Océ

Océ
PRISMAsync
Controller

PRISMAsync Controller

océ

Printing for Professionals

Paul Dekkers

Agenda

- Introduction Océ and Océ Products
- Introduction PRISMAsync Controller
- Architecture PRISMAsync Controller
  - Software Architecture
  - Architectural Processes

Corporate Profile

- Océ today:
    - 22,000 people worldwide
    - Annual revenue 2009:
      € 2.6 billion
    - Worldwide distribution in around
      100 countries
    - Direct sales and services in 30 countries
    - 10 R&D-sites in 9 countries
      (1,550 people)
    - Merger with Canon

Océ Products

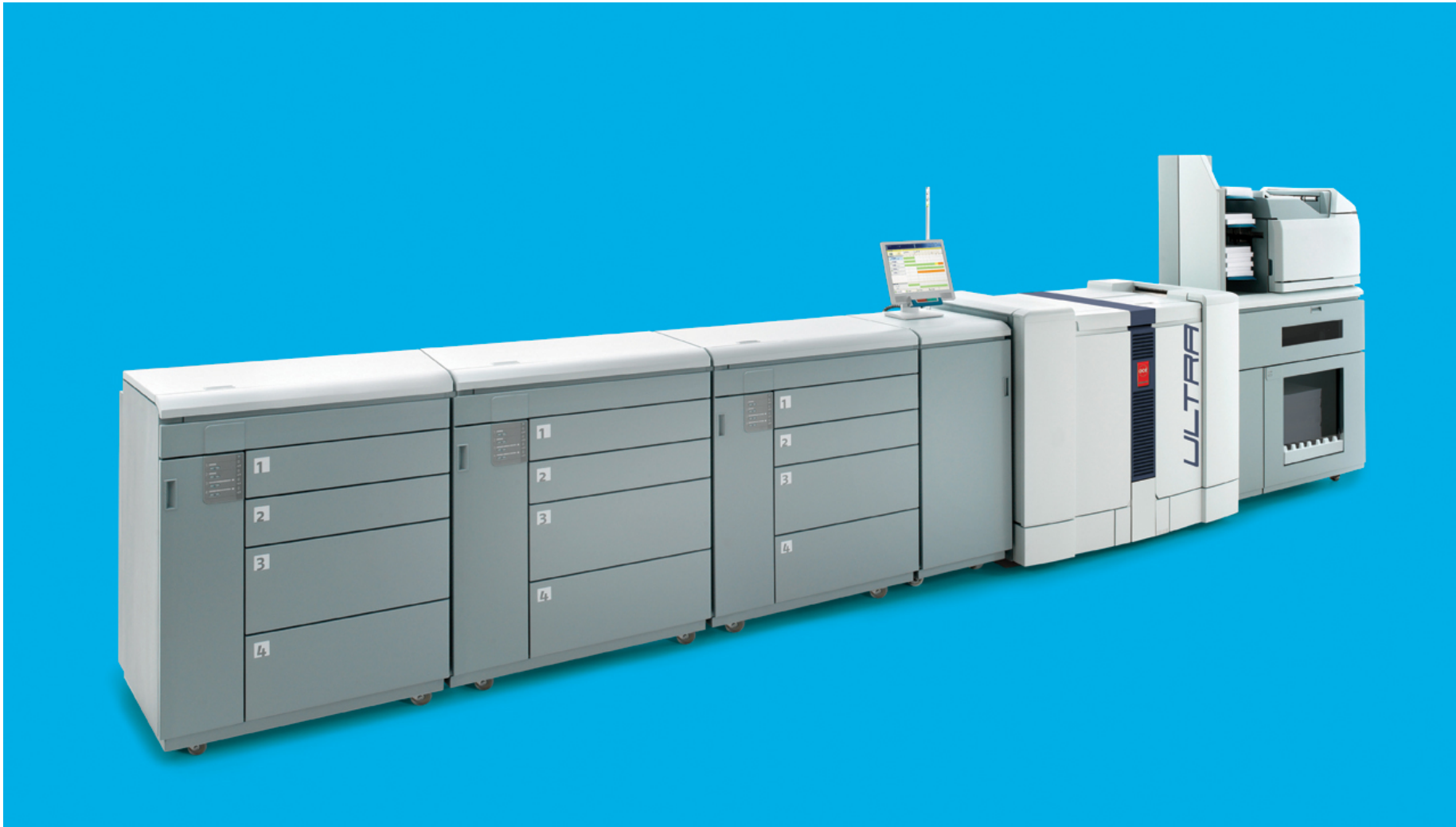| Document Printing	Production Printing	Wide Format Printing Systems	Océ Business Services
		Technical Document Systems	
Office Systems	Graphic Arts Systems	Display Graphics Systems	
Printroom Systems	TransPromo & Direct Mail Systems	Imaging Supplies	

Océ Products: VarioPrint 4xx0

Océ Products: VarioPrint 6xx0

Océ Products: ColorWave 600

Océ Products: ColorStream 10000 Flex

Océ Products: JetStream 1000

Océ Products: Arizona 550XT

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- **Introduction Océ and Océ Products**
- **Introduction PRISMAsync Controller**
- **Architecture PRISMAsync Controller**
  - Software Architecture
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What is PRISMA and PRISMAsync?

PRISMA is … the name for all Océ production printing software
- the controller series
- pre-press applications
- job submission applications
- …

PRISMAsync Controller series is…
- family of Océ developed controllers
- aimed specifically at production environments
- for all Océ cut sheet production devices
- for color and B/W
- seamlessly integrated with engine and workflow

What is a PRISMAsync controller?

- Controller is an application on a PC
- Defines how the user controls the system
- Controller is function of the project
- Controller code is shared between two or more projects
- Code base is about 1 M lines (30000 pages printed = 12 boxes of paper)

What does a PRISMAsync controller do?

- Job handling
  - Print job handling
  - Scan job handling
  - Workflow handling
  - Contradiction handling
  - Recovery
- Network connectivity
  - Receive print jobs, transport scan jobs
  - Status, Service
- RIP
  - Translate driver data into bitmaps
- Product variability
  - Multifunctional/printer only
  - Color/B&W
  - Support various engine/scanner hardware
  - Support various finishing

PRISMAsync controller tasks

web applications   UI

export scanned images

finishing

error handling   job control

diagnostics
storage

engine control

RIP PDL into bitmaps

| application | → | controller | ⇄ | Embedded sw |

Customer perception PRISMAsync controller

- **Perception depends on environment**
  - **DP Office**
    - Unaware, print output is what matters
  - **Light production**
    - Last-minute changes and edits
  - **Production**
    - Keep the engine printing
  - **Transaction printing**
    - Host in control

PRISMAsync controller UI

Some example screens

Stopped

Pres... in de Digitale Wereld.doc
Set 0 of 70
Sheet 0 of 25

Load: A4, 80 g/m², Plain paper, White

1 | 2

📄 **Jobs**

Properties	To top	Stop after job	Delete	Move	Proof	Ticket	Bundle	Select ▾

Printed jobs

Job	Pages	Sets	Submitted	Duration	
					▽

Scheduled jobs — 4 jobs, 0 selected.

Job	Pages	Sets	Submitted	Duration
Pres... Digitale Wereld.doc — pde	50	70	06-Dec-2010 14:07:39	0:30
Christmas cards.doc — pde	15	100	06-Dec-2010 14:06:25	0:14
Production manual.doc — pde	200	8	06-Dec-2010 12:37:02	0:15
Project proposal.doc — pde	53	25	06-Dec-2010 12:58:00	0:12

Waiting jobs — 1 job, 0 selected.

Job	Pages	Sets	Submitted	Duration
Refe...ce Architecture.doc — pde	25	1	06-Dec-2010 14:16:04	0:01

🕐 Schedule	📄 Jobs	📄 Copy	☰ Trays	⚙ System

Properties

Originals

User: pde
Pages: 50
Submitted: 06-Dec-2010 14:07:39
Duration: 0:30
Label: LPQUEUE (Default)

Presentation Architectuur in de Digitale Wereld.doc

Job

Job name	Number of sets	Check first set
Micr...igitale Wereld.doc	70	Off

	Page range
	All

Output

1- or 2-sided	Document type	Media	Cover
2-sided	Portrait left	A4	Off / Off

Layout	Zoom	Align	Shift
Normal	100%	Centre	Front: 0, 0, 0 / Back: 0, 0, 0

Sort	Offset stacking	Output location	Staples
By set	Each set	Stacker	None

Margin erase	Exposure		
0, 0 / 0, 0	Dark: 0 / Light: 0		

1750 A4, 80 g/m², Plain paper, White

B

OK   Cancel

📄 Jobs

Properties	To top	Stop after job	Delete	Move	Proof	Ticket	Bundle	Select ▾

Printed jobs

Job	Pages	Sets	Submitted	Duration	
					▽

Scheduled jobs   4 jobs, 0 selected.

Job	Pages	Sets	Submitted	Duration
📄 Pres... Digitale Wereld.doc pde	50	70	06-Dec-2010 14:07:39	0:30
📄 Christmas cards.doc pde	15	100	06-Dec-2010 14:06:25	0:14
📄 Production manual.doc pde	200	8	06-Dec-2010 12:37:02	0:15
📄 Project proposal.doc pde	53	25	06-Dec-2010 12:58:00	0:12

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📄 Refe...ce Architecture.doc pde	25	1	06-Dec-2010 14:16:04	0:01	

🕐 Schedule	📄 Jobs	📄 Copy	▤ Trays	⚙ System

Trays

Assign | Open

1
A4, 80 g/m², red

2 Medium
A4, 160 g/m²

3
A4, 80 g/m², Green

4 Heavy
A4, 300 g/m²

Schedule | Jobs | Copy | Trays | System

Trays

Assign

Open

Assign media

4

Heavy
A4 ⬜, 300 g/m²

ℹ Press OK to assign the selected media to the tray.

A4 ⬜, 80 g/m², Plain paper, White

A4 ⬜, 80 g/m², red

Heavy
A4 ⬜, 300 g/m²

Medium
A4 ⬜, 160 g/m²

A4 ⬜, 80 g/m², Green

A4 tab
223x297 ⬜, tab inclusive, cyclic (5),
80 g/m², Plain paper, White

OK

Cancel

Schedule

Jobs

System

Trays

Assign **Open**

1		A4, 80 g/m², red
2	**Medium**	A4, 160 g/m²
3		A4, 80 g/m², Green
4		A4, 80 g/m², Plain paper, White

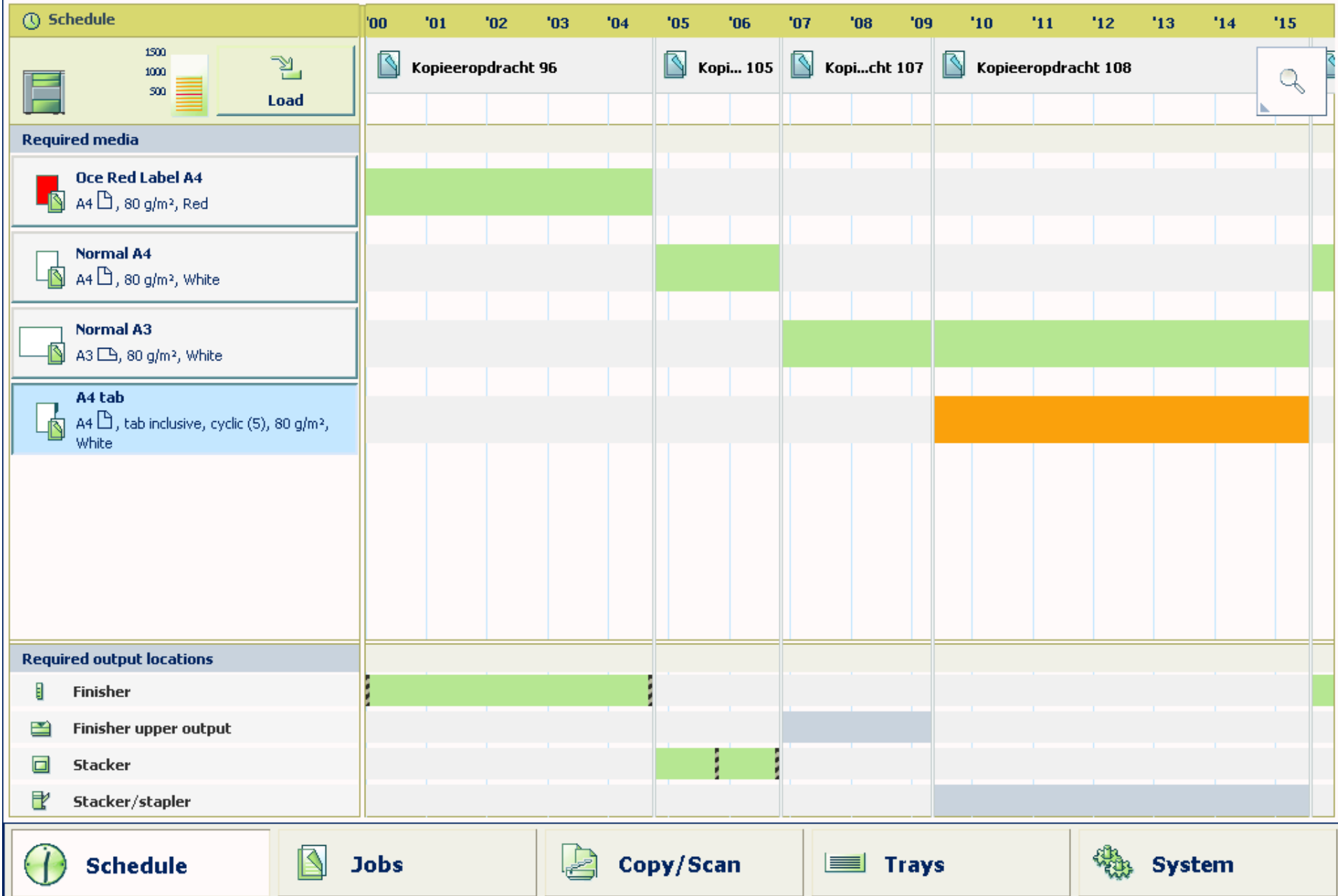**Schedule**   **Jobs**   **Copy**   **Trays**   **System**

Printing...
Stopping after set...

Kopieeropdracht 96
Set 0 of 568
Sheet 0 of 1

Upcoming: Load 'A4 tab', A4 ⬜, tab inclusive, cyclic (5),
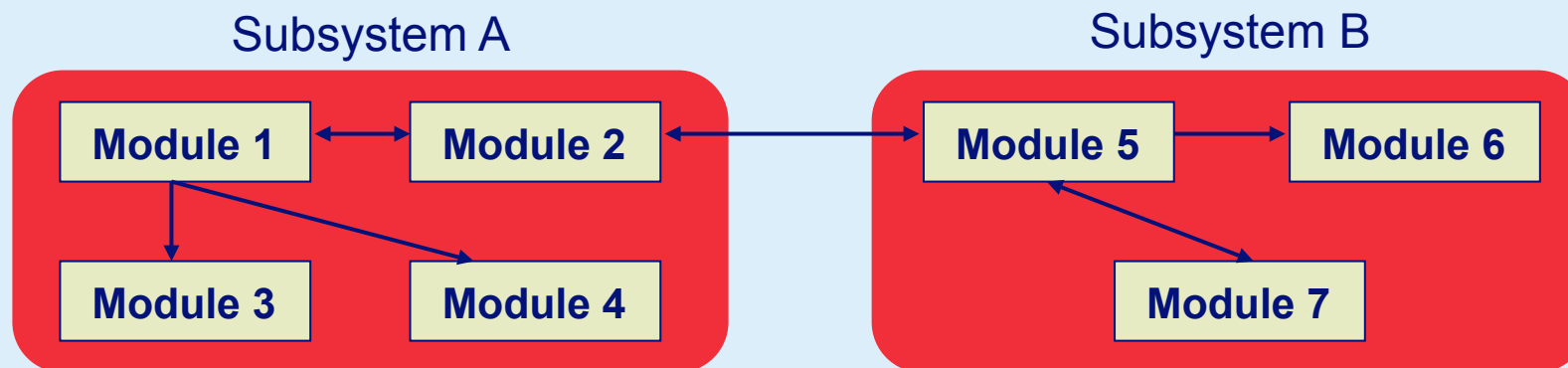80 g/m², White

Schedule

	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15

1500
1000
500

Load

Kopieeropdracht 96   Kopi... 105   Kopi...cht 107   Kopieeropdracht 108

Required media

Oce Red Label A4
A4 ⬜, 80 g/m², Red

Normal A4
A4 ⬜, 80 g/m², White

Normal A3
A3 ⬜, 80 g/m², White

A4 tab
A4 ⬜, tab inclusive, cyclic (5), 80 g/m²,
White

Required output locations

Finisher

Finisher upper output

Stacker

Stacker/stapler

Schedule	Jobs	Copy/Scan	Trays	System

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- **Architecture PRISMAsync Controller**
  - Software Architecture
    - Modules and Subsystems
    - High Level Architecture
    - Strict Interfaces
    - Product Variability
  - Architectural Processes

Are there already questions before we continue?
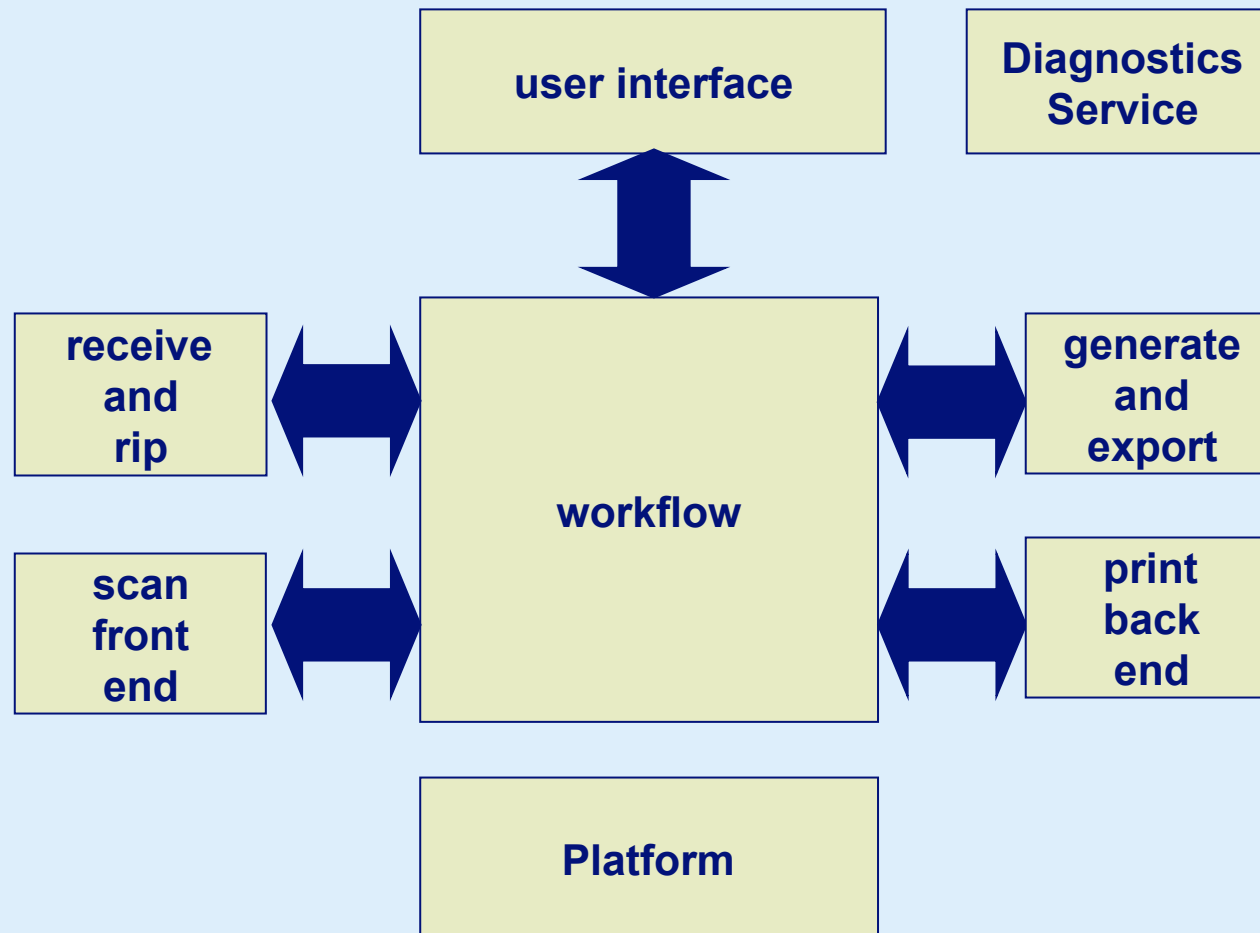
Modules and Subsystems

- **Module**
  - Clearly defined responsibilities
  - Black box for other modules, interaction via interfaces

- **Subsystem**
  - Consists of several modules
  - Responsibility is the combined responsibility of the modules in the subsystem

Subsystem A

Subsystem B

| Module 1 | Module 2 |

| Module 3 | Module 4 |

| Module 5 | Module 6 |

| Module 7 |

PRISMAsync High Level Architecture

user interface

Diagnostics Service

receive and rip

workflow

generate and export

scan front end

print back end

Platform
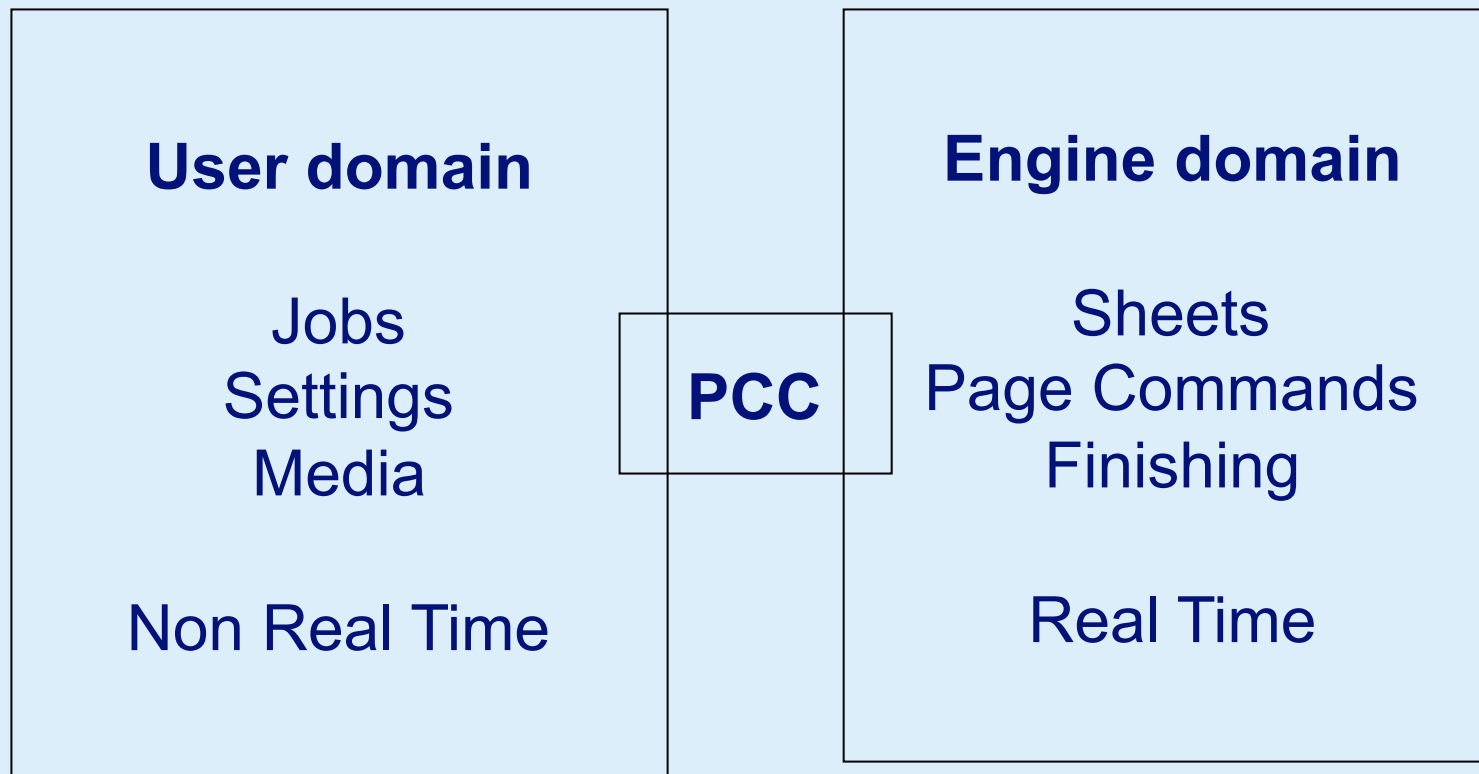
PRISMAsync Architecture: strict interfacing

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- Strict interfacing …
  - helps with defining responsibility
  - helps with automatic testing
  - helps with guarding extensions via recurring meeting with all stakeholders
  - makes sure only compatible components run together
- but …
  - extensions costs more time/effort
  - integrations should be done with all stakeholders
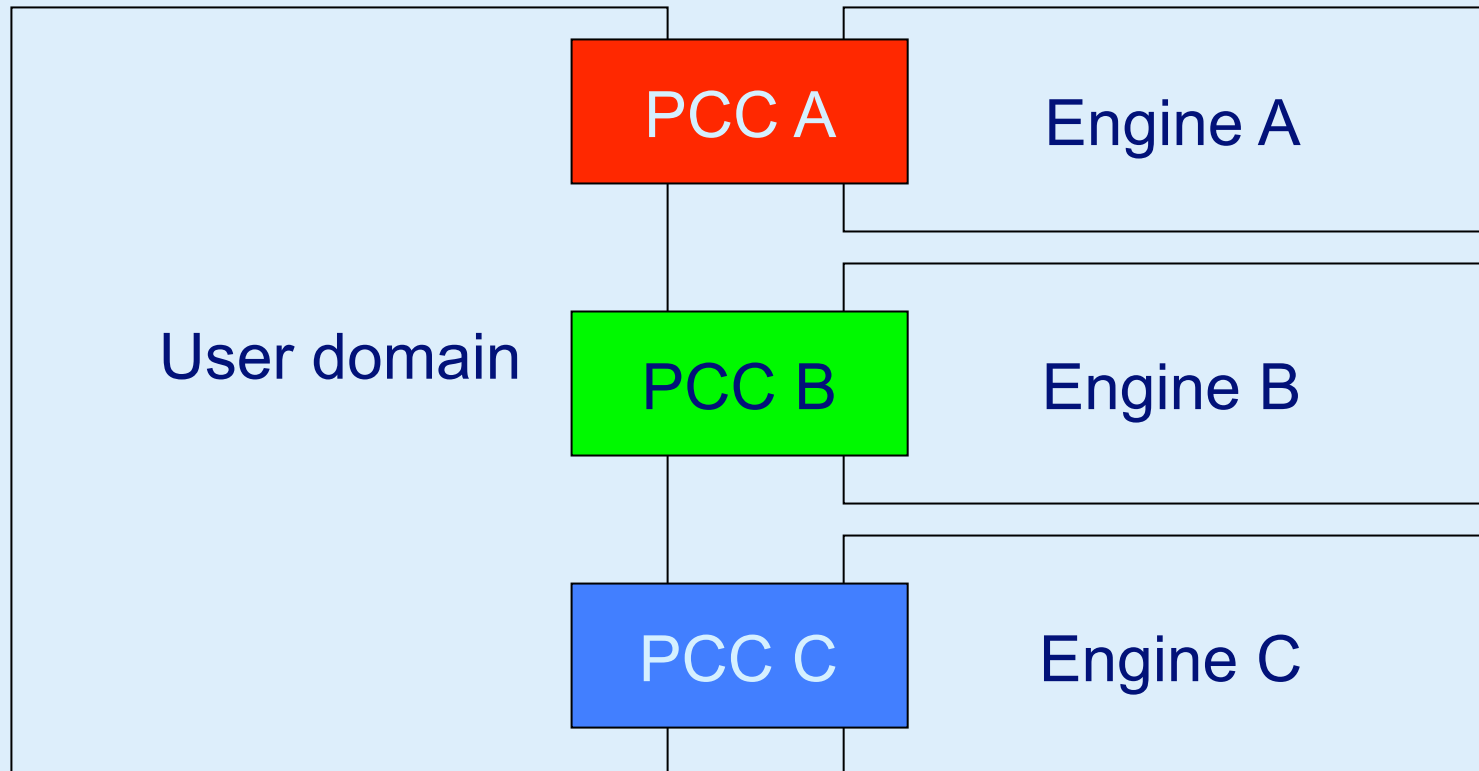
Advantages outweigh disadvantages easily!

- A "Print Controller Component" PCC
- The PCC translates user requests into engine commands

User domain

Jobs
Settings
Media

Non Real Time

PCC

Engine domain

Sheets
Page Commands
Finishing

Real Time

- Classic "parallel project" approach

User domain	PCC A	Engine A
	PCC B	Engine B
	PCC C	Engine C

30

- Product Line approach
- One framework for all engines
- Dedicated plug-in per behaviour aspect
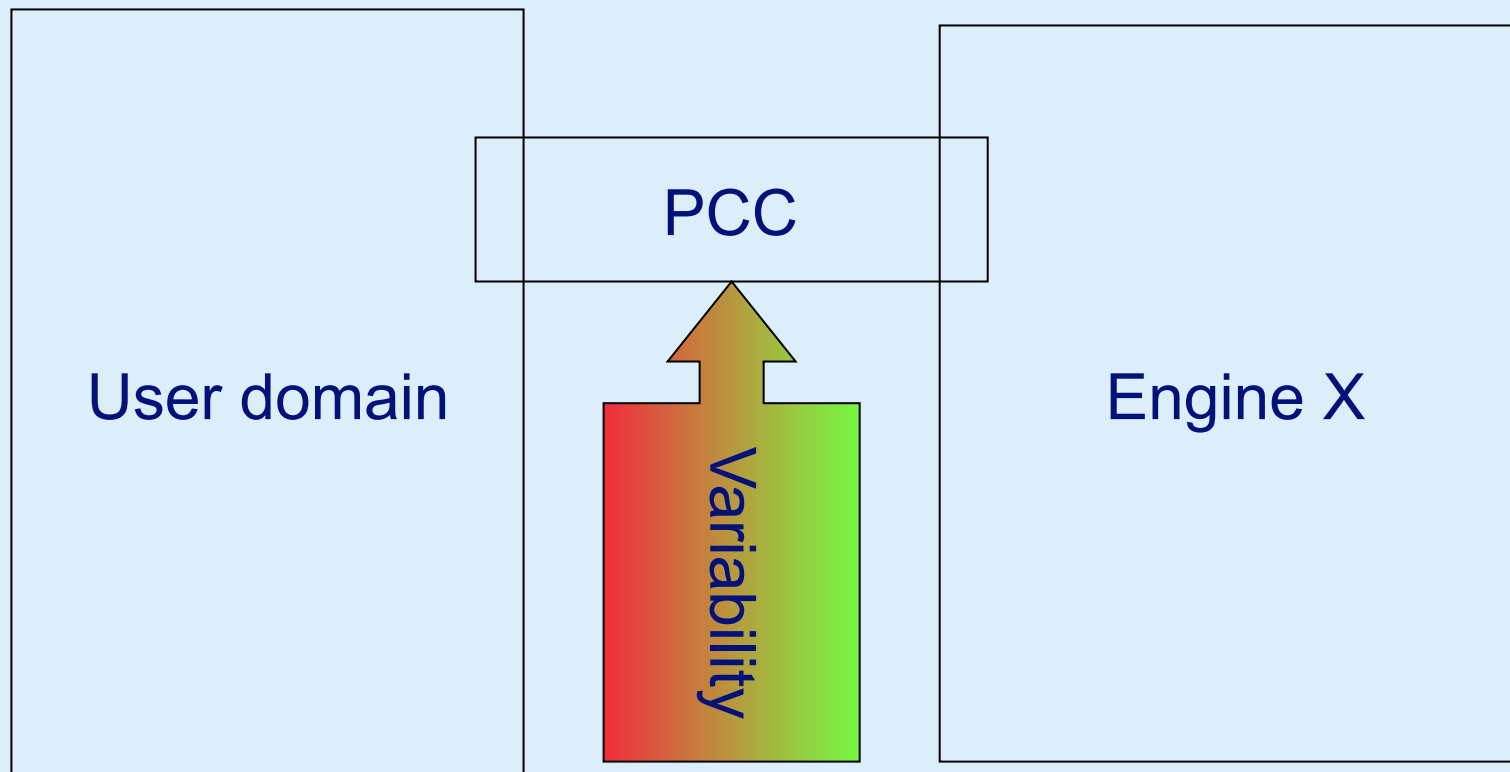
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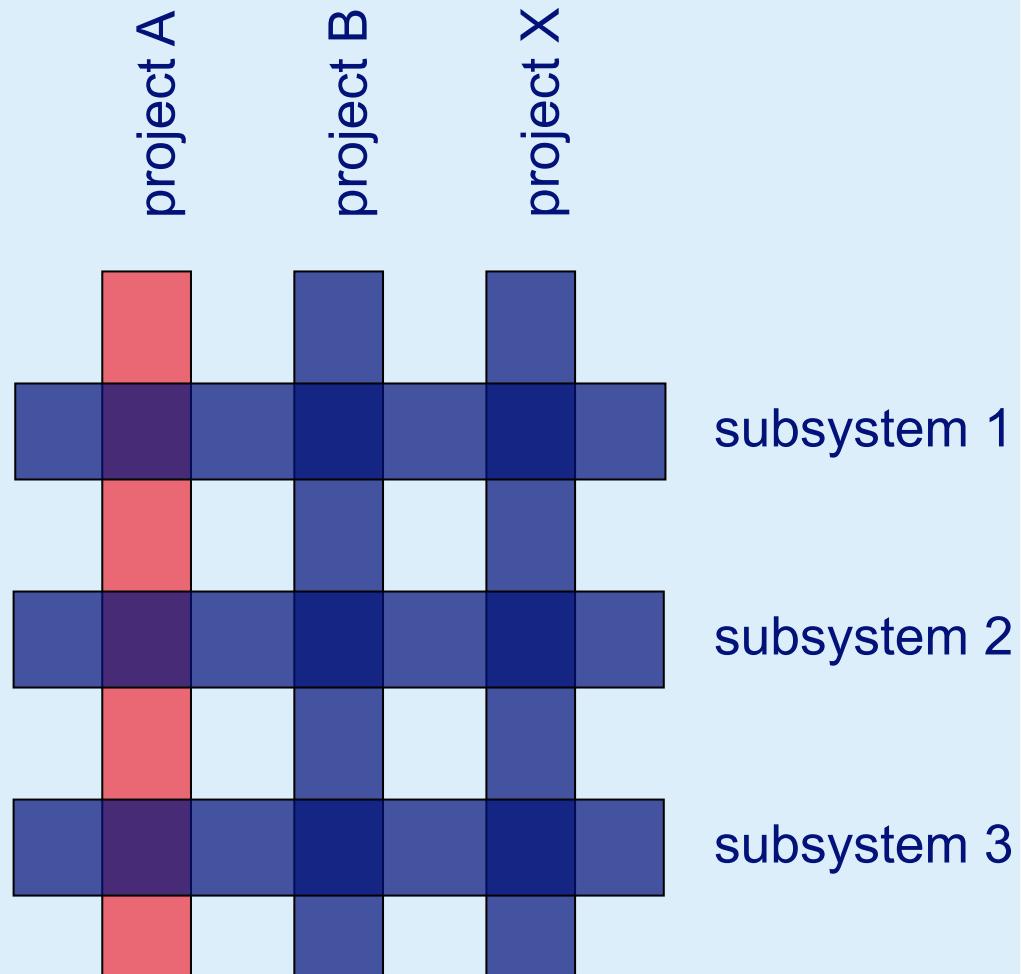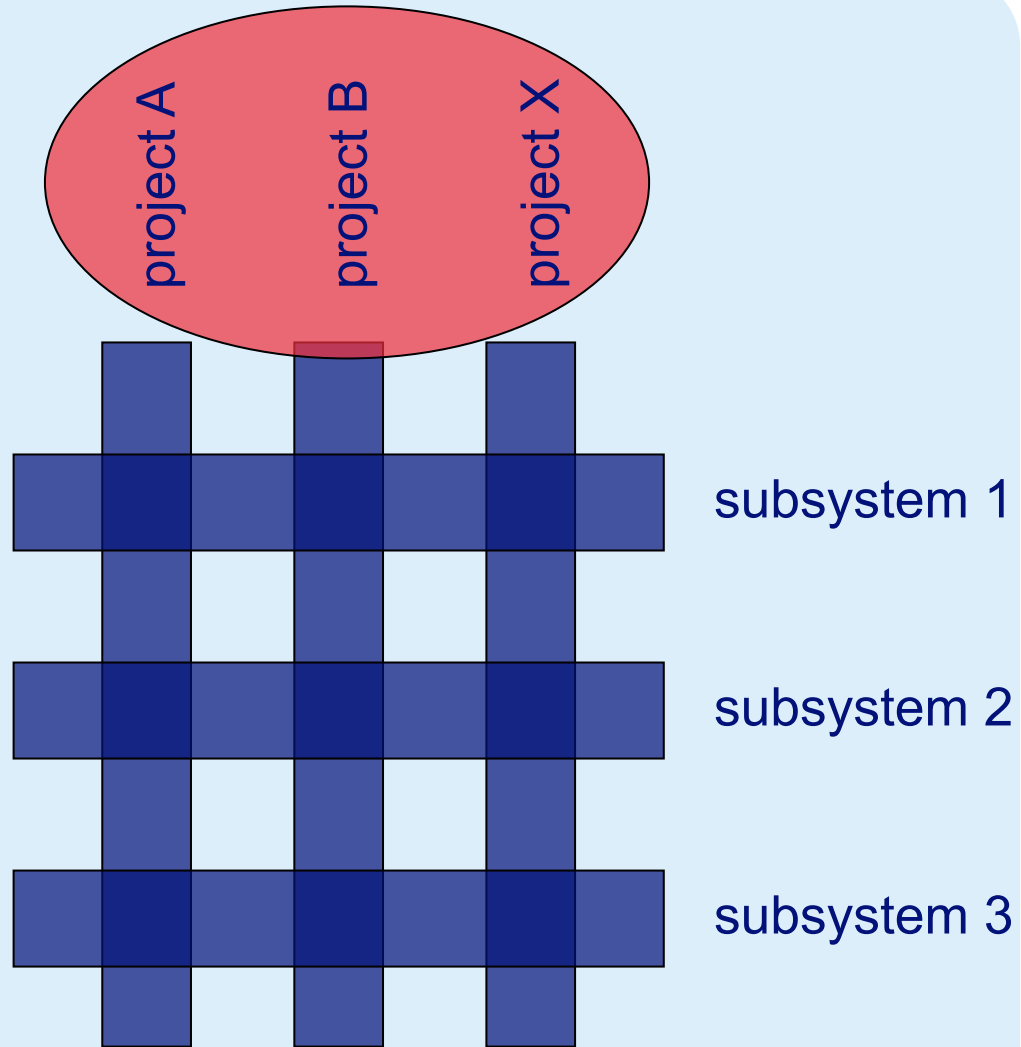 - Architectural Processes

Architectural Processes

project A   project B   project X

Subsystem developed
in project

subsystem 1

subsystem 2
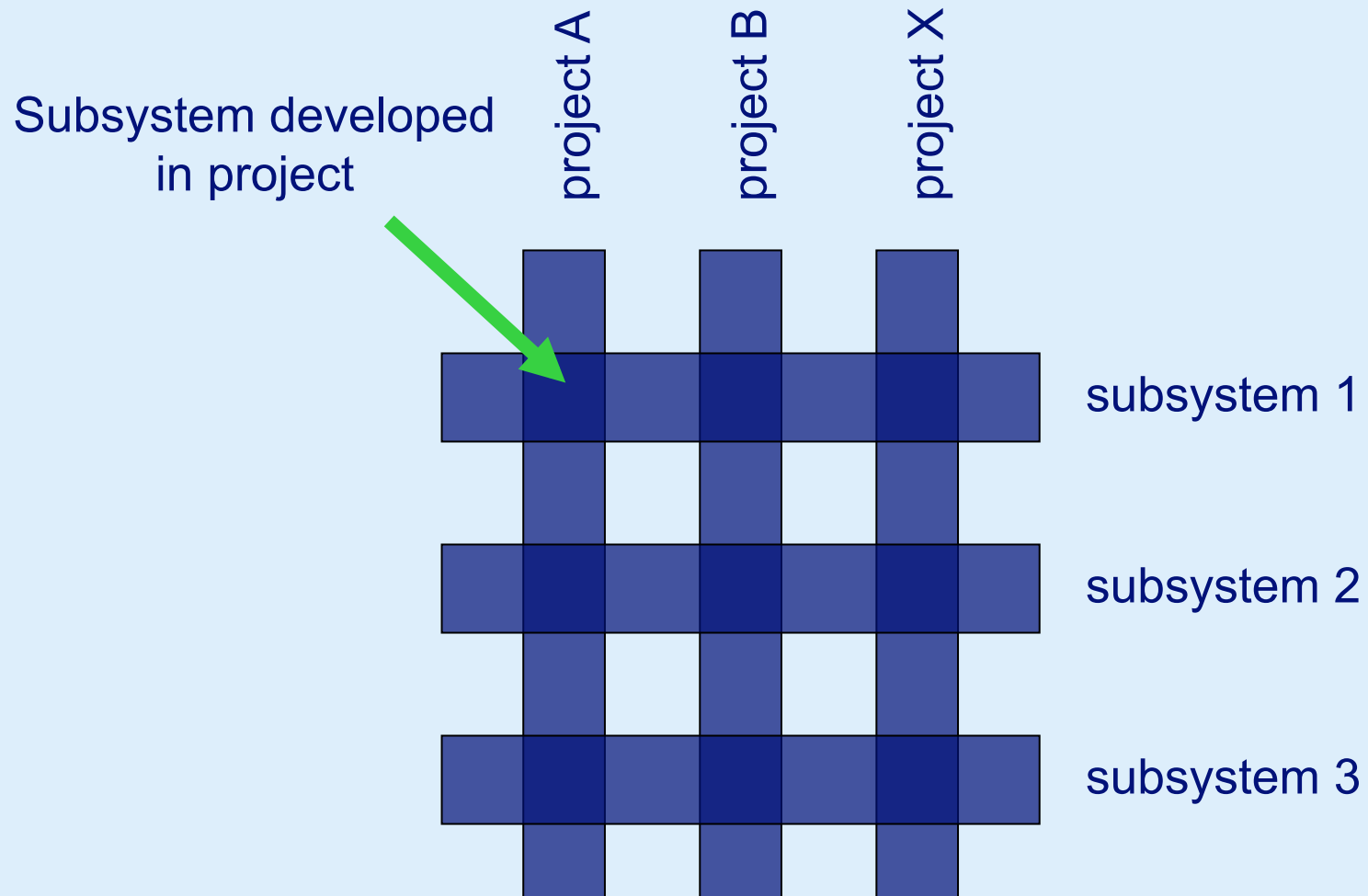
subsystem 3

Organisation - within project

- Product architect
- Software behavior committee
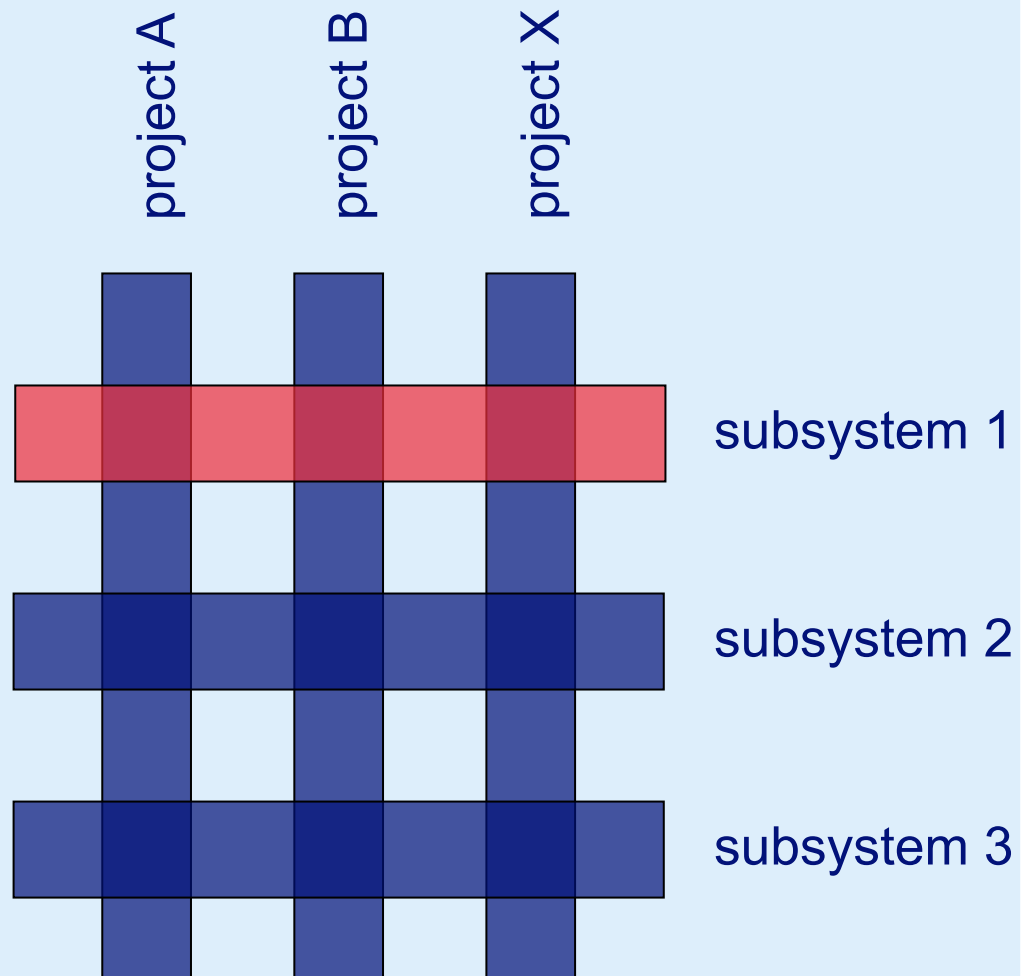- Software architecture committee

project A   project B   project X

subsystem 1

subsystem 2

subsystem 3

Organisation - cross project on project level

- Architecture council

project A · project B · project X

subsystem 1

subsystem 2

subsystem 3

Organisation - cross project on subsystem level

- Subsystem architect
- Subsystem meeting

project A

project B

project X

subsystem 1

subsystem 2

subsystem 3

Questions

?   ?   ?

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Professionals