

How We Democratized Artificial Intelligence with Acumos AI



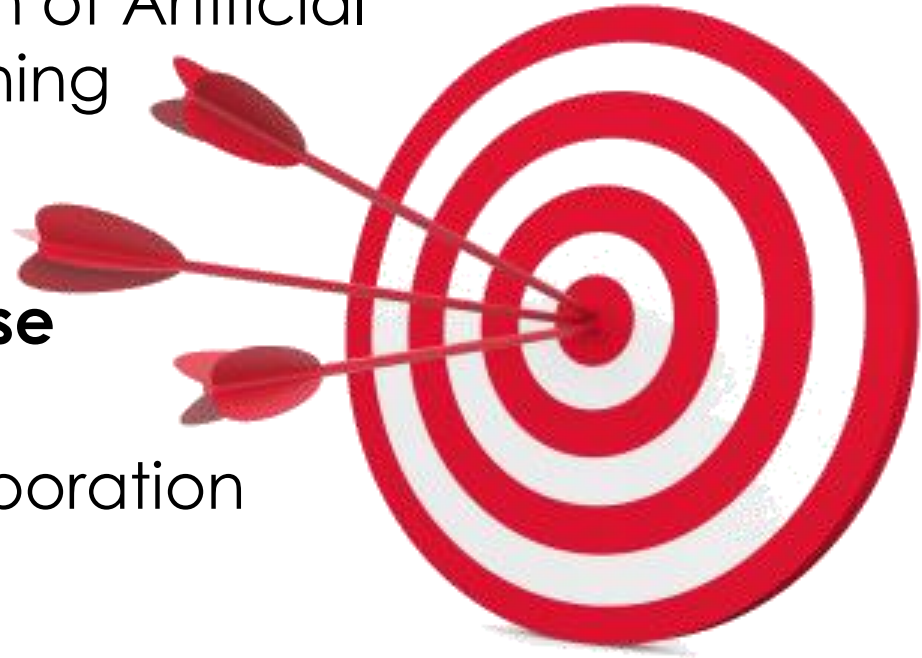
Eyal Felstaine, Ph.D.
CTO, Amdocs
09/25/2018

Linux Foundation Deep Learning Foundation (LFDL)

Linux Foundation Deep Learning Foundation is driving open source innovation in, and enabling use of, Artificial Intelligent by building and supporting an ecosystem of Artificial Intelligent / Machine Learning / Deep Learning projects, and we would like you to participate in our growing community

LFDL goals

- **Accelerate** the development and adoption of Artificial Intelligent / Machine Learning / Deep Learning
- Enable Artificial Intelligent / Machine Learning / Deep Learning that is **easy to implement and use**
- **Create** an ecosystem of collaboration for developers and users



Tencent 腾讯



AT&T



ciena



ZTE



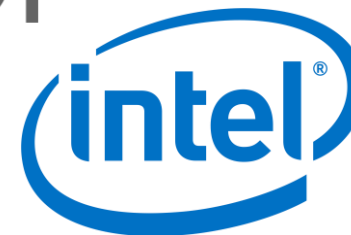
UNIVA



B·YOND



NOKIA



Tech
Mahindra



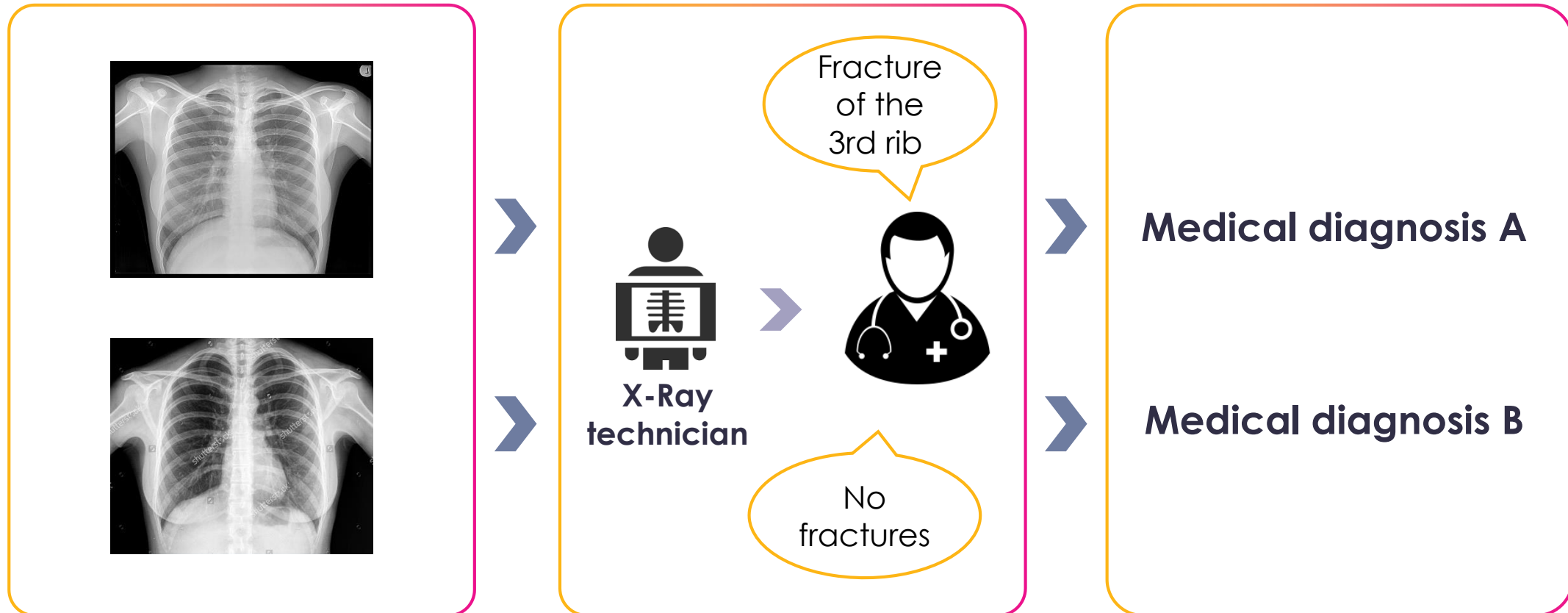


The power of machine learning

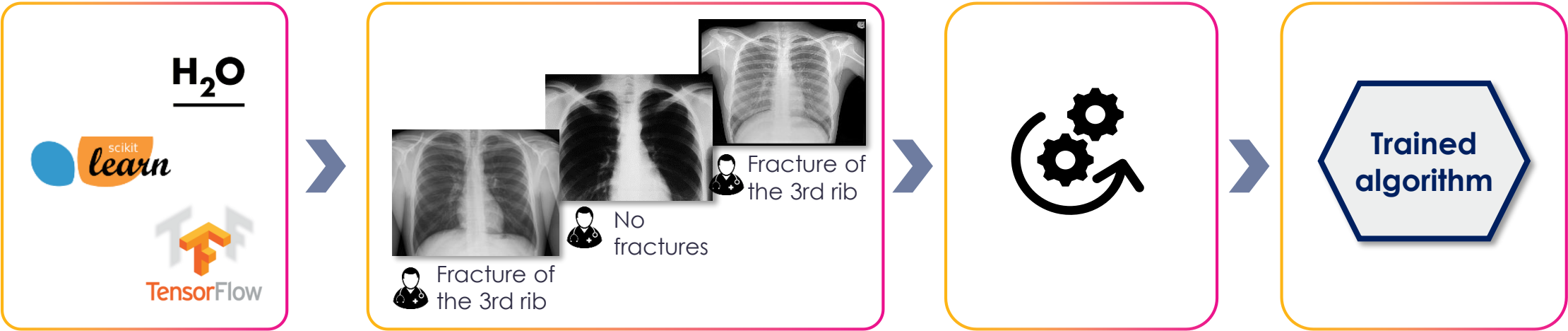


Before using machine learning

Long process, skill dependent

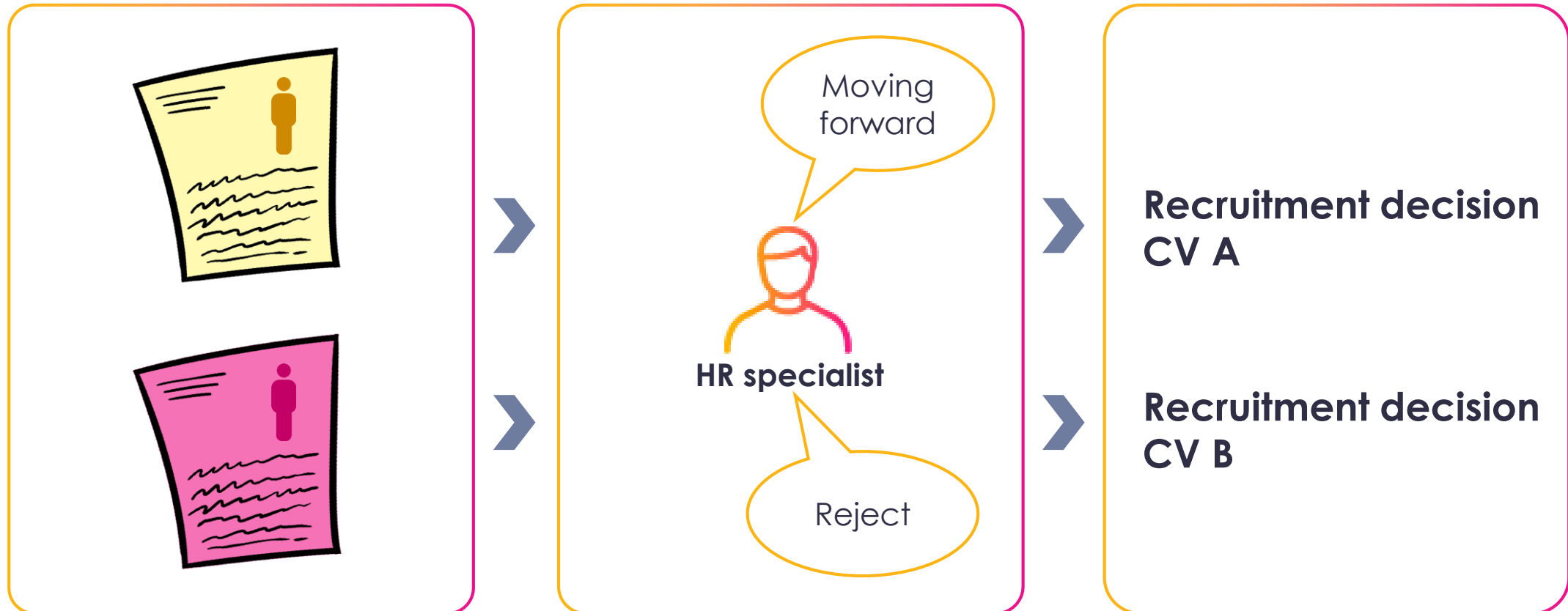


What is machine learning?

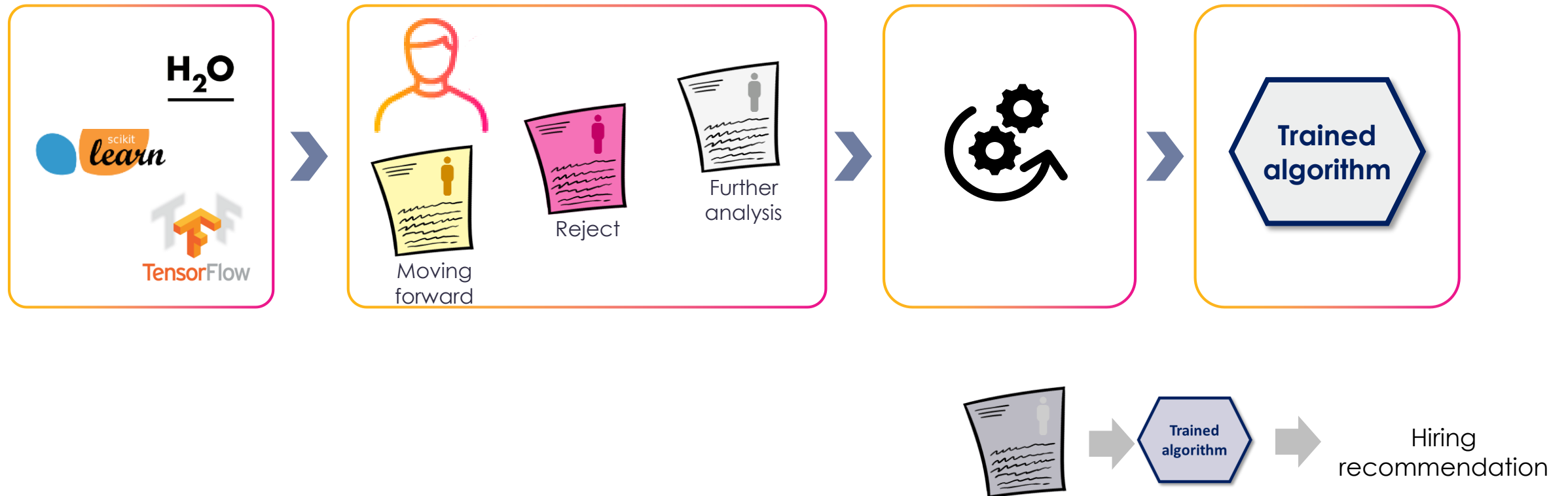


Before using machine learning

Long process, Skill dependent

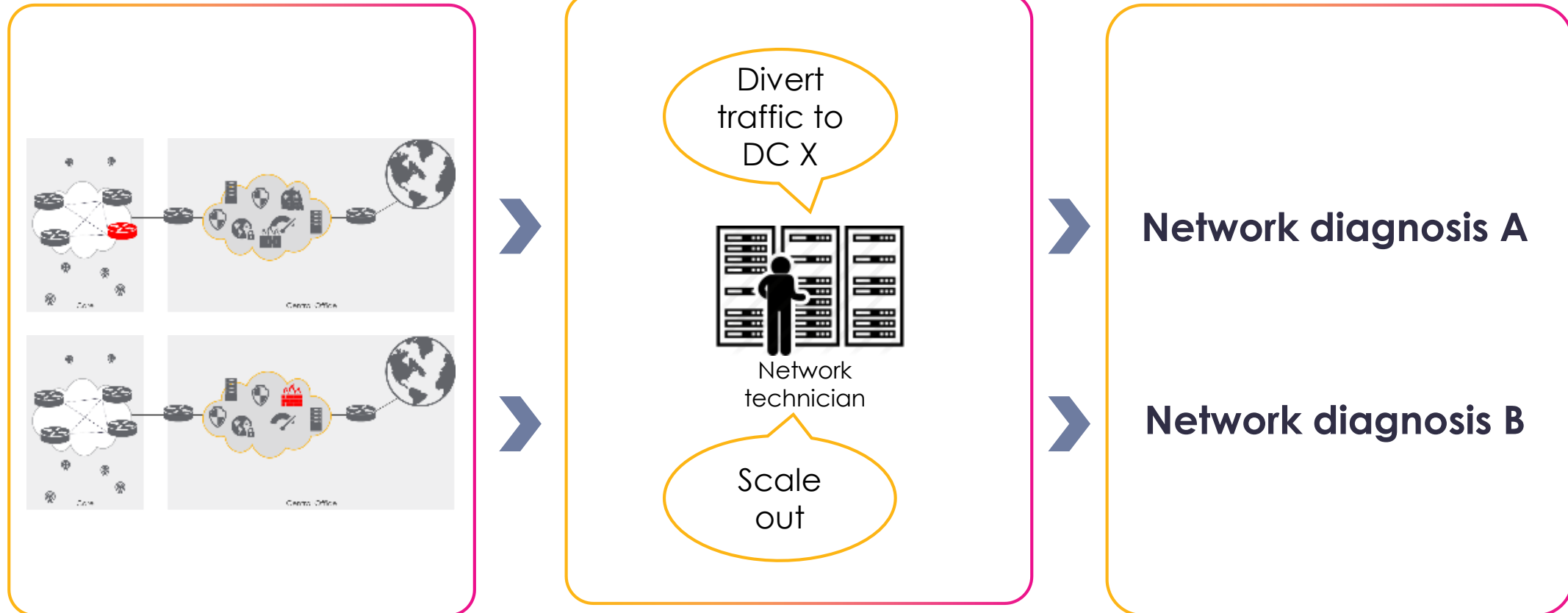


Resume analysis



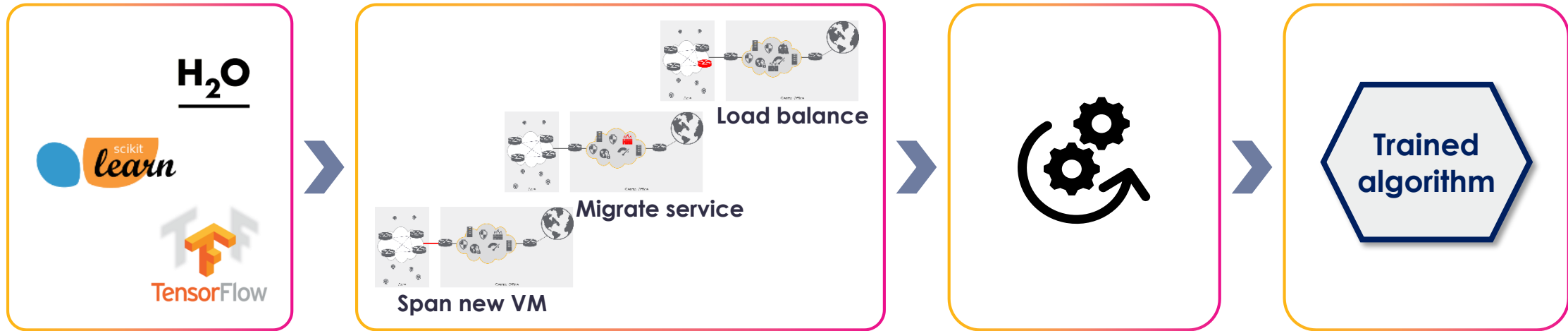
Before using machine learning

Long process, skill dependent



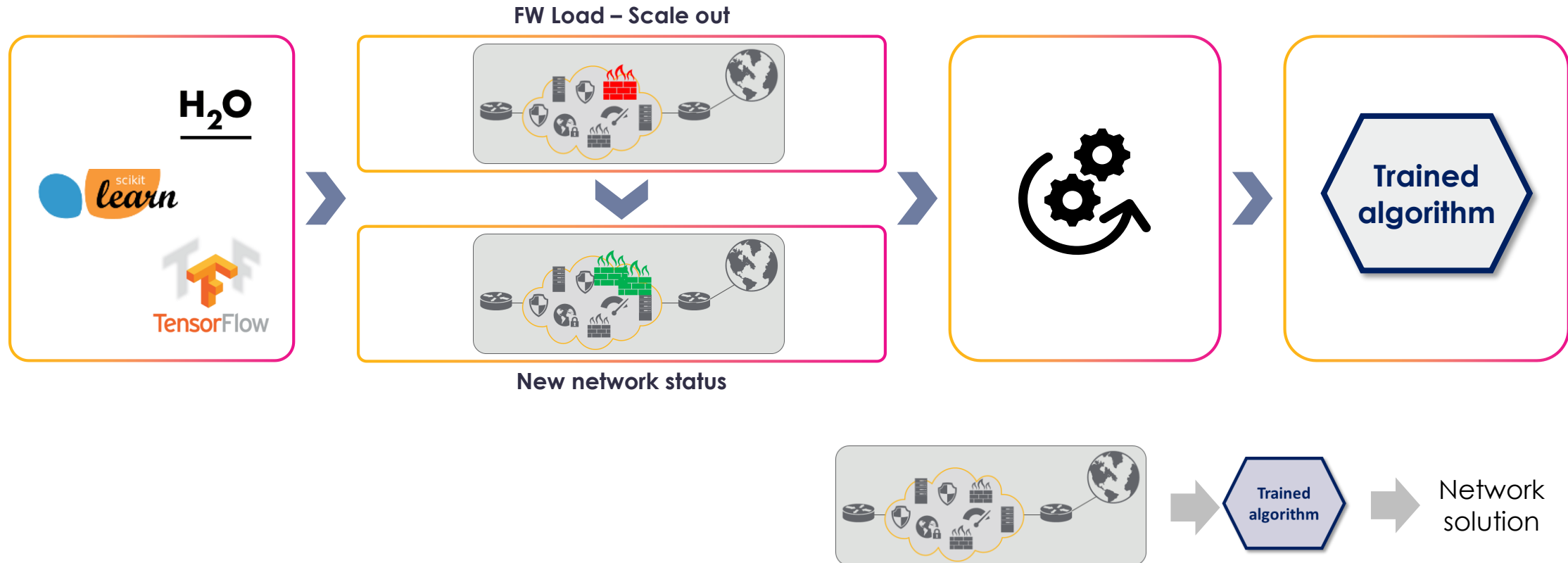
Applying machine learning to networks

Simplified view

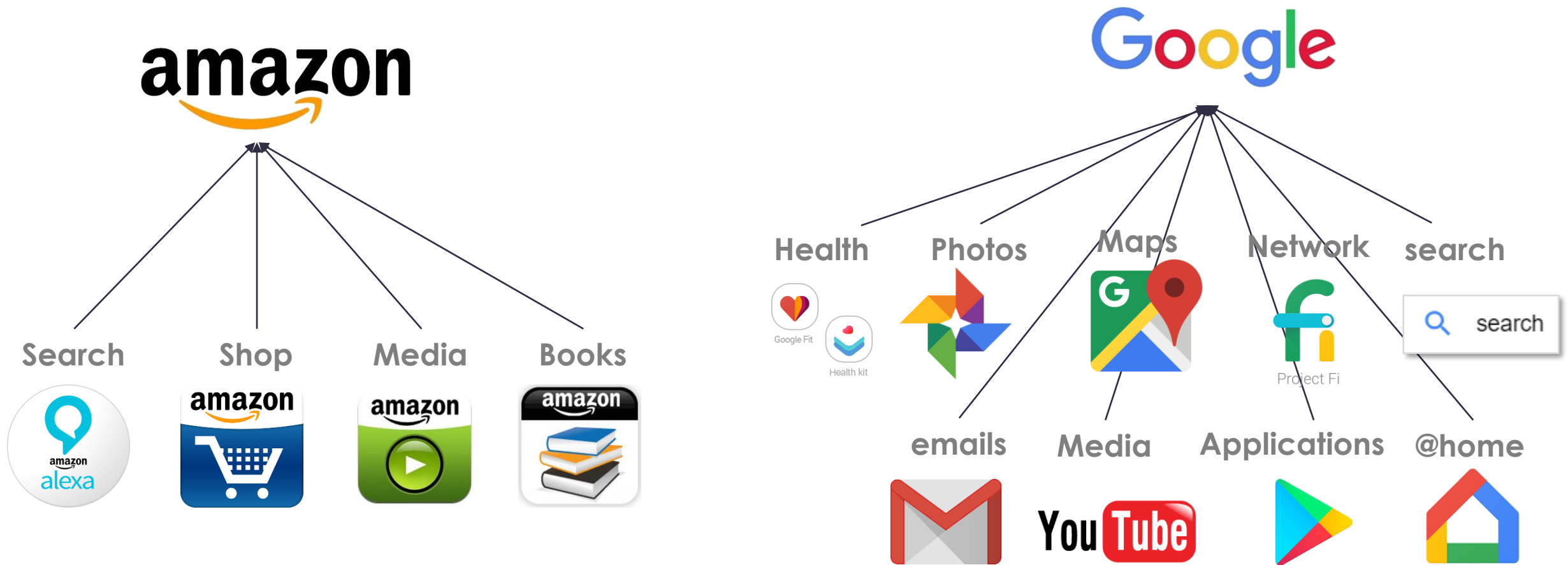


Applying machine learning to networks

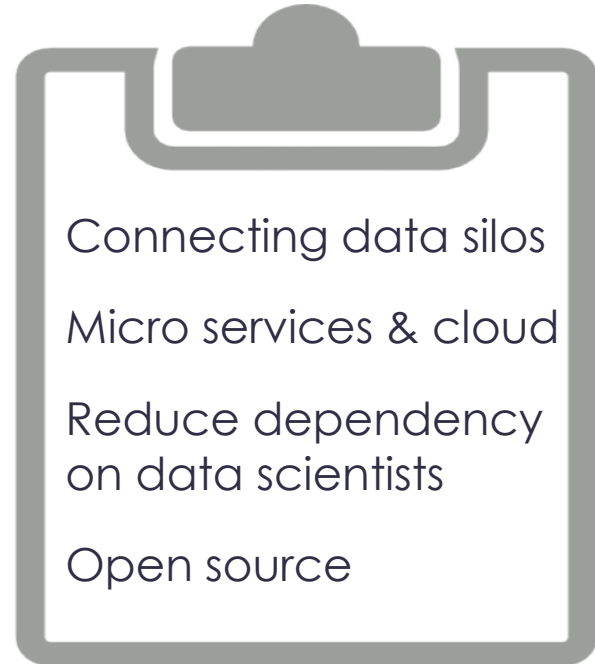
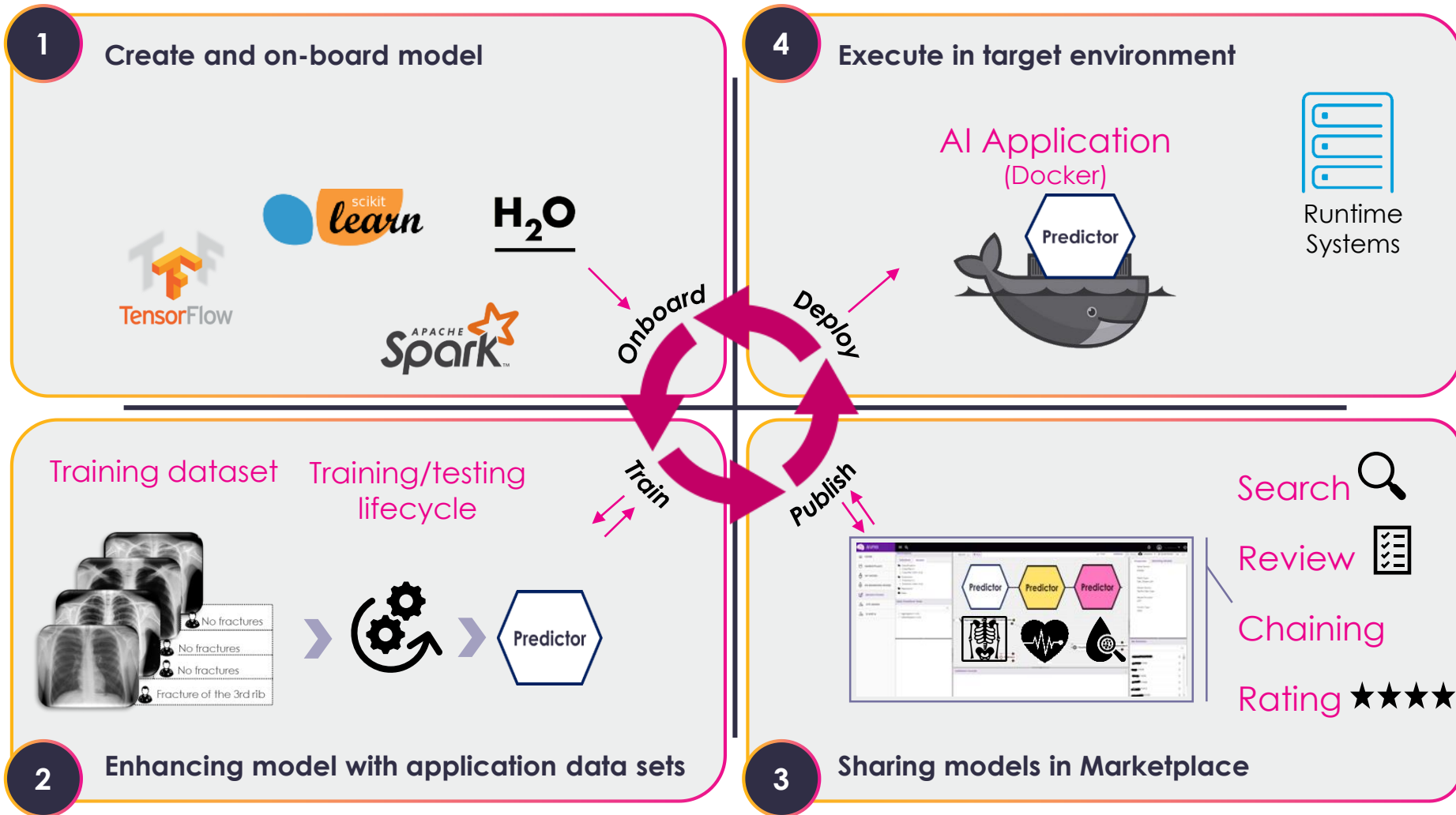
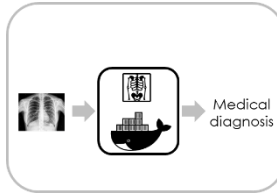
Advanced view



Breaking the information silos



Acumos overview

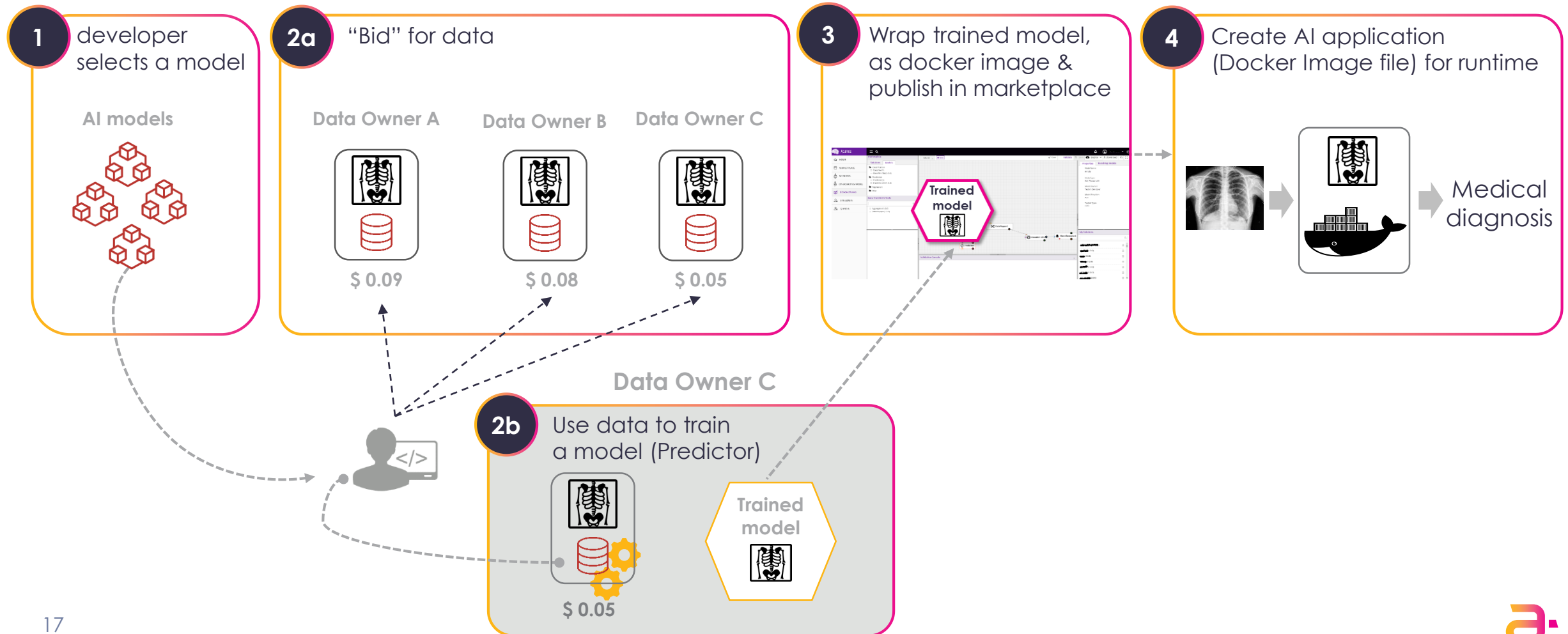


Acumos – training and running an AI model



Algorithms & Data Marketplace

Customer runtime environment



Acumos: a distributed, federated model for better business flexibility

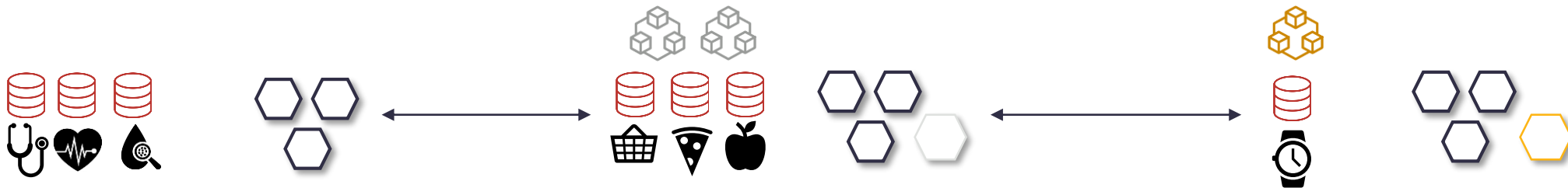
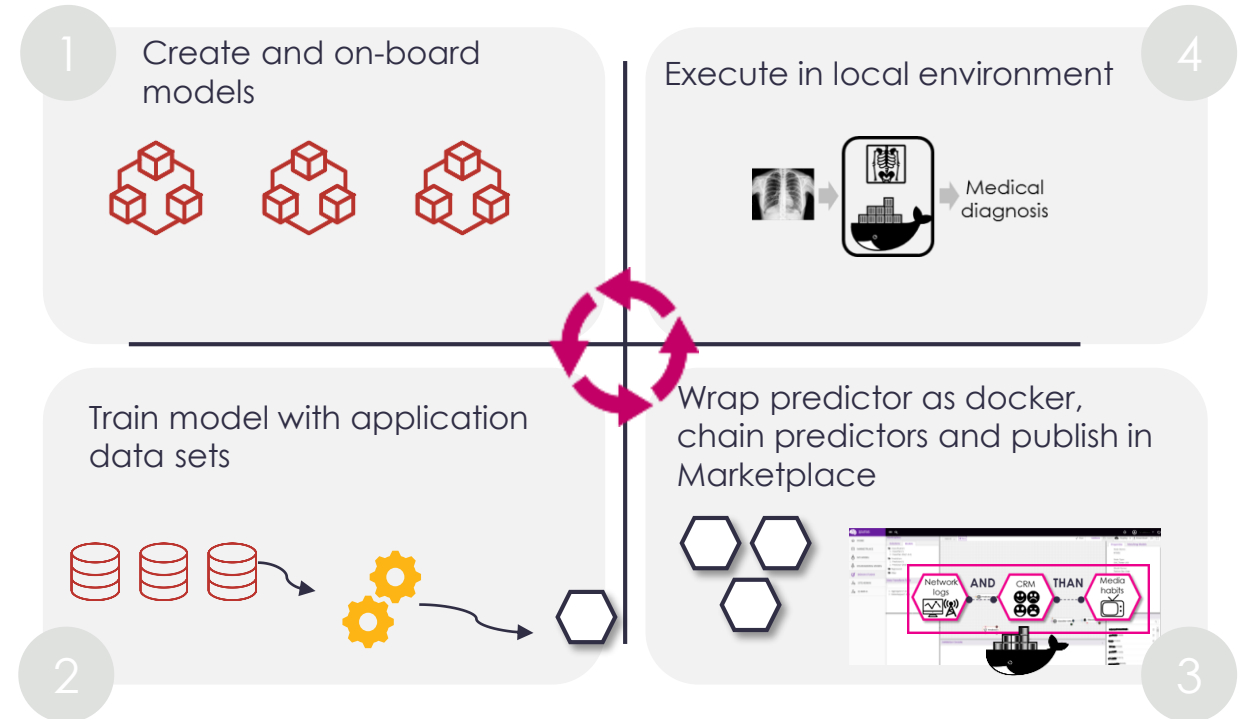
Acumos Instance: download the framework from acumos.org, install on your own environment, enhance with models

On board **data sources for training** models and **creating predictors**

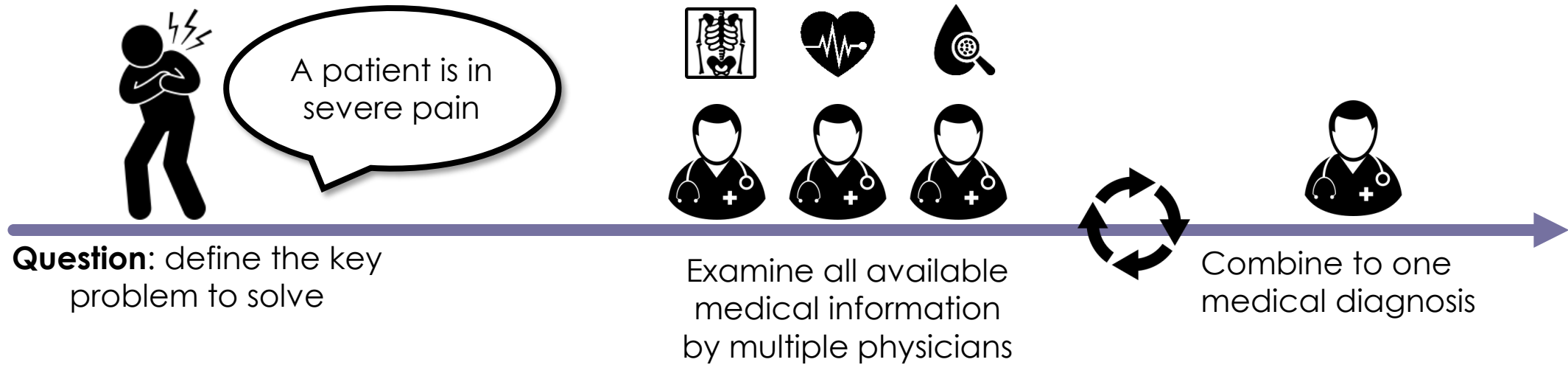
Acumos Marketplace provide access to catalogs in any local instance.

Users can examine, compare, discuss and explore components developed on different instances

Selective sharing of proprietary components, published into specialized catalogs



Before using machine learning



Acumos Marketplace



THE LINUX FOUNDATION
PROJECTS

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Showing - 7 Models

Sort By - All



Search here

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- ☐ Regression
- ☐ Data Transformer

[Tags](#)

Topic Modelling

ATT-Image Classification-New

Cross Sell

Face

Image

Digital Customer Segmentation



Topic Modelling Model



0

77

67



Image classification



0

100

112



Cross Sell



0

137

175



Customer Segmentation



0

89

156



Face Privacy Filter

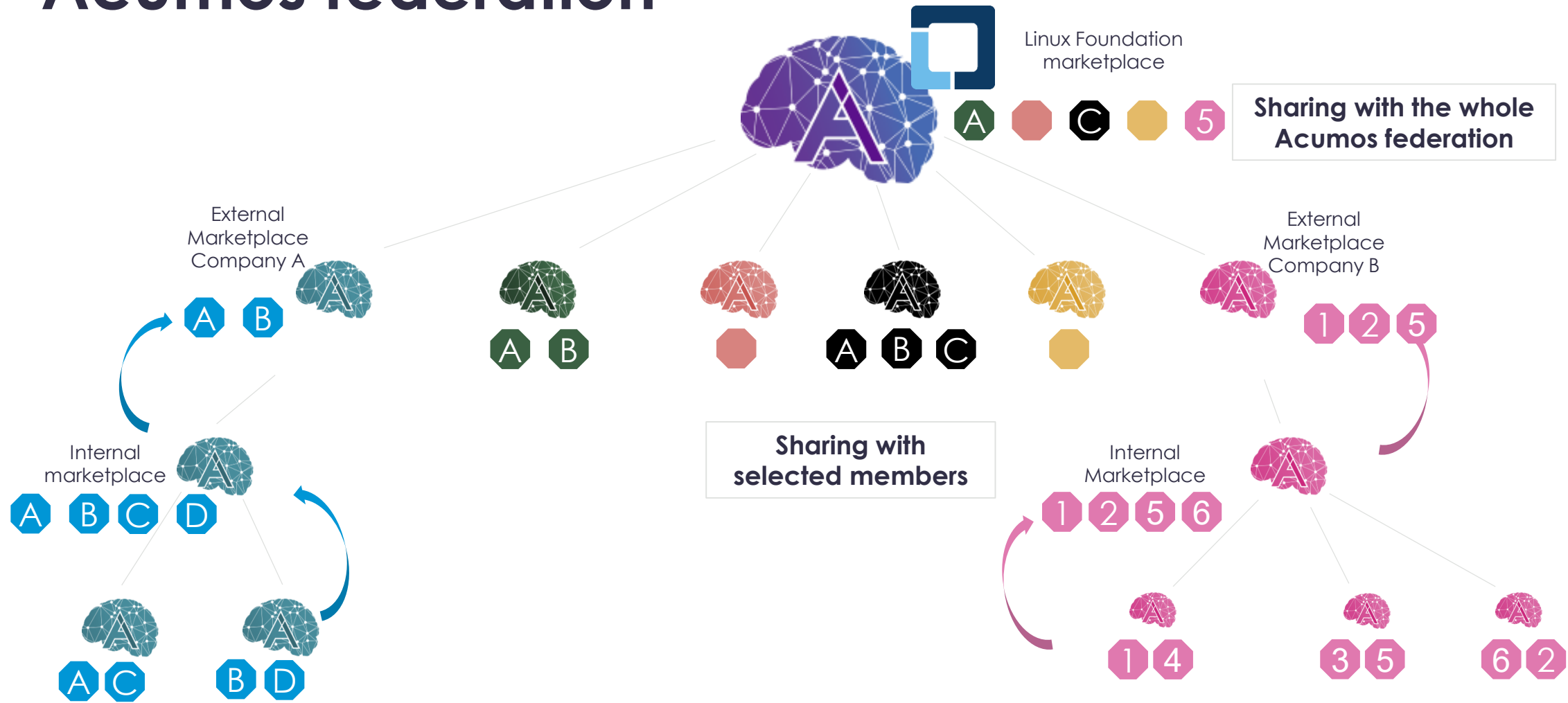


Face detection



Image mood classifier

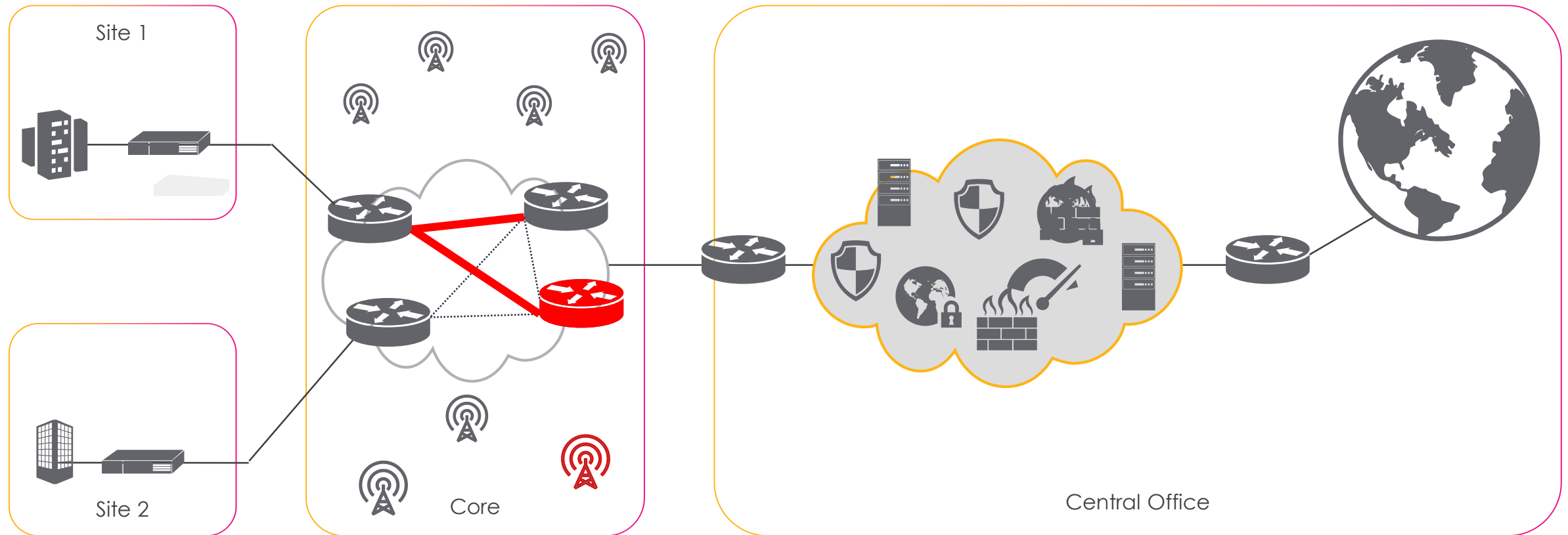
Acumos federation



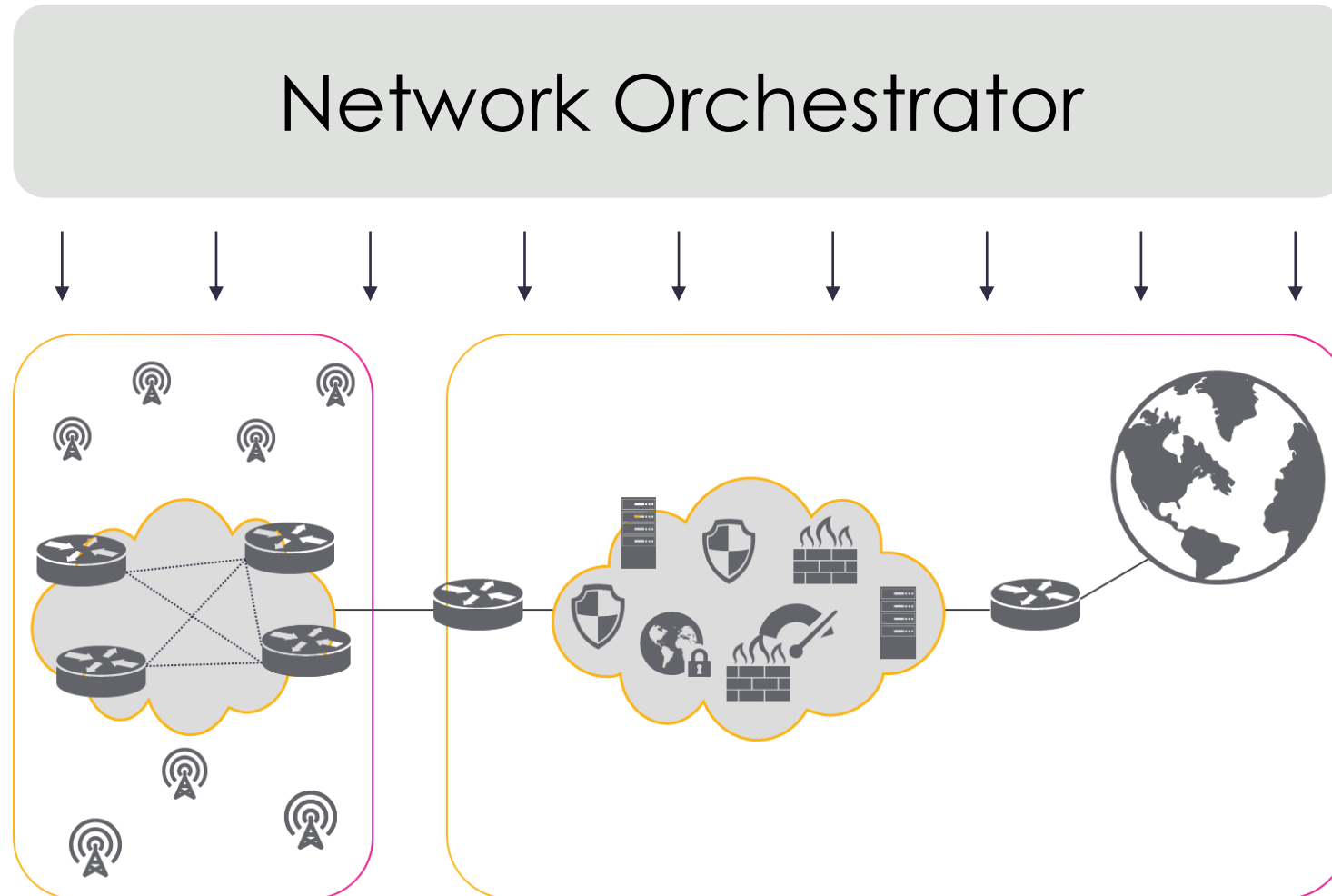
Artificial-intelligence-assisted network orchestration



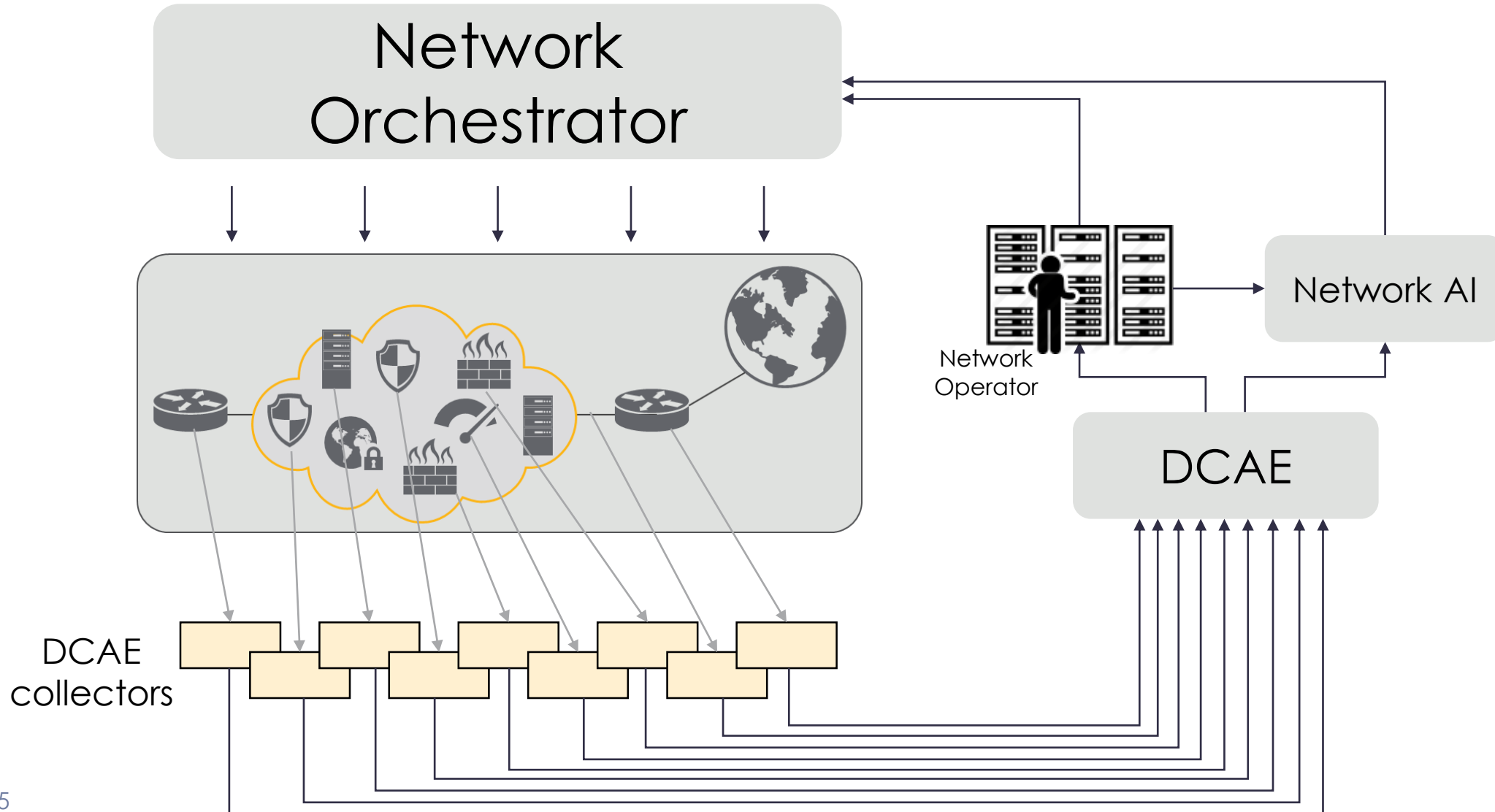
Real live scenarios are complicated...



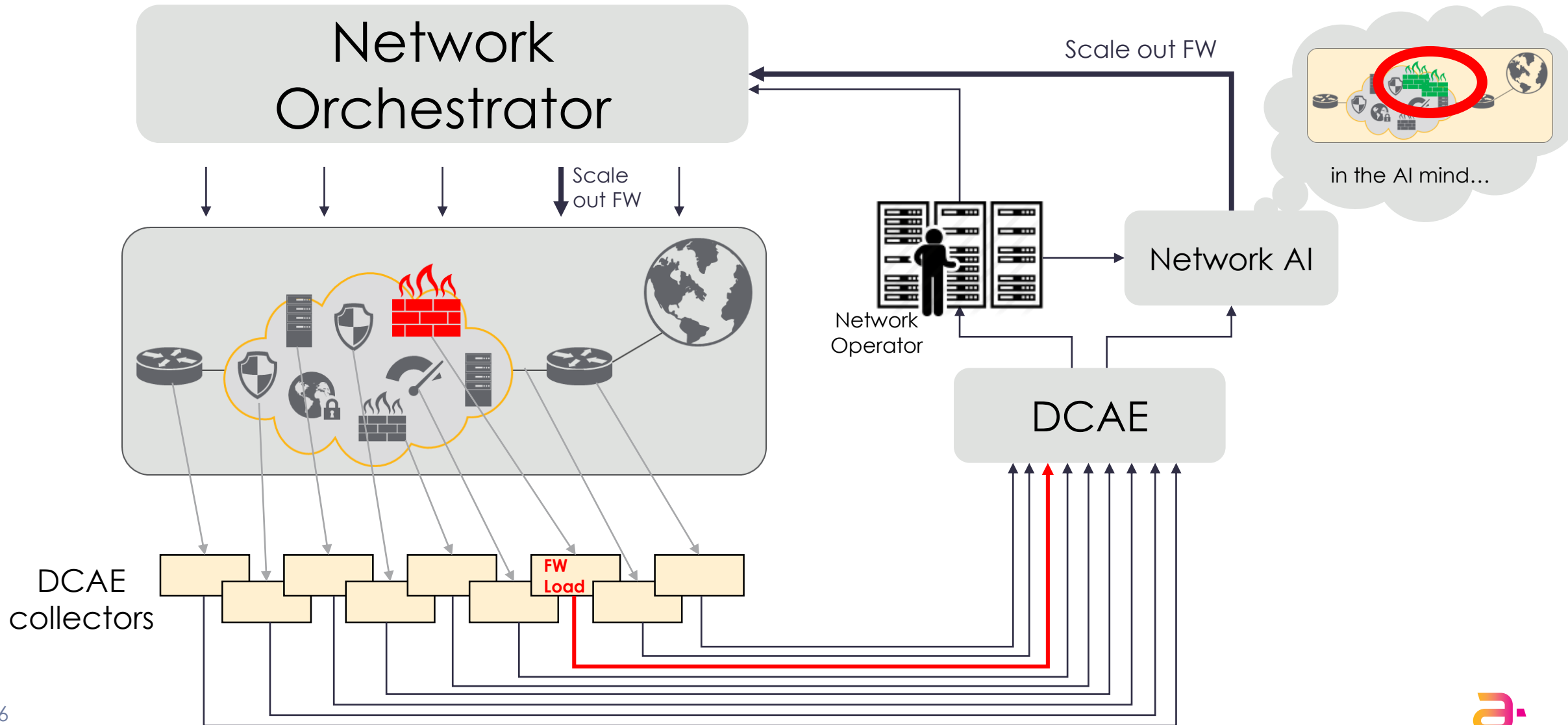
Network orchestrator



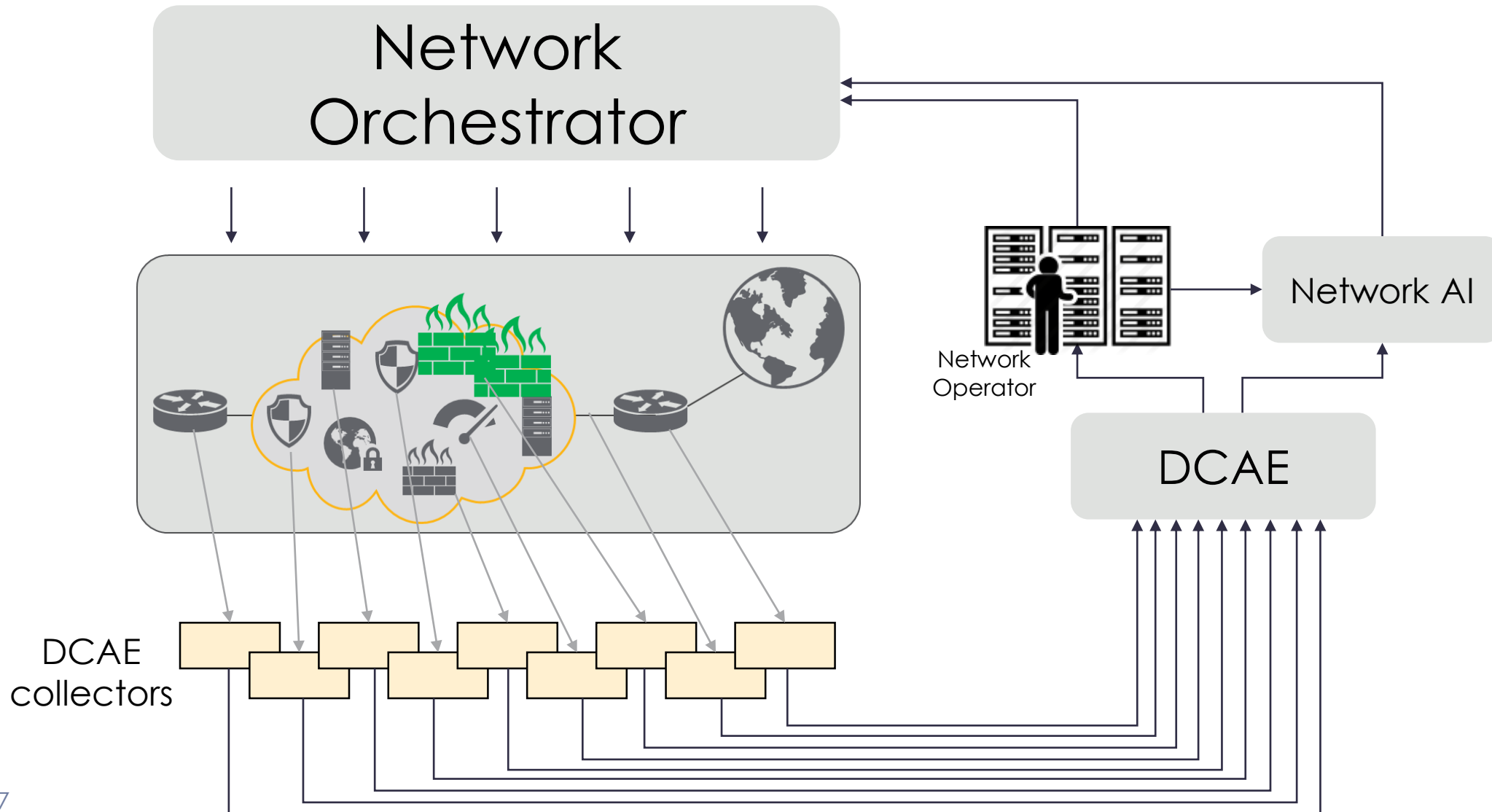
Applying AI on network orchestration



Applying AI on network orchestration – example



Applying AI on network orchestration – example



Acumos

1

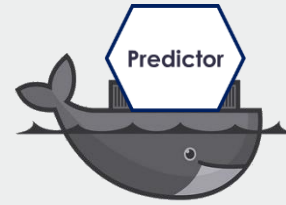
Create and on-board model



4

Execute in target environment

AI Application
(Docker)



Runtime
Systems

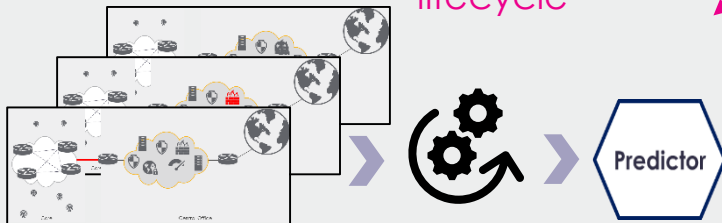
Onboard

Deploy

Train

Publish

Training dataset Training/testing lifecycle



2

Enhancing model with application data sets

3

Sharing models in Marketplace



Search

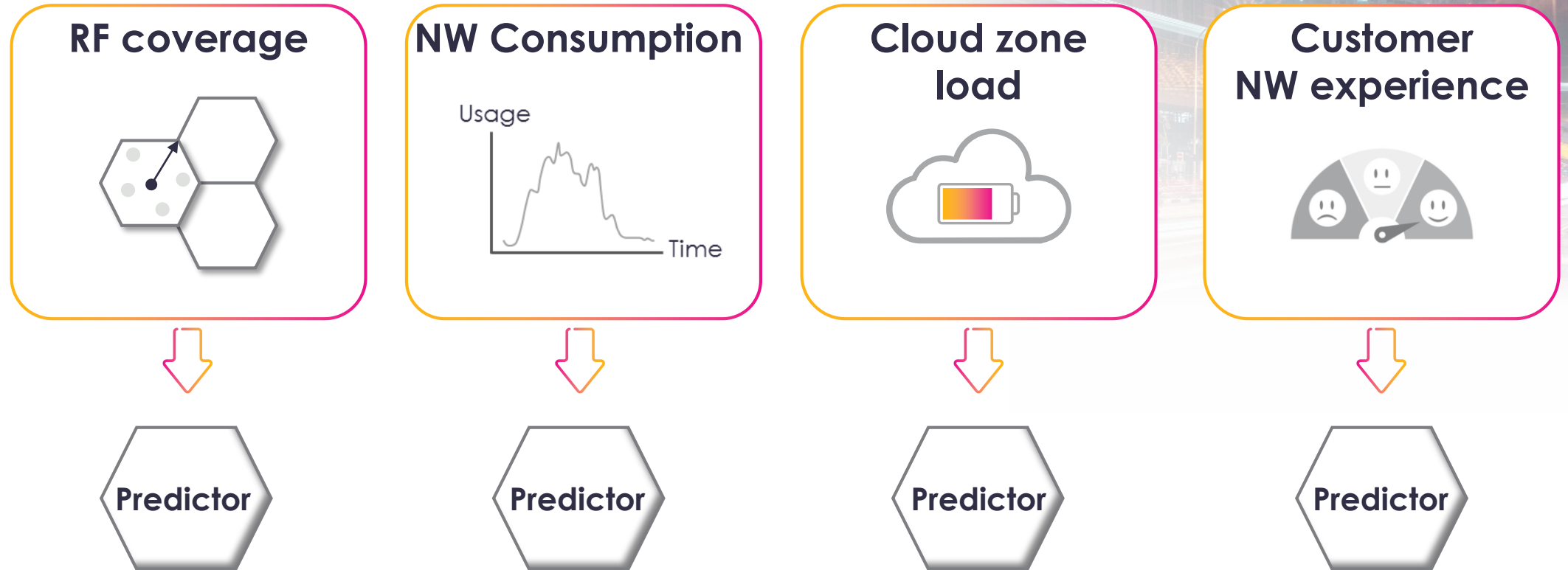
Review

Chaining

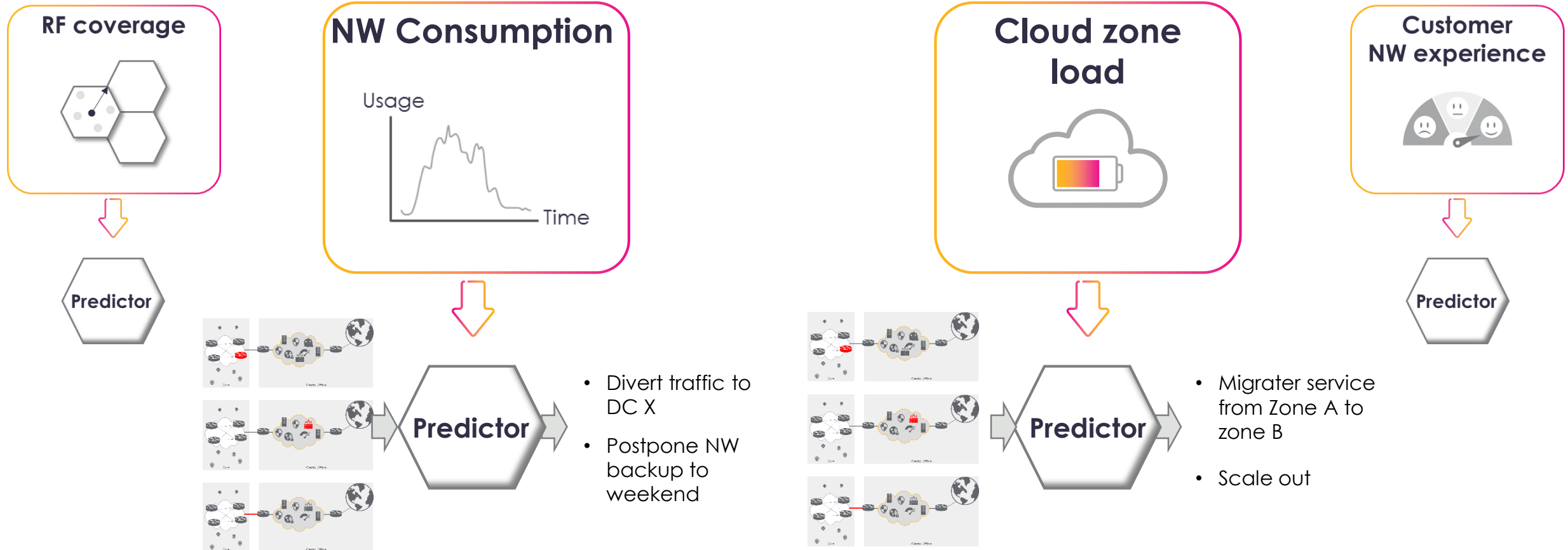
Rating ★★★★★

Connecting data silos
Micro services & cloud
Reduce dependency
on data scientists
Open source

Example use cases – AI in networks



Example use cases – AI in networks



Summary

- Linux Foundation is **democratizing** Artificial Intelligent, Machine Learning and Deep Learning **allows any small company / data owner to play in this game**
- Those technologies **reduce the time and resources** required for handling **real time** network issues as well as **proactively identify and prevent** them



Thank you