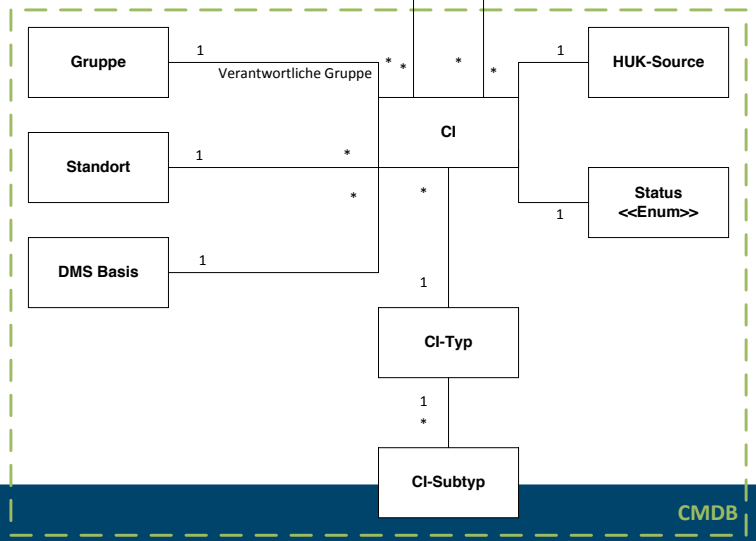
Three federated information sources

Dimensions:
< 10 Types
500 – 3000 Elements



Abstraction gap

Goal: **consolidate** into master EA model



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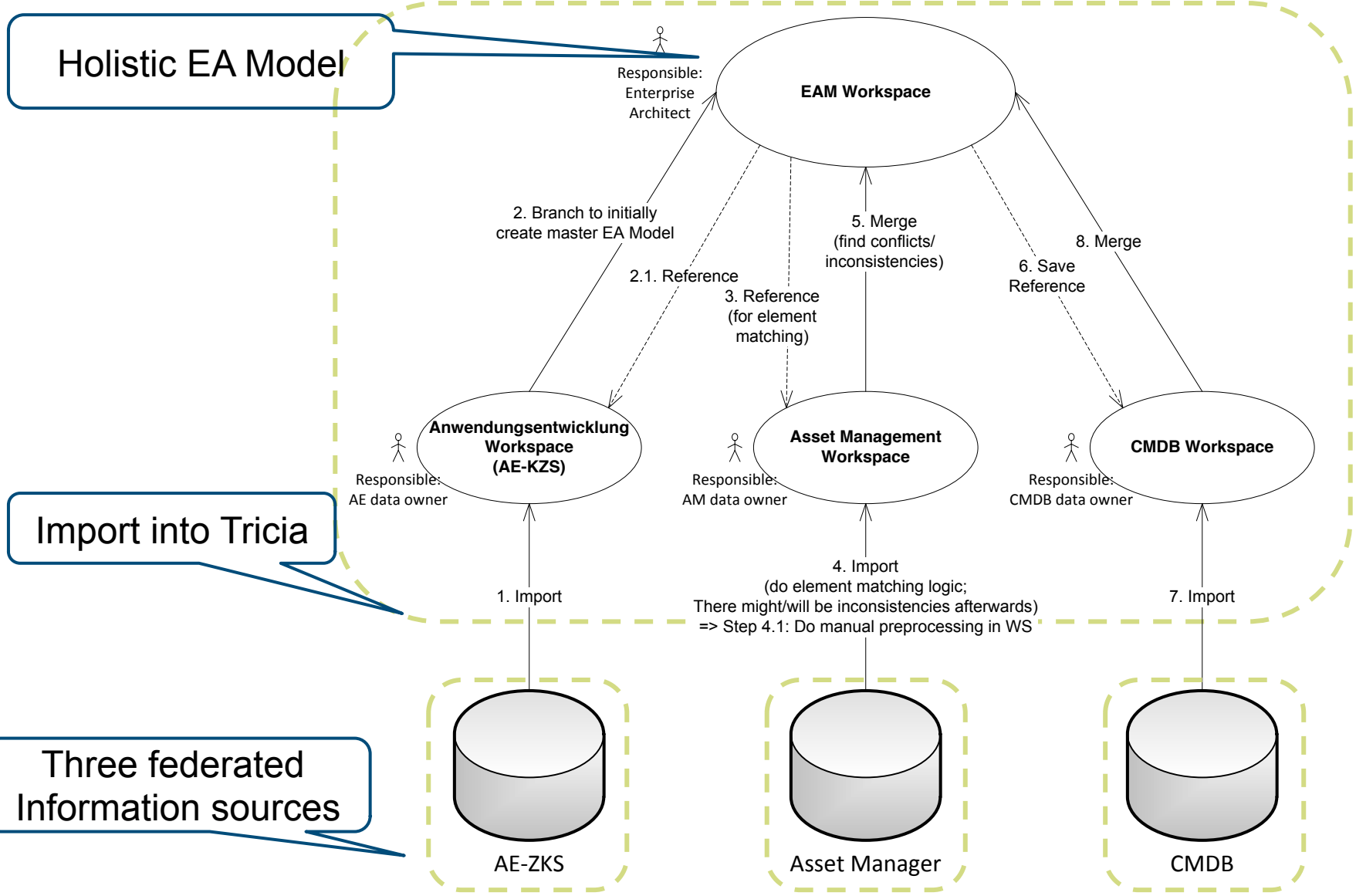
Federated Model Management for the HUK



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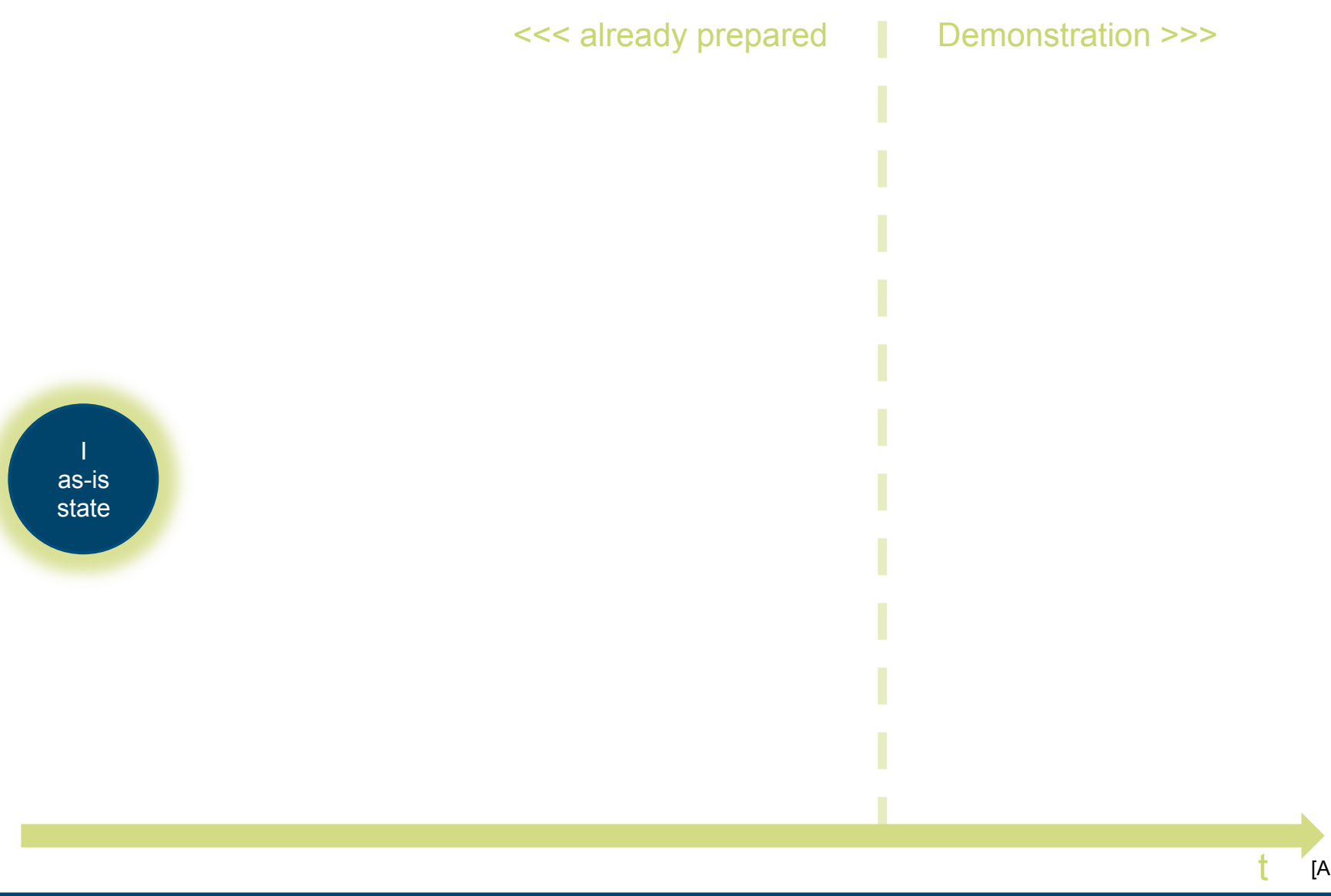
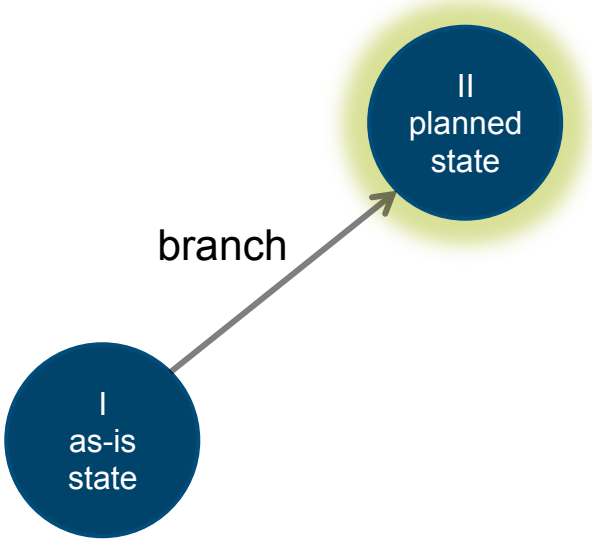
Live Demonstration Use Cases



Live Demonstration Use Cases

<<< already prepared | Demonstration >>>

Goal: Introduce an ERP system



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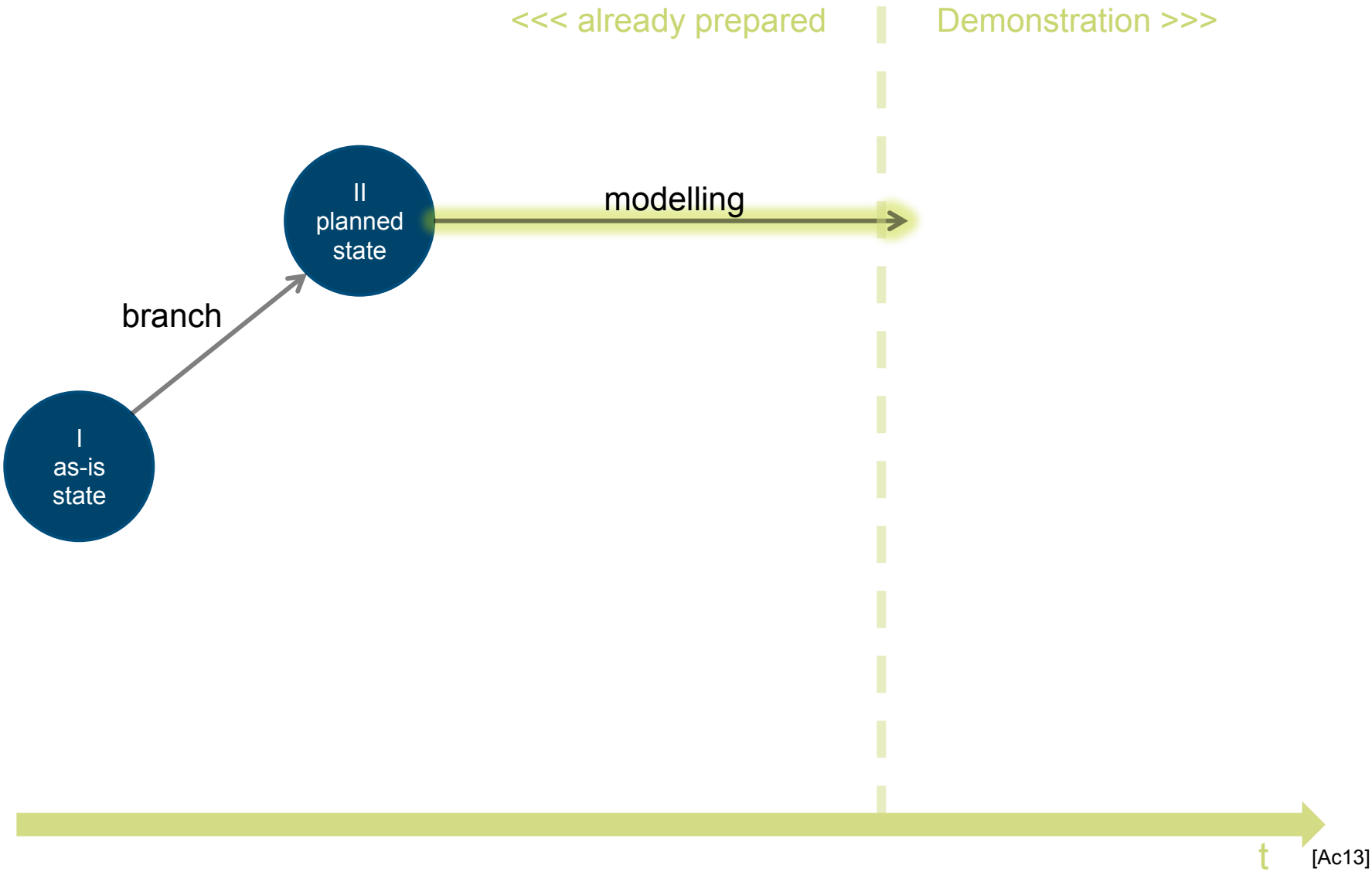
Live Demonstration Use Cases



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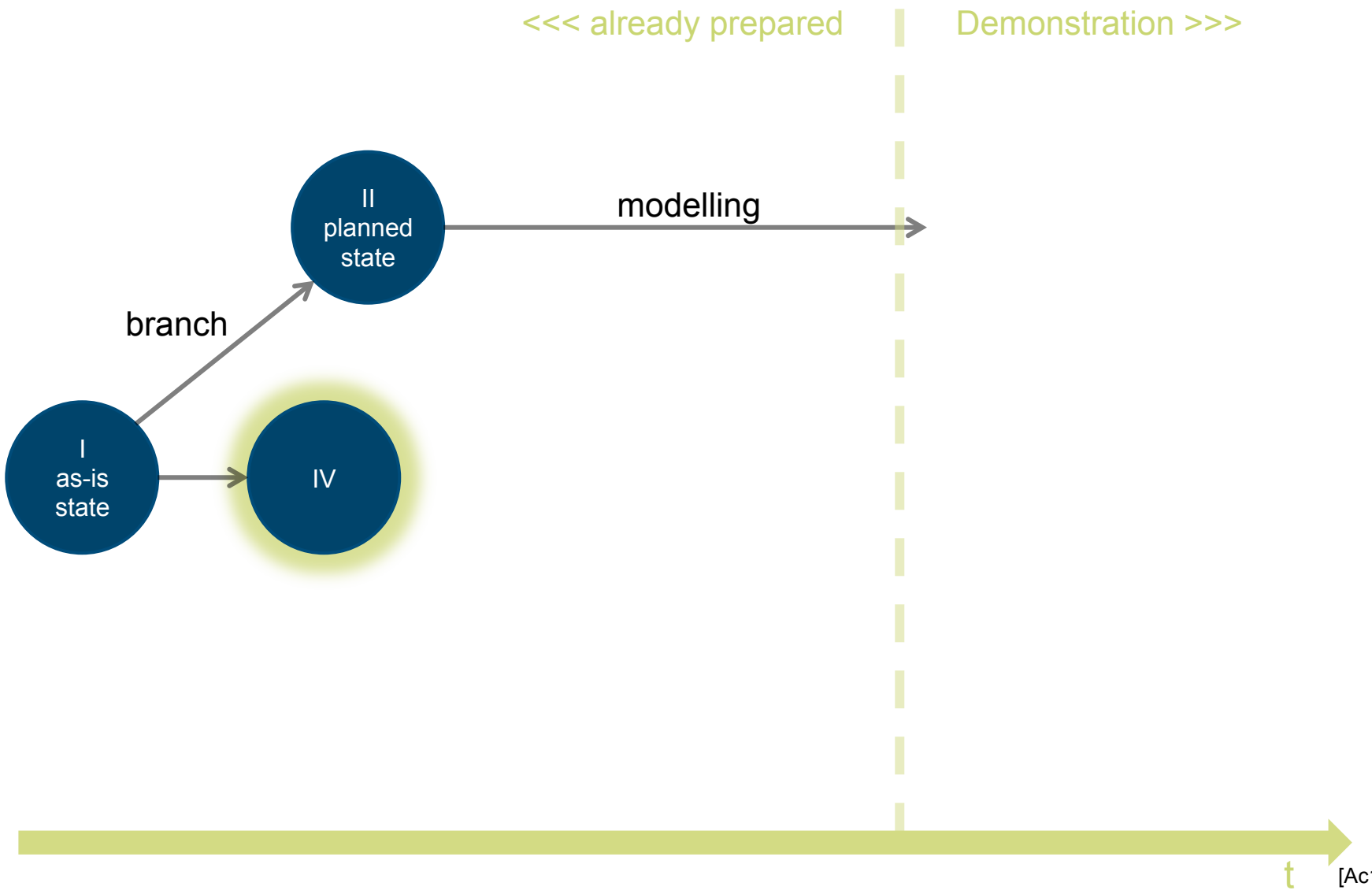

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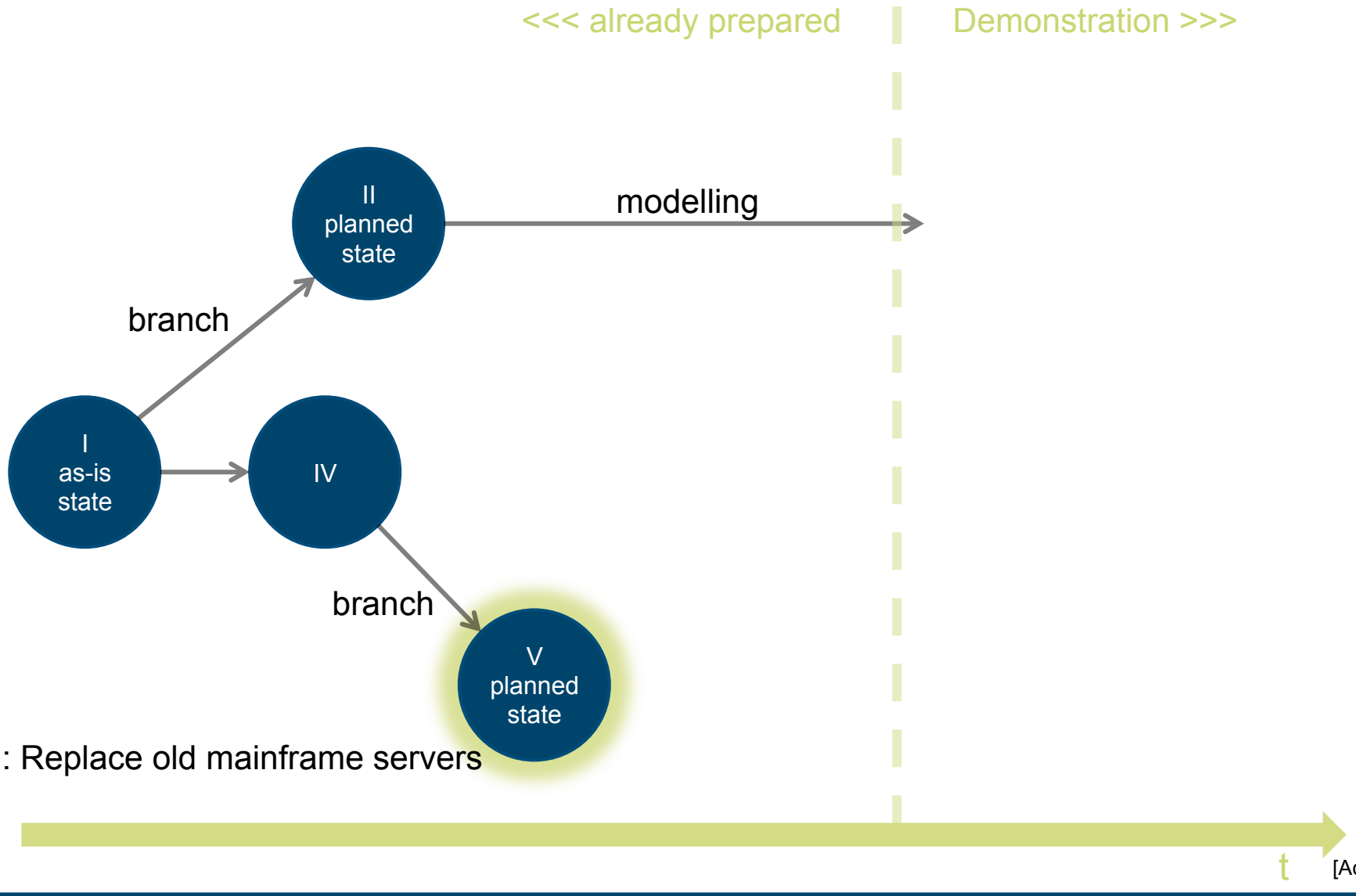

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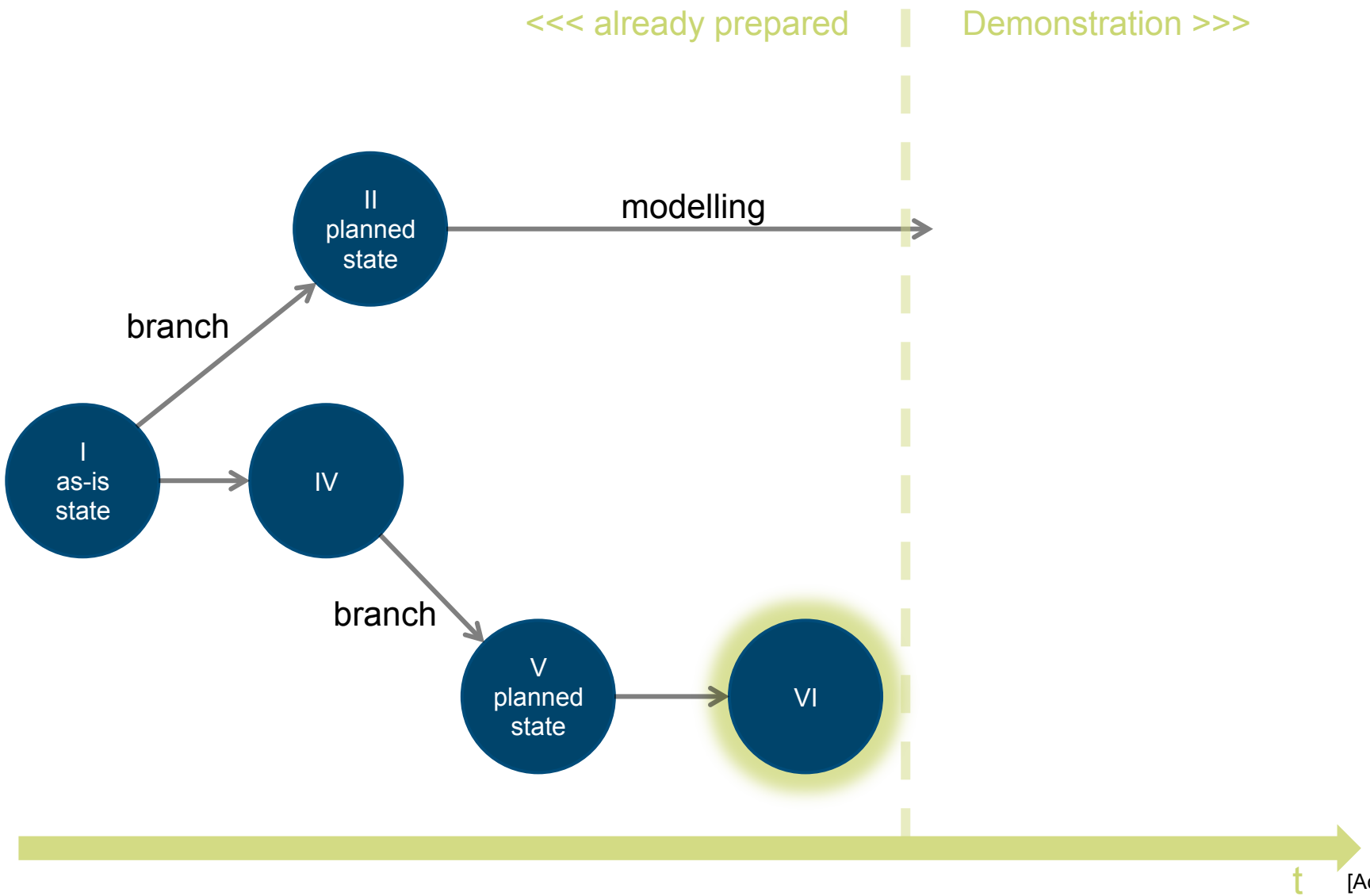

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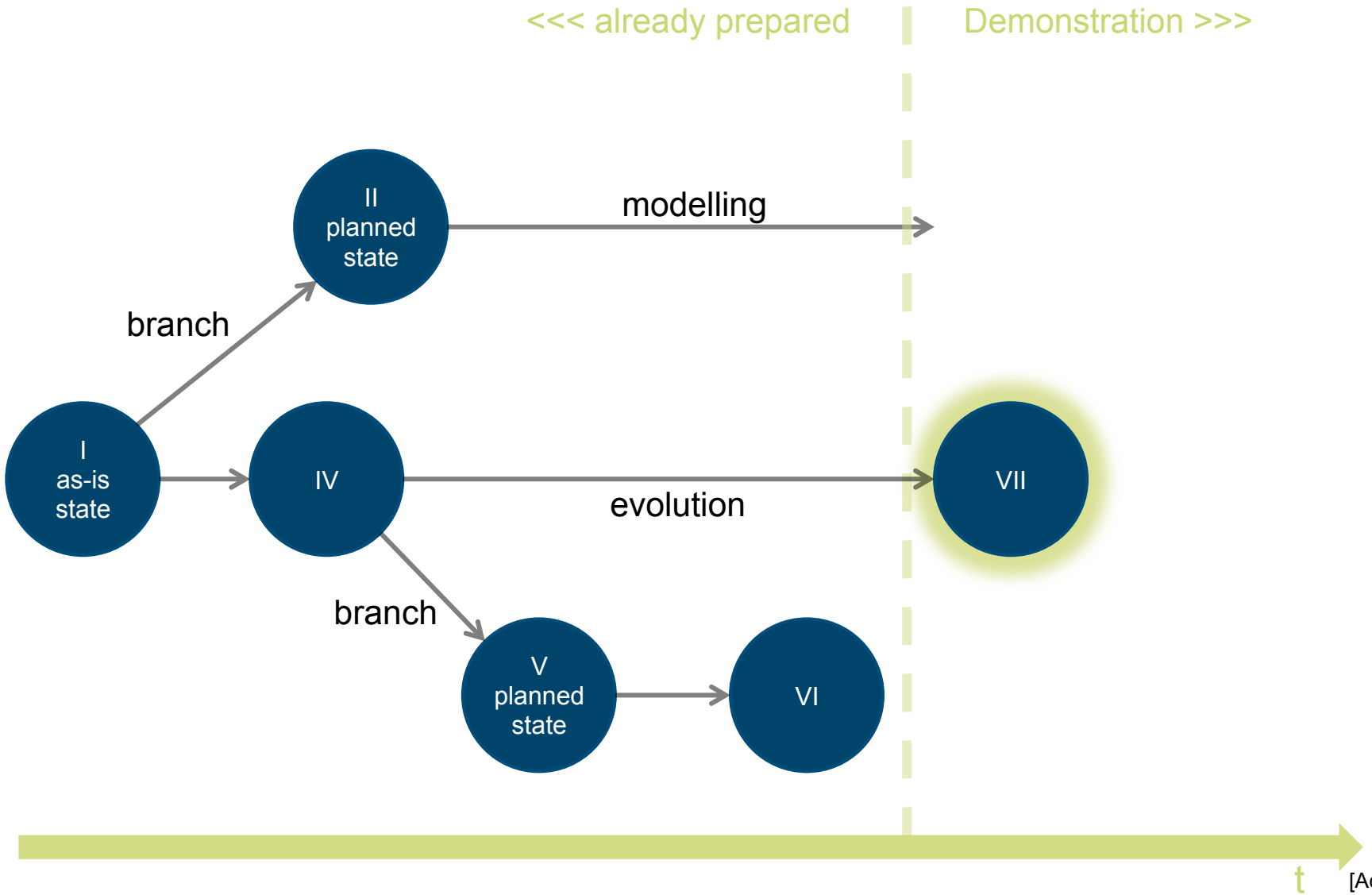

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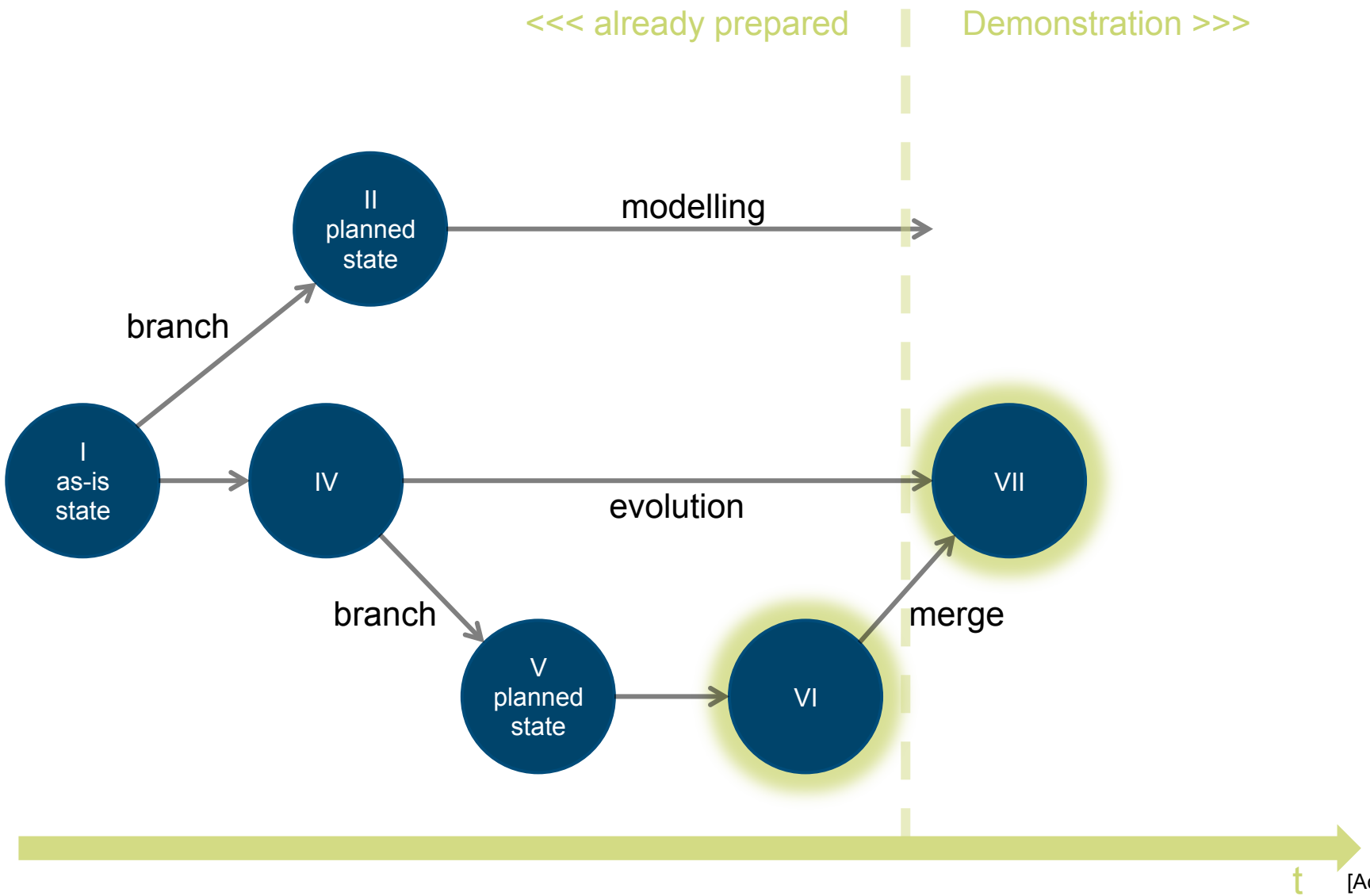

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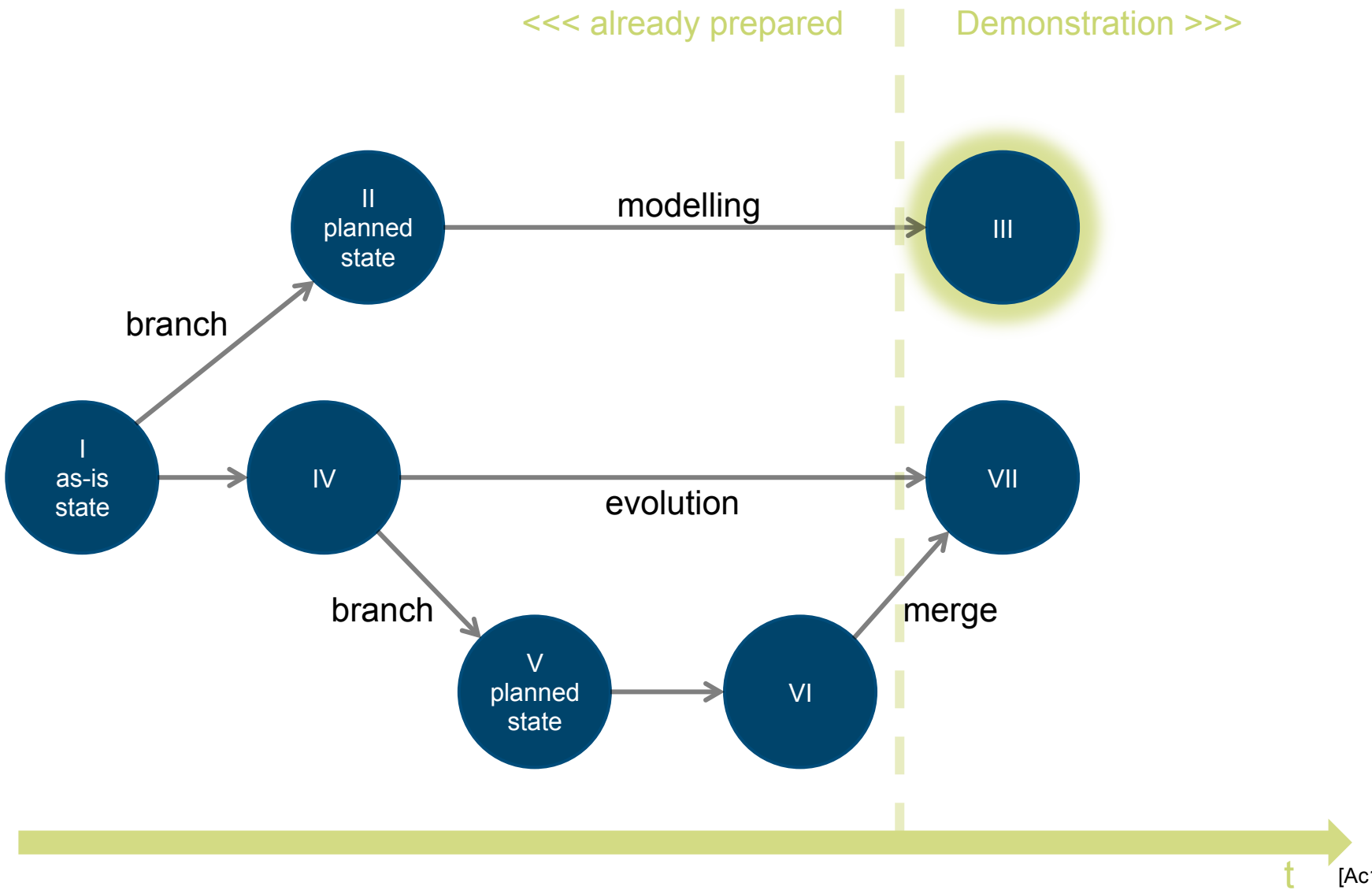

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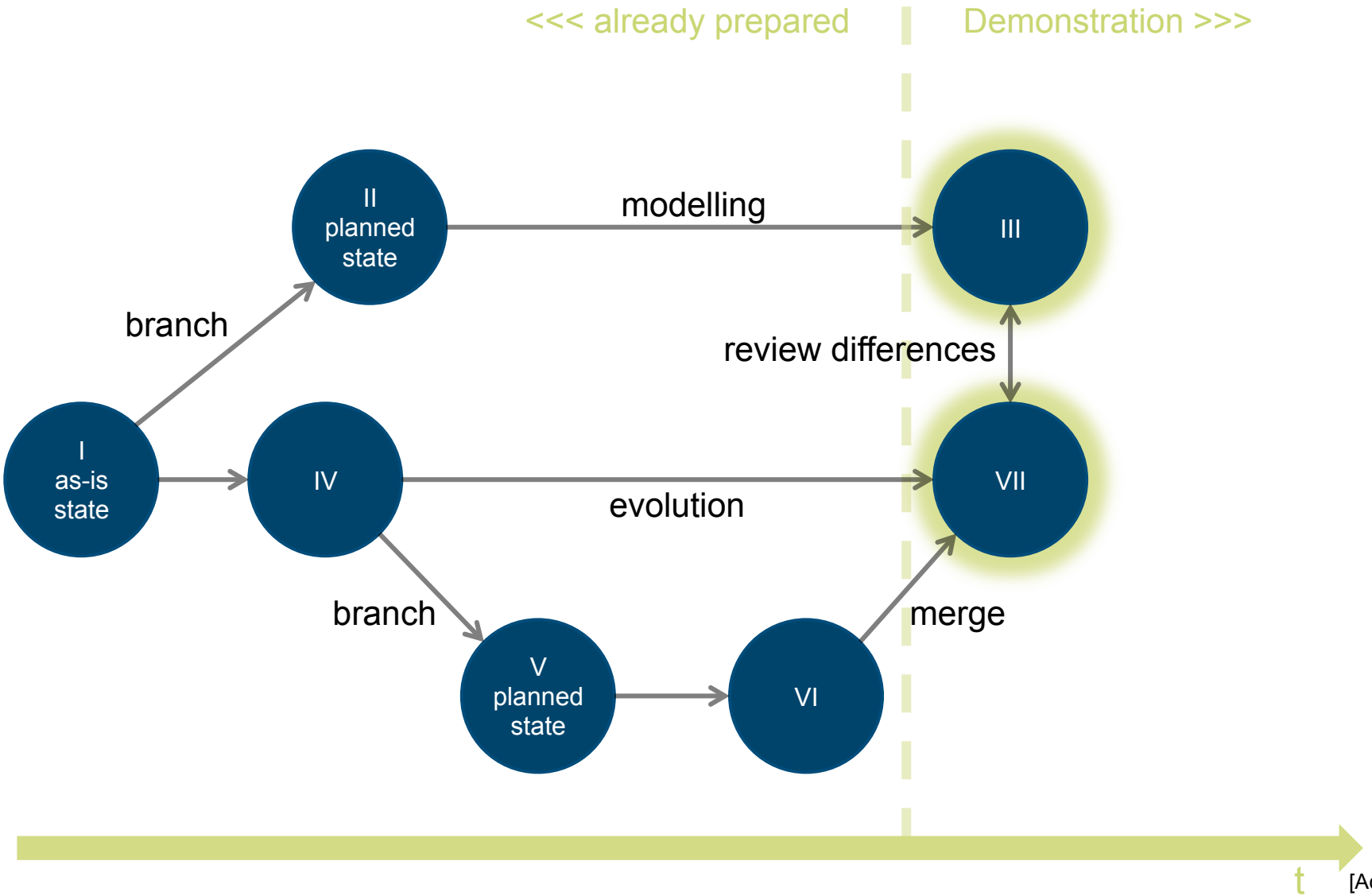

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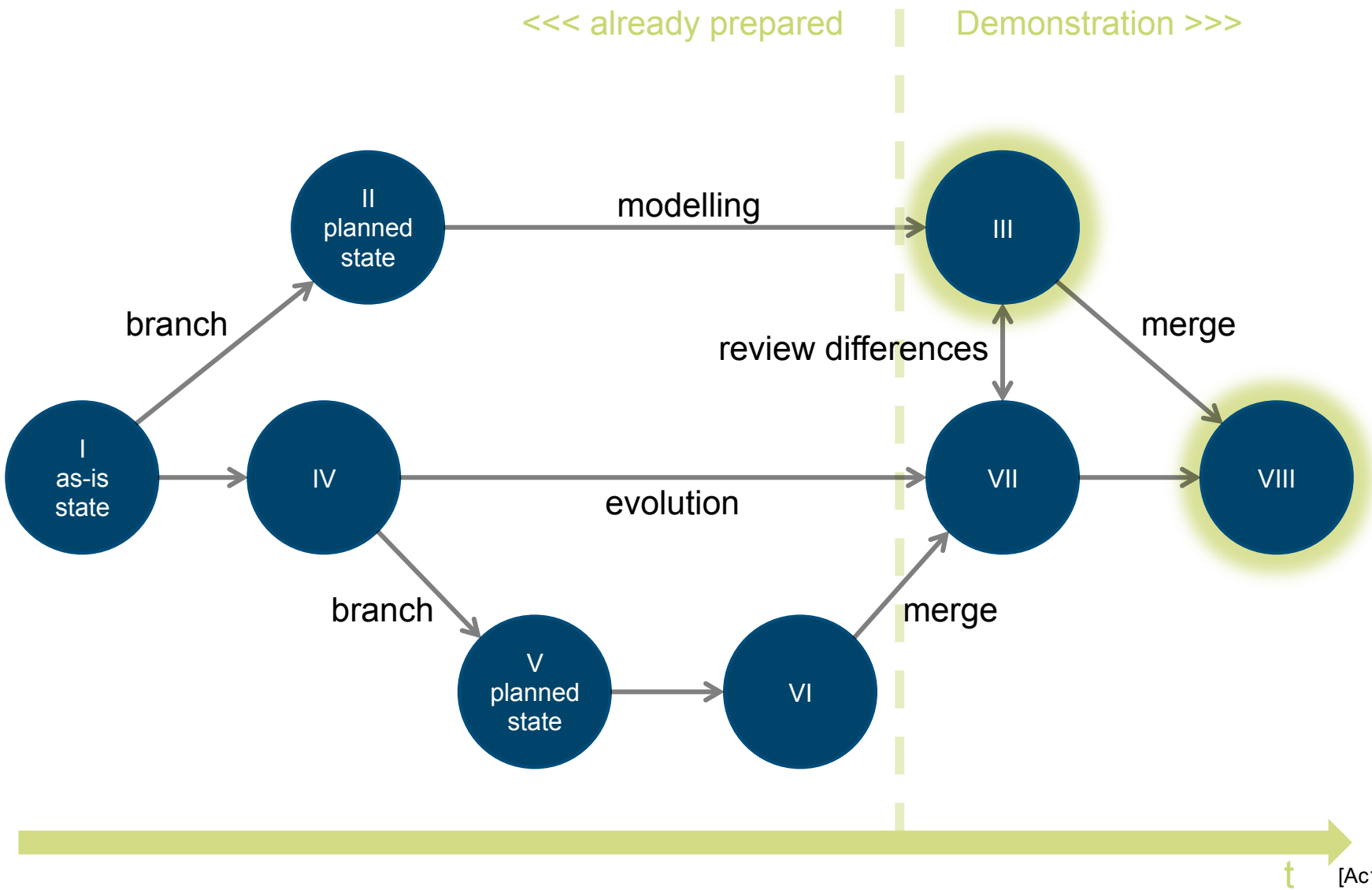

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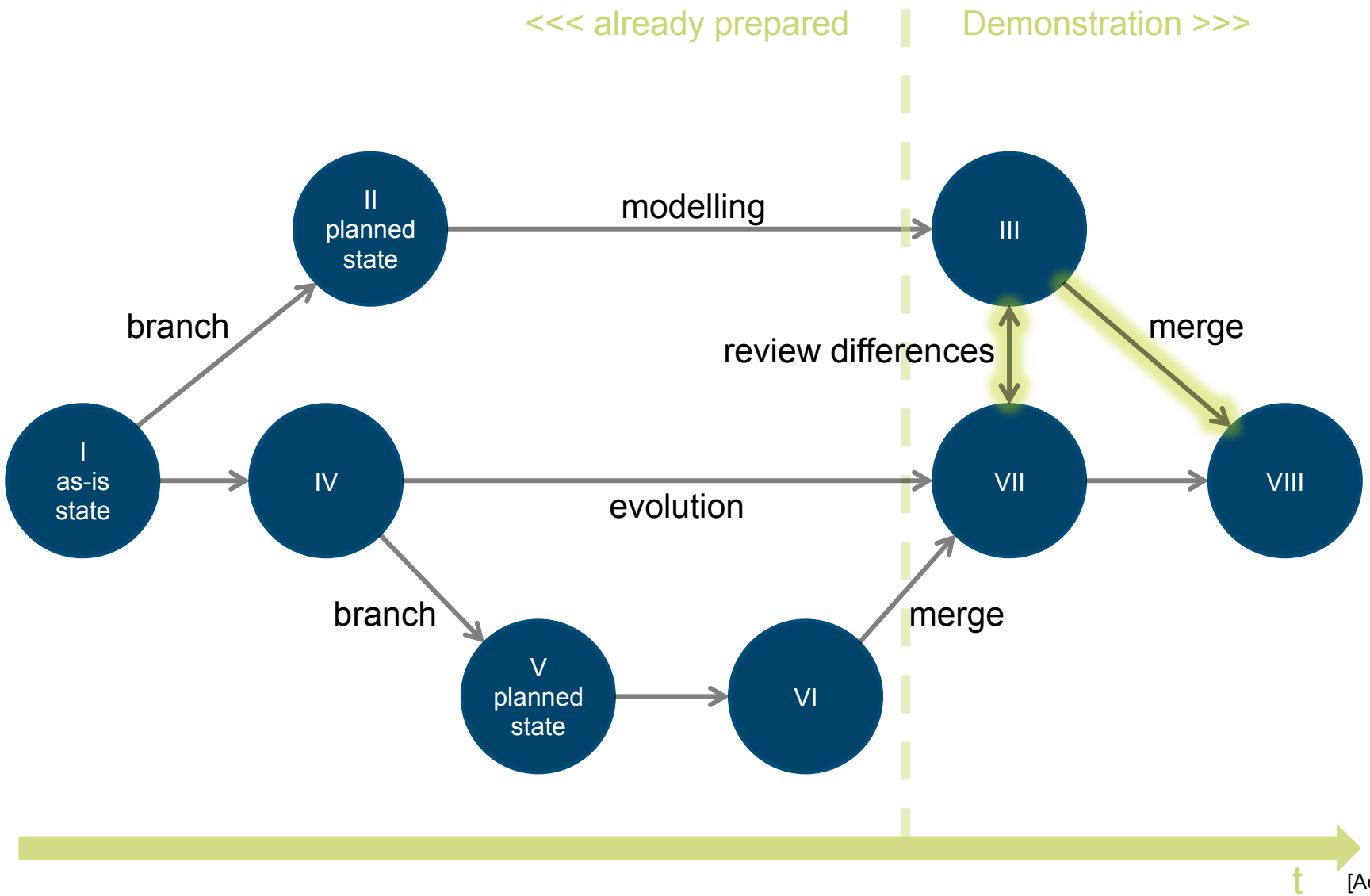

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Conclusion

Prospects

- Evaluation of ModelGlue in collaboration with sebis industry partners (HUK and KVB)
- Adaption of feedback in several iterations
- Assessment of usefulness, correctness and performance of the solution facing real-world industry data

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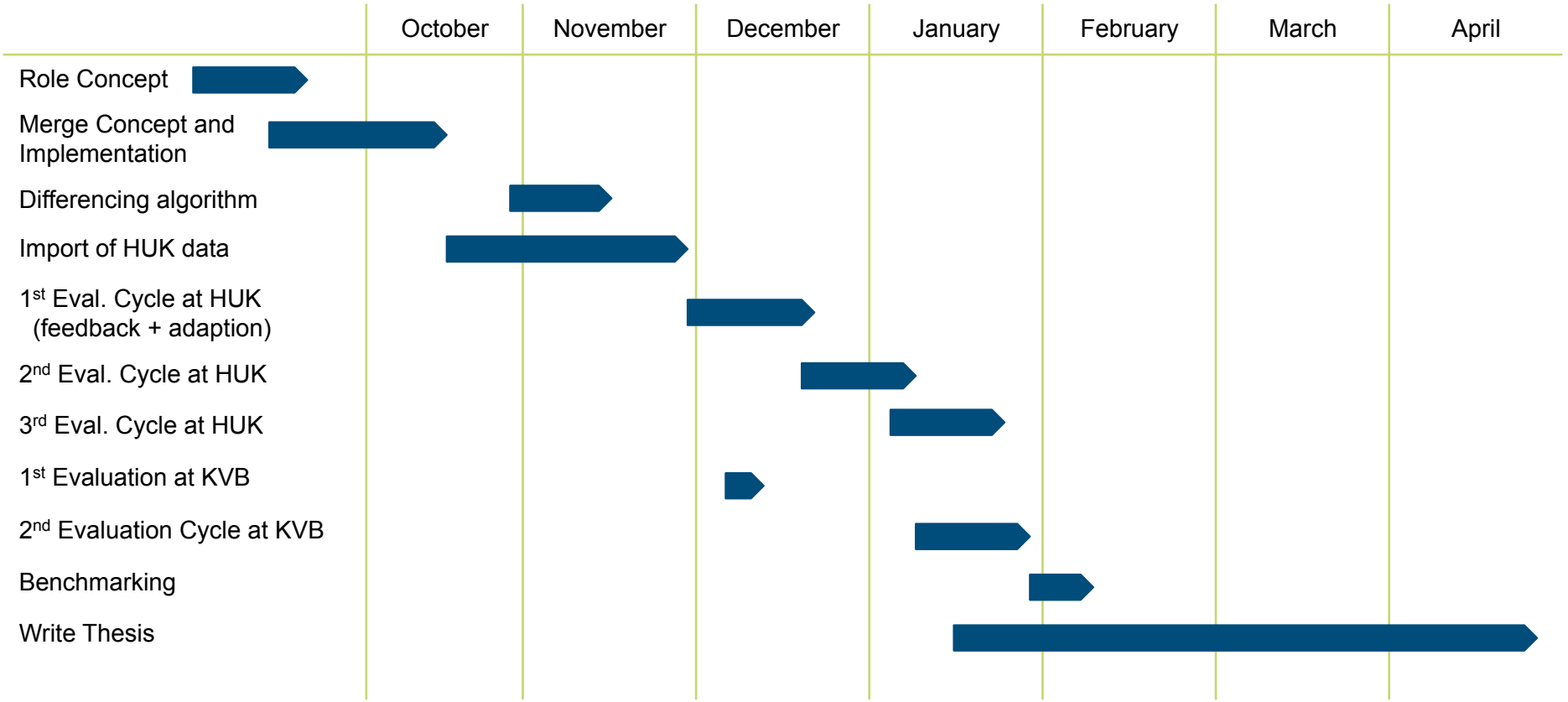
Timeline



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