SMECluster Event 4

Stepping into the Twinned Digital World of 4IR

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Who am I?

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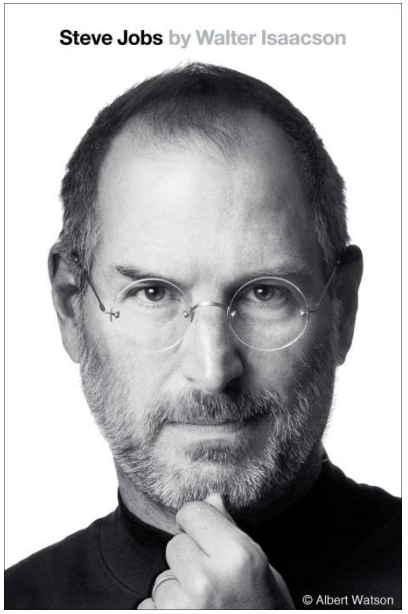
Inspiration

The Ages of the OS: DOS

```
Starting MS-DOS...

C:\>_
```

The Ages of the OS: iOS



…and now: vf-OS

virtual factory Operating System

First, some Ad

https://youtu.be/TFdaUeTrEE0

Ambition

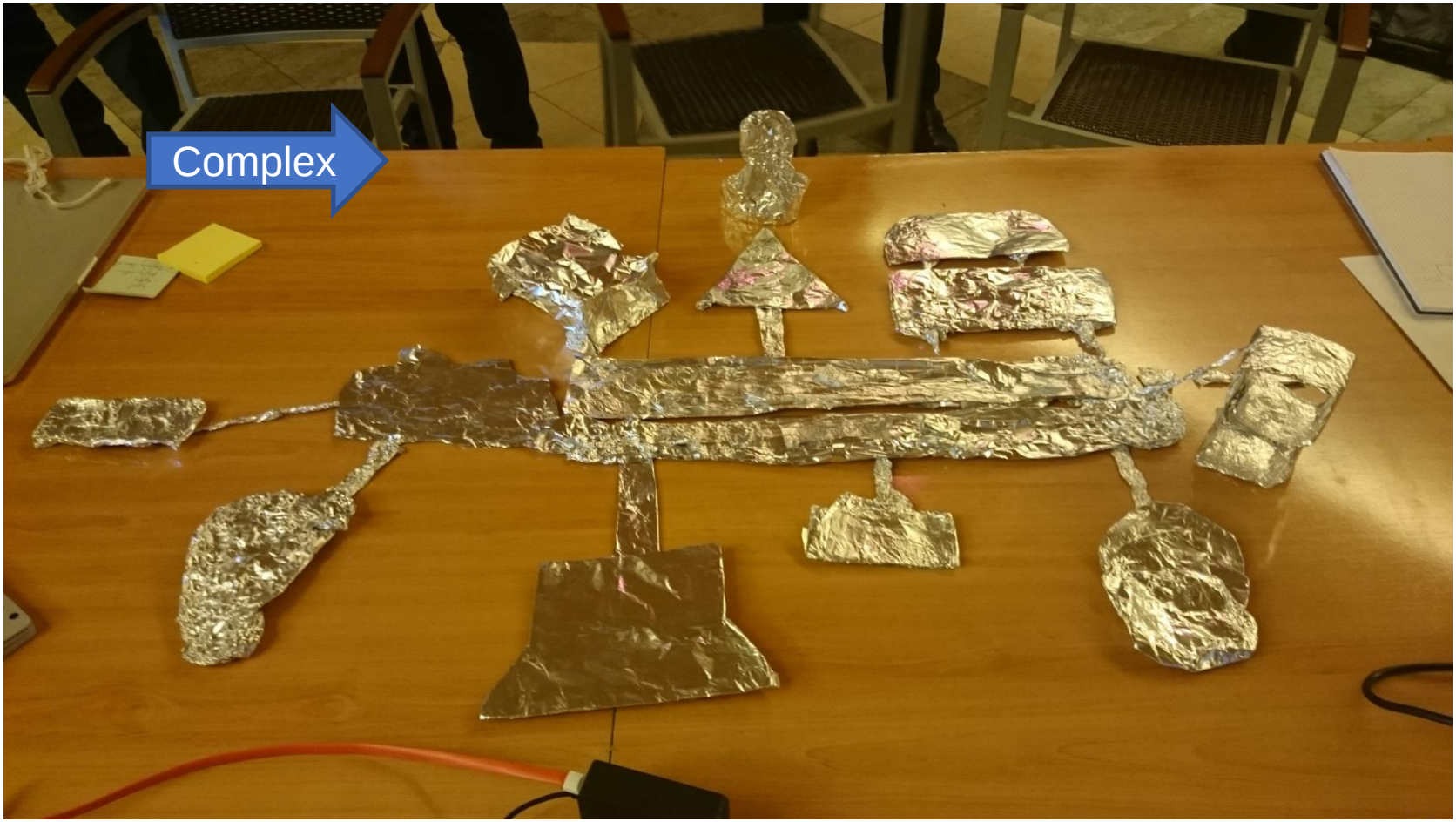
If you want to create an Android application you require an SDK with java programming and an Android Marketplace to exploit it

If you want to create an iOS application you require an iOS SDK with the swift language and the Apple App Store to exploit

If you want to create a vf-OS application you require the vf-OAK and utilise the vf-OS Platform to exploit it

Who is vf-OS?

What is vf-OS?



How big is vf-OS?

Aspiration

Software Operating System Environment	*vf-OS* Equivalent
Kernel Processor, Memory, Internal Bus	**Virtual Factory System Kernel** Framework, Enablers
I/O Interfaces, Device Drivers, Peripherals	**Virtual Factory I/O** Device Drivers, APIs, Security
File and Data Handling Interfaces	**Virtual Factory Middleware** Data Infrastructure, Storage, Harmonisation, Analytics
SDK Application Development, System Monitor	**Open Applications Development Kit** System Dashboard, Frontend Environment, Studio, Developer Engagement Hub
Applications ERPs, CRMs, MESs, WMs	**vApps** Collaboration in real-time, monitoring

Application

Use cases

Pilot A – Manufacturing & Logistics/Automation:

- **Goal:** To build a set of Smart Applications (vApps), integrated into vf-OS, for the advanced management of spare-parts in the automation production equipment sector

Pilot B – Manufacturing Assembly/Collaboration:

- **Goal:** To accelerate and maintain collaboration channels between a network of collaborative SMEs in two complementary business domains: plastic and metal

Pilot C – Construction/Industrialization:

- **Goal:** To facilitate the documentation management of a construction site by assimilating to an industrial factory where workers manufacture, assembly goods, operate machines, and carry out tasks processing products

Expanding the Ecosystem

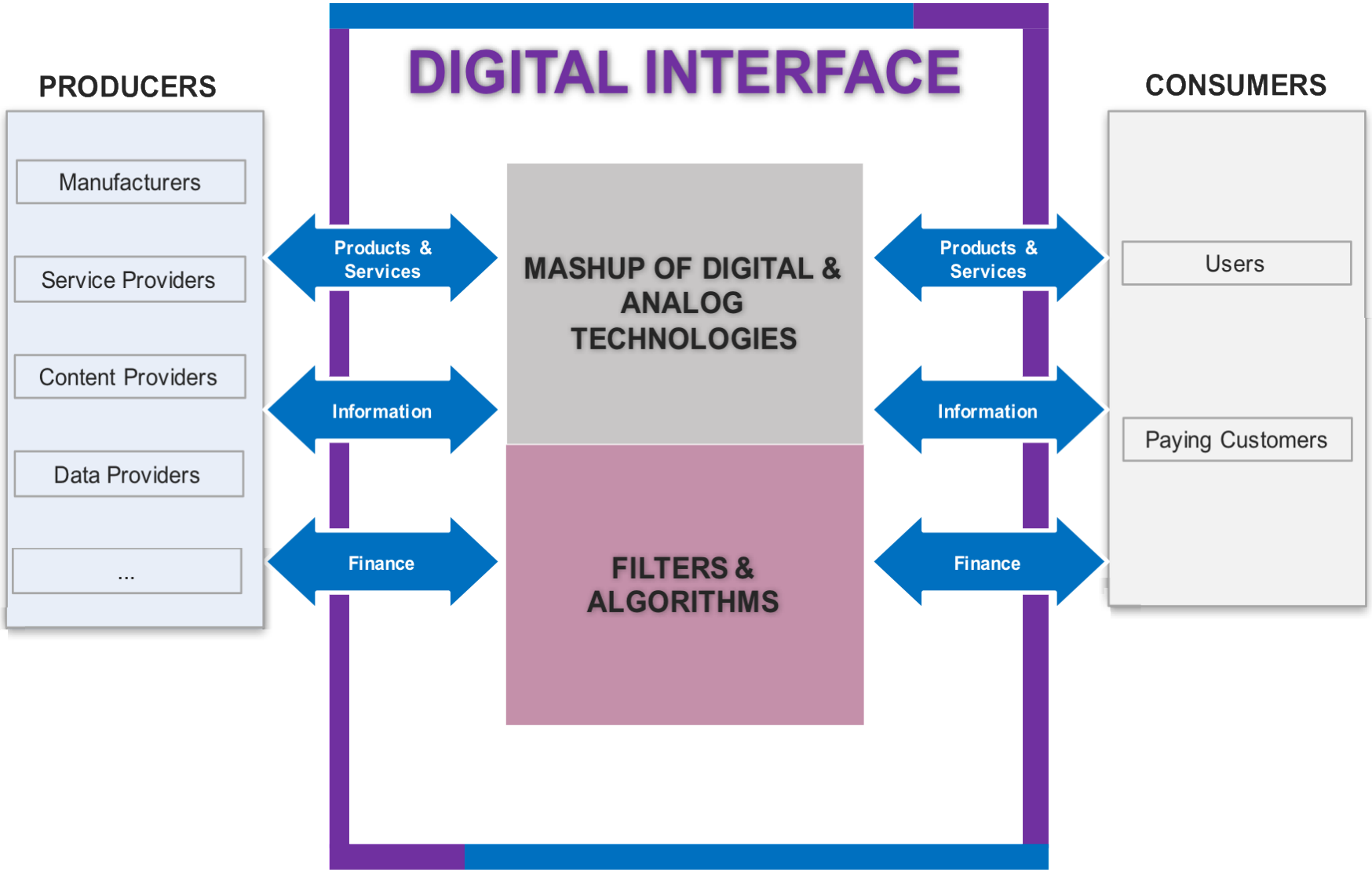
What?	How?
Starter Apps	Open and Attractive to use
Flexible Apps	Not huge monolothic components
Commercial Grade	Using what's there and putting together
Prizes	Not cascading call but self-funded

Exploit and Sustain

Sustainable business model based on the use of the *vf-P*, *vf-Store,* and other vf-OS components

- **Open Access:** *vf-OS* and all its components will be by default open source
- **Sustainable Marketplace and Store**: *vf-OS* will take advantage of the great success of the mobile apps business model
- **Start-up Company:** Provide a sustainability model including the establishment of a start-up company to exploit data and data services

Multi-Sided Platform



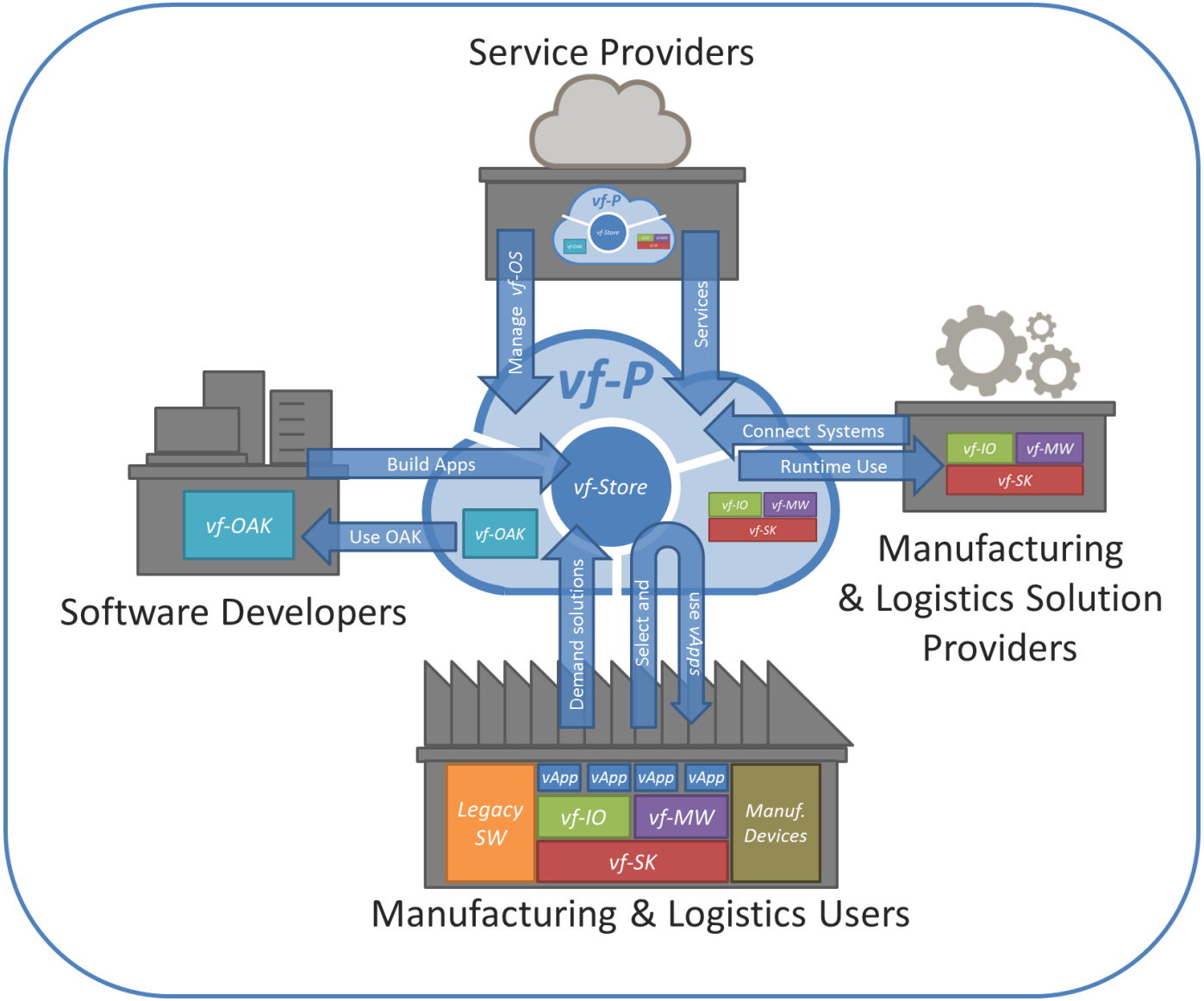
Technology

vf-OS Stack

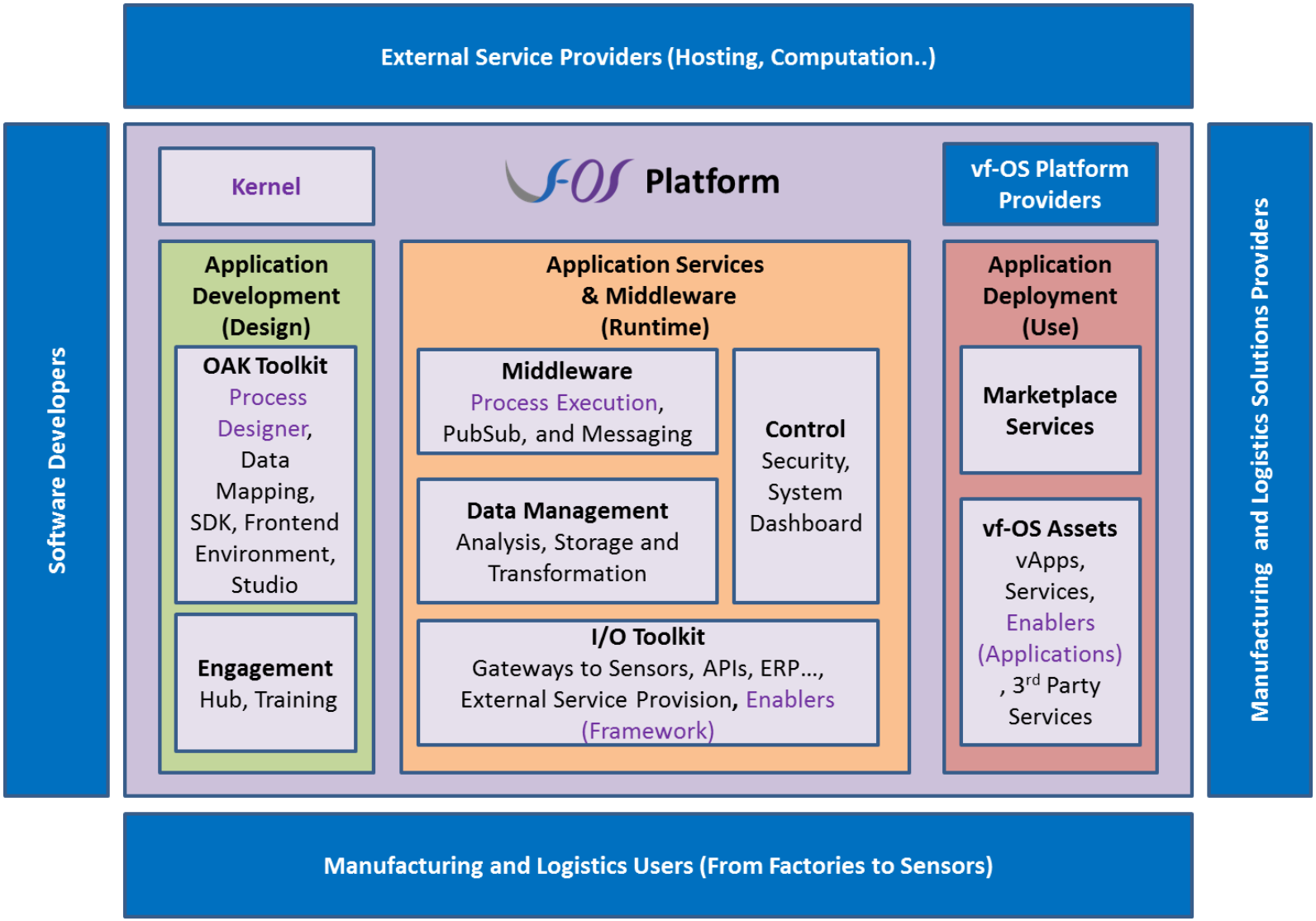
WP3: Kernel	• Take advantage of FIWARE/FITMAN enablers • Process Designer and Execution Engine
WP4: I/O	• Connectors to Applications (eg ERP) and Devices + Security Concept
WP5: Data & Connect	• Data Middleware, Storage, Harmonisation, Analytics
WP6: OAK	• SDK, Control Panel, Dashboard/Frontend • Studio, Developer Hub
WP7: Platform	• Platform, Marketplace, Service Framework, Engagement/Training, Integration

But in context of User scenarios

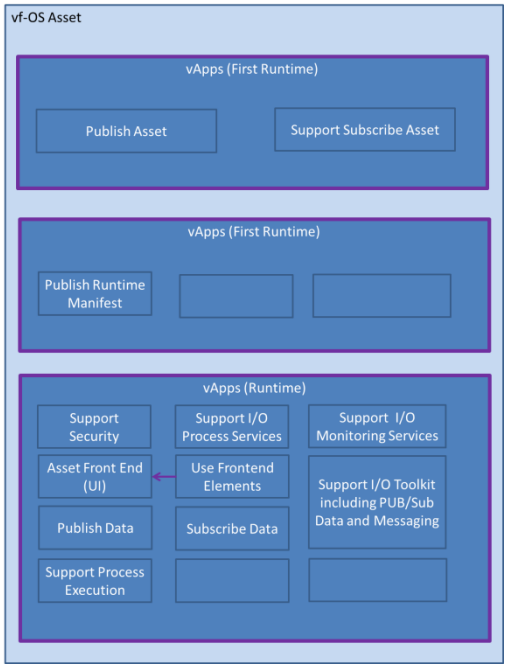
Overview

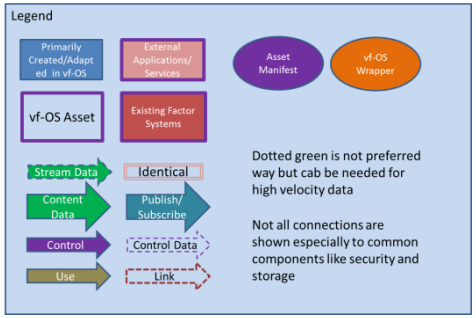

Service Providers
vf-P
Manage vf-OS
Services
vf-P
vf-Store
vf-OAK
Build Apps
Use OAK
vf-OAK
Connect Systems
Runtime Use
vf-IO
vf-MW
vf-SK
vf-IO
vf-MW
vf-SK
Software Developers
Manufacturing & Logistics Solution Providers
Demand solutions
Select and use vApps
Legacy SW
vApp
vApp
vApp
vApp
vf-IO
vf-MW
vf-SK
Manuf. Devices
Manufacturing & Logistics Users

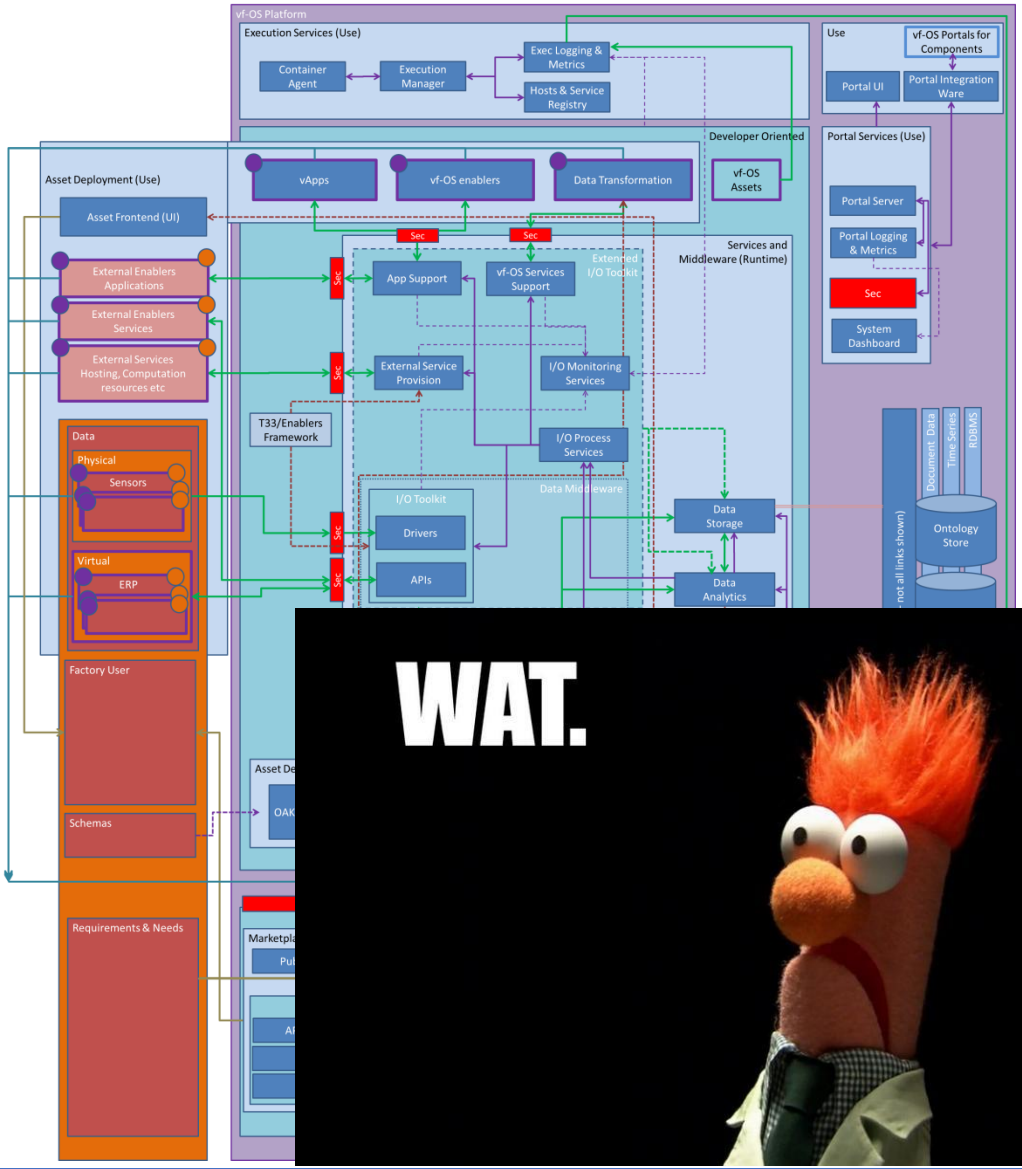
High-level Architecture



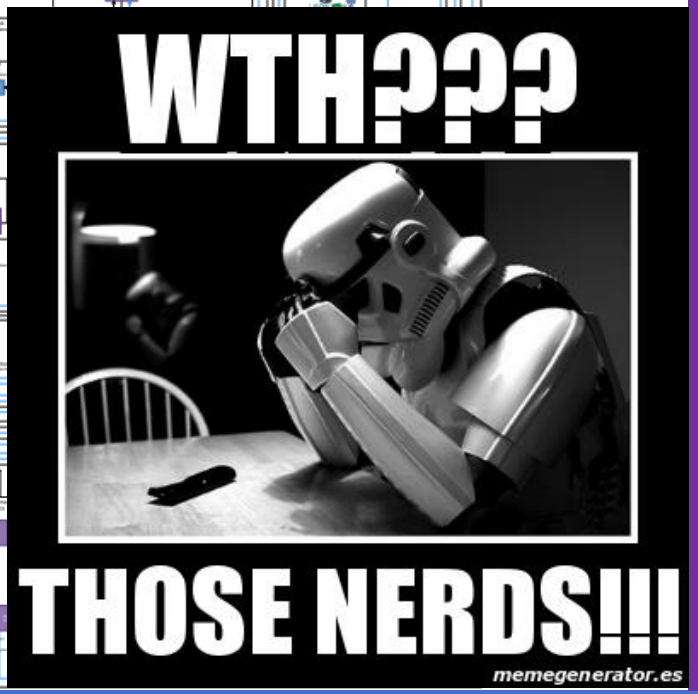
Then, digging a bit more







Let's unleash vf-OS



Partnership

ID	Participant organisation name	Country	Nature
1 (CO)	Information Catalyst for Enterprise Ltd	UK	SME
2	Ikerlan SCL	Spain	Technological Center
3	UNINOVA - Instituto de Desenvolvimento de Novas Tecnologias	Portugal	Research
4	Universitat Politècnica de València	Spain	University
5	Caixa Mágica Software, S.A.	Portugal	SME
6	Université Lumière Lyon 2	France	University
7	Ascora GmbH	Germany	SME
8	Almende B.V.	The Netherlands	SME
9	Mondragón Assembly	Spain	SME
10	Via Solis UAB	Lithuania	SME
11	Consulgal - Engenharia e Gestao S.A.	Portugal	Large enterprise
12	Knowledgebiz, Lda	Portugal	SME
13	Applications Plastiques du Rhone SAS	France	SME
14	Tardy SAS	France	SME

Contact us

http://vf-os.eu

https://www.youtube.com/channel/UCN-5AXqIaXjXItq8jJuoW1w

https://www.linkedin.com/in/vf-os-project/

https://www.facebook.com/vf.os.5

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Information Catalyst

- ICE is a service, data, and software company
- Established in the UK since 1996 as a consultancy
- From 2015 as a ICT Provider company
- Grown from 2 to 20 people since 2015
- Established ICE Spain a couple of months ago
- Target market SME-Mid-Caps
- Domains: Generic Middleware, Apps, including FOF
- RTD Areas:
  - Semantic Interoperability
  - Process Design/Execution
  - Big Data
  - IoT Connectivity

Many thx!

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