

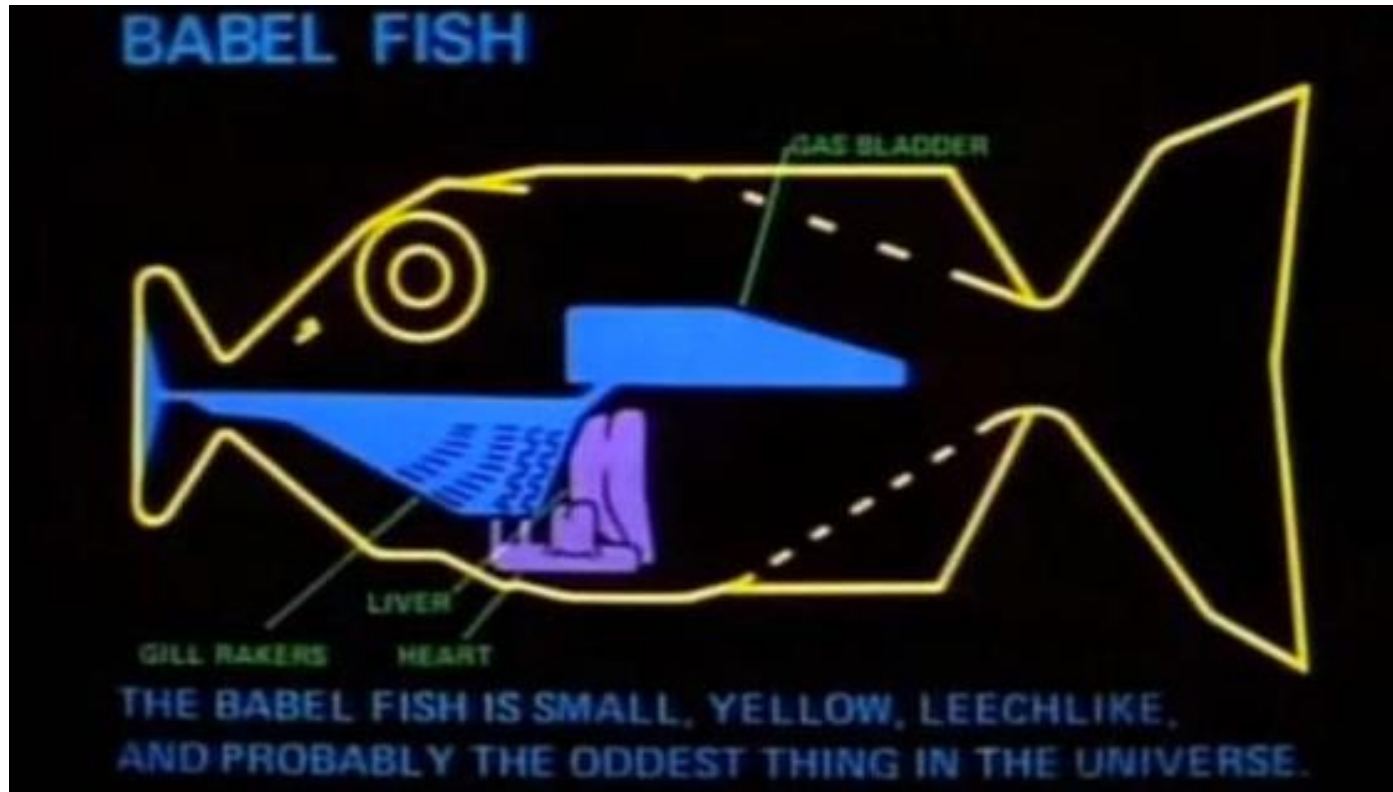
Ladok

A fish in your ear: making sense of European higher education with Edu-API

Ola Ljungkrona, Enterprise Architect



Why Edu-API?



The Ladok Consortium

The Consortium is owned by 40 Higher Education Institutions and the Swedish National Board of Student Aid

The Consortium develops, maintains and operates the Student Information System Ladok

No legal entity

Generally – Standards

Have different domains

- Human Relation
- Exchange Invoice Information
- Economical Transaction
- Etc

It is defining how to communicate “system to system”
platform-agnostically

Initial adoption may be higher – but ROI comes quickly

Separation (loose coupling) makes development easier

Procurement made “easy” – requirements are well defined

Needs a context – needs to be part of your architecture



Why standardisation?

Common language

- Between institutions
- Towards suppliers

Collaboration between institutions and the use of common requirements towards suppliers

- We can place strict requirements on suppliers to support an international standard.

Interoperability

- Easy to move to a new supplier

Cut cost

- Institutions can collaborate around system integrations and lower the total cost

Time to market

- If the interfaces are already defined, you can start working right away
- There's no need to discuss what messages should look like
- More configuration and less development

Life Cycle Management

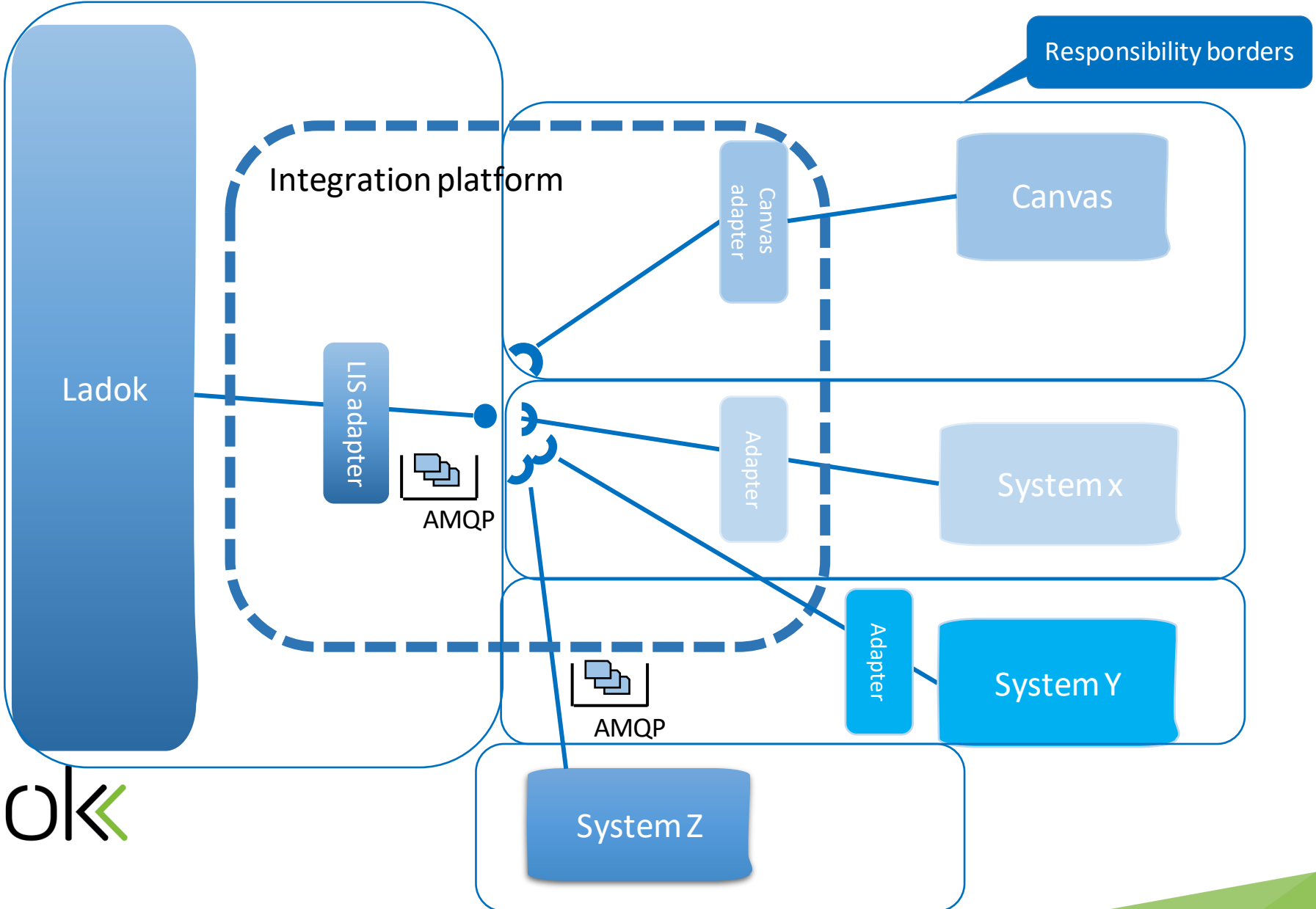
- Services can change in a structured way

Clear Ownership

- IT-department is not the owner of integrations – The Business is!



Architecture



Ladok LIS adapter

Provides Ladok information in LIS.

- Learning Information Services (LIS) IMS global

Creates LIS messages based on events in Ladok

- Collects additional information from Ladok

A part of Ladok

- Originally developed by Sunet (2018)

Area of usage

LMS (Canvas)

Internship (Praxia)

Digital Exams (Inspera)

Student mobility (MobilityOnline, MoveOn, SoleMove) Ongoing

E-archive Ongoing

Room booking and scheduling (TimeEdit, Kronox) Ongoing

Staff planning (Retendo)

Student unions (Montania)

Alumni (Mira, Microsoft Dynamics)

Who are using LIS adapter today?

Institution	Status	Usage
Enskilda högskolan (EHS)	Production	LMS (Canvas)
Försvarshögskolan	Production	LMS (Canvas)
Gymnastik- och idrottshögskolan (GIH)	Production	LMS (Canvas)
Göteborgs universitet	Test	Studentmobility (Moodle Online)
Jönköpings universitet	Production	LMS (Canvas)
Högskolan i Gävle (GIH)	Production	LMS (Canvas)
Karolinska institutet	Production	Integration mot LMS (Canvas)
Kungliga Teknisk högskolan (KTH)	Test	Archive
Lunds universitet	Test	Integration mot Digital Tentamen (Inspera)
Röda korsets högskola (RKH)	Production	LMS (Canvas)
Sophiahemmets högskola	Production	LMS (Canvas)
	Production	local application
Stockholms konstnärliga högskola	Production	LMS (Canvas)
Sveriges lantbruksuniversitet (SLU)	Production	LMS (Canvas)
	Production	LMS (Canvas)
Umeå universitet	Production	LMS (Canvas)
	Test	Interhship (Praxia)
	Test Plan	Digital Exams (Inspera) Student mobility (SoleMOve)
Uppsala universitet	Production	LMS (Canvas)
	Test Plan	Digital Exams (Inspera) Student mobility (MoveOn)

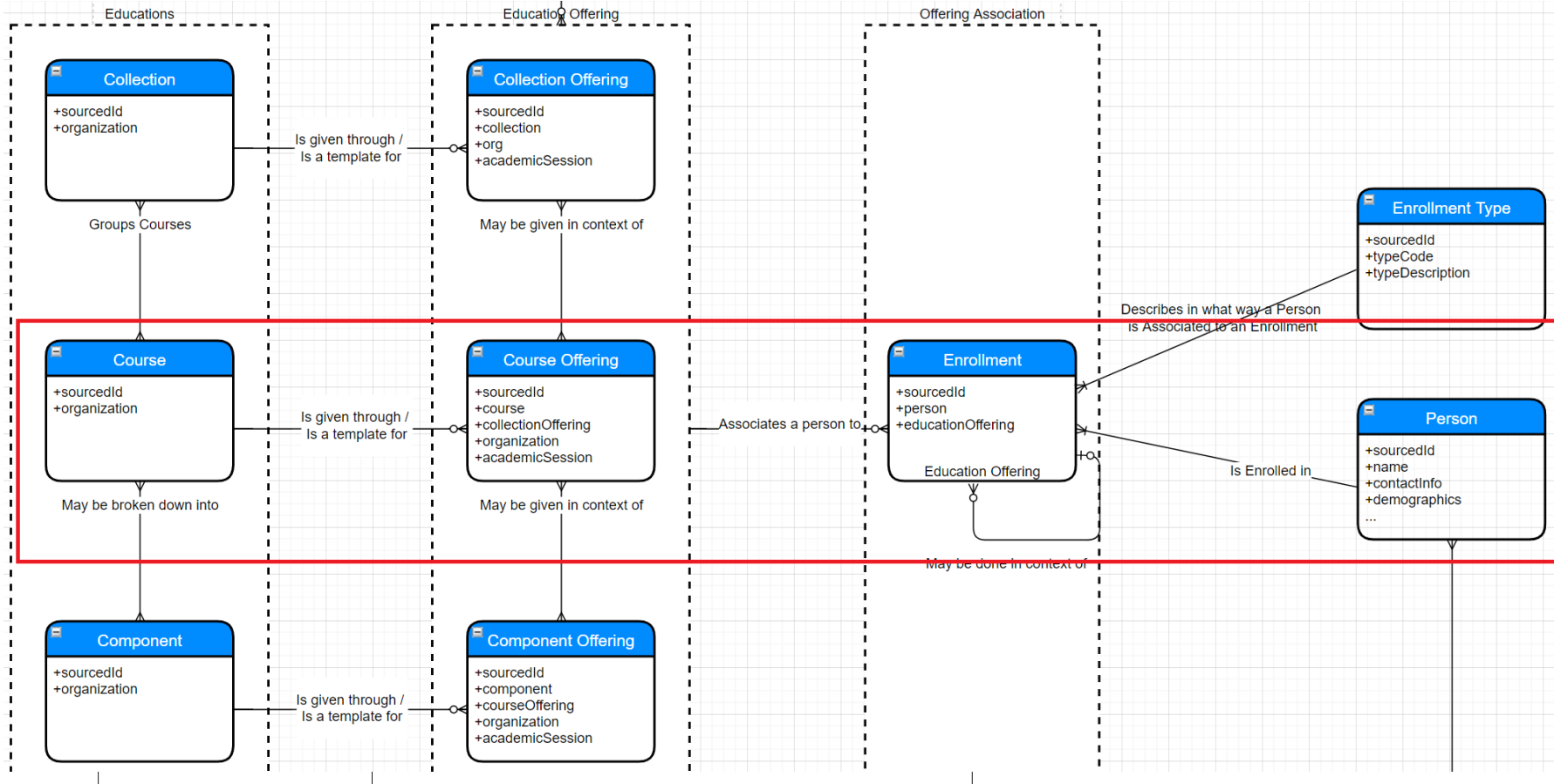
15 INSTITUTIONS



EDU-API

Ladok

Edu-API



Next step

- Going forward by adapting to EDU-API.
- The asynchronous aspects will be important.
- Involved closely in the EDU-API taskforces
- A prof of concept using Ladok will be developed 2021/2022





Ladok

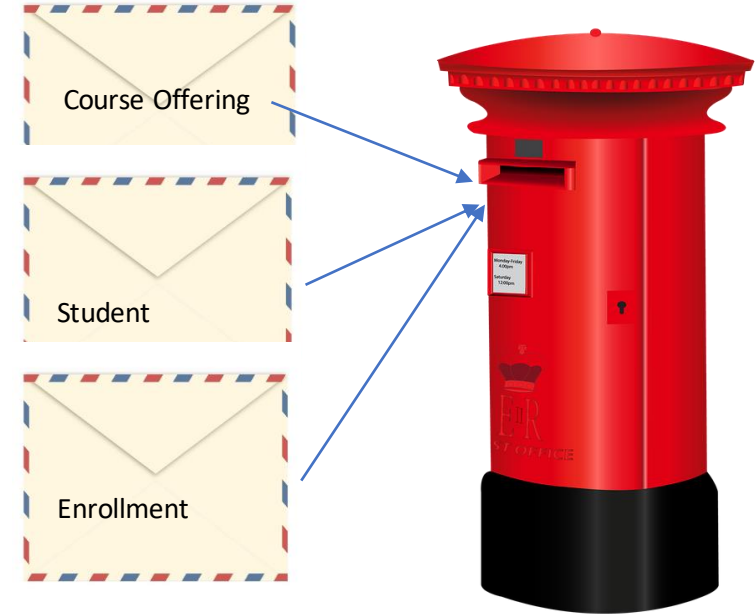


Why asynchronous messaging?

Event driven

Supports Pub/Sub (Many consumers for the same event/message)

- Very easy way to distribute and consume messages
- Provider can always send a message
- The consumer reacts on a new message event instead of polling.



Why asynchronous messaging?

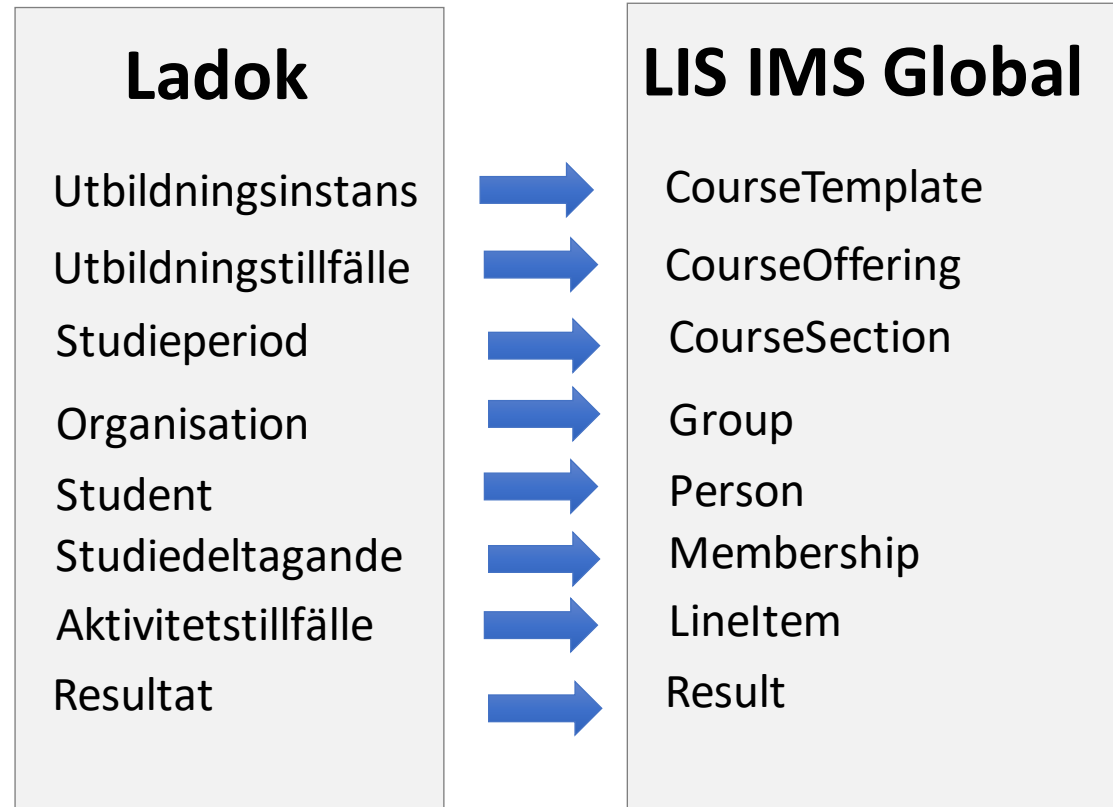
Guaranteed delivery (retry/resend not required)

Systems can execute independently

- Loose coupling
- One message at a time without keeping connections to the other system
- Both systems do not need to be online at the same time



Information model mapping

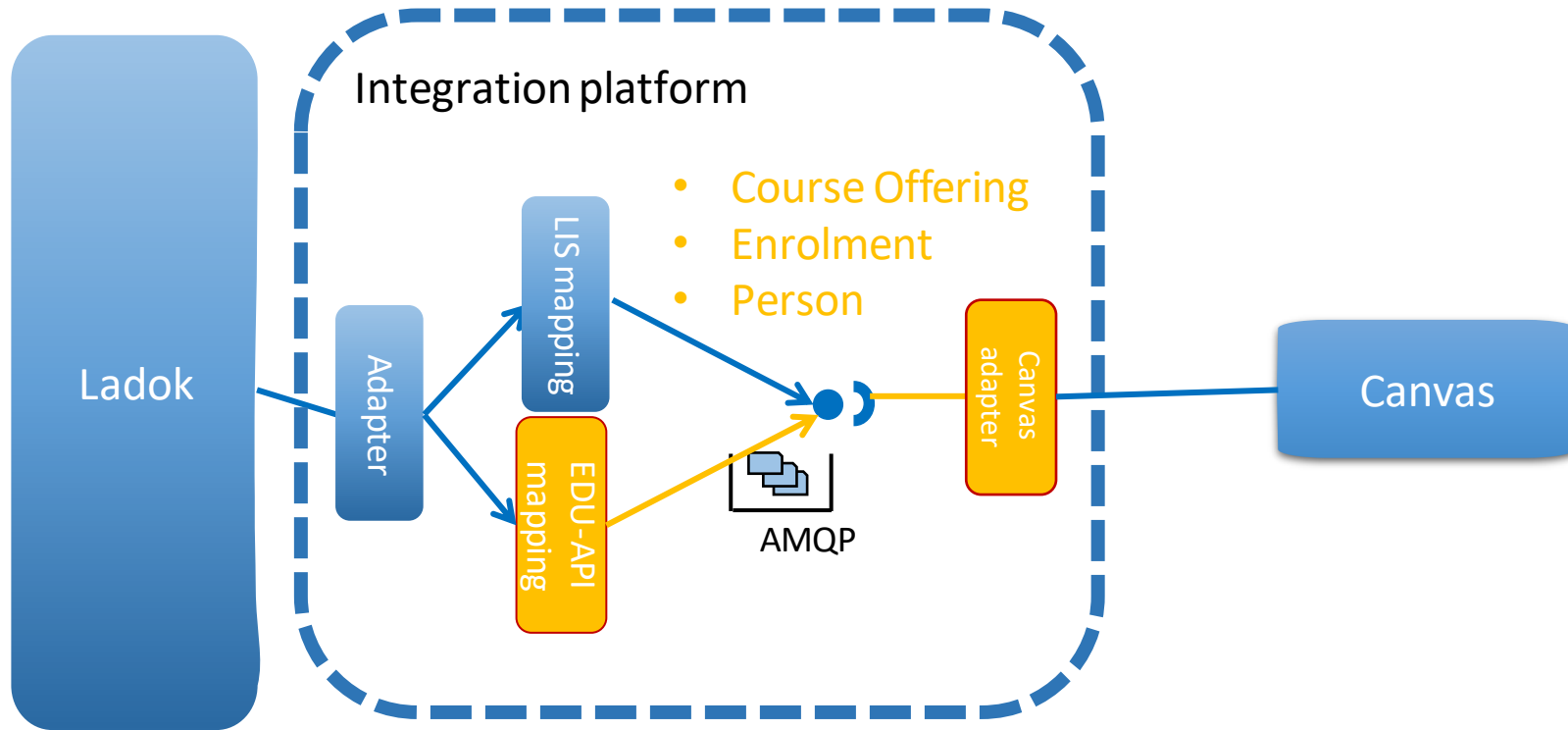


LIS Pro & Cons?

- Pros
 - Standard, Interoperability
 - Common concepts
 - Stability – low rate of change
 - Prevents inventing the wheel again
 - Schema validation of messages
 - Portability
- Cons
 - Lacking several attributes vital for Swedish Universities
 - Limited support for repeating elements
 - Limited functionality in extensions
 - Do not support pub/sub



Use case – Edu-API with Ladok



More information about Edu-API

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