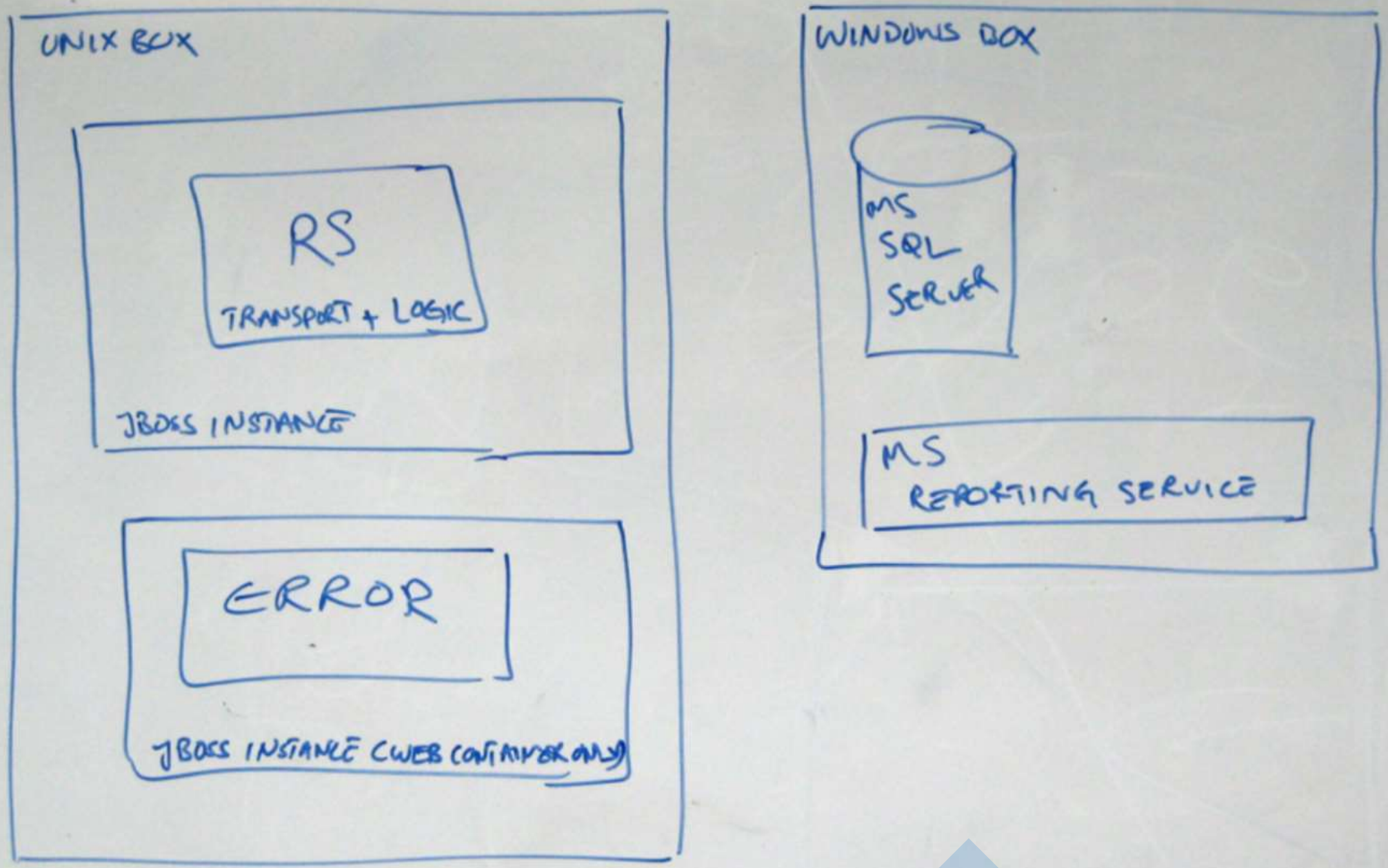
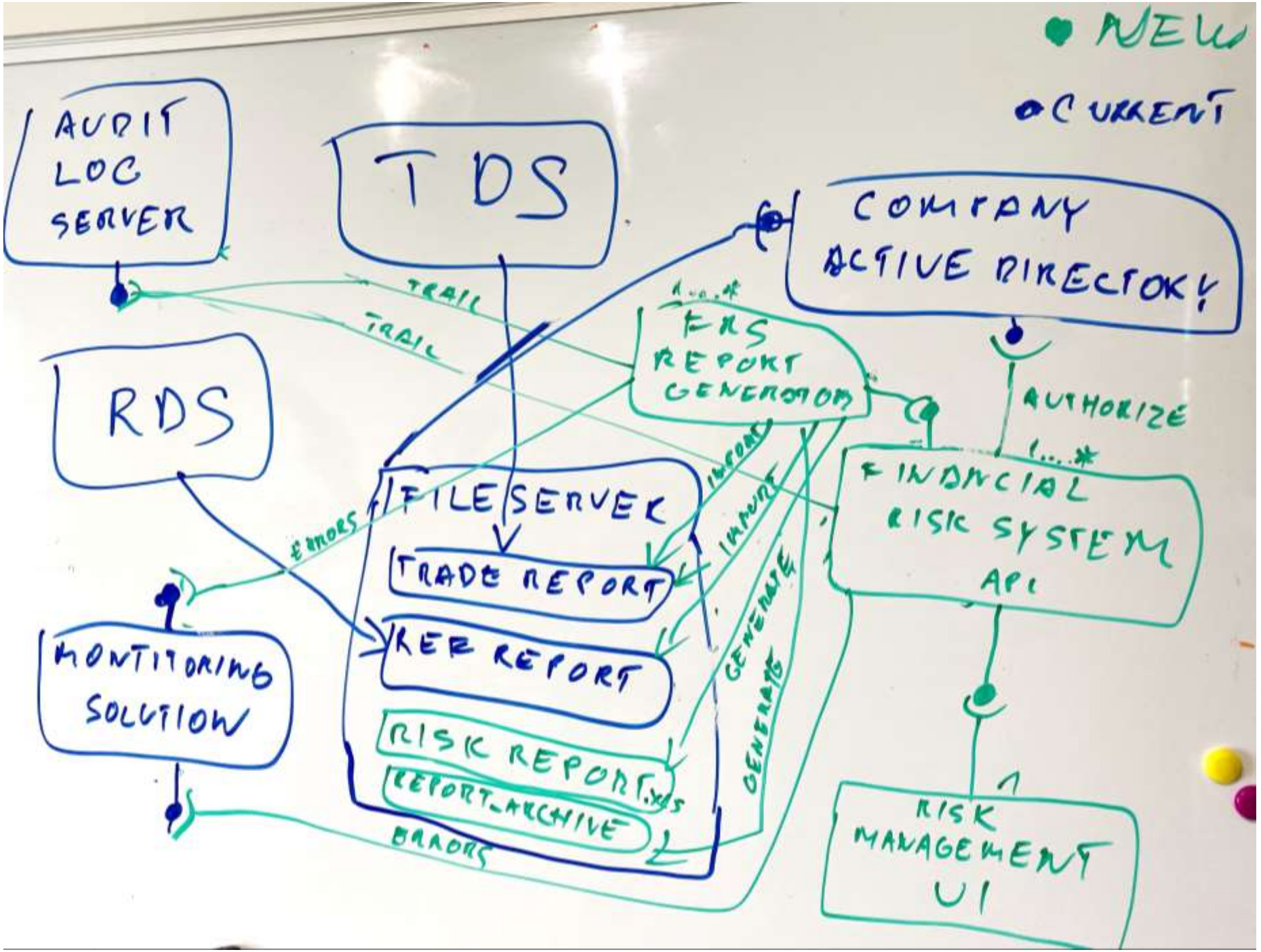
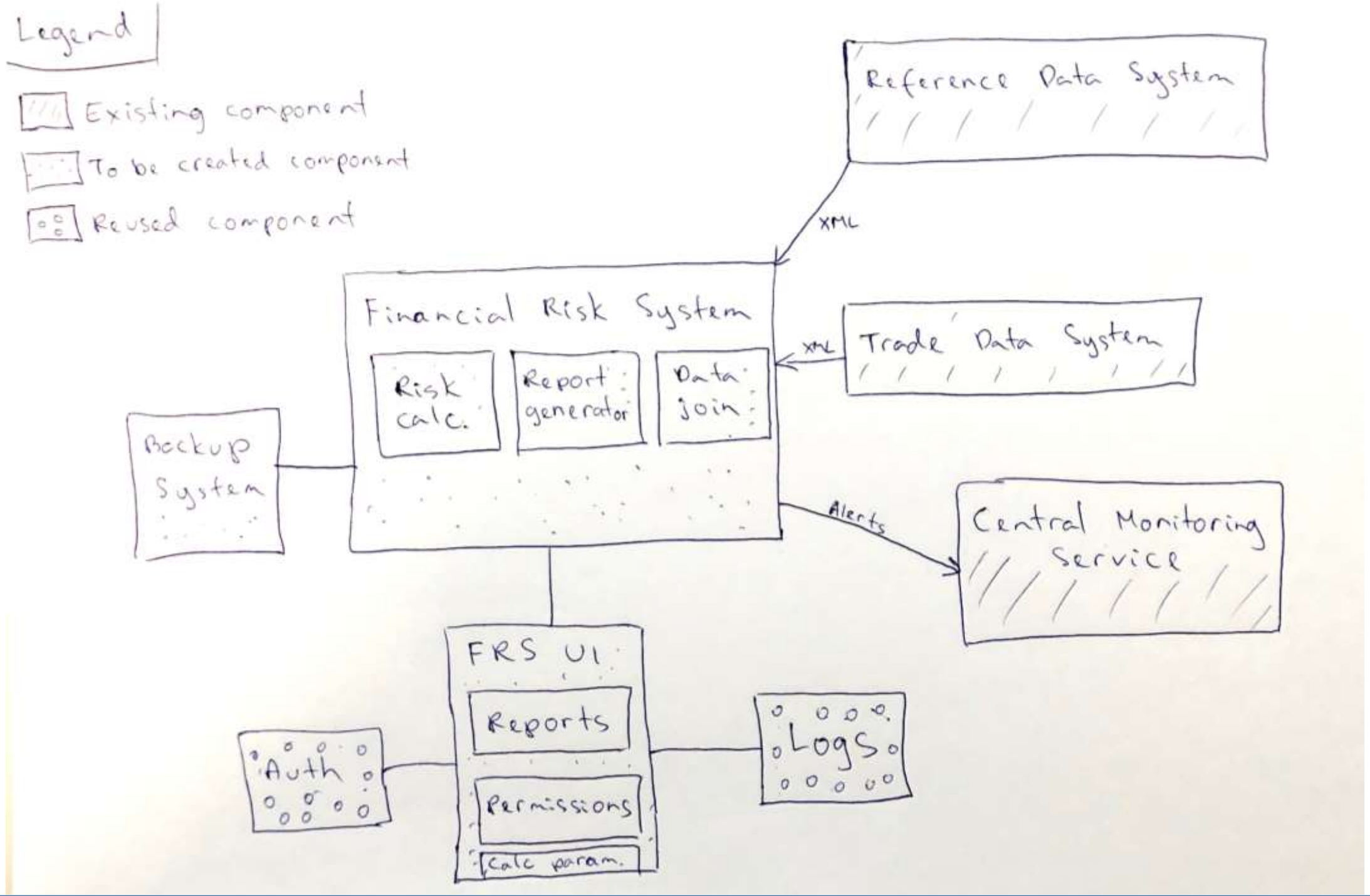
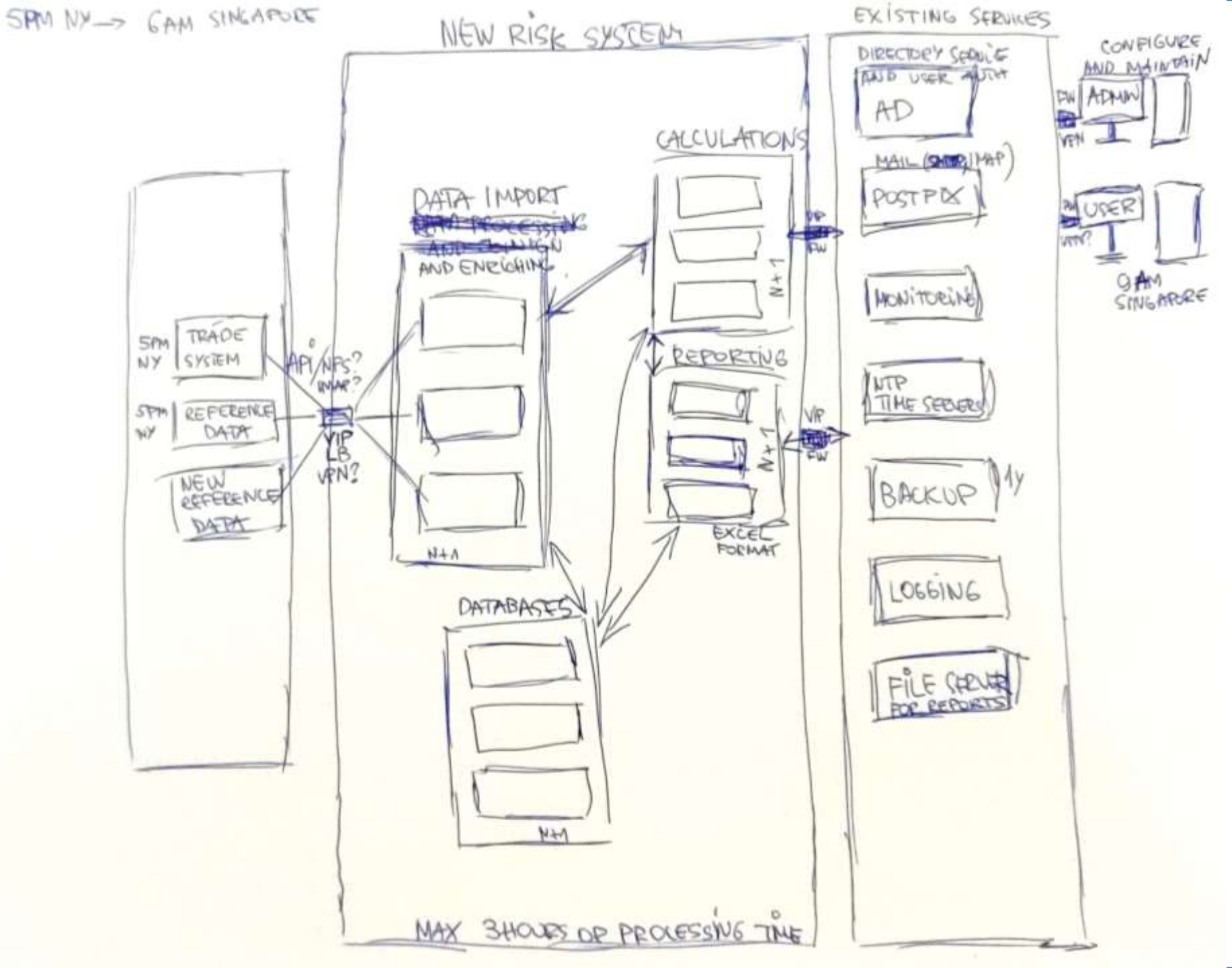
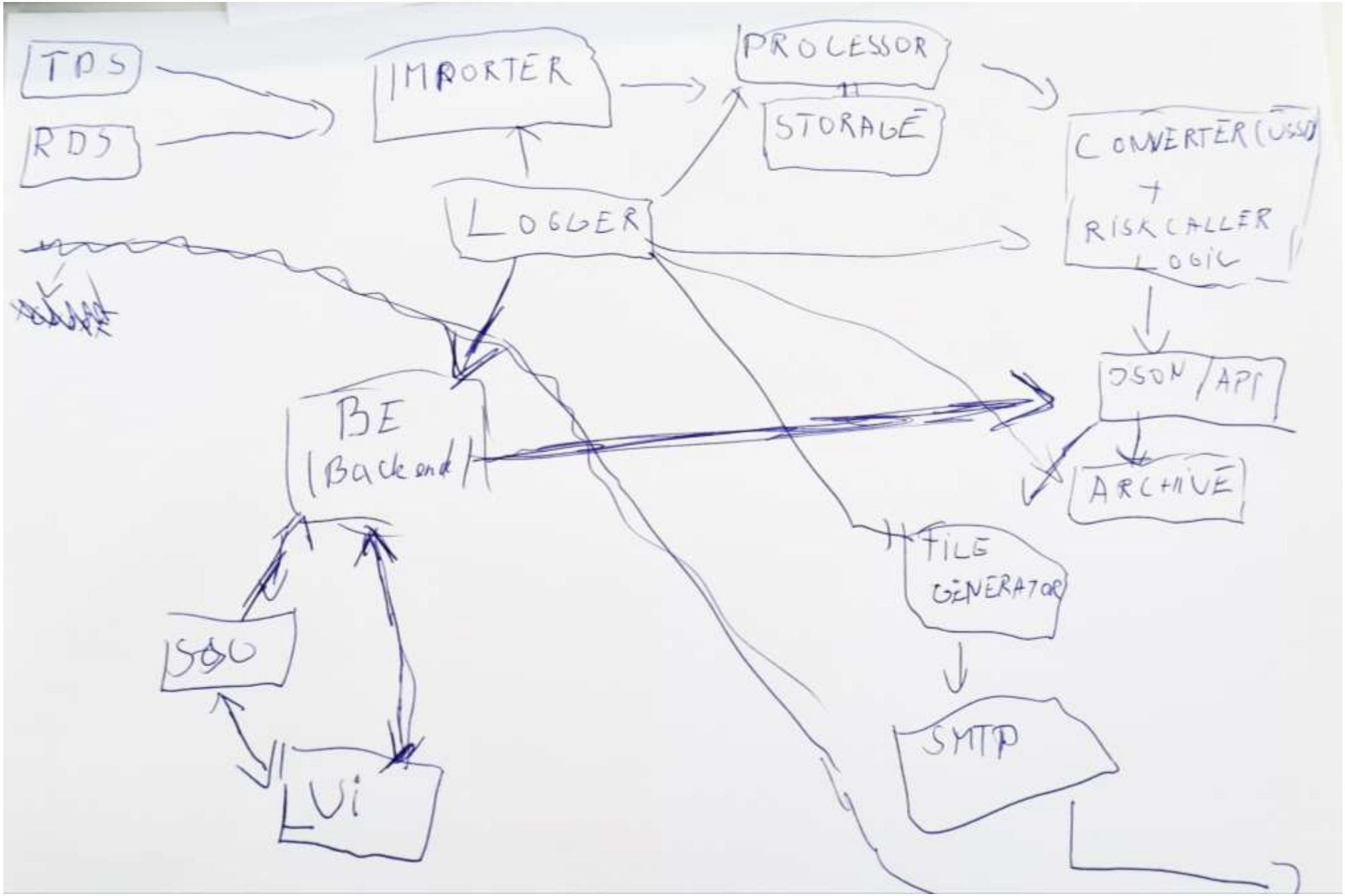
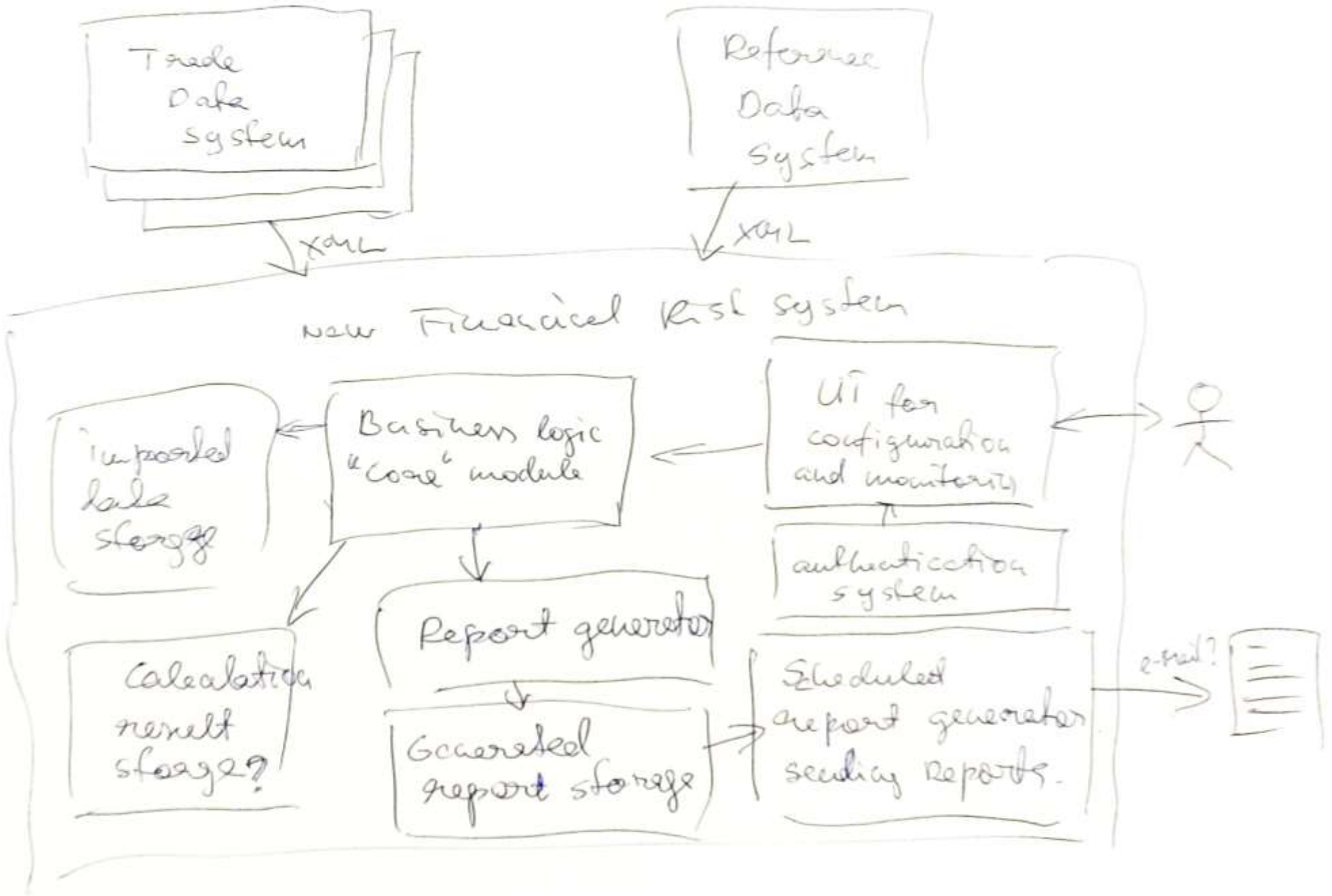

UNIX BOX
RS
TRANSPORT + LOGIC
JBOSS INSTANCE
ERROR
JBOSS INSTANCE (WEB CONTAINER ONLY)
WINDOWS BOX
MS
SQL
SERVER
MS
REPORTING SERVICE

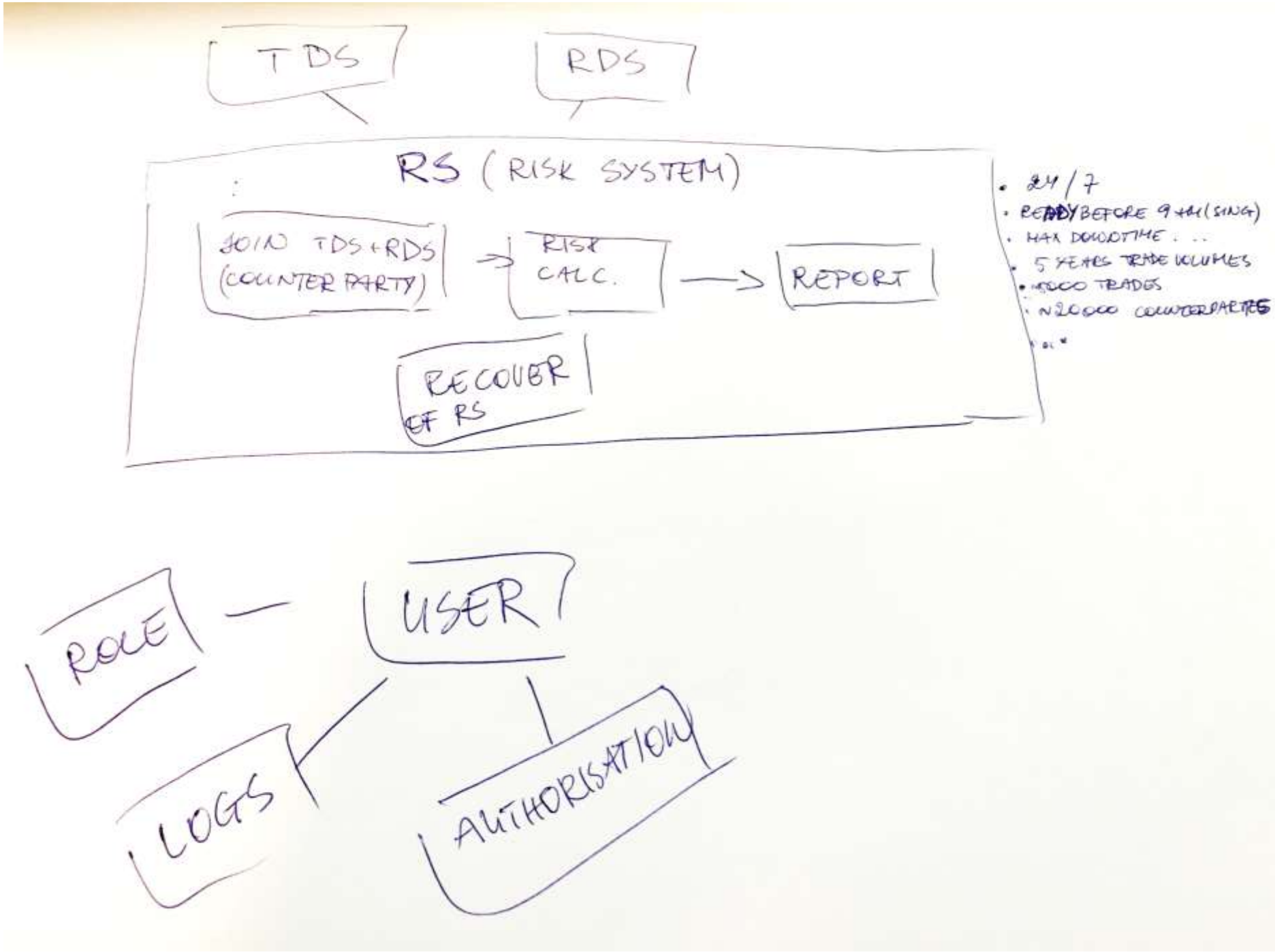

NEW
CURRENT
AUDIT LOG SERVER
TDS
COMPANY ACTIVE DIRECTORY
TRAIL
TRAIL
RDS
ERS REPORT GENERATOR
AUTHORIZE
1...*
FILE SERVER
IMPORT
IMPORT
ERRORS
FINANCIAL RISK SYSTEM API
TRADE REPORT
KER REPORT
MONITORING SOLUTION
GENERATE
GENERATE
RISK REPORT.xls
REPORT_ARCHIVE
ERRORS
RISK MANAGEMENT UI

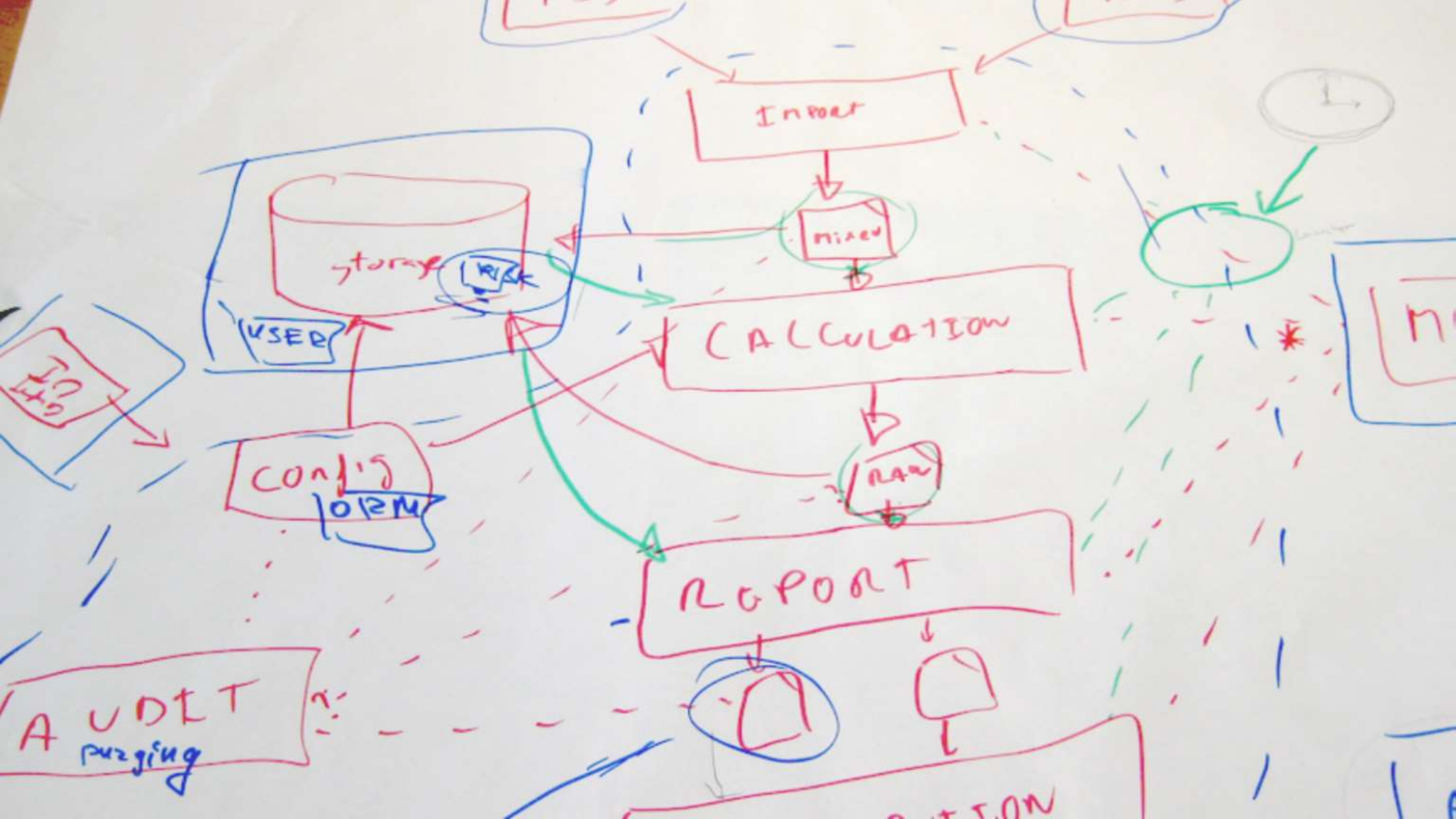

Legend
Existing component
To be created component
Reused component
Reference Data System
XML
Financial Risk System
Risk calc.
Report generator
Data join
XML
Trade Data System
Backup System
Alerts
Central Monitoring Service
FRS UI
Reports
Permissions
calc param.
Auth
Logs

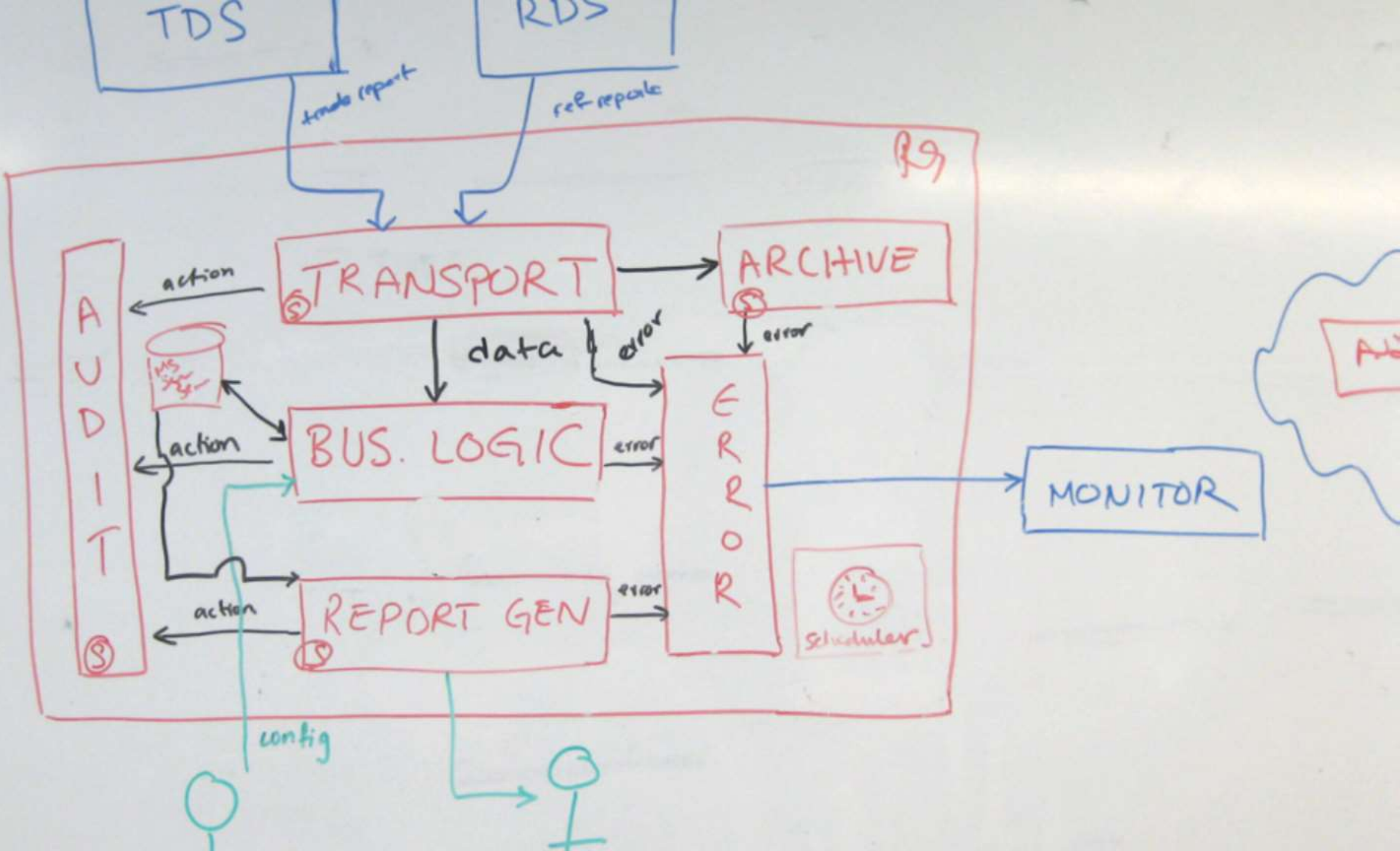

SPM NY → GAM SINGAPORE
NEW RISK SYSTEM
EXISTING SERVICES
DIRECTORY SERVICE AND USER AUTH
AD
CONFIGURE AND MAINTAIN
ADMIN
FW
VPN
USER
VPN?
GAM SINGAPORE
CALCULATIONS
DATA IMPORT
AND ENRICHING
N+1
FW
MAIL (SMTP/IMAP)
POSTFIX
MONITORING
REPORTING
N+1
VIP
FW
EXCEL FORMAT
NTP TIME SERVERS
BACKUP
1y
LOGGING
FILE SERVER FOR REPORTS
SPM NY
TRADE SYSTEM
SPM NY
REFERENCE DATA
NEW REFERENCE DATA
API/NFS? IMAP?
VIP
LB
VPN?
DATABASES
N+M
MAX 3HOURS OF PROCESSING TIME


TDS
RDS
IMPORTER
PROCESSOR
STORAGE
CONVERTER (JSON)
+
RISK CALLER LOGIC
LOGGER
BE
(Backend)
JSON / API
ARCHIVE
FILE GENERATOR
SMTP
SSO
UI


Trade Data system
Reference Data System
XML
XML
New Financial Risk system
Imported data storage
Business logic "Core" module
UI for configuration and monitoring
authentication system
Calculation result storage?
Report generator
Generated report storage
Scheduled report generator sending Reports.
e-mail?


TDS
RDS
RS (RISK SYSTEM)
JOIN TDS+RDS (COUNTER PARTY)
RISK CALC.
REPORT
RECOVER OF RS
24/7
BEFORE 9 AM (SING)
5 YEARS TRADE VOLUMES
N20000 COUNTERPARTIES
ROLE
USER
LOGS
AUTHORISATION


storage
USER
CALCULATION
REPORT
AUDIT
purging


TDS
RDS
trade report
ref repair
R9
TRANSPORT
ARCHIVE
AUDIT
action
data
error
error
BUS. LOGIC
action
error
ERROR
MONITOR
REPORT GEN
action
error
scheduler
config


Params
Calcs
Risk outputs
EH?
Error
App Log
App
Date
- Risk Sel
- calcs
- Par
Batch
Params_Audit
Detail
B_id:

Language vs. Methodology

- **Modeling Language**
  - Defines elements and their relationship
  - Defines syntax and semantics
  - *What type of elements can be used during modeling?*
  - E.g. Boxes and lines ☺, UML, SysML, BPMN …
- **Development Methodology**
  - Defines the steps of analyzing and designing the system
  - Defines the usage of the model elements and diagrams
  - *How shall the model be built?*
  - E.g. C4 model by Simon Brown, Agile Unified Process (AUP) …

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Modeling Methodology gives the Answers

How should I start and what do next?

How to prevent redundancy in the Model?

Why does everyone model differently?

What diagrams should I use for what purpose?

Why does SysML/UML not help me to solve these problems?

???

How should I structure the model?

What does Traceability mean?

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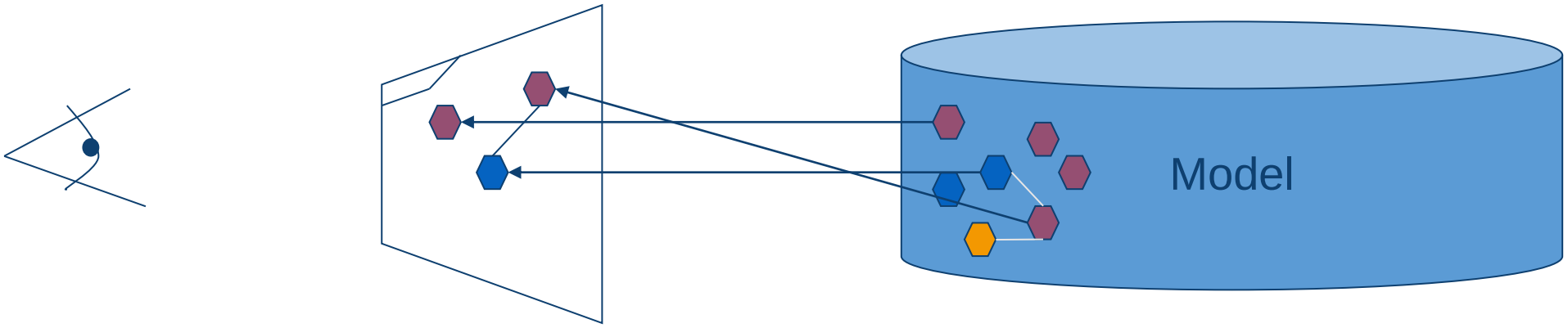
What is a model?

- **Model** is an **abstraction** of the **reality**
  - To provide information in an understandable way
  - To show essential system aspects
  - For communication purpose (project member, customer)
  - To represent complex architectures
- **Diagram** is a **graphical representation** of the **model**



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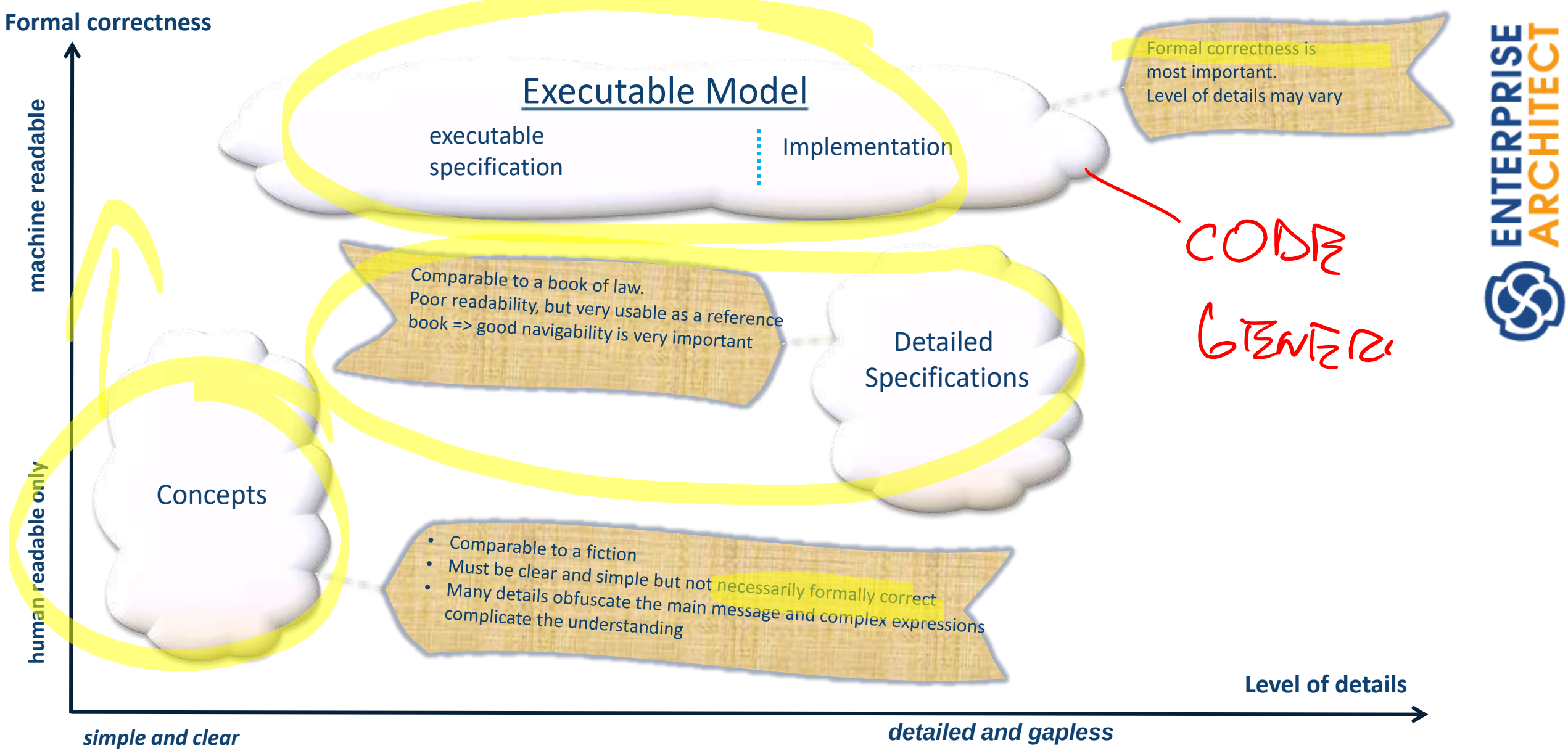

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Model types

	Text based	Model based
Language	German/ English / etc.	UML, SysML, BPMN, ...
Tool	Visio, ...	Enterprise Architect

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Writing Specifications

Text based

Model based

Visio

Deutsch /
Englisch / etc.

The used tools must be mastered.

The used languages must be mastered.

The structure of the document must be well thought-out, as well as the structure of the model.



The details and the level of abstraction of the content must be elaborated and possibly described as examples.



A solution to the problem is identical in both variants.





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Text based

Model based

Visio

Deutsch /
Englisch / etc.

The used tools must be mastered.

The used languages must be mastered.

The structure of the document must be well thought-out, as well as the structure of the model.



The details and the level of abstraction of the content must be elaborated and possibly described as examples.





A solution to the problem is identical in both variants.



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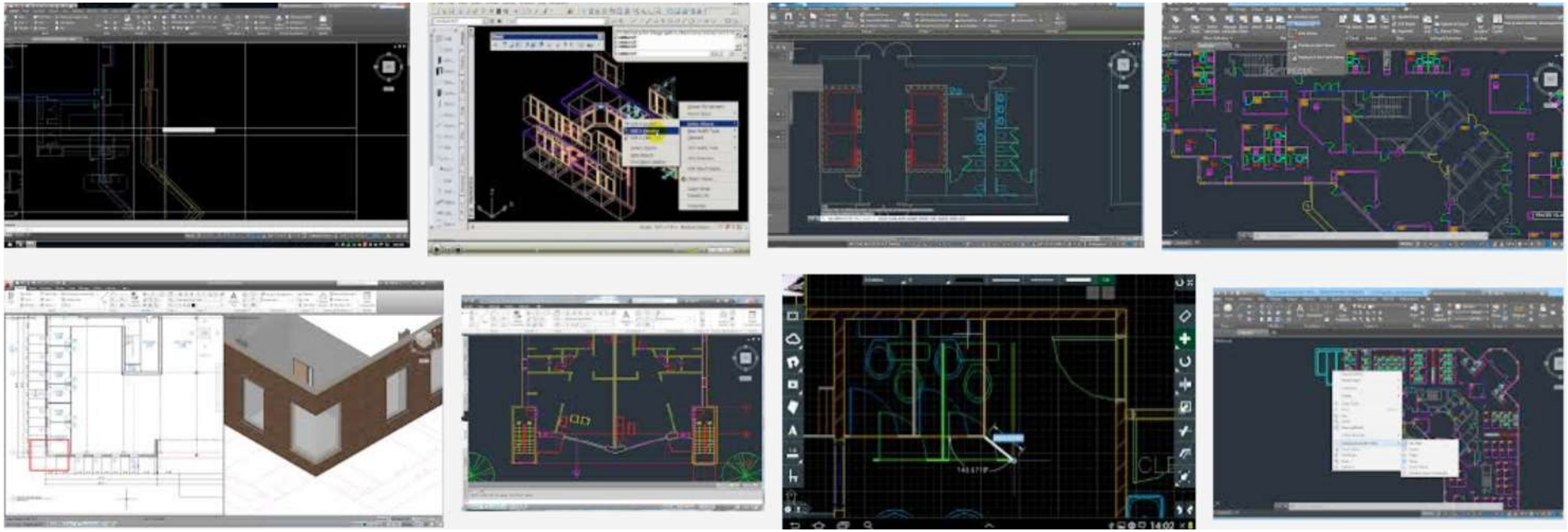
How can you explain that?

Do structural engineers and building architects use general purpose drawing tools?



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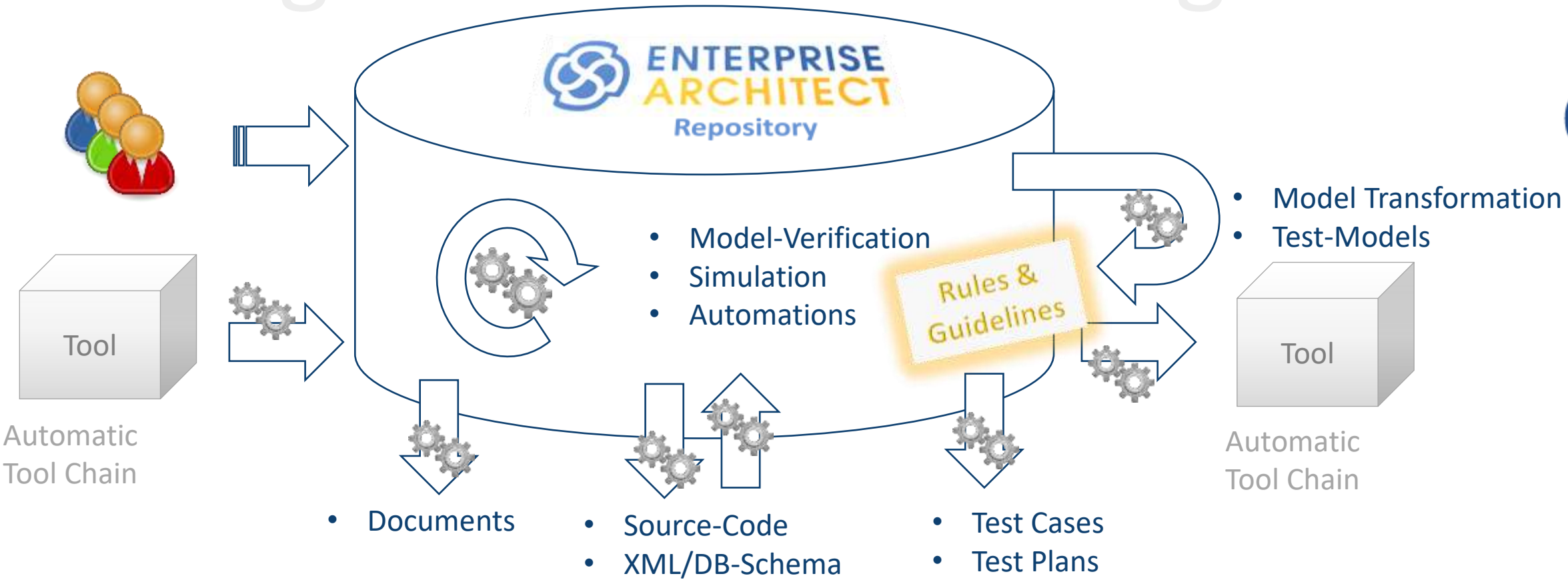
What is the advantage of models?

Garbage in → Garbage out



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If everything is made "right", you can automate it!

What should we model?

Who reads the model?

What information should be read from the model?

Concrete questions:

Where is the information X received?

What data is transmitted with the information?

What interfaces does the system have?

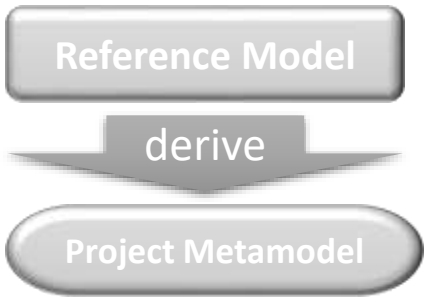
What are the building blocks and how much do they cost?

Which requirements are implemented by a module?

Which test is testing which requirement?

Under which circumstances does the reception of signal X lead to the execution of the behavior Y?

Create sample model:



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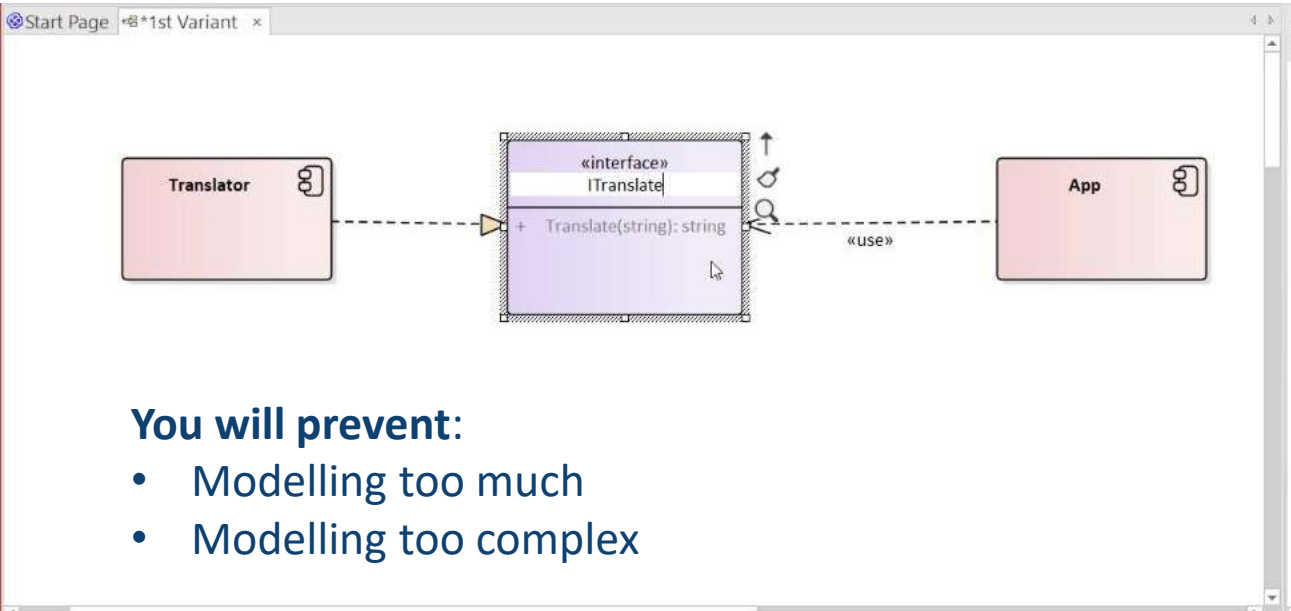
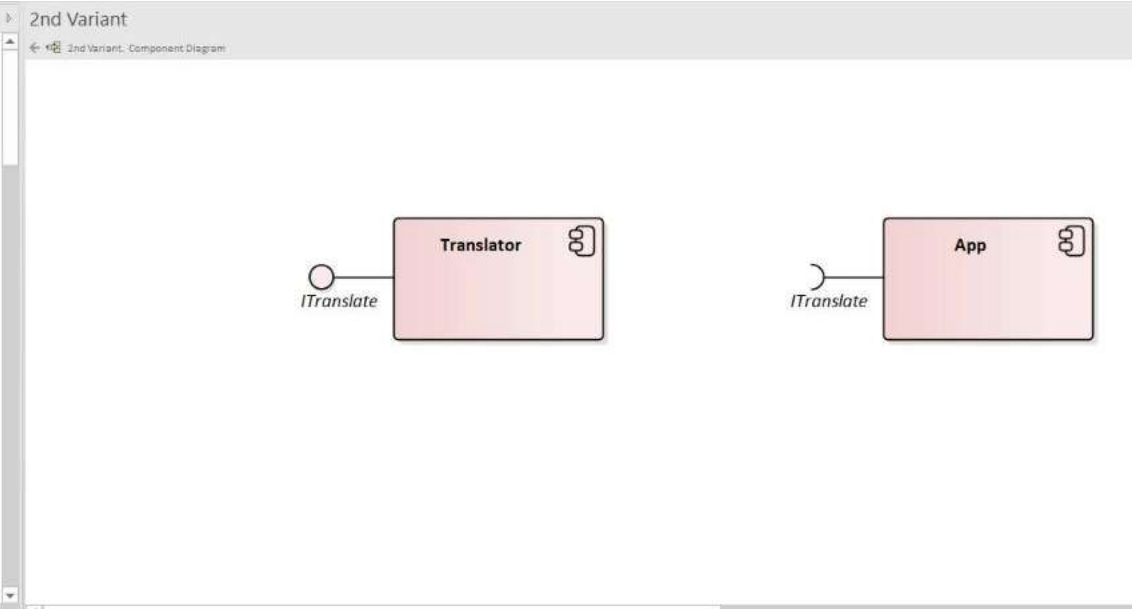
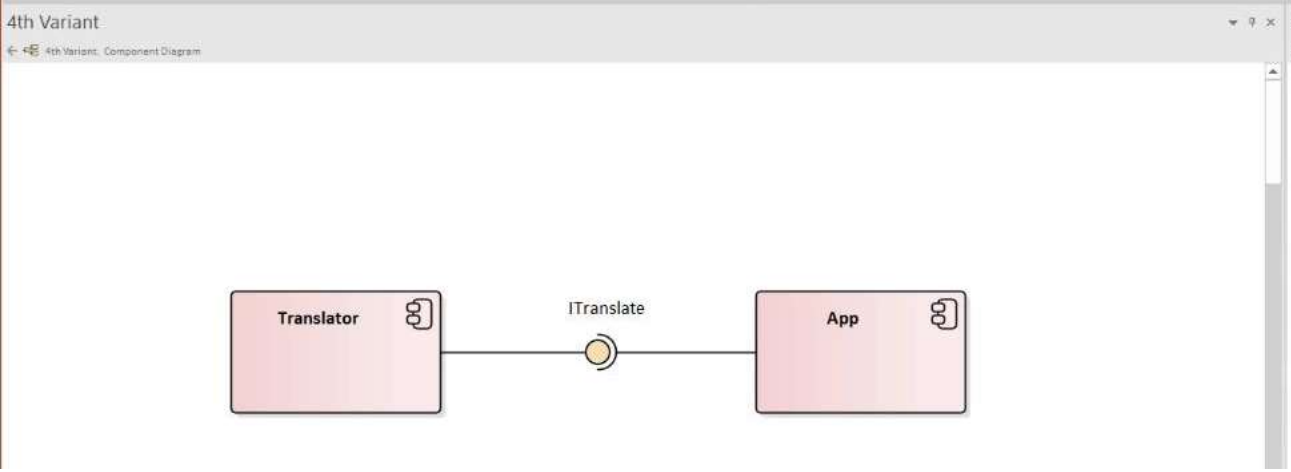
How to find my Modelling Approach?

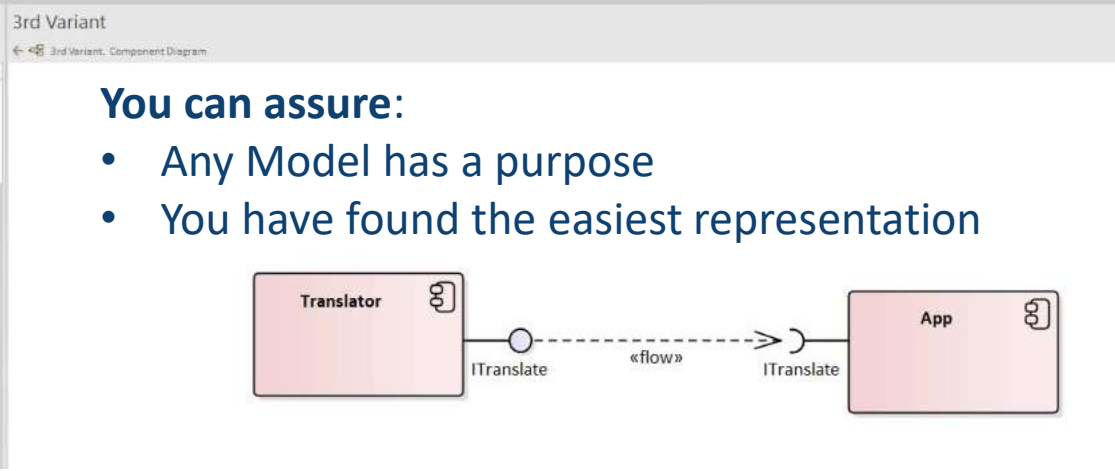


You will prevent:

- Modelling too much
- Modelling too complex







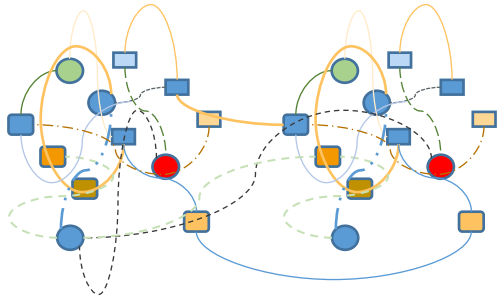
You can assure:

- Any Model has a purpose
- You have found the easiest representation

The more questions we have,
the easier it is to find the required language elements!

What the Modelling Approach consists of?

Models are structured data with a graphical representation!
What is the structure of this?



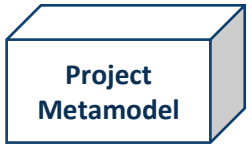
To prevent models like this, we **need a modelling approach**!

Who reads the model?

What information should be read from the model?

Modelling Approach

Method



Process

* Which Artifact should be created
* When
* Who's responsible for that step

What language elements should be used? *
What connectors should be used? *
What element should be connected with which connector? *
Define additional Stereotypes and Tags if required *

Approach specific subset of the **language & required extensions for the Domain (DSL)**

UML PROFILE

How to model structure (Packages) should look like? *
Which elements should be contained in which Package? *

Approach specific **model structure**

Define additional rules, constraints and guidelines *

Approach specific **Governance**

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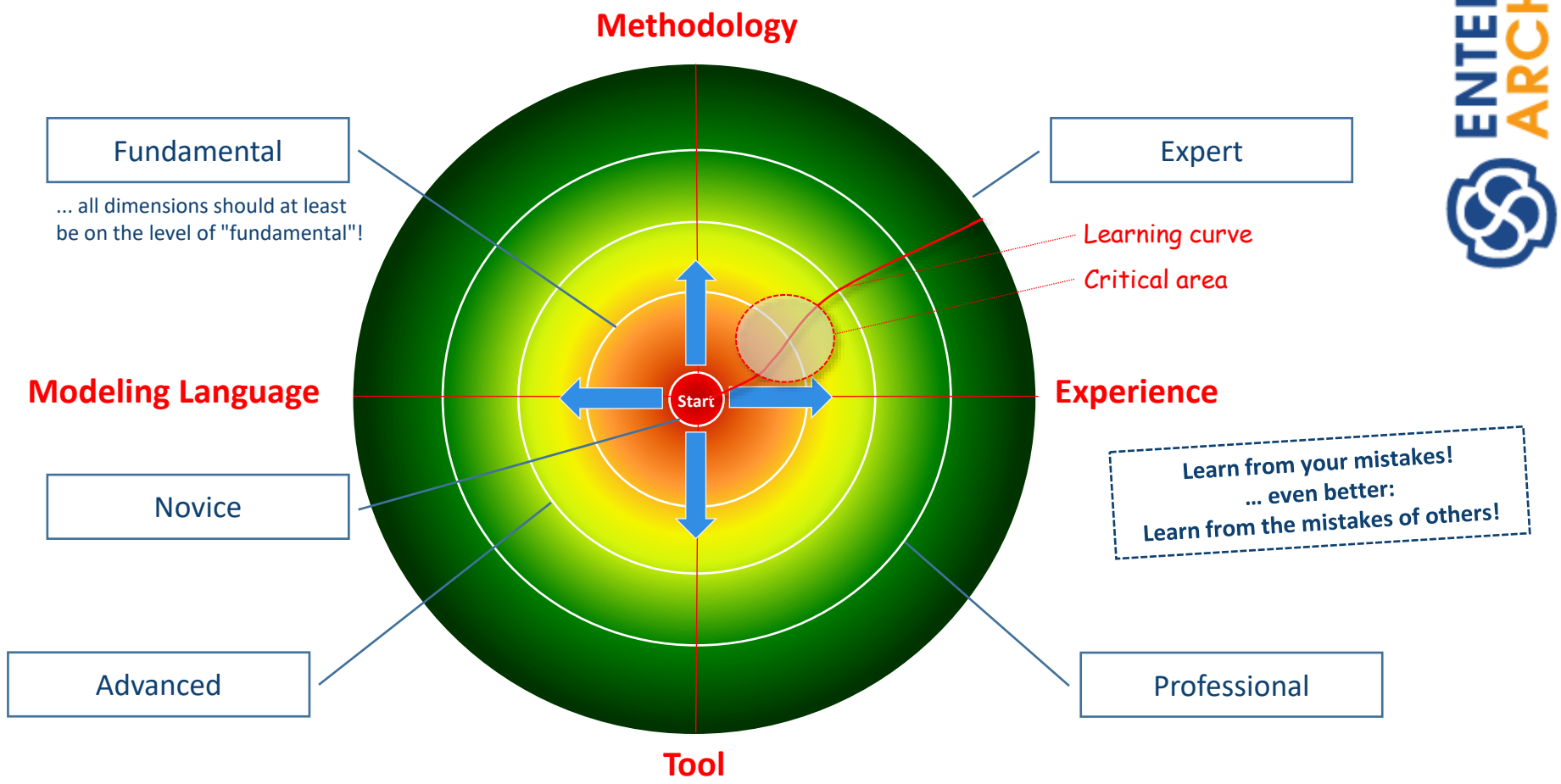
The challenge of introducing modeling approaches

"A fool with a tool is just a fool"

"A genius without a tool is not productive"



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Challenges without Modelling not solvable → Complexity → Traceability trough whole V-Modell → Process Optimization

Process to elaborate the Modelling Approach?



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We teach you the basics	Expert Workshop	Basic Knowledge
We consult you and provide Examples.	Collect the required Question	Required Information, the model should answer
We consult you and provide best practice.	Create a Reference Model	Reference Model
We consult you and help you deriving the Project Metamodel and required Automations	Stress Test the Model	Project Metamodel, EA Configuration, Automations
Prepare the required training material	Training Preparation	Customized Training Material
Do the training based on the customized Modelling Approach	Training	Skilled Employees

Your customized **Modelling Approach**



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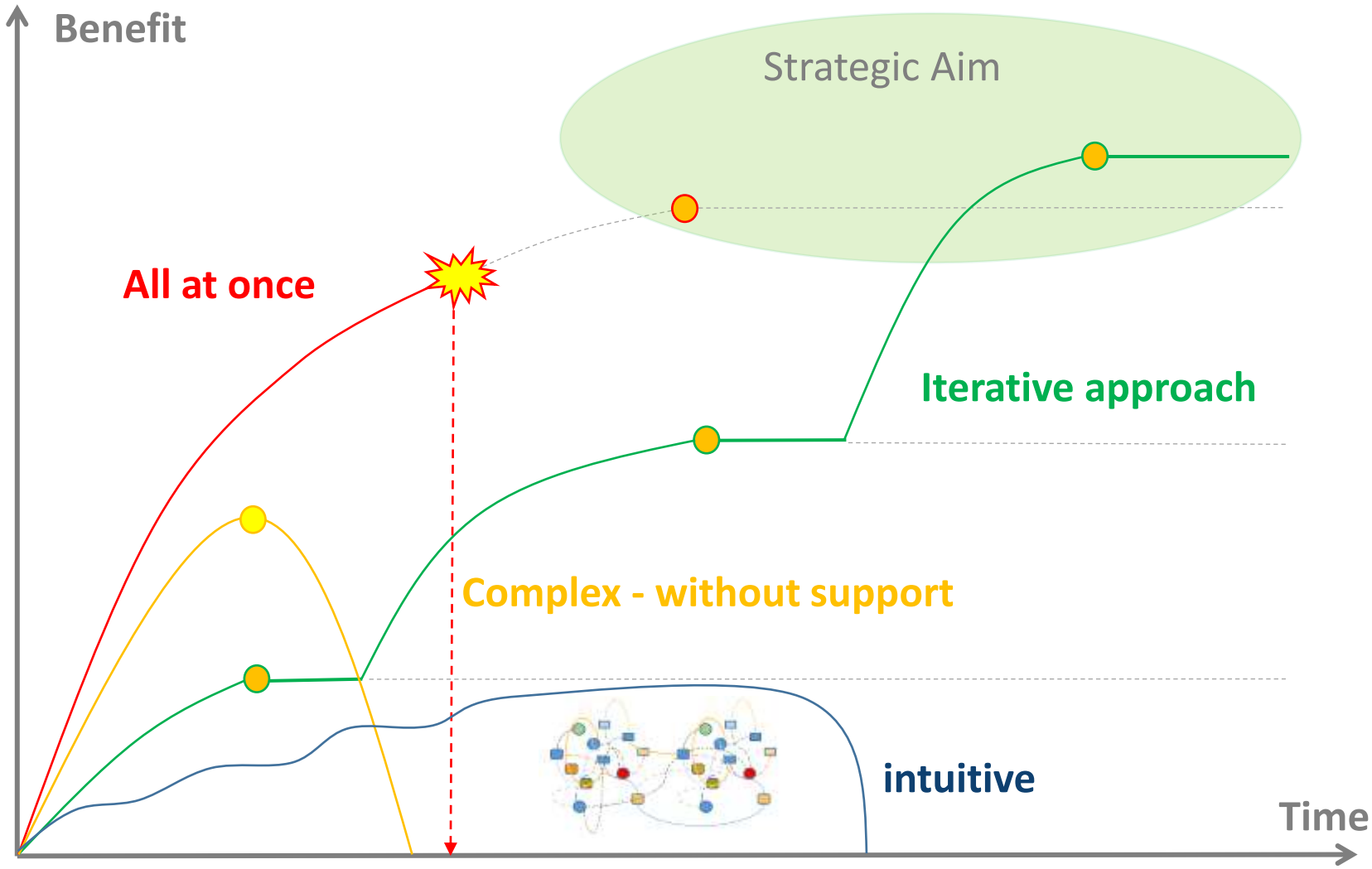
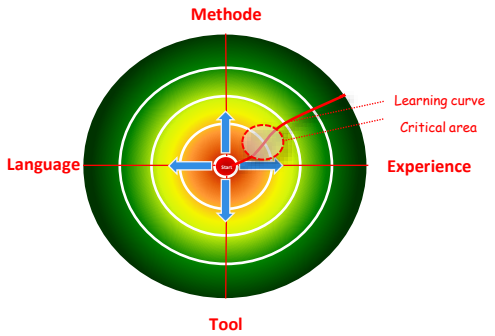
How to successfully fail with your Modelling Approach?





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Conclusion

- Model-based approaches involve a certain amount of effort.
- The team needs the necessary skills.
- The extra cost is paid when a suitable modeling approach applied.
- The modeling approach must be maintained so that the models will pay off.



