

SOFTWARE ARCHITECTURE

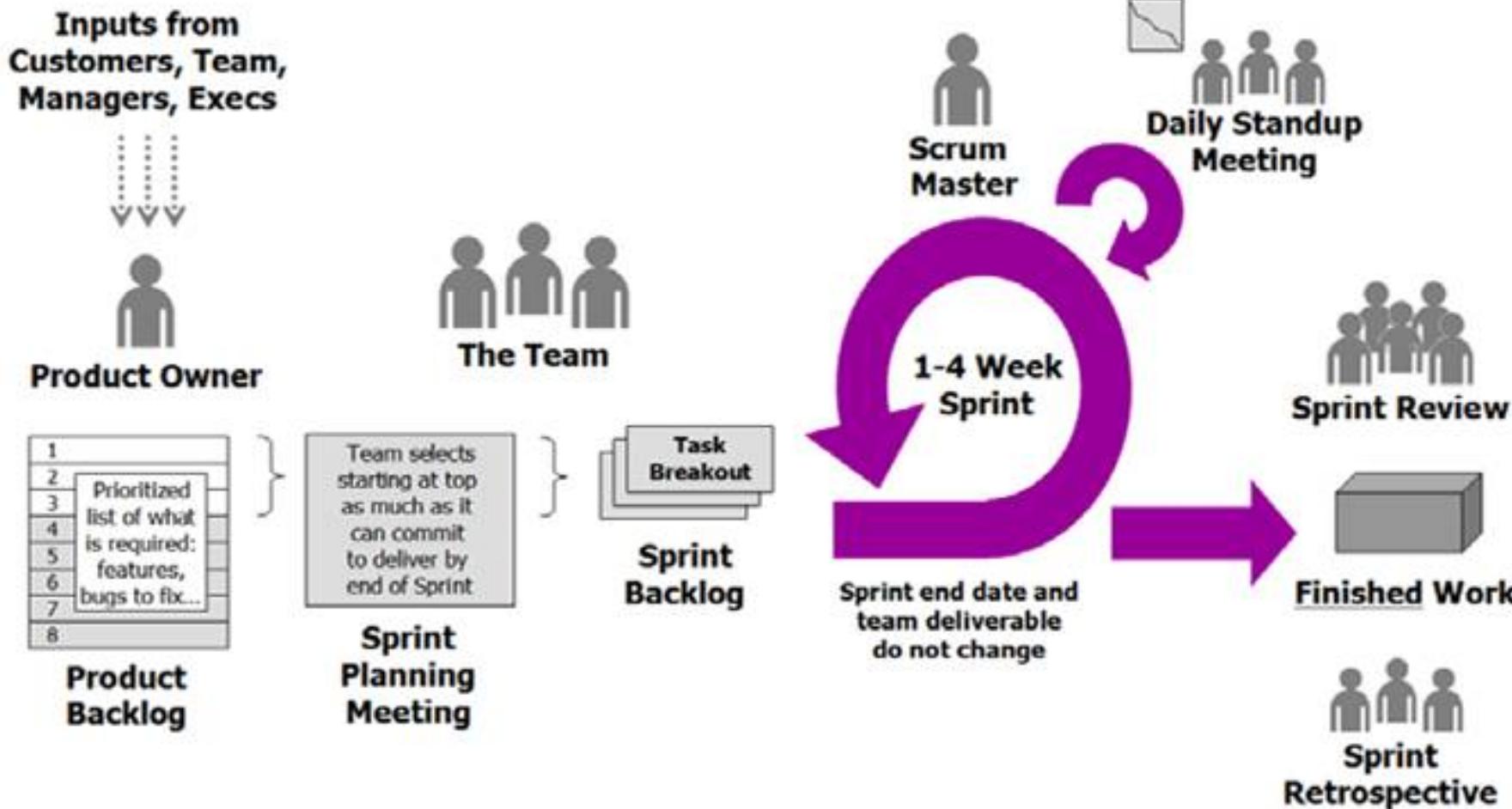
G. Molines
2020-2021



WHAT JOBS?

WHAT SKILLS?





Typical dev. team

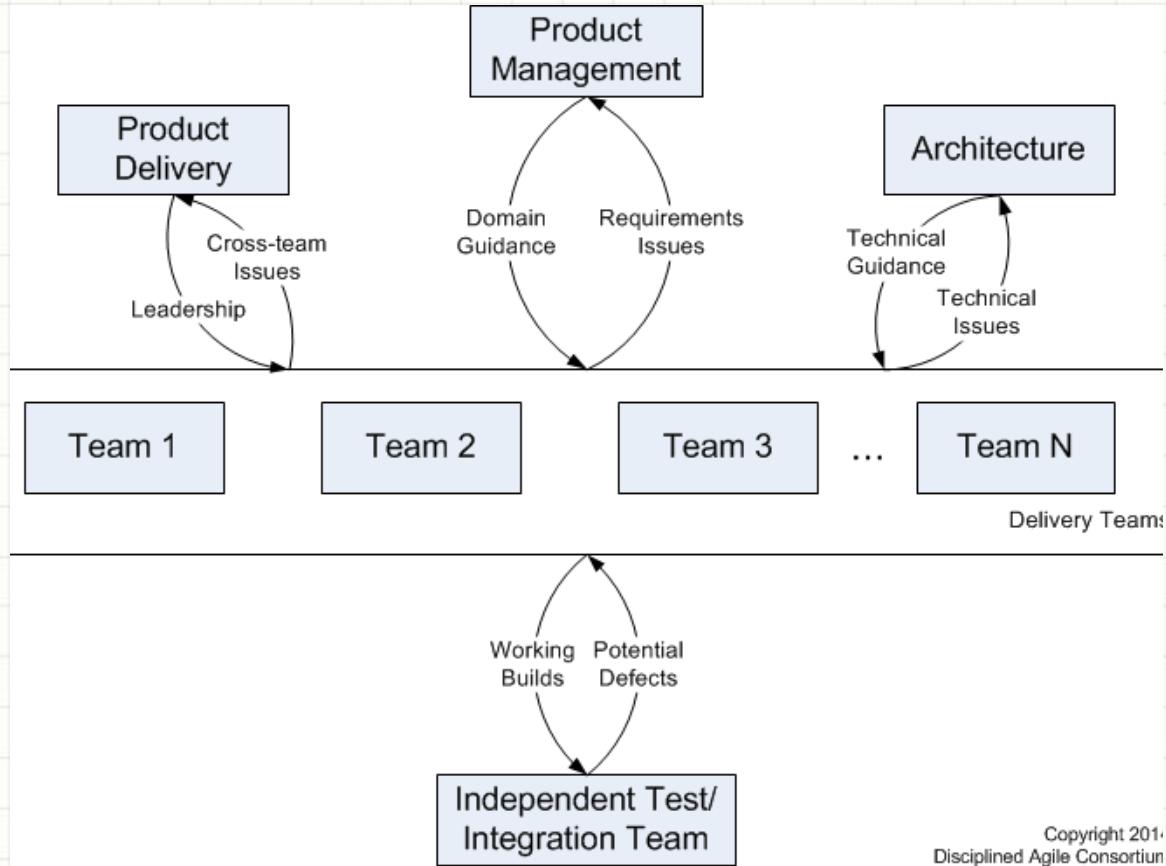
Product Owner: what skills?



10 person team at Service Provider

RFP – pre-sales situation

Role of the architect ?



Copyright 2014
Disciplined Agile Consortium

Architects in a large team

Dedicated architecture group

Architect Skills

- Highly technical
- Abstraction
- Breadth and depth of knowledge (now)
- Vision (tomorrow)
- Keep current
- Communication
- Listening
- Leading
- Decision making
- Understands customer

Best Jobs in America

2015

2015 ▾

CNNMoney/PayScale's top 100 careers with big growth, great pay and satisfying work.



1 of 100

1. Software Architect

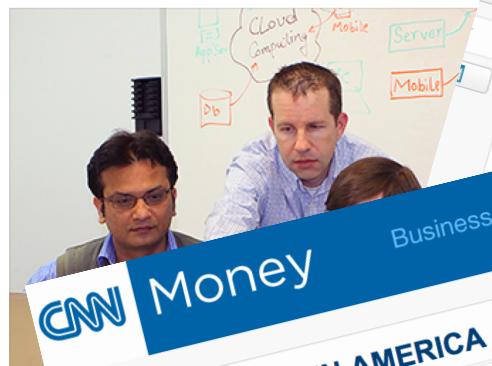
NEXT ➤

Median pay: \$124,000**Top pay:** \$169,000**10-year job growth:** 23%

In the same way an architect designs a house, software architects lay out a design plan for new programs. That usually means leading a team of developers and engineers, and making sure all the pieces come together to make fully-functioning software.

What's great: New problems come up

all the time and new technologies arise, making



8 CAREERS

Best Jobs in America

CNNMoney/PayScale's top 100 careers with big growth, great pay and satisfying work.

3. Software Architect

Median pay: \$121,000
Top pay: \$161,000
10-year job growth: 27.6%
Total jobs*: 520,800

What they do all day? Software architects play a pivotal role in building large-scale systems. They often work closely with business units to understand their needs and translate them into technical requirements. They also lead teams of developers and engineers to ensure that the final product meets the desired performance and scalability requirements.

2013

8 CAREERS

Best Jobs in America

CNNMoney/PayScale's top 100 careers with big growth, great pay and satisfying work.

3. Software Architect

Median pay: \$121,000
Top pay: \$161,000
10-year job growth: 27.6%
Total jobs*: 520,800

What they do all day? Software architects play a pivotal role in building large-scale systems. They often work closely with business units to understand their needs and translate them into technical requirements. They also lead teams of developers and engineers to ensure that the final product meets the desired performance and scalability requirements.

2012

8 CAREERS

BEST JOBS IN AMERICA

CNNMoney/PayScale.com's list of great careers

3. Software Architect

Median pay: \$119,000
Top pay: \$162,000
10-year job growth: 24.6%
Total jobs*: 3,426,000

What they do all day? Great software architects are designers and diplomats. They create innovative and valuable programs, but they also translate highly technical plans into a vision the C-suite can understand. They are a crucial link between a company's tech unit and management.

How to get the job? Unless one's last name is Gates or Zuckerberg, a computer-related degree is strongly advised. A high-level position, it requires lots of experience, technical smarts and fluid communication skills.

2012

8 CAREERS

BEST JOBS IN AMERICA

CNNMoney/PayScale.com's list of great careers

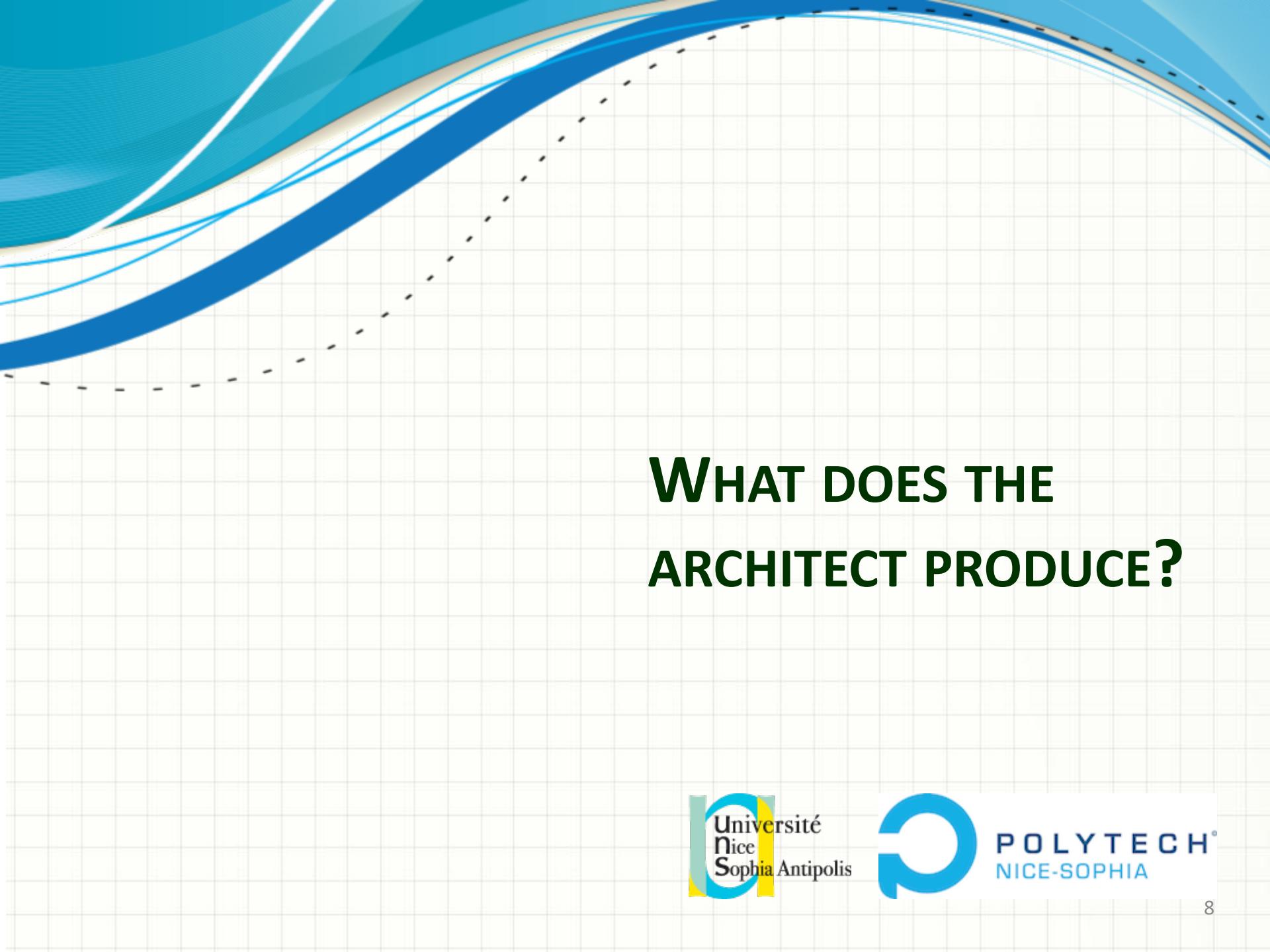
3. Software Architect

Median pay: \$119,000
Top pay: \$162,000
10-year job growth: 24.6%
Total jobs*: 3,426,000

What they do all day? Great software architects are designers and diplomats. They create innovative and valuable programs, but they also translate highly technical plans into a vision the C-suite can understand. They are a crucial link between a company's tech unit and management.

How to get the job? Unless one's last name is Gates or Zuckerberg, a computer-related degree is strongly advised. A high-level position, it requires lots of experience, technical smarts and fluid communication skills.

2012



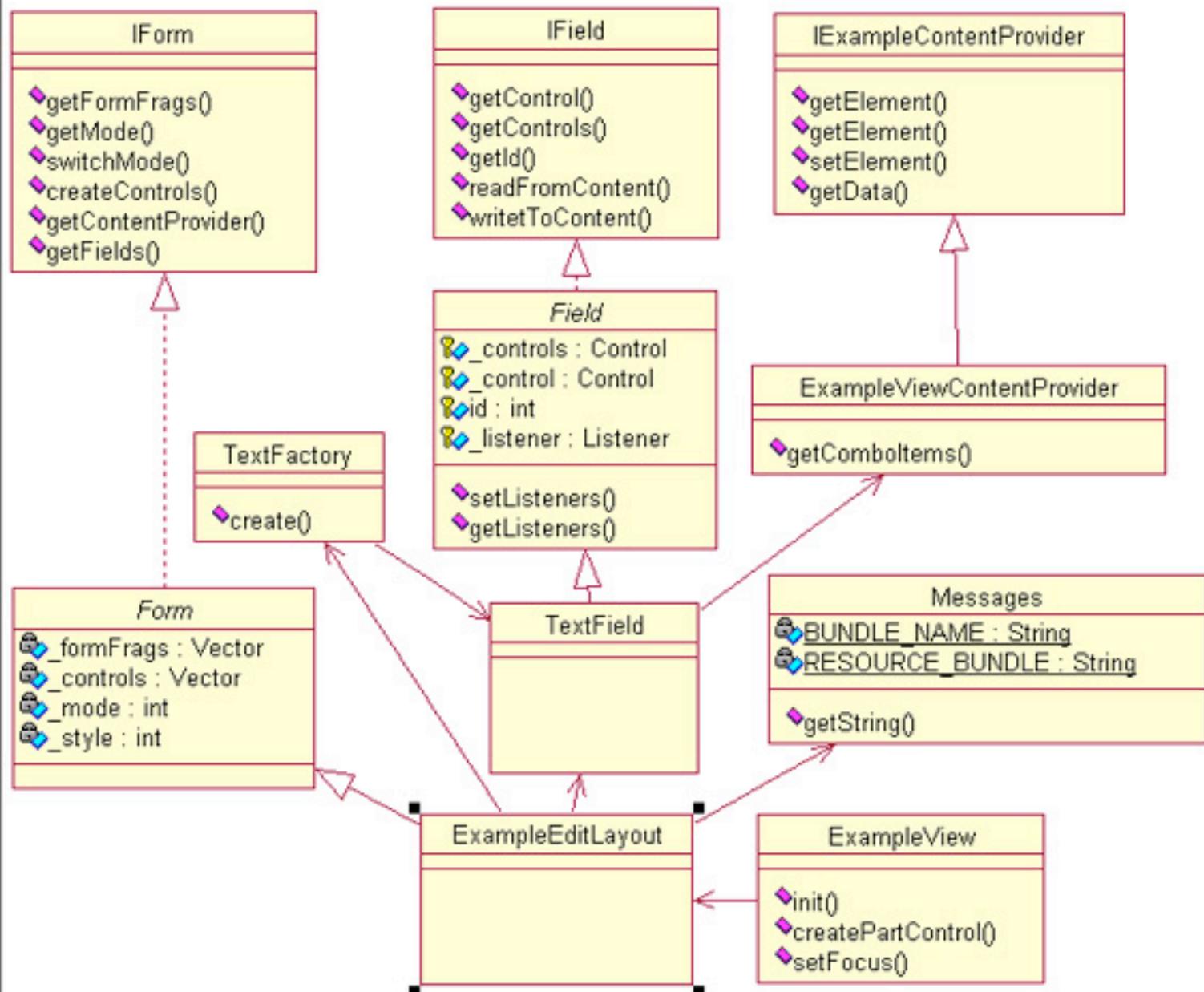
WHAT DOES THE ARCHITECT PRODUCE?

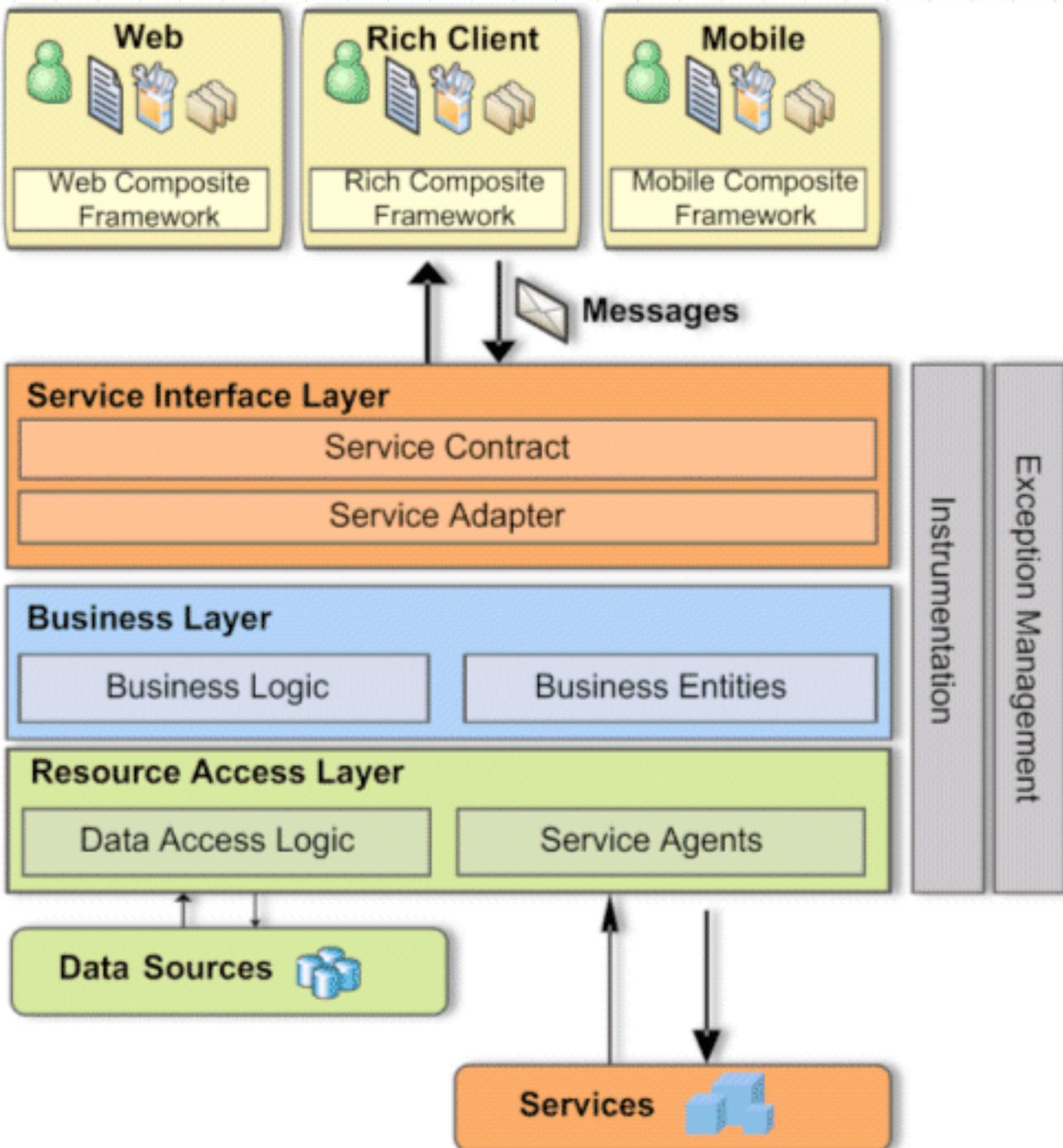


Université
Nice
Sophia Antipolis

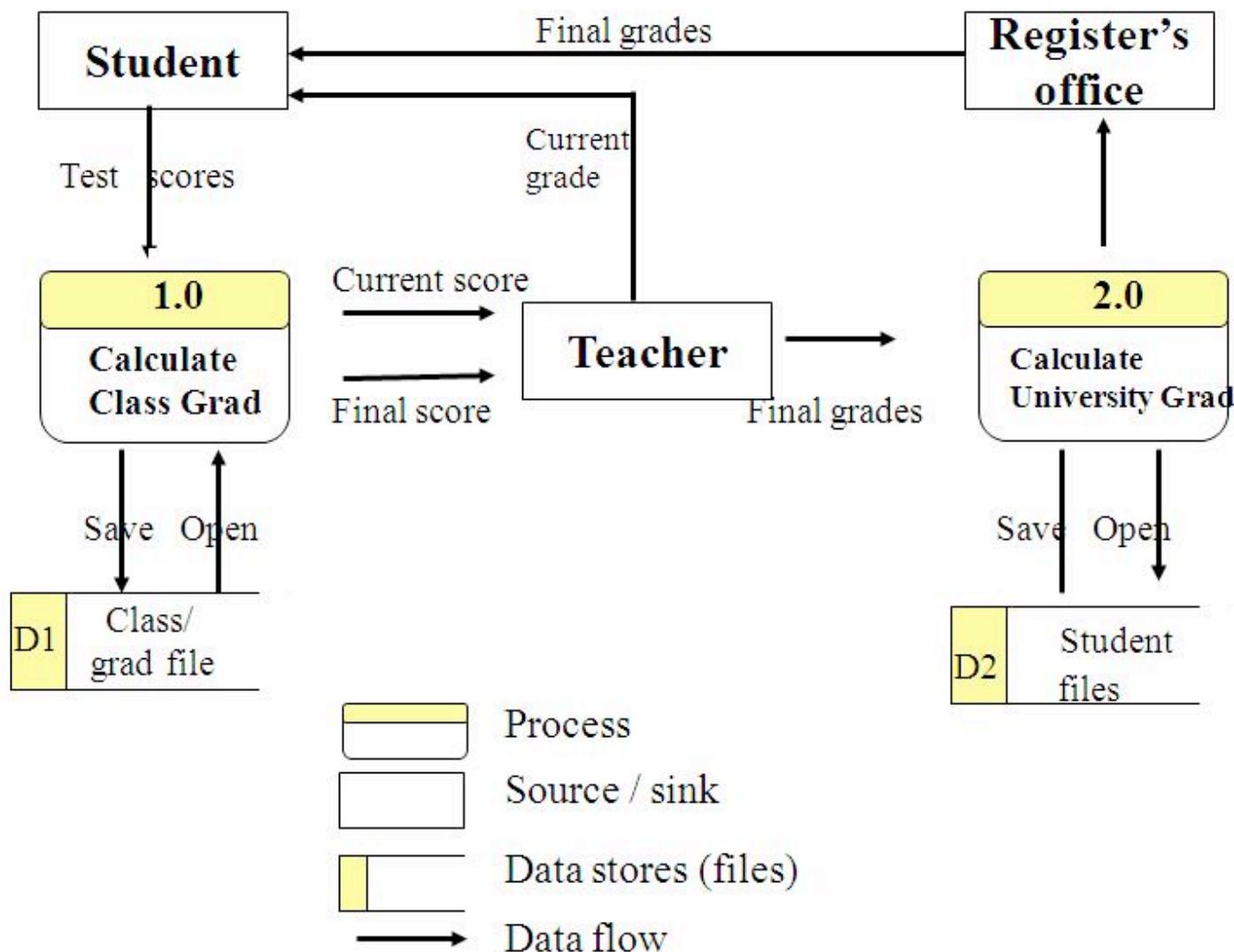


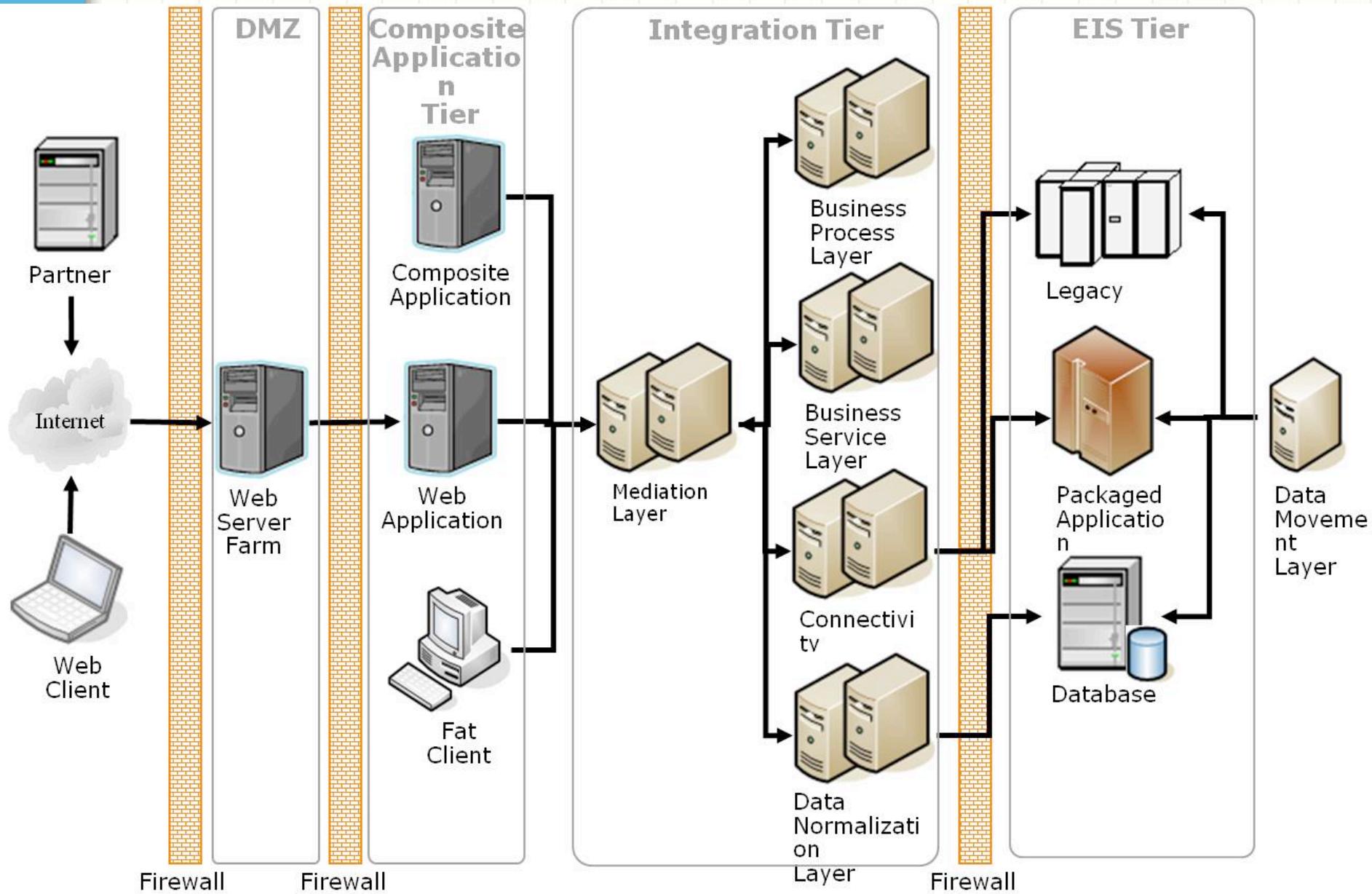
POLYTECH[®]
NICE-SOPHIA

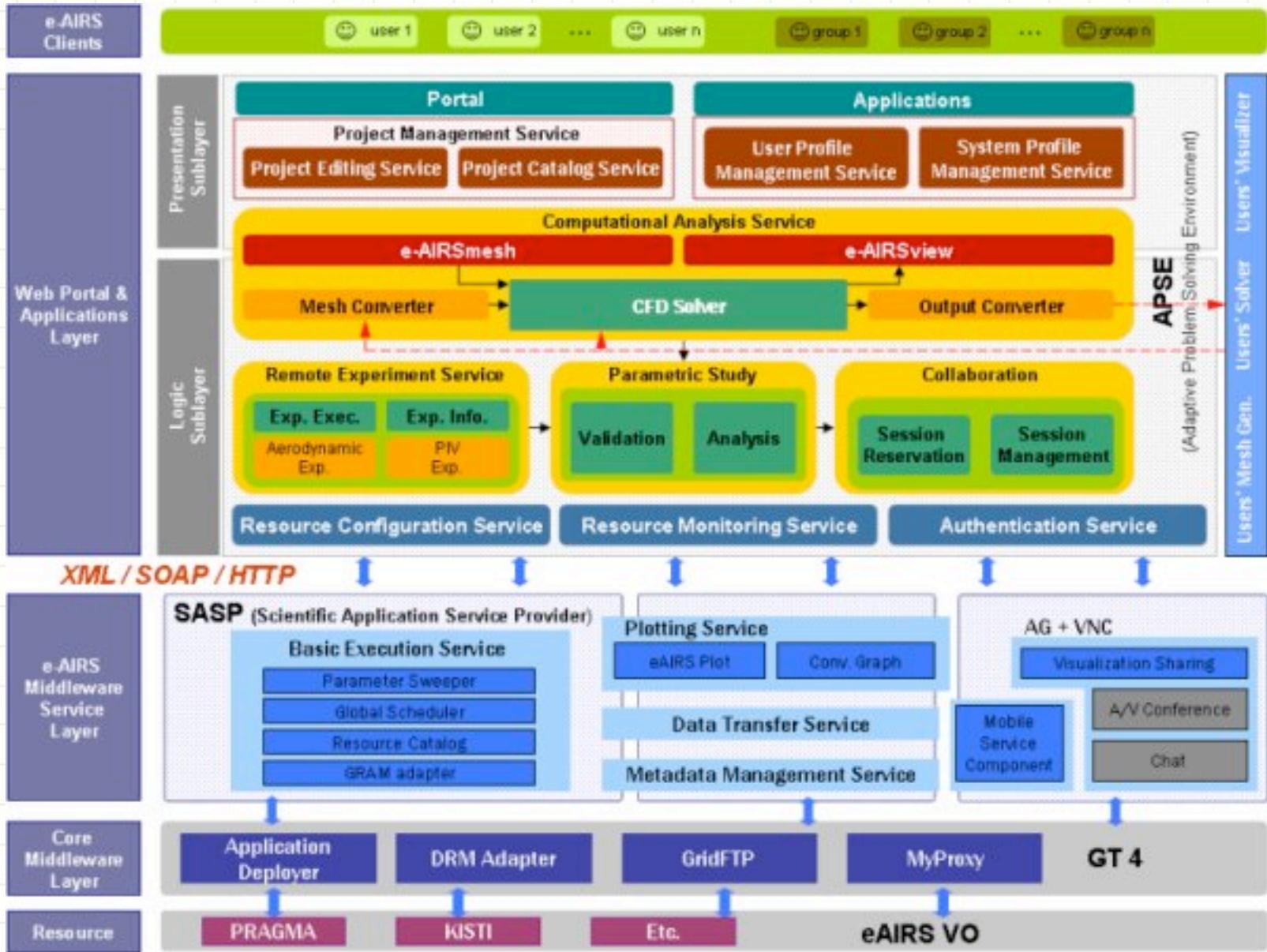


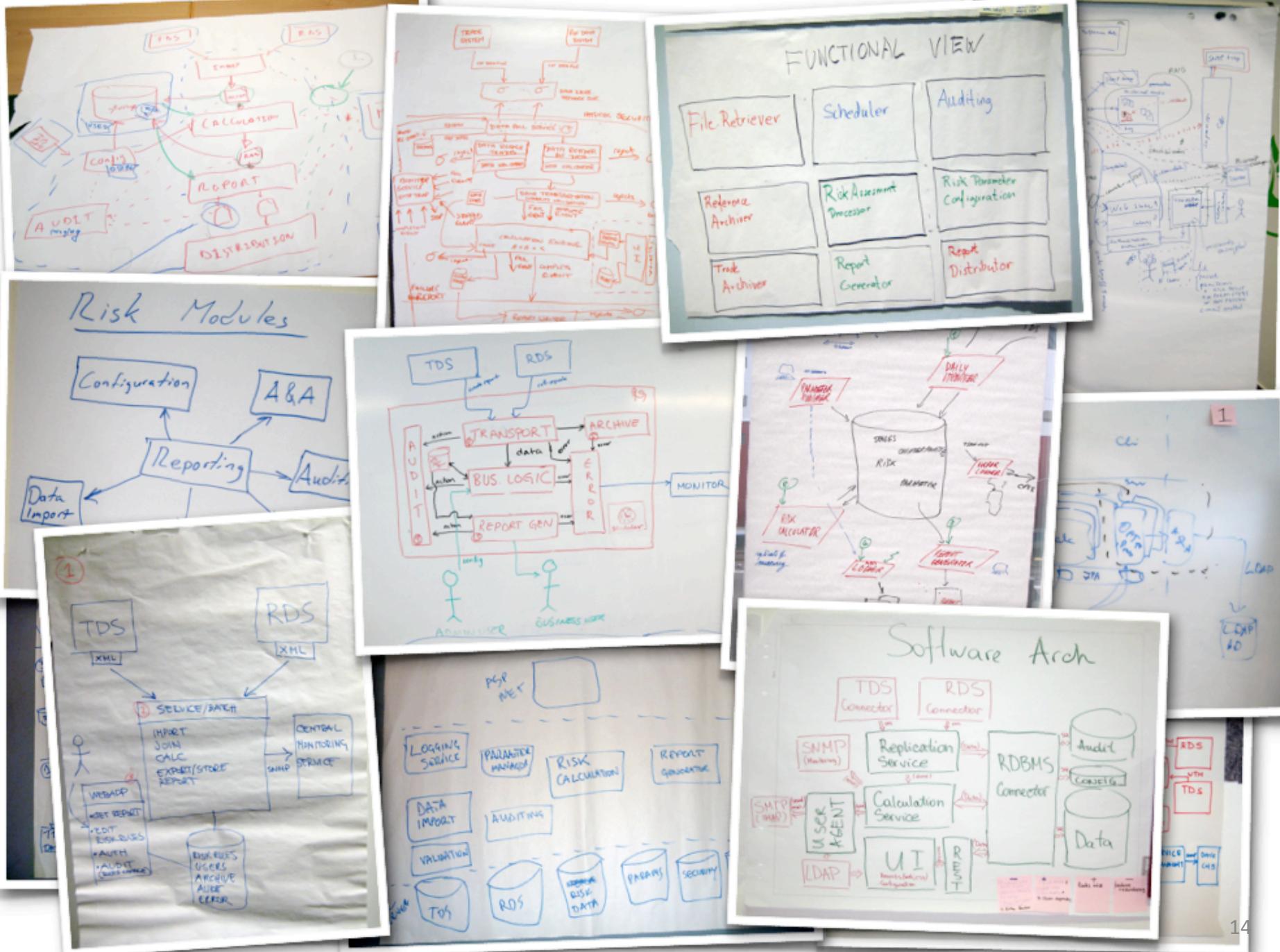


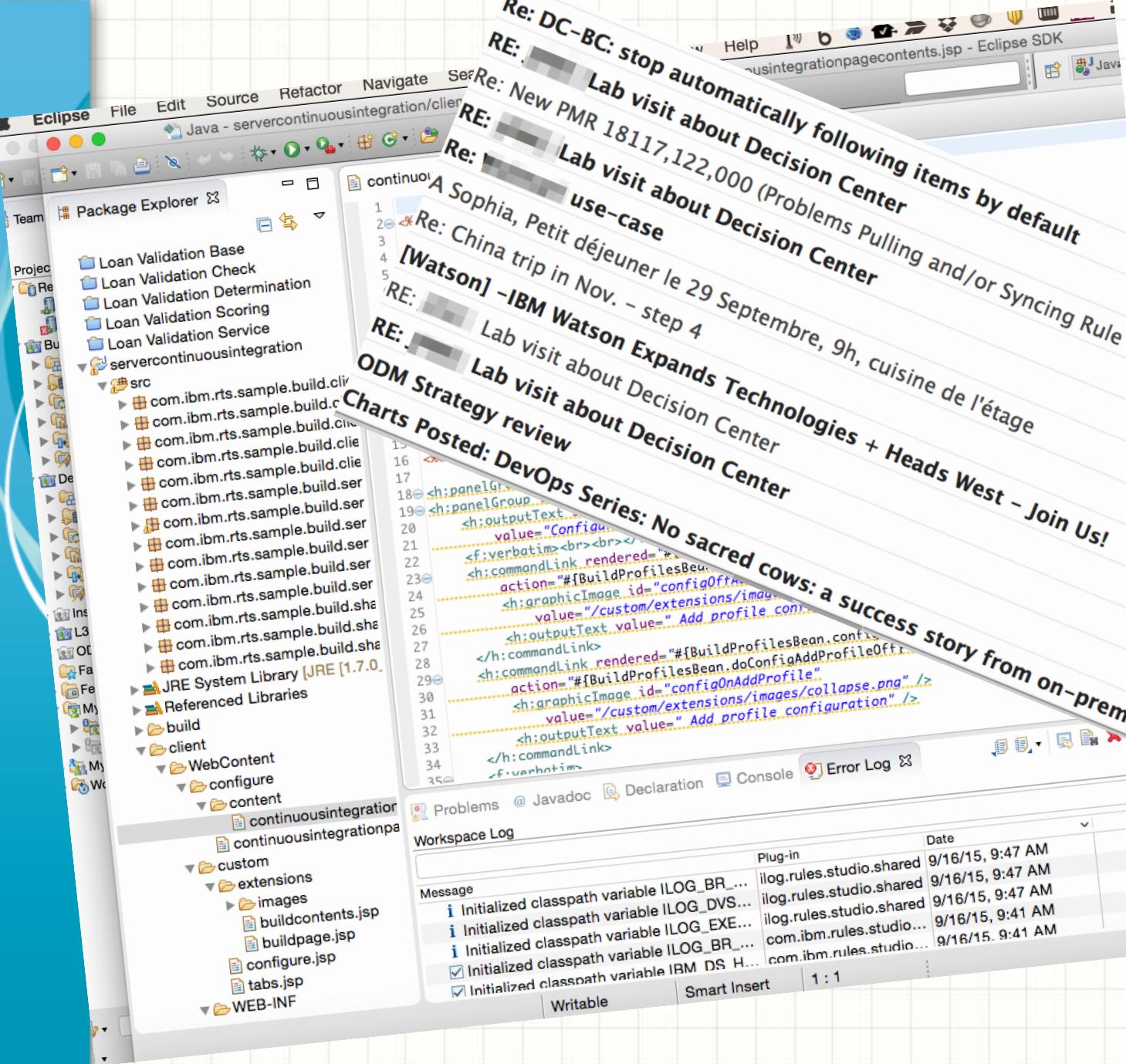
Example of Data Flow Diagram











HOW IS THIS PRODUCED?



Architect's approach

- Teamwork
- Look at today's requirements, but also anticipate those of tomorrow
- Know the technology
- Breadth first, then drill-down
- Try stuff out, prototype, iterate
- And change...
- Validate

Architect's technical knowledge

- Hands on
- Always keep current with the technology
- **An architect writes code. Yes, he does !**
 - Typically POC, inceptions
 - Also product / third-party evaluations
- Why?



WHAT THIS CLASS IS ABOUT



Université
Nice
Sophia Antipolis



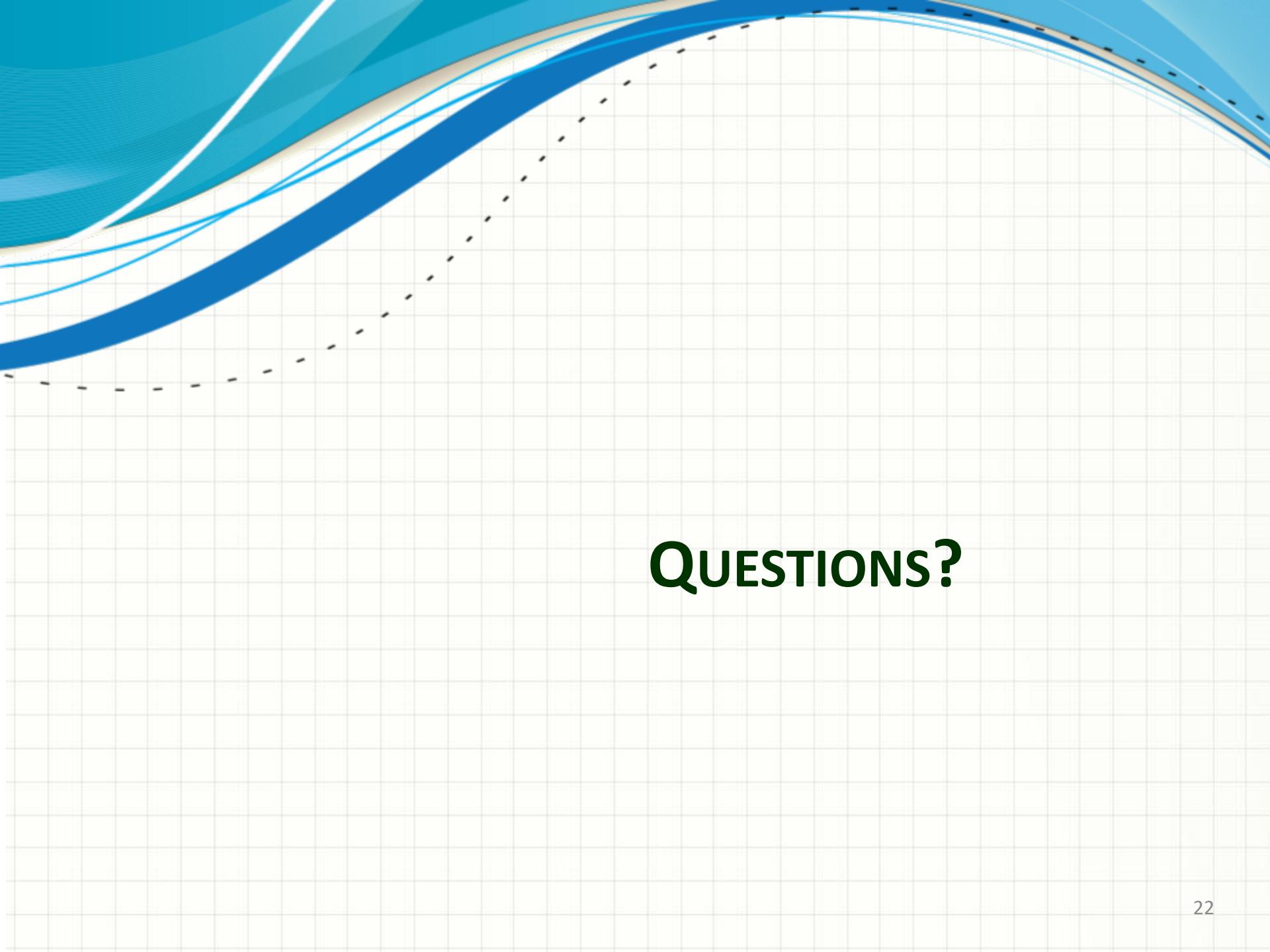
POLYTECH[®]
NICE-SOPHIA

Included

- Architectural principles
- Types of architectures
- And how to build them
- Approach / method
- Architecture evolutions
- Cool technologies

Not Included

- Detailed SOA
- Cloud architectures
- Security



QUESTIONS?

APPENDIX