

VILNIAUS UNIVERSITETAS
MATEMATIKOS IR INFORMATIKOS FAKULTETAS

Requirements modeling

Reikalavimų modeliavimas

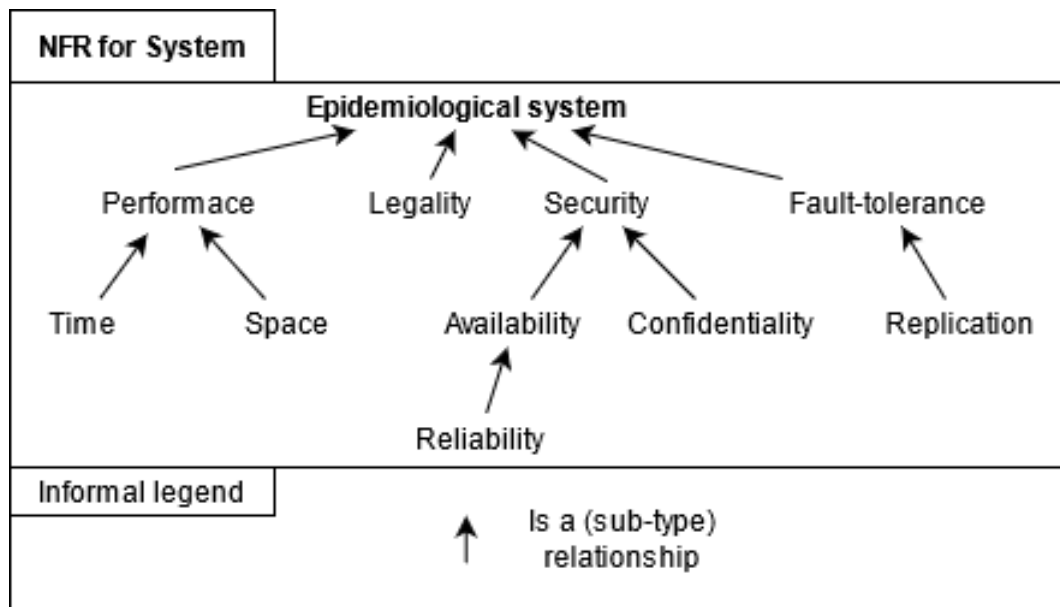
Programų sistemų inžinerijos modeliai ir metodai laboratorinis darbas 2

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CONTENTS

1. NFR TYPE CATALOGUE	2
2. MODELLING OF THE NON-FUNCTIONAL REQUIREMENTS	3
2.1. Self-isolation	3
2.2. Infected patients	5
2.3. Dangerous countries	7
3. IDENTIFYING AND MODELLING OF POSSIBLE OPERATIONALIZATIONS FOR NFR	9
3.1. Self-isolation	9
3.2. Infected patients	10
3.3. Dangerous countries	11
4. DETECTING AND MODELLING OF IMPLICIT INTERDEPENDENCIES AMONG NFR	12
5. MAKING DECISIONS	13
5.1. Chosen Operationalizations	13
5.2. Chosen Softgoals	14
5.3. Decision Explanation	15
5.4. Conclusions	15
6. CONCLUSIONS ABOUT AN ACTOR DEPENDENCY	16
CONCLUSIONS	17

1. NFR type catalogue

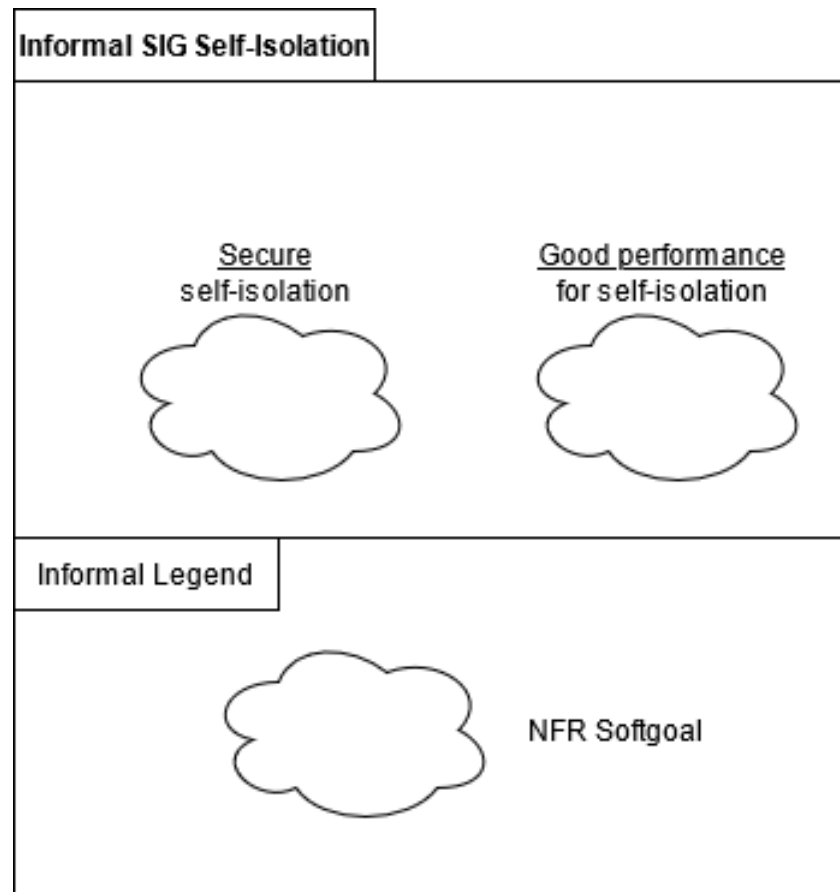


pic 1. NFR diagram

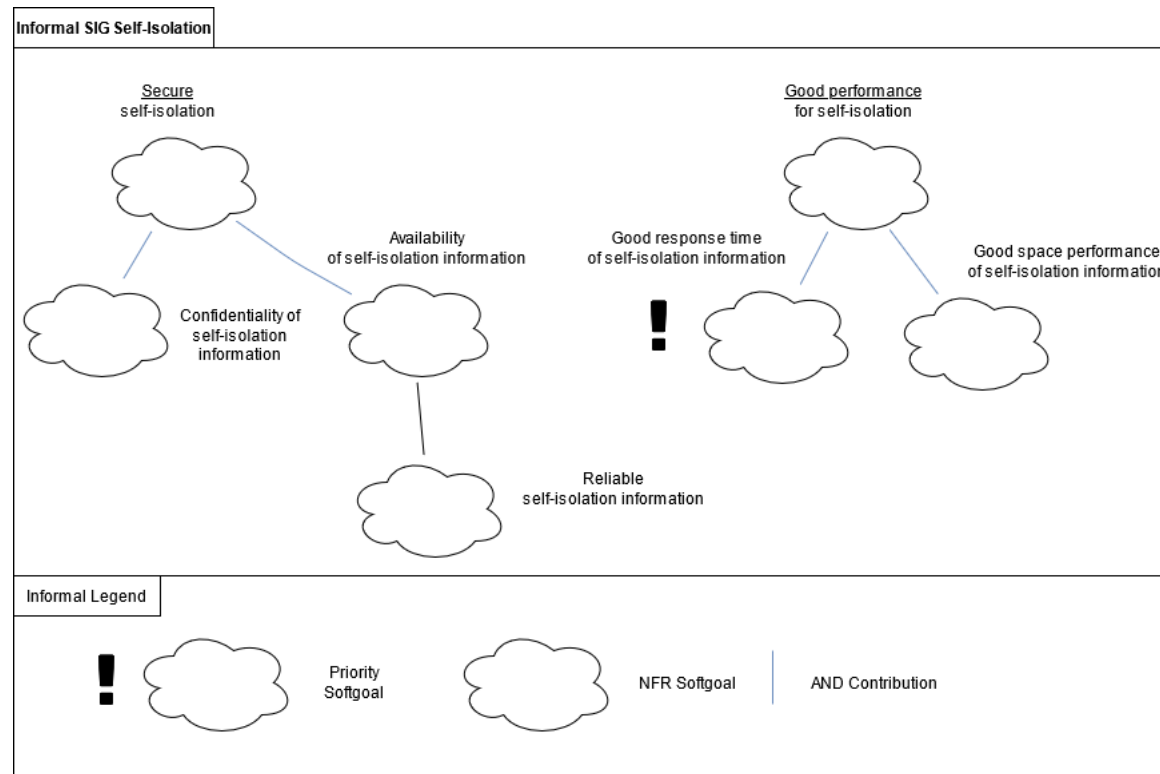
- **Time** - System is monitoring the epidemic therefore it's processes or workflows have to be efficient time-wise.
- **Space** - since the system will contain lots of different data (e.g. person's geographical coordinates), data must be stored efficiently.
- **Reliability** - Tracking the state of the epidemic must be ensured 24/7 to not miss any crucial data or trends.
- **Confidentiality** - epidemiological system must treat sensitive person information (e.g. received medical records) with respect to ensure systems credibility.
- **Legality** - due to the fact the the epidemiological system will deal with sensitive information, data handling must be in compliance with LT and EU data laws as well as GDPR.
- **Replication** - non sensitive data must have duplicate records stored to increase the system's fault-tolerance.

2. Modelling of the non-functional requirements

2.1. Self-isolation

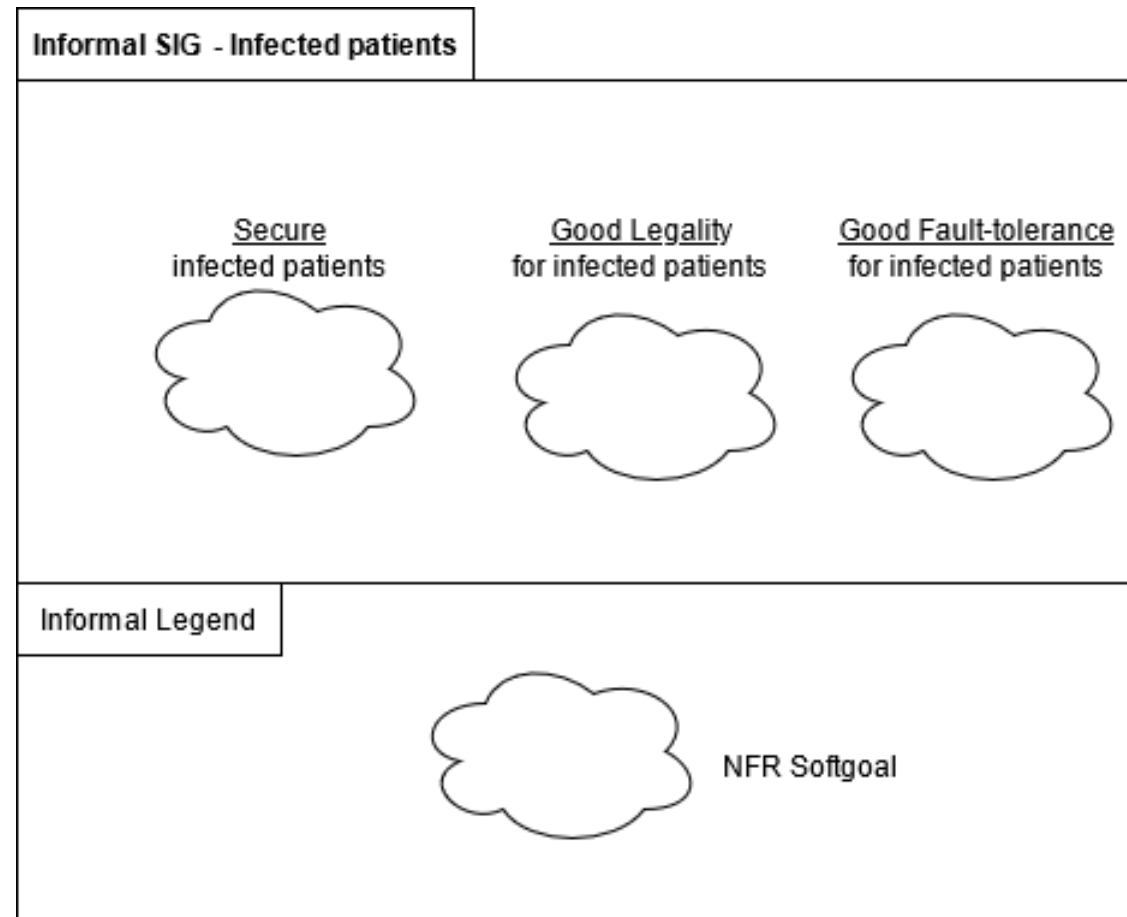


pic 2. Self Isolation - Initial Software Dependency Graph

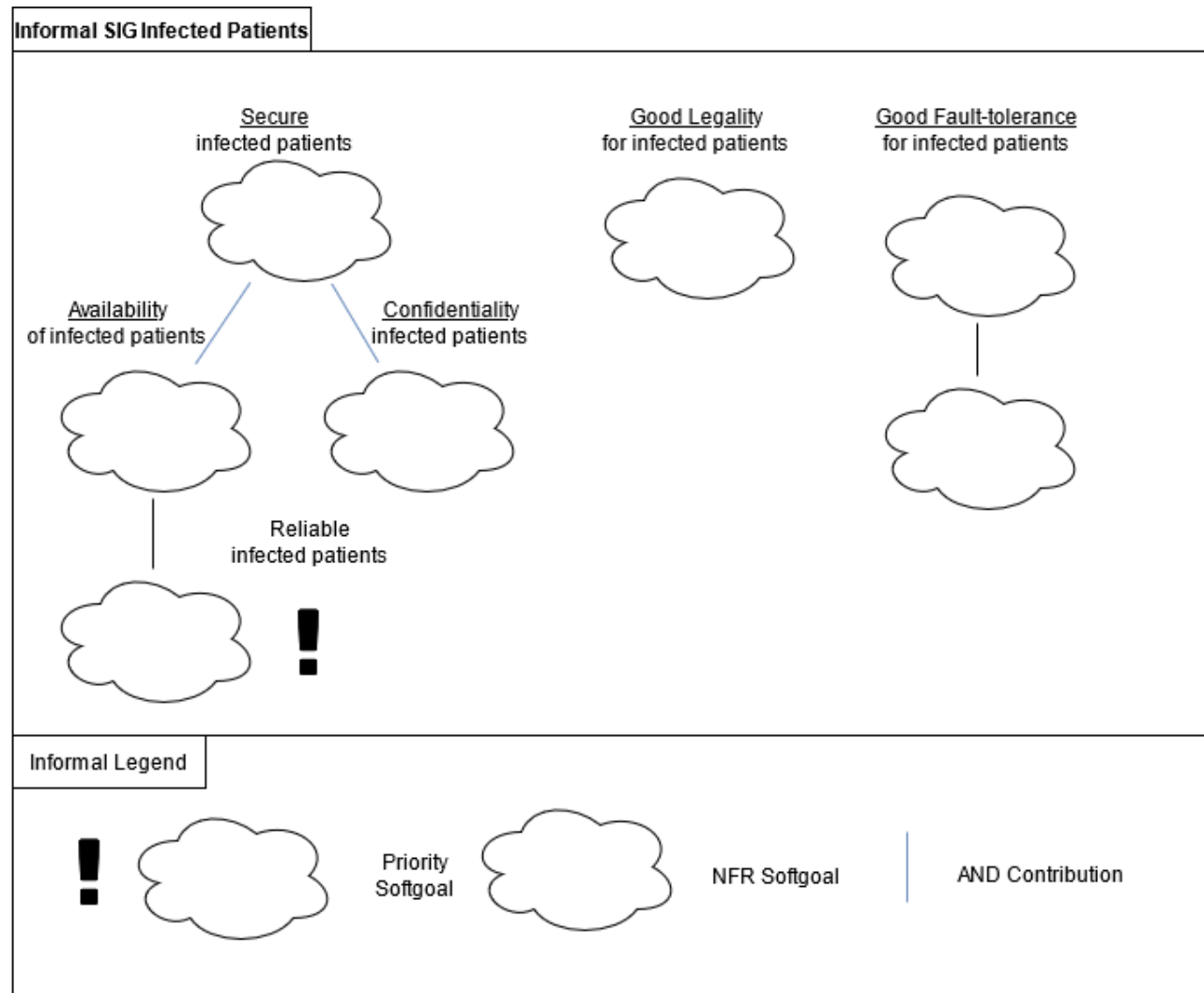


pic 3. Self Isolation - Decomposing NFRs

2.2. Infected patients

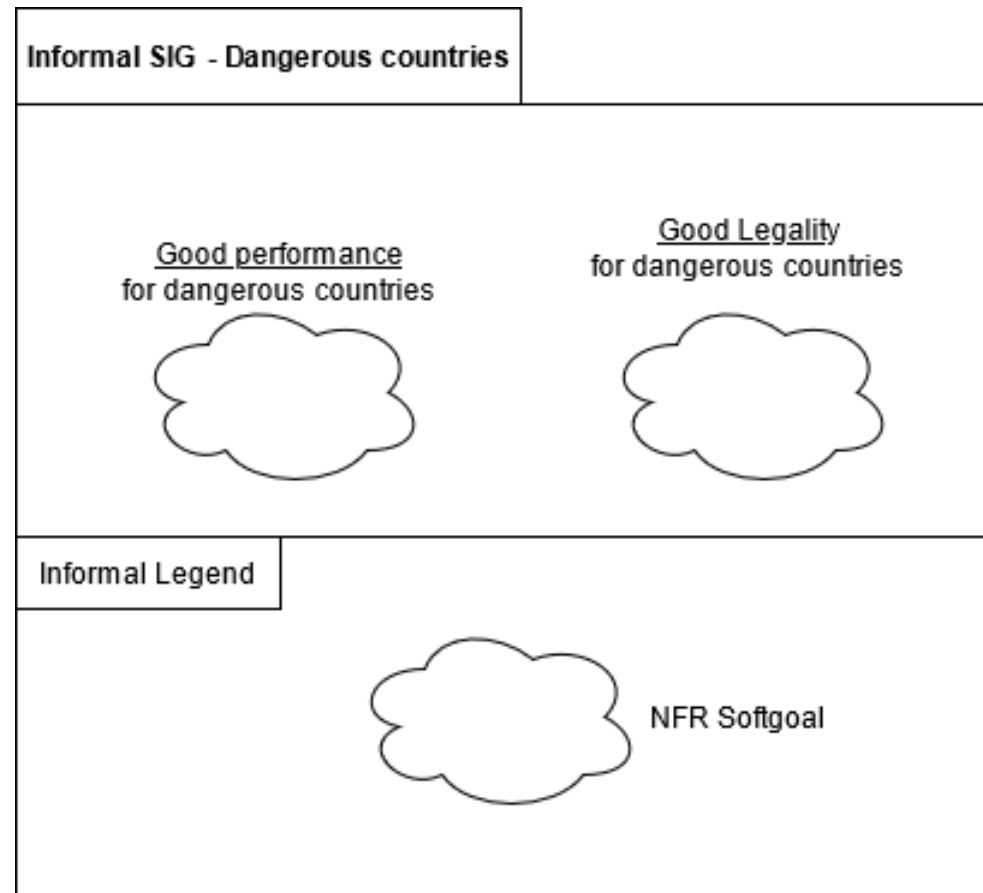


pic 4. Infected Patients - Initial Software Dependency Graph

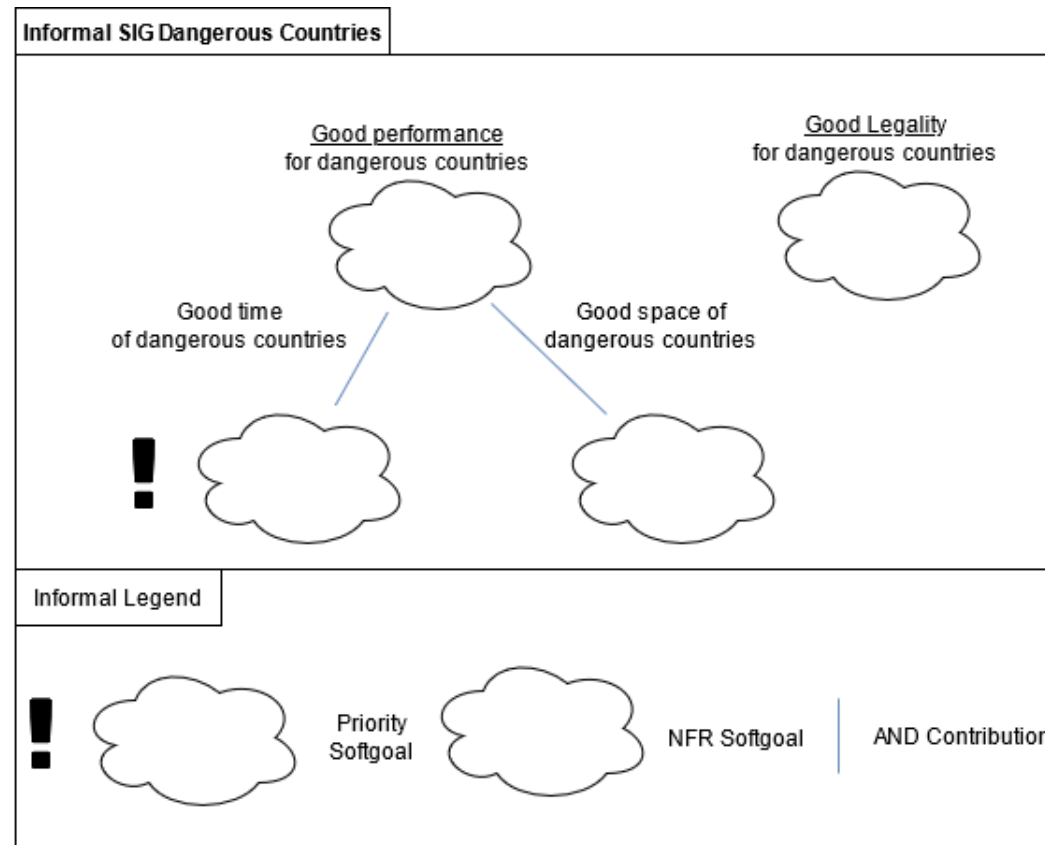


pic 5. Infected Patients - Decomposing NFRs

2.3. Dangerous countries



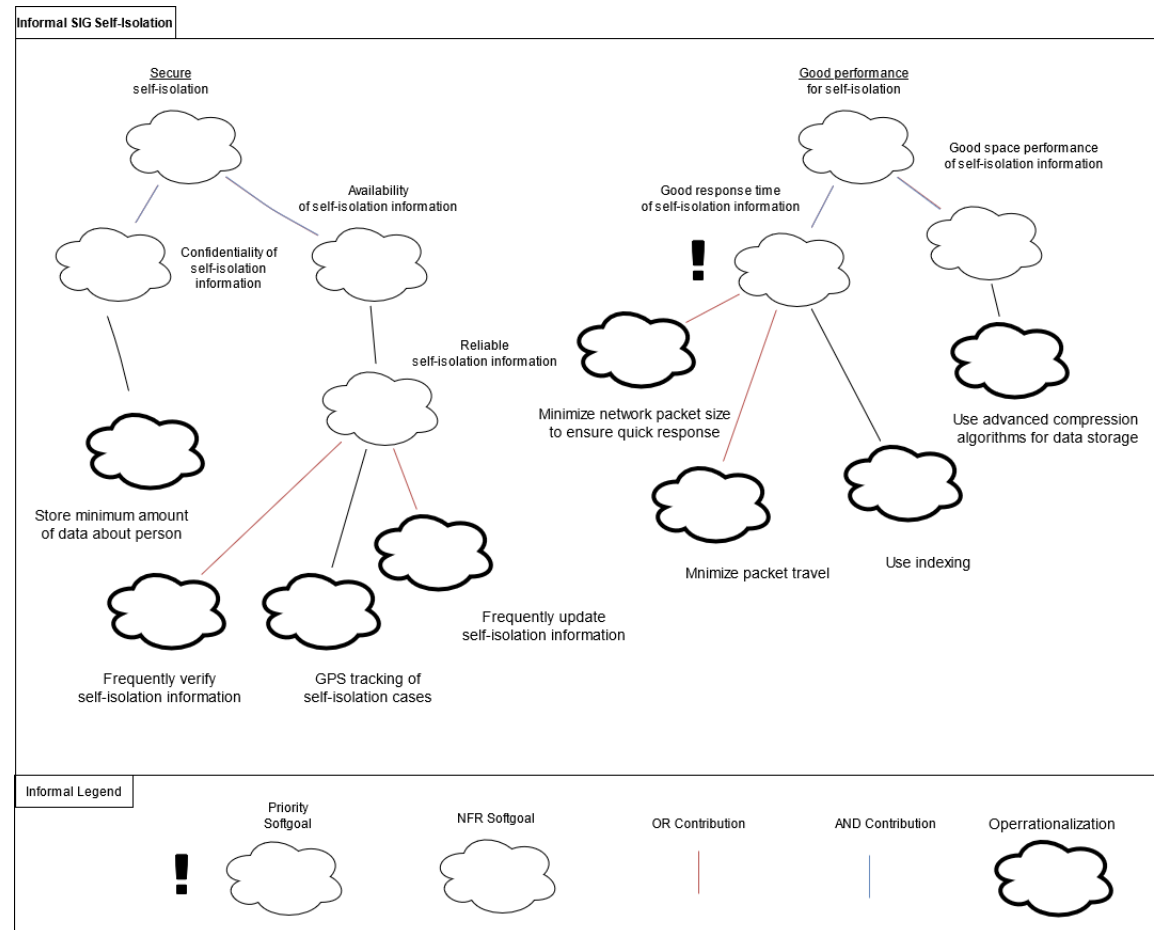
pic 6. Dangerous Countries - Initial Software Dependency Graph



pic 7. Dangerous Countries - Decomposing NFRs

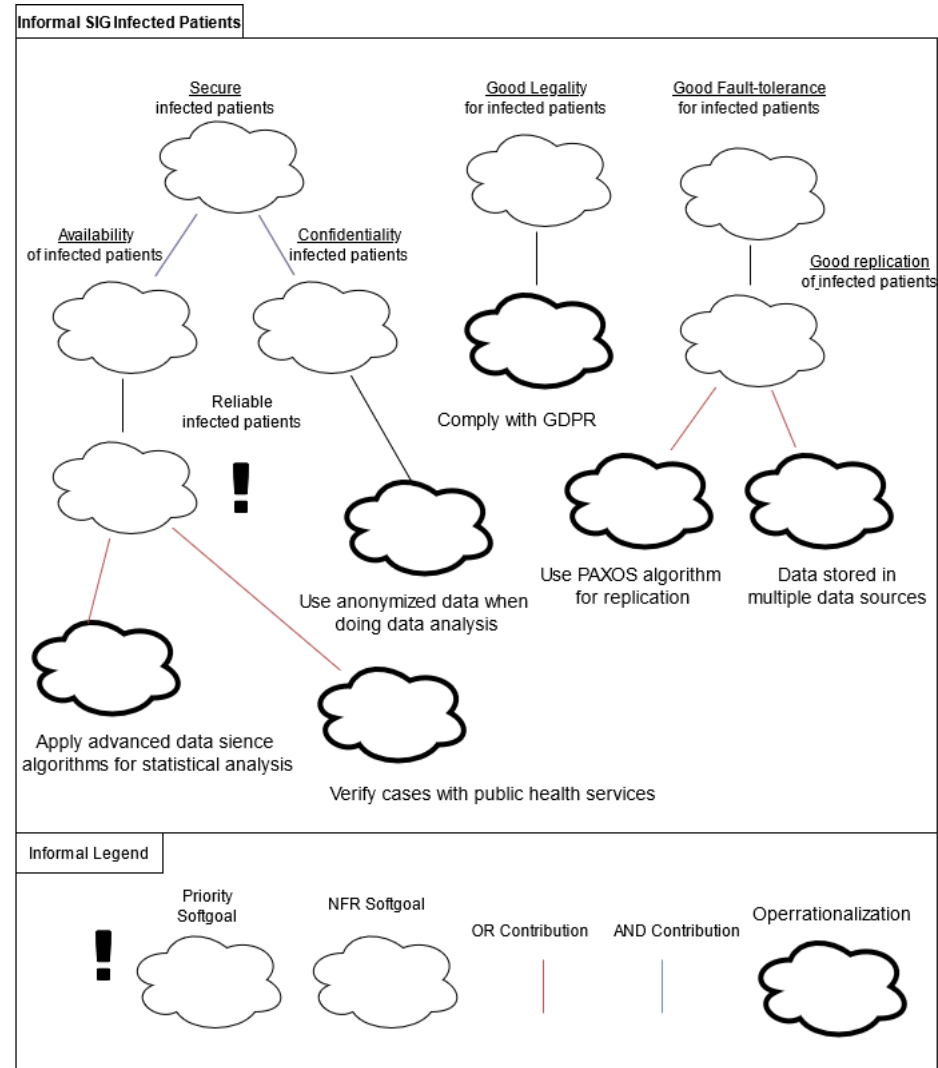
3. Identifying and modelling of possible operationalizations for NFR

3.1. Self-isolation



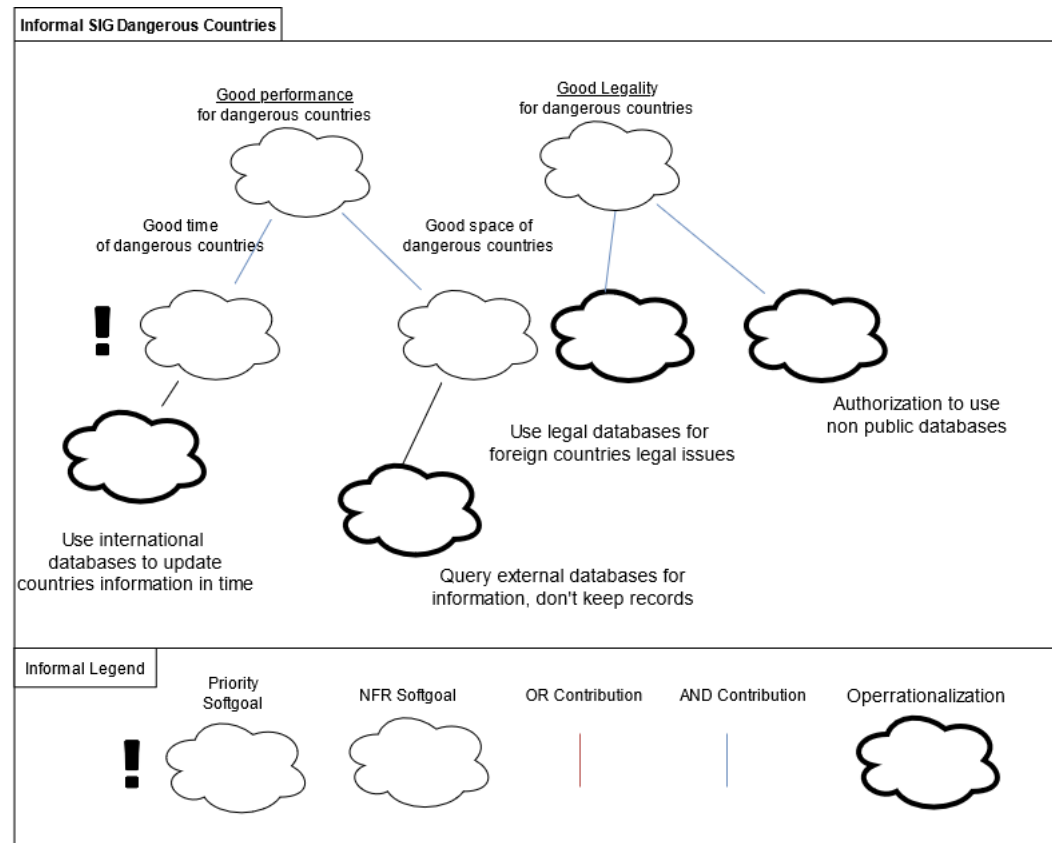
pic 8. Self Isolation - Possible Operationalizations

3.2. Infected patients



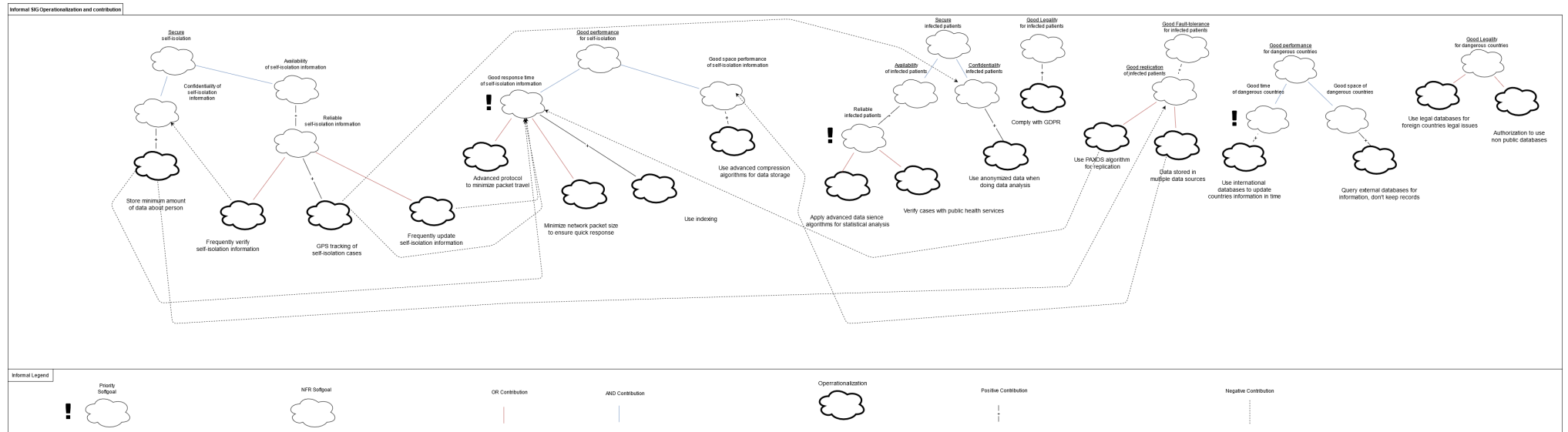
pic 9. Infected patients - Possible Operationalizations

3.3. Dangerous countries



pic 10. Dangerous Countries - Possible Operationalizations

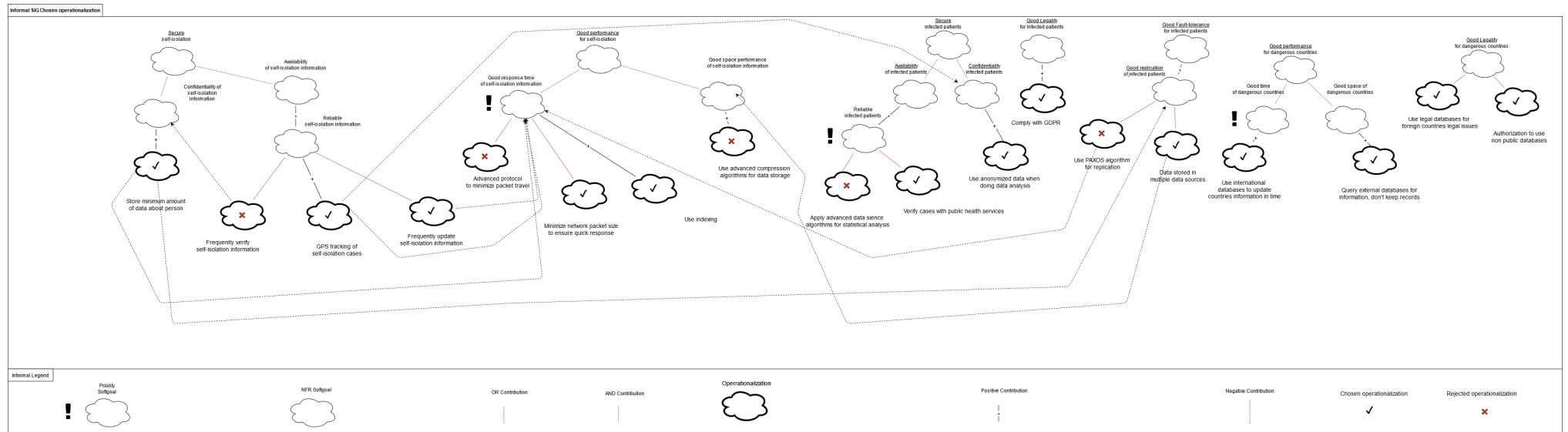
4. Detecting and Modelling of Implicit Interdependencies Among NFR



pic 11. Implicit interdependencies among NFRs

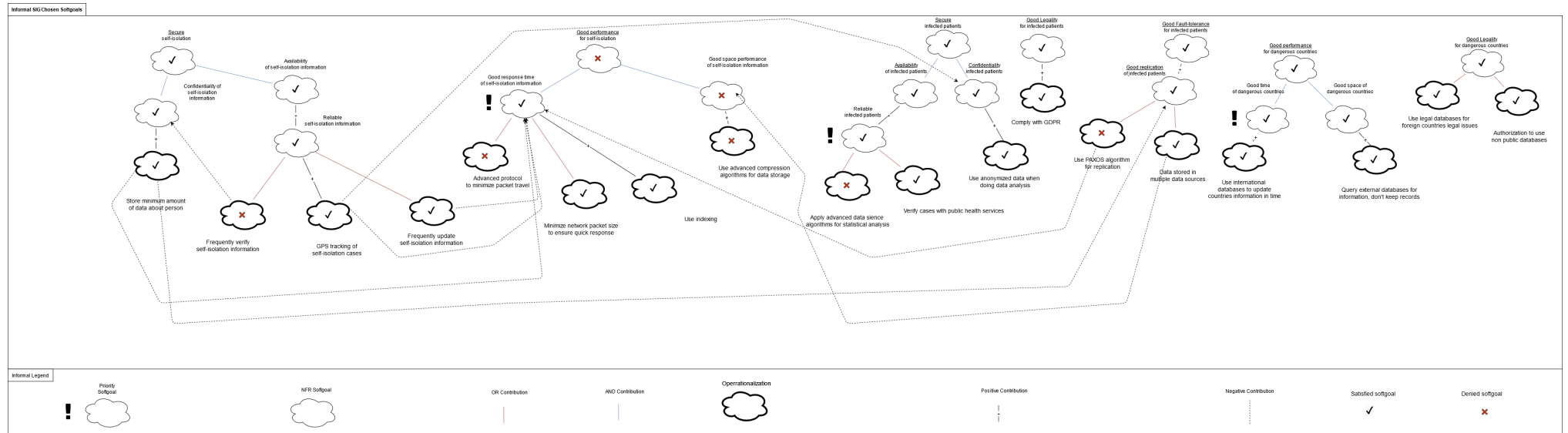
5. Making decisions

5.1. Chosen Operationalizations



pic 12. Chosen Operationalizations among NFRs

5.2. Chosen Softgoals



pic 13. Satisfied and Denied Softgoals

5.3. Decision Explanation

5.4. Conclusions

6. Strategic Dependency Model

7. Strategic Rationale Model

8. Conclusions about an dependency

Conclusions