

SOFTWARE ARCHITECTURE

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2018-2019



WHAT JOBS?

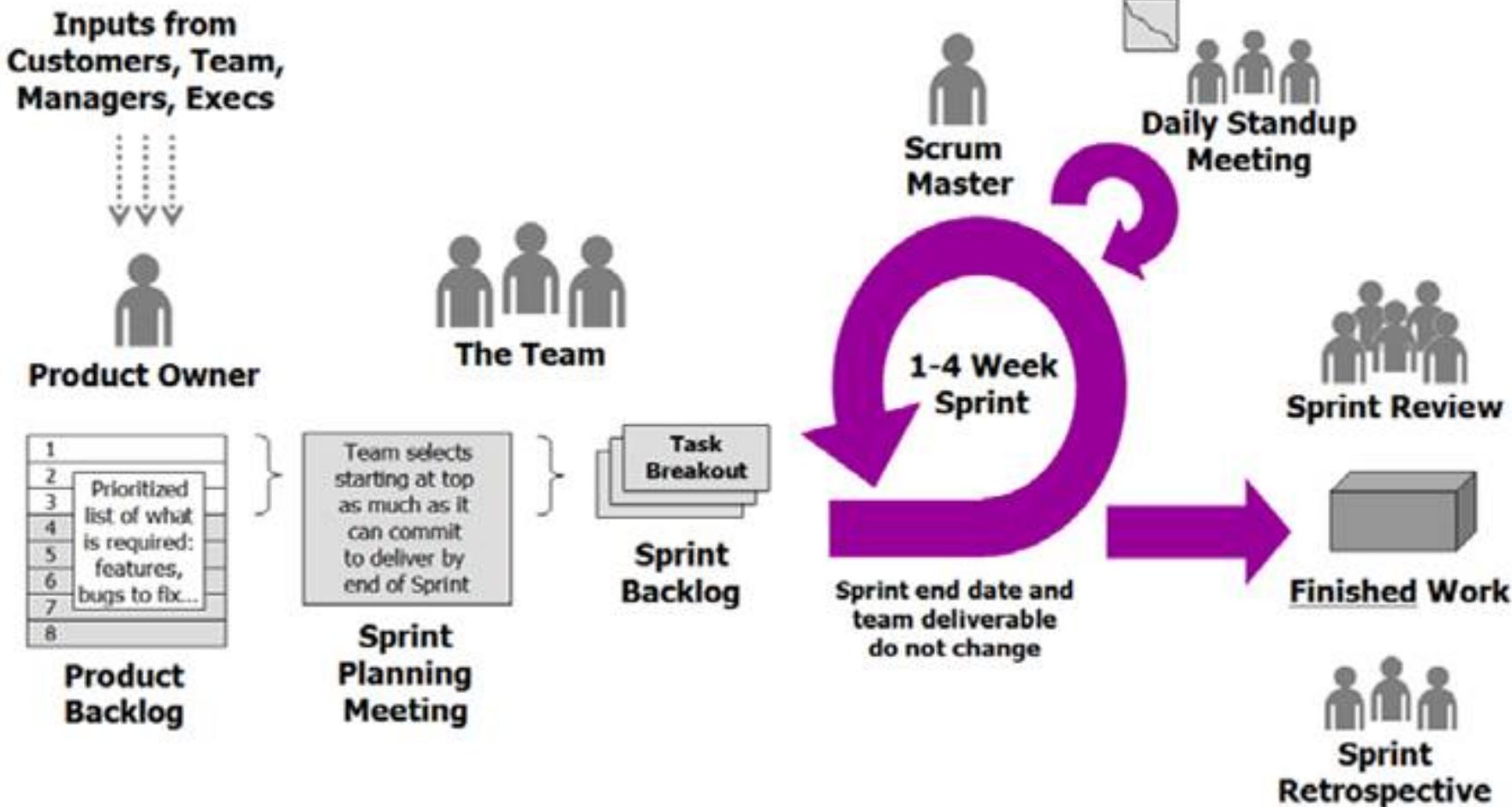
WHAT SKILLS?



Université
Nice
Sophia Antipolis



POLYTECH[®]
NICE-SOPHIA



Typical dev. team

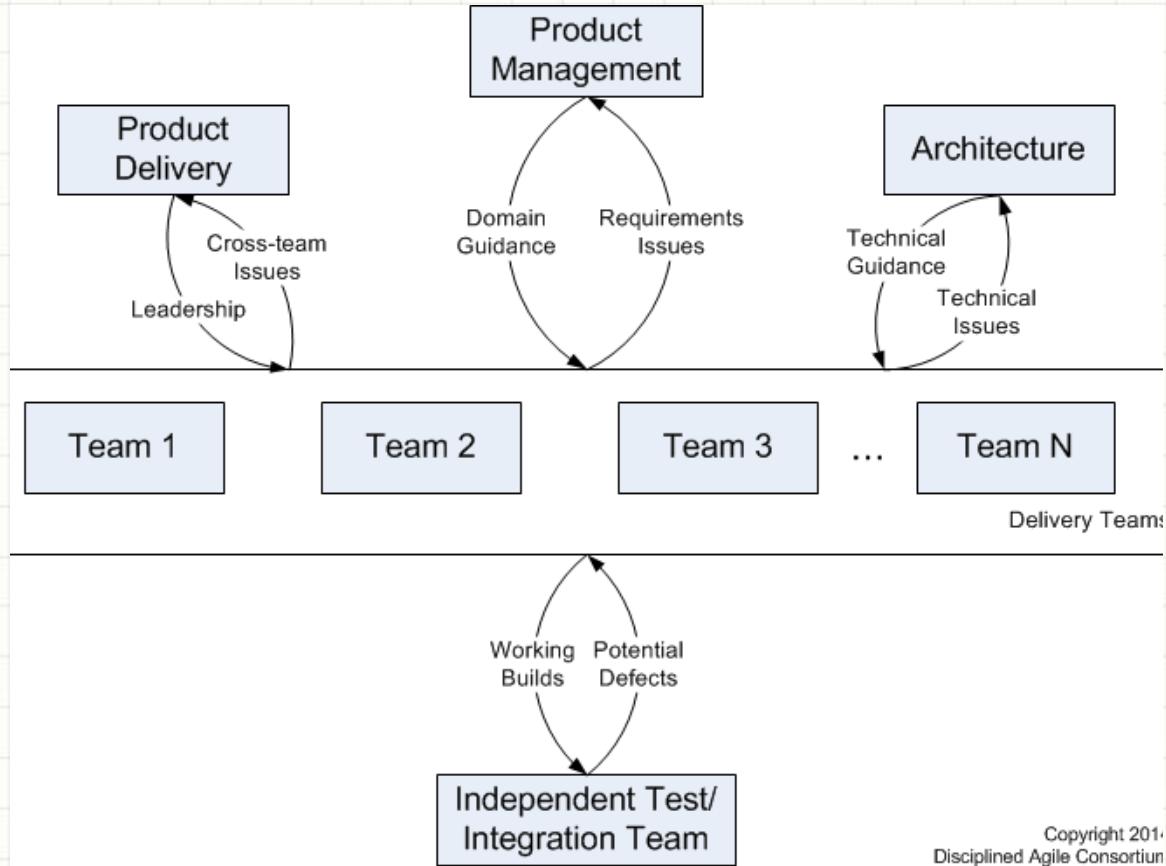
Product Owner: what skills?



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

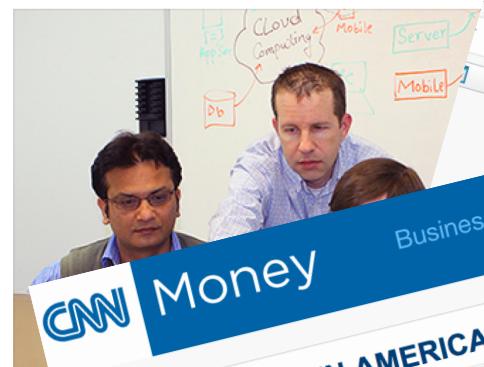
NEXT ➤

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



Business Markets Tech Personal Finance Small

2013

2013 ▾

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 analysts and other IT professionals to understand the needs of the organization and translate them into technical requirements.

◀ BACK NEXT ➤

BACK

NEXT



2012

2012 ▾

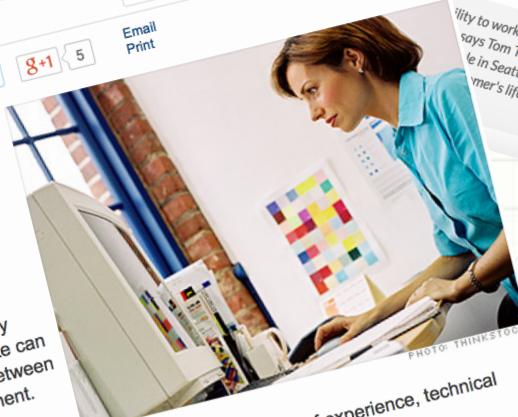
BEST JOBS IN AMERICA

3. Software Architect

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

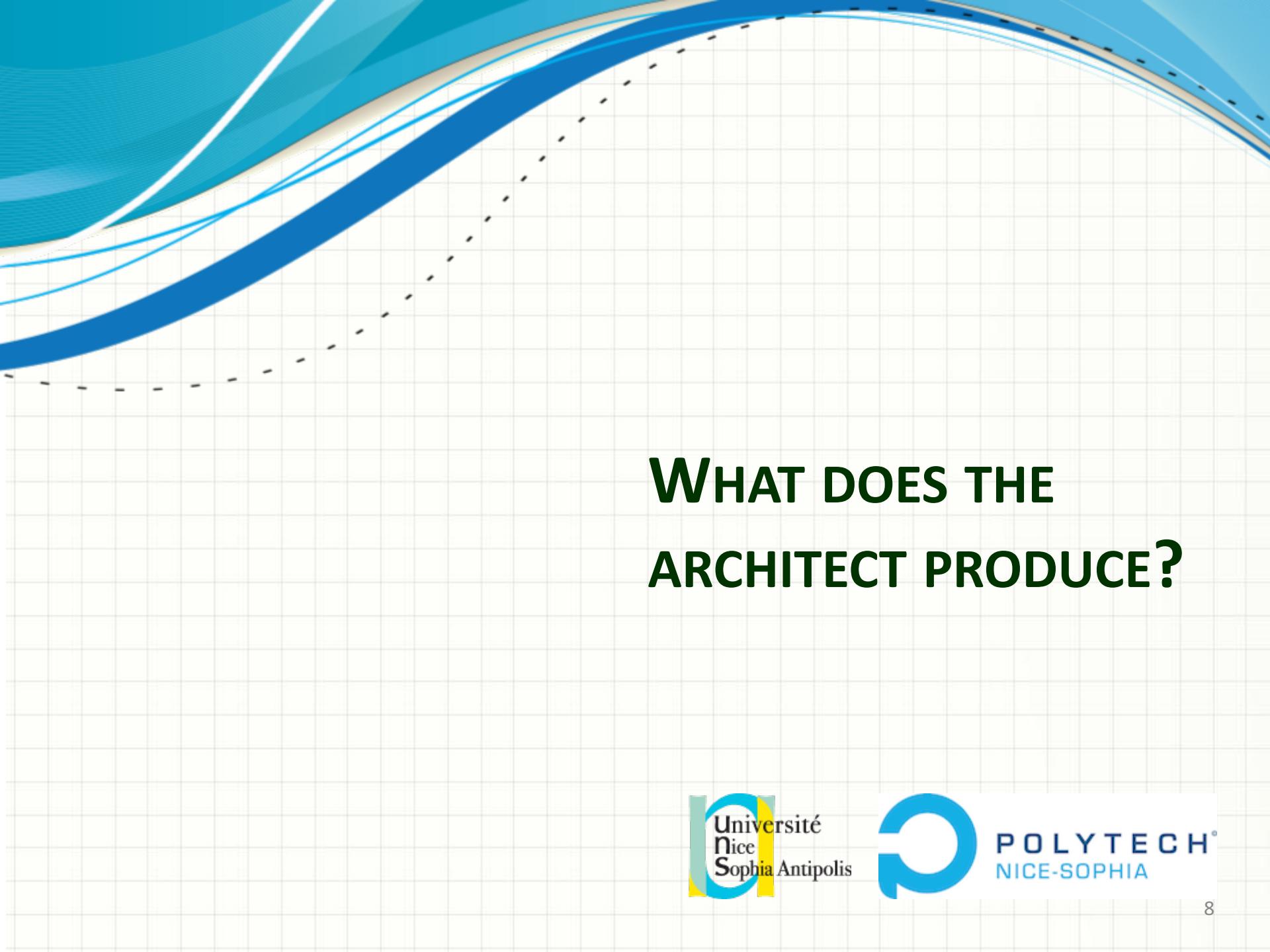
What they do all day? Great software architects are designers and diplomats. They create innovative and valuable programs, but they also translate highly technical plans into a vision the C-suite can understand. They are a crucial link between a company's tech unit and management.

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.



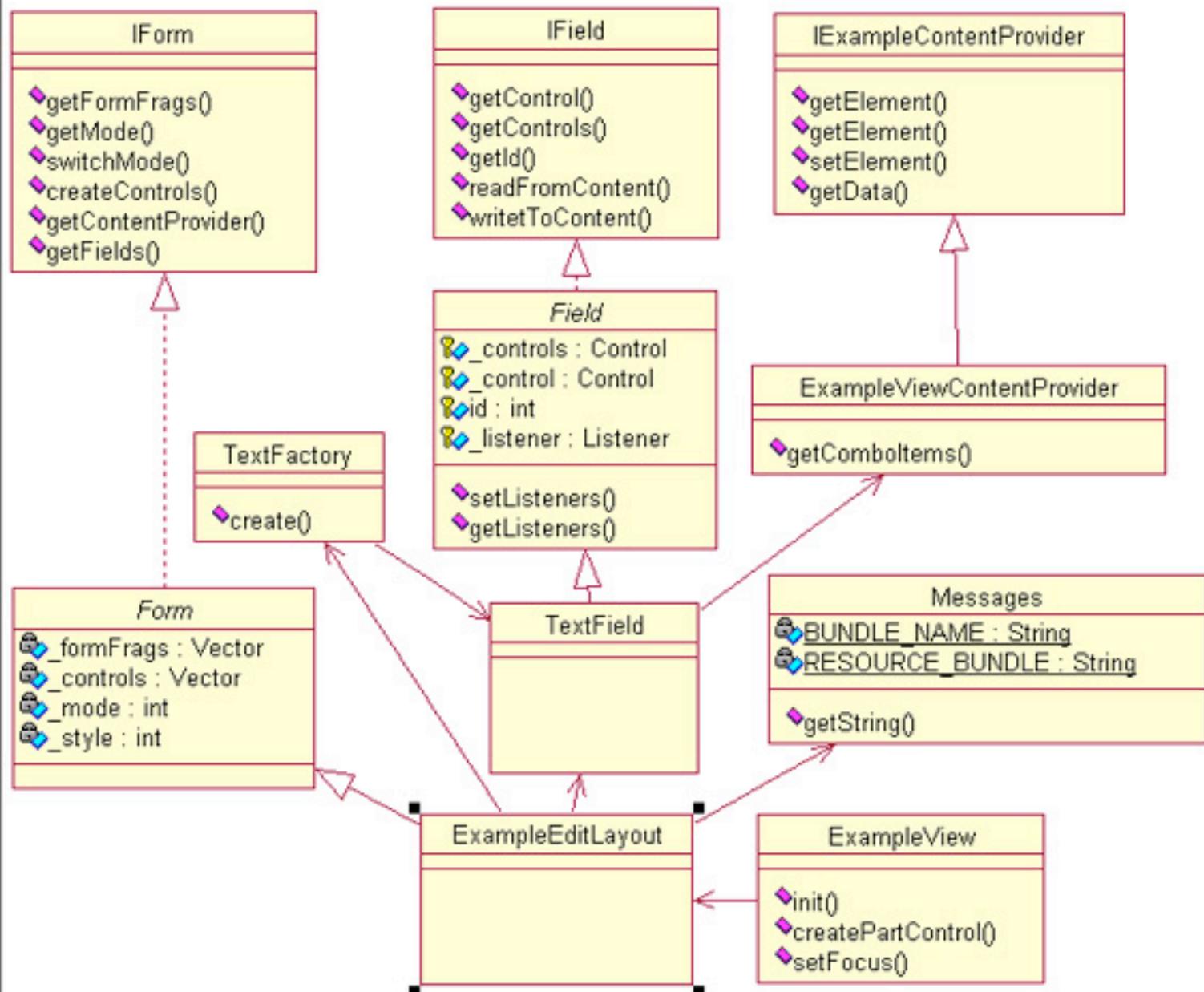
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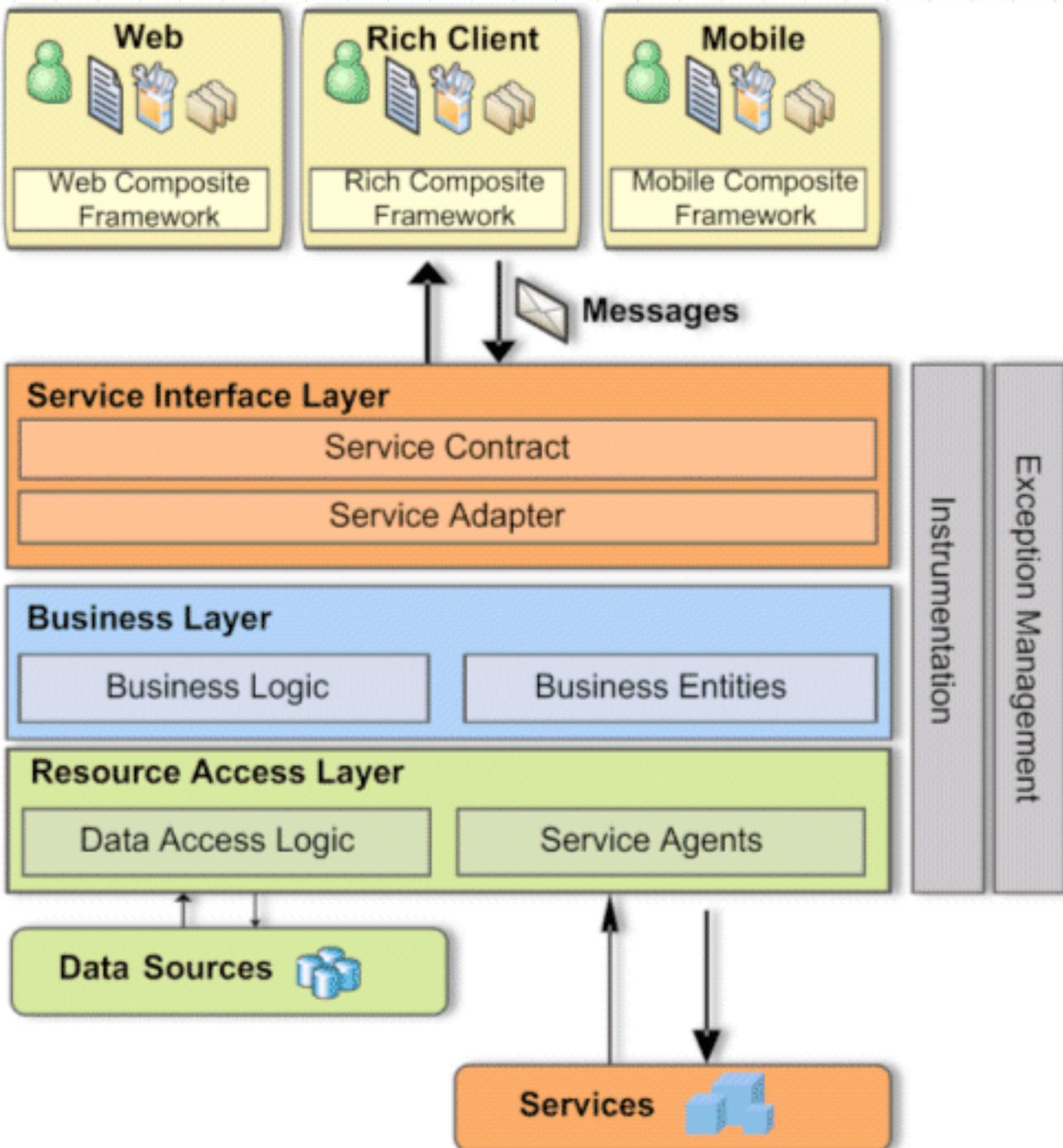
COURTESY OF TOM THOMAS



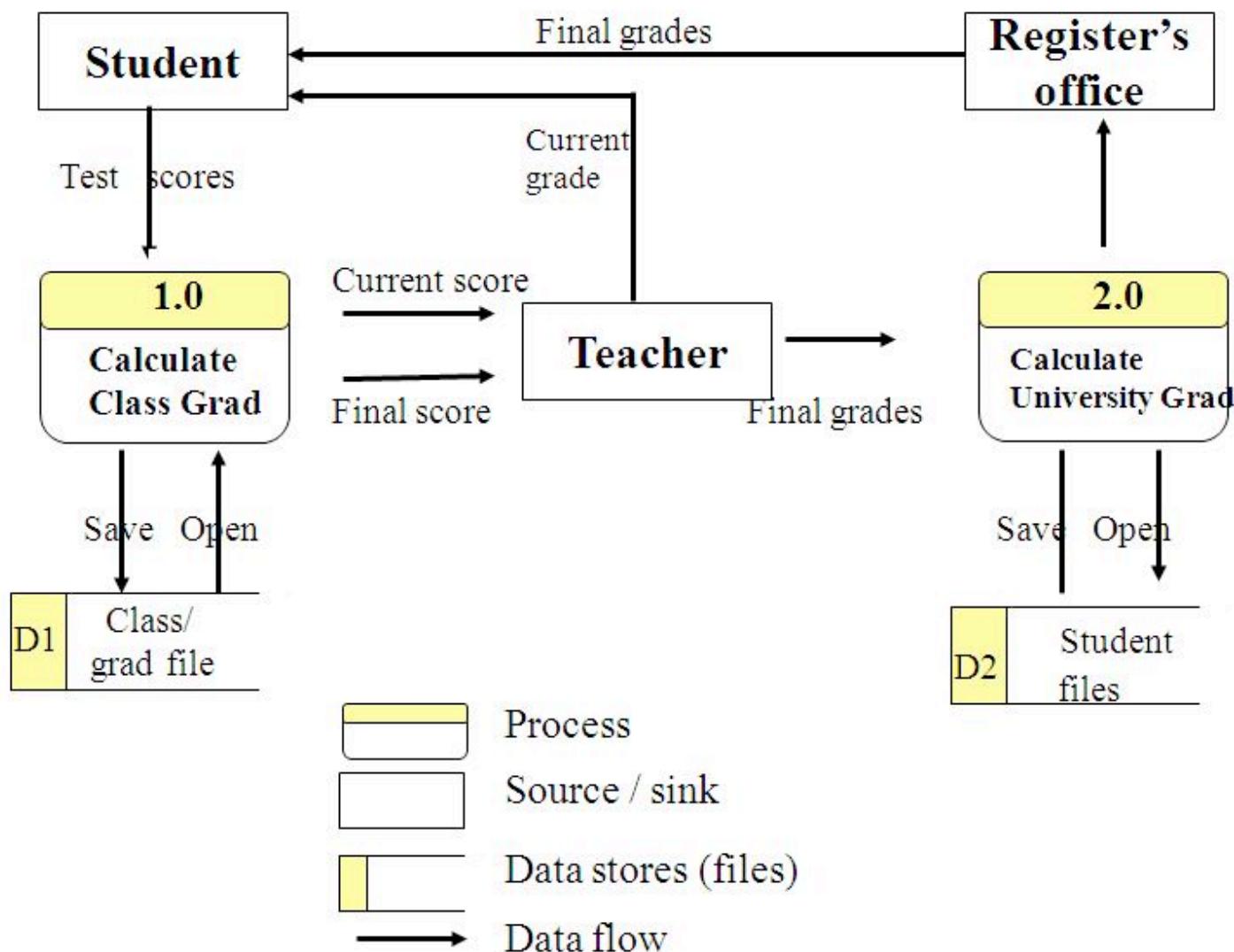
WHAT DOES THE ARCHITECT PRODUCE?

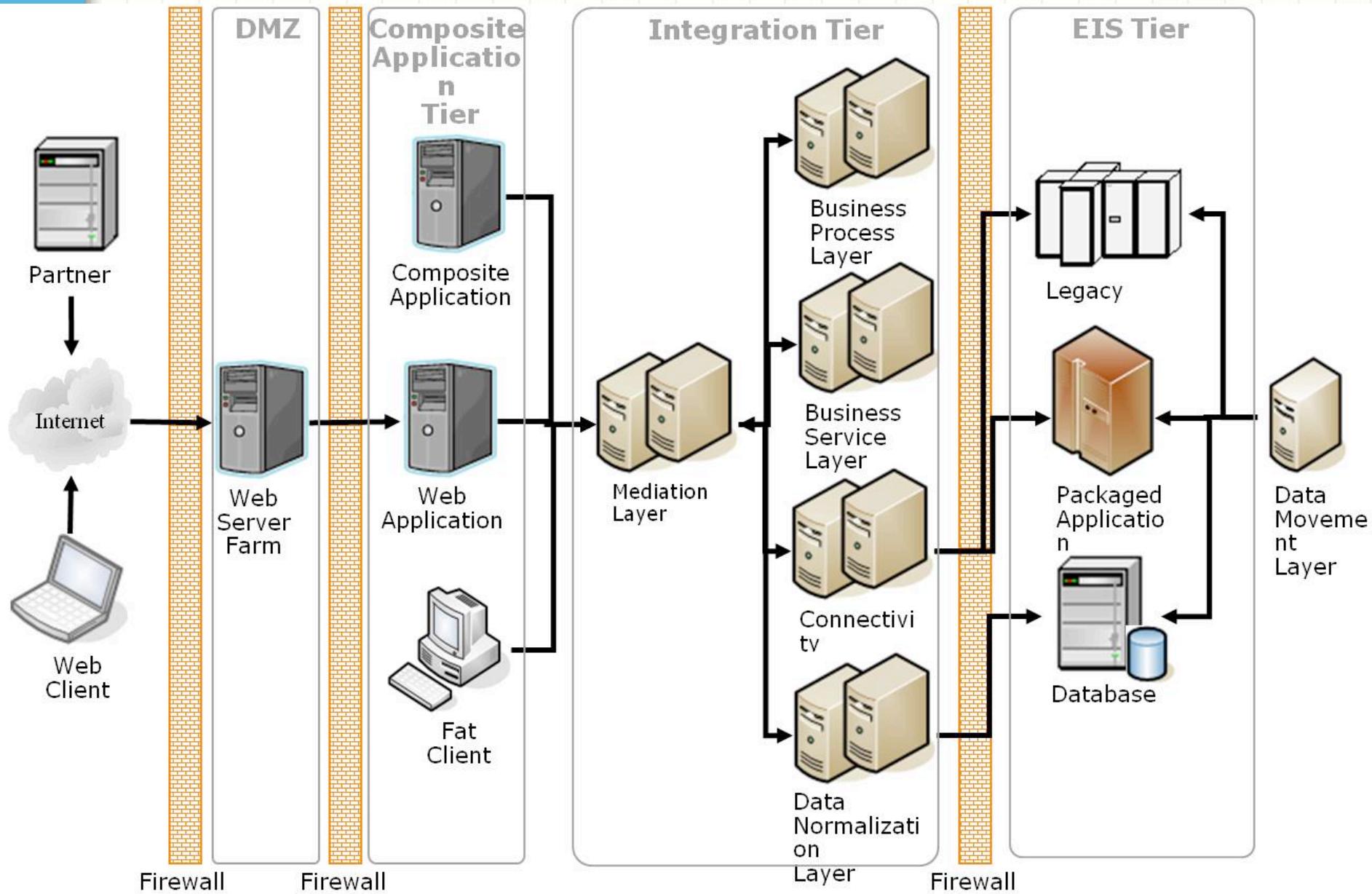


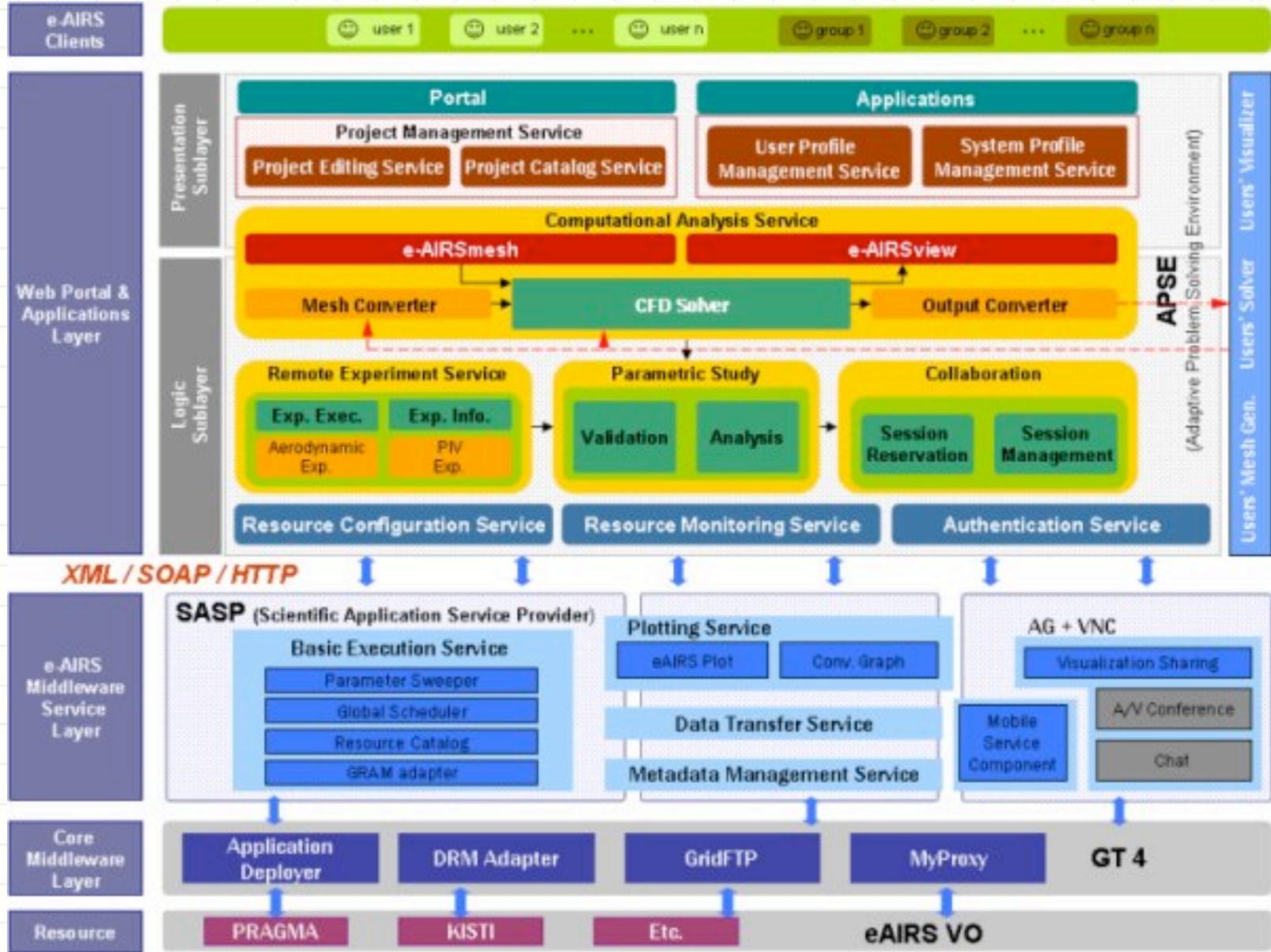


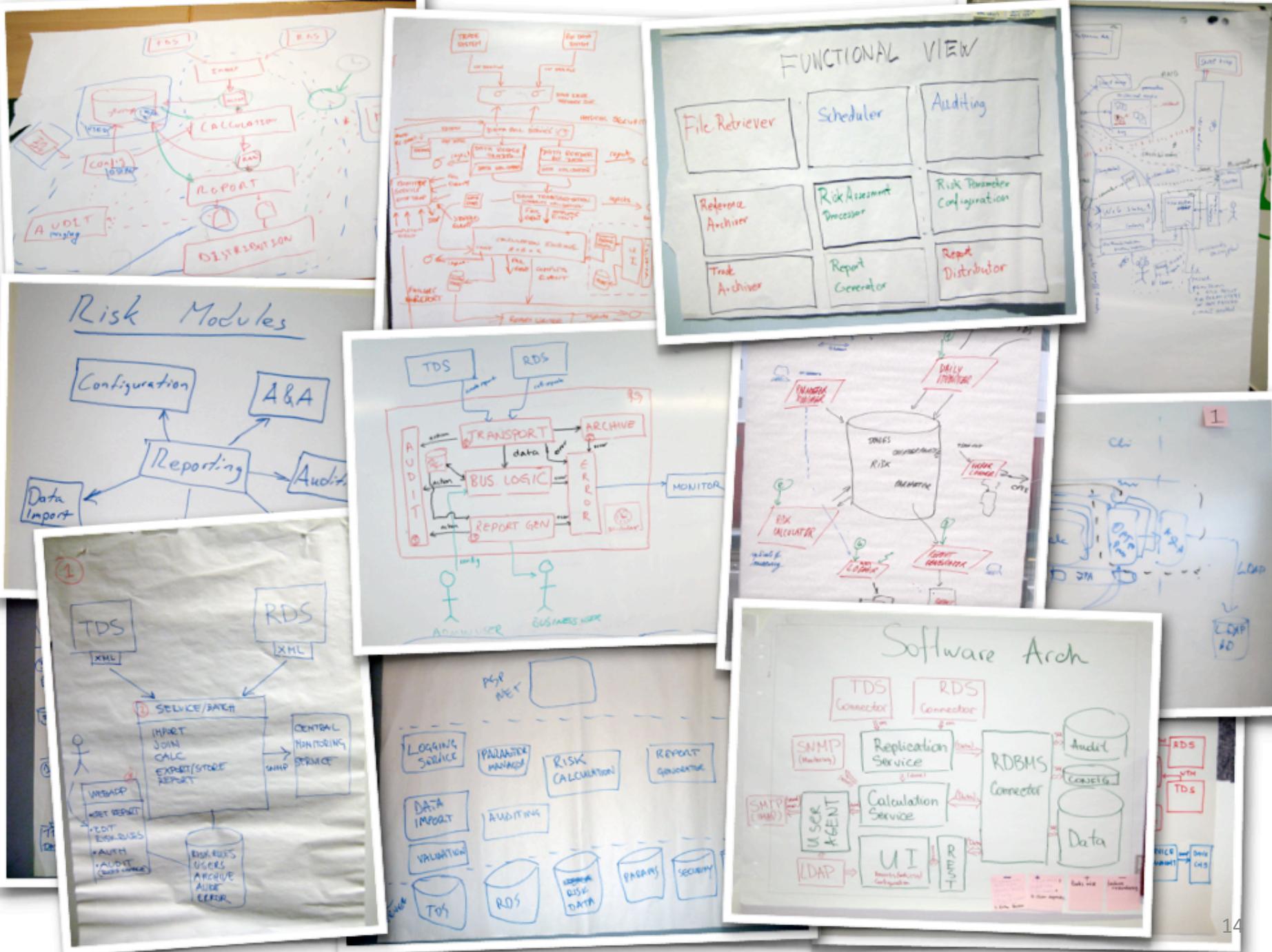


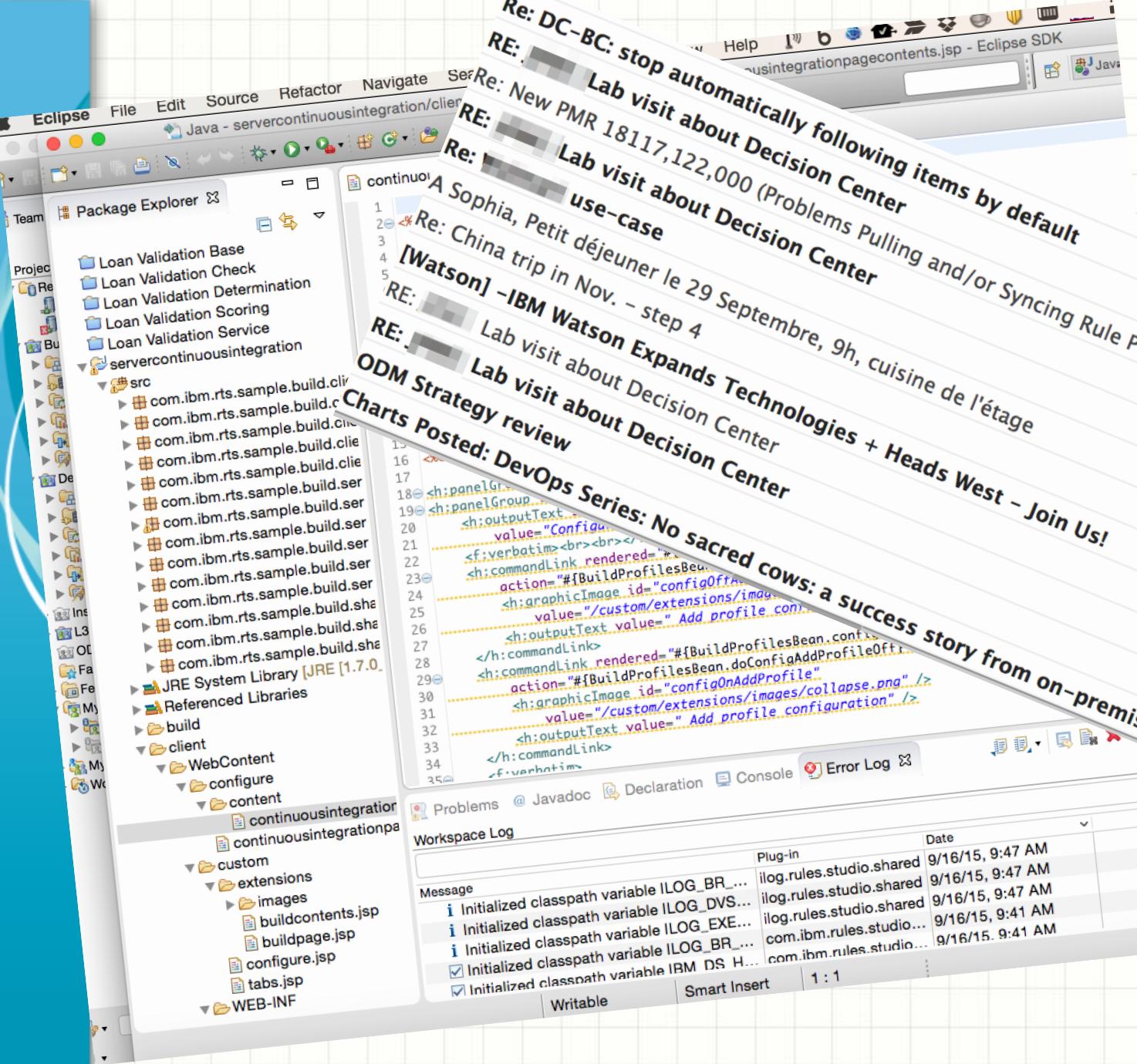
Example of Data Flow Diagram











HOW IS THIS PRODUCED?



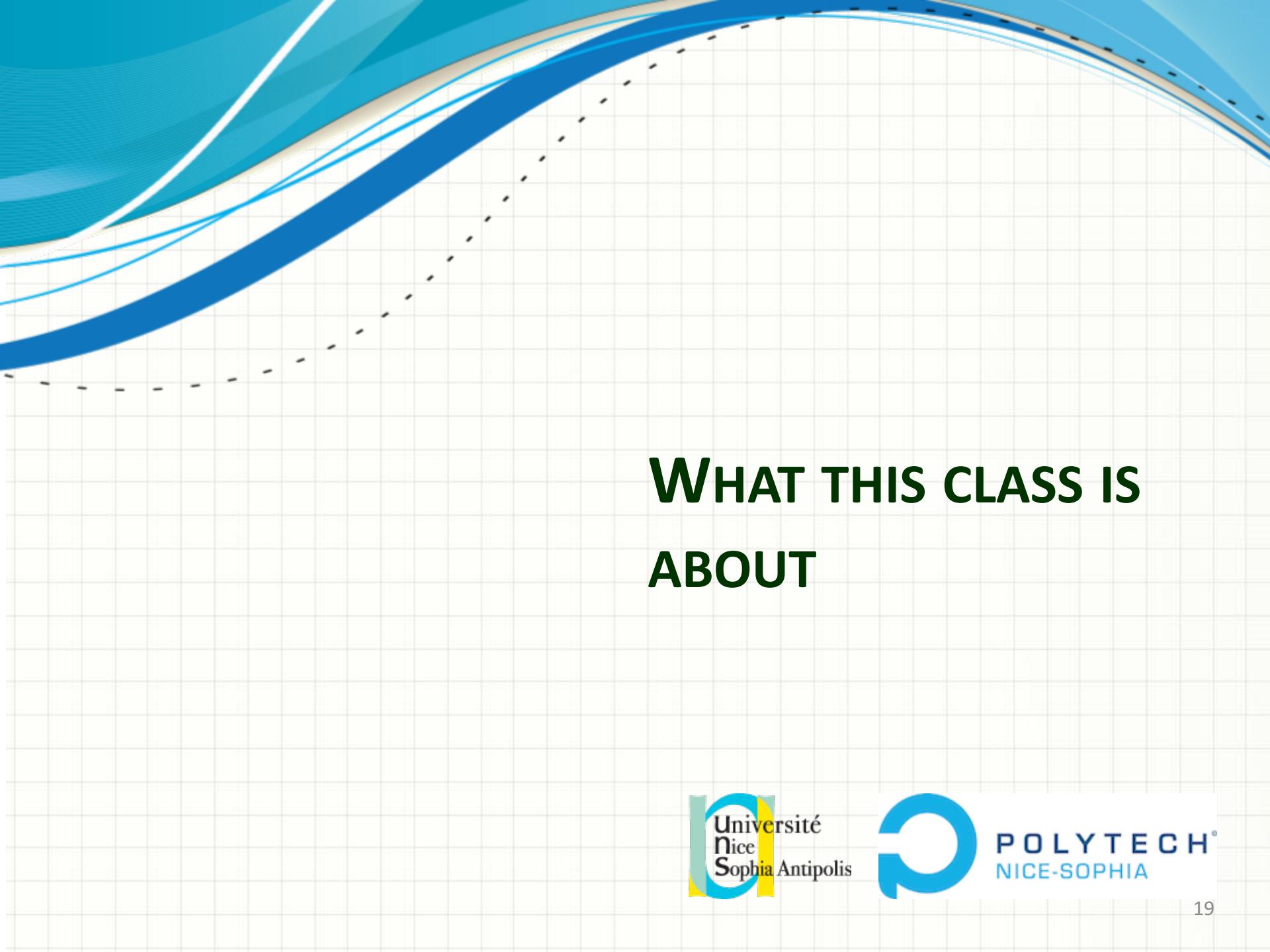
Architect's approach

- 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

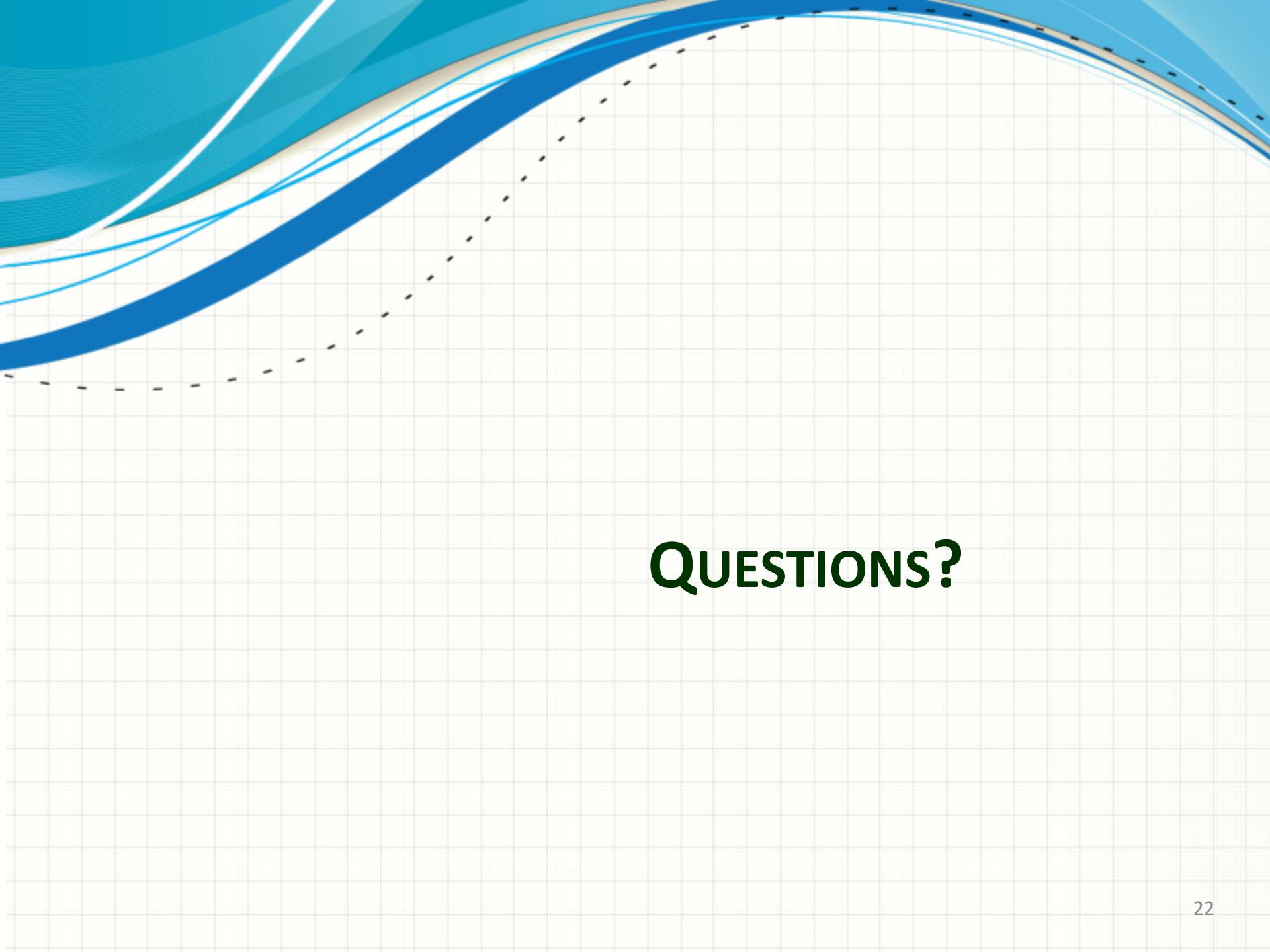


Included

- 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