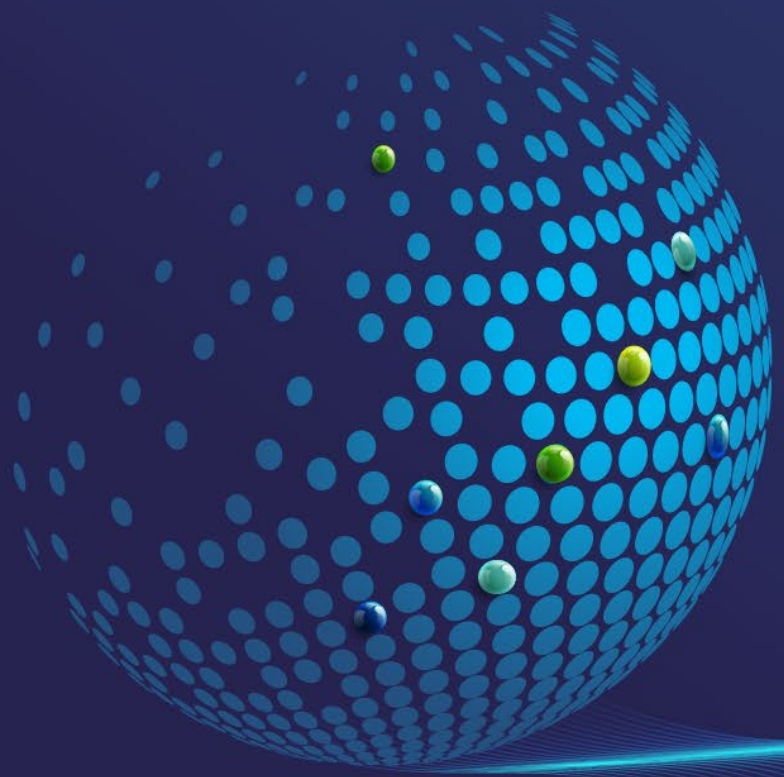

Virtual Centre and PJ32

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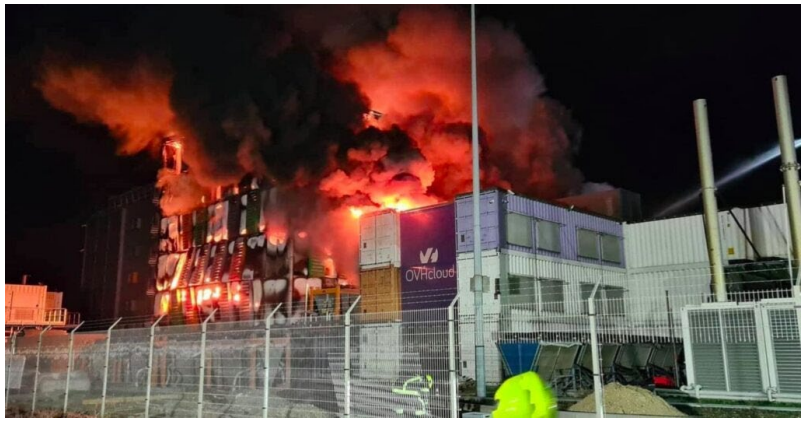
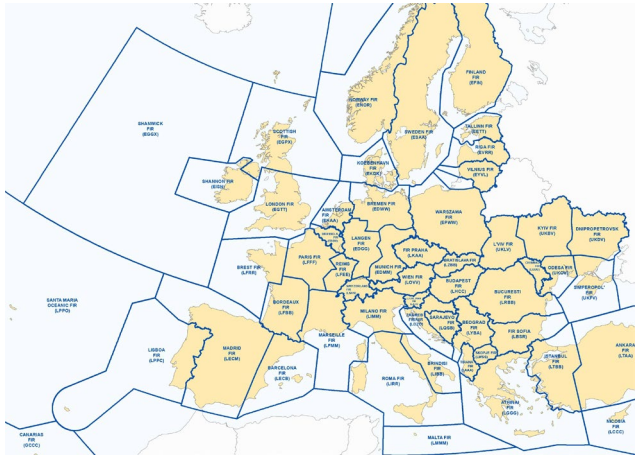
Drivers

Increase capacity

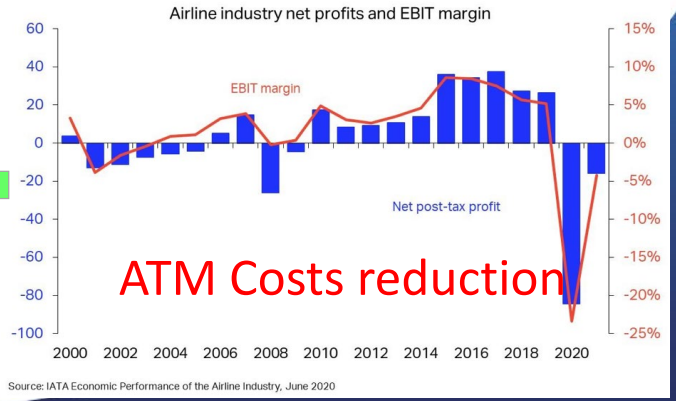


Contingency



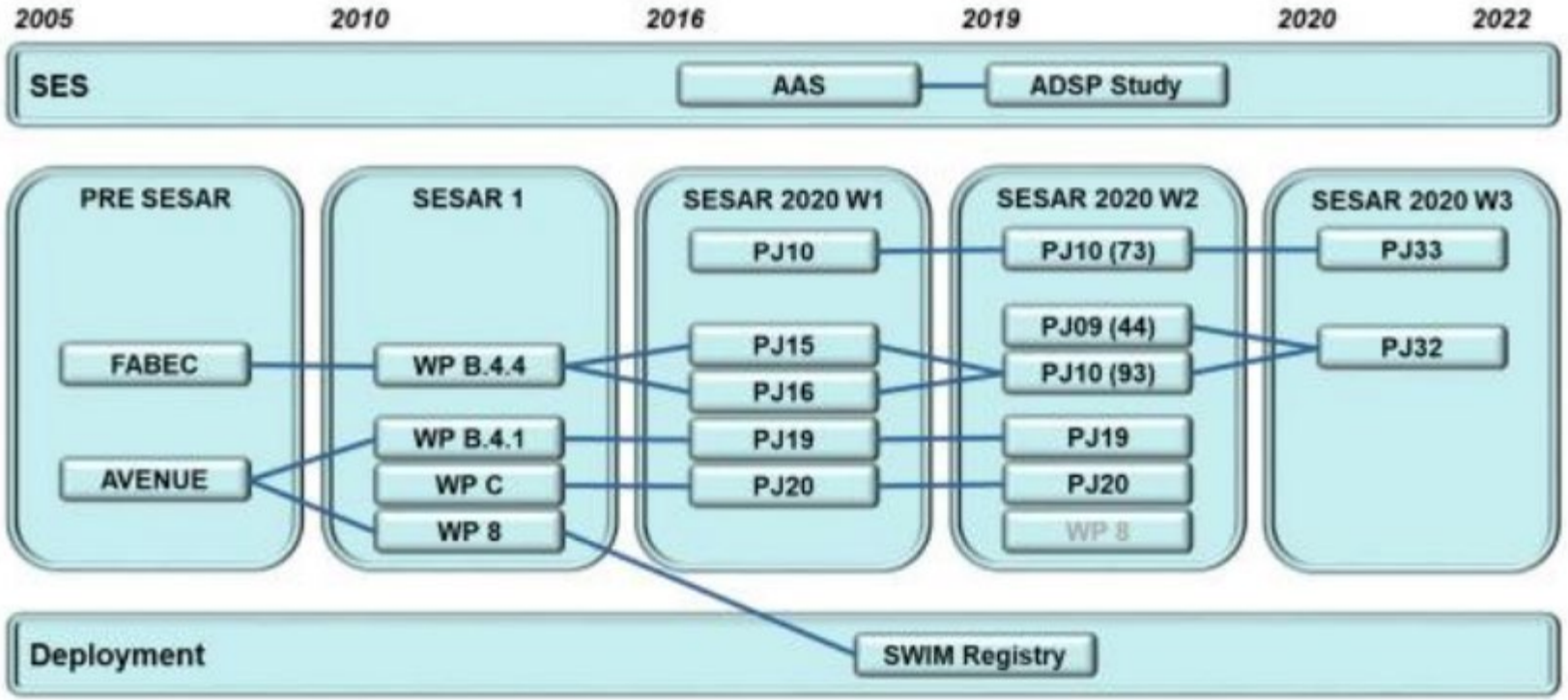
De-fragmentation

Resilience to staff shortage

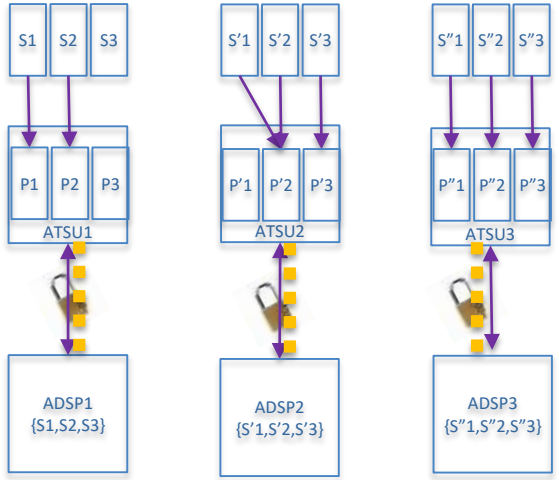


ATM Costs reduction

15+ years of research on Virtual Centre



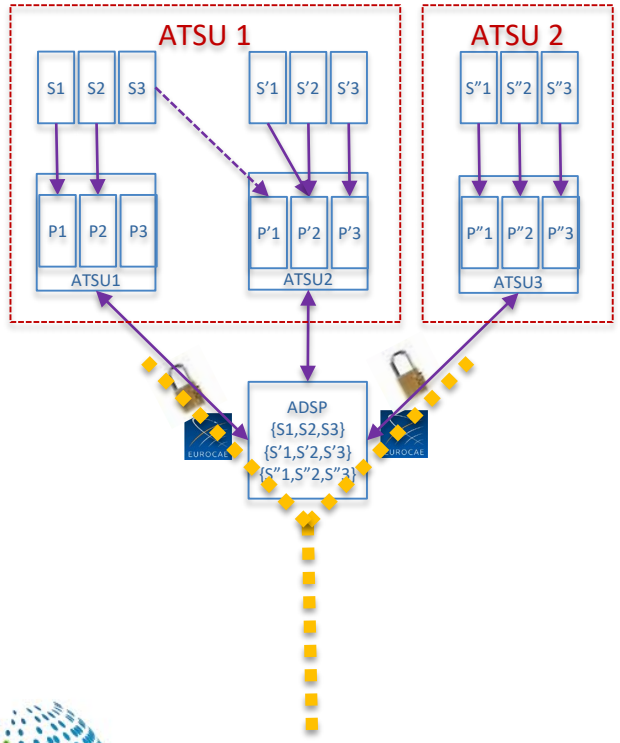
“I” architecture



Means the ADSP system is at a different location:

- No need to use services
- Does not support any operational use case
- Supports first level of VC by allowing different organisations ADSP/ATSU.
- In operation since the 90’s

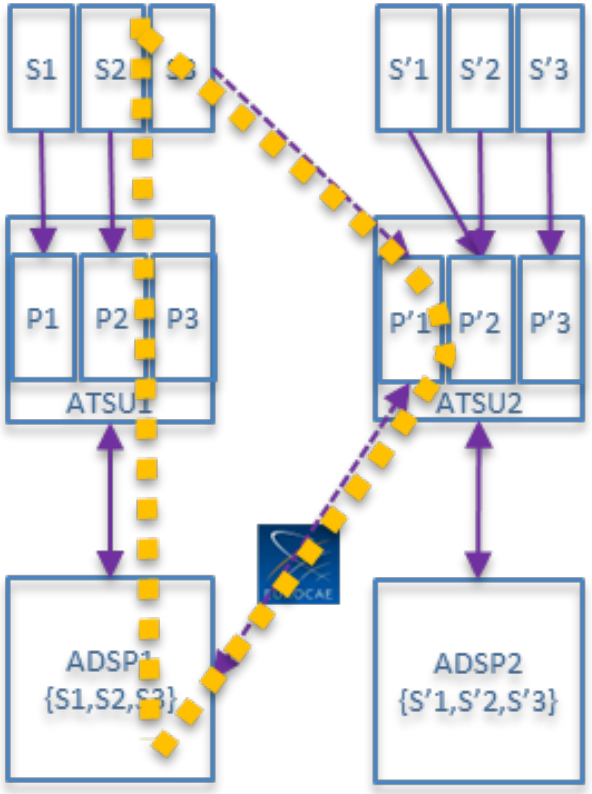
“Y” architecture



Means one ADSP system is used by different ATSUs in same or different ANSPs at different location:

- Services are useful but not required
- Support delegation use cases within concerned ATSUs
- Can be used for rationalization of infrastructure only
- Similar implementation in operation since the 90’s

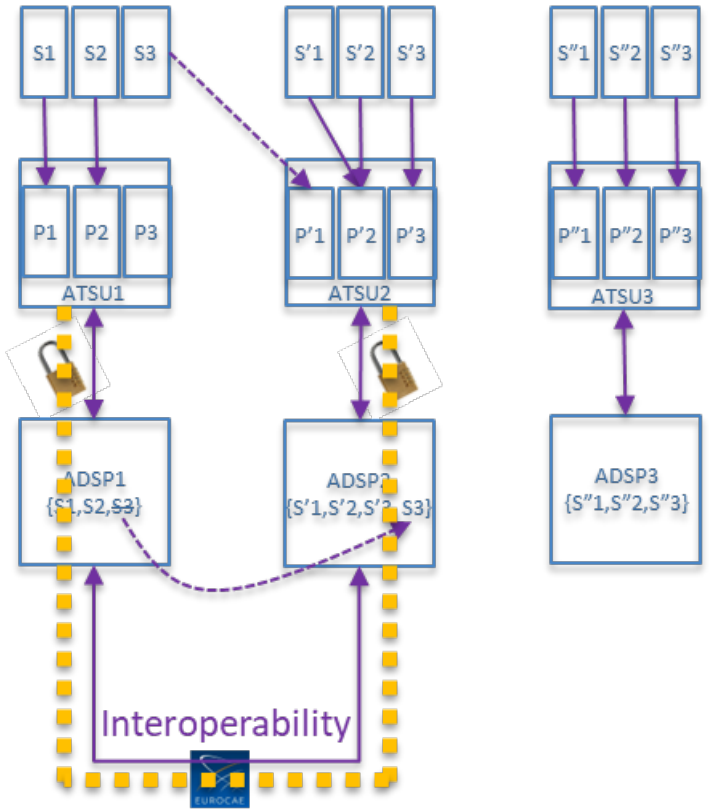
“D” architecture



Means positions in one ATSU can connect to a different ADSP:

- Services are useful but not required (if ATSU equipment built by same vendor as ADSP)
- ATCOs need to adapt to a different system when (s)he is receiving a sector
- Support delegation use cases within concerned ATSUs
- It supports the AAS long term vision of Capacity on Demand

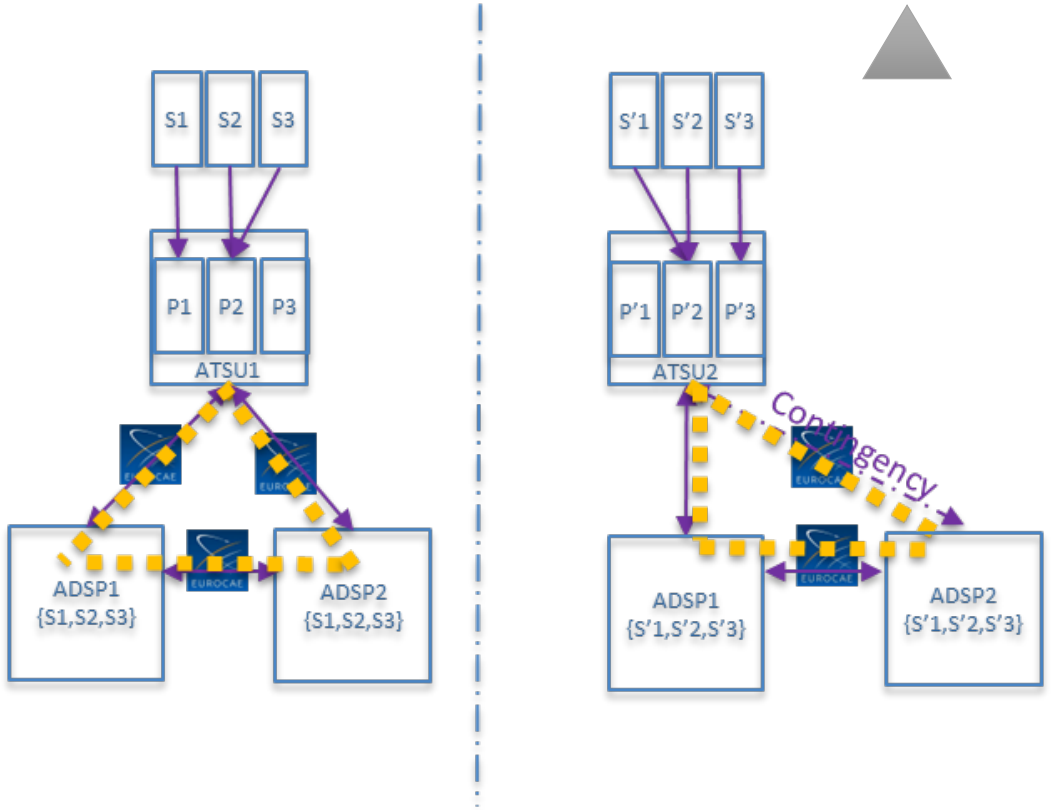
“U” architecture



Means positions in one ATSU can control different sectors by having access to more data through the same ADSP:

- ADSPs can manage a variable geo scope
- ATSU-ADSP interface not relevant (no need to standardise)
- Requires specific data exchange between ADSP
- The ATCO keeps the system (s)he is used to
- Today, no progress on the services between ADSP-ADSP

“Δ” architecture



▲ : VC services used to feed specialised ADSPs:

- AMAN, TCT, MTCD, SUR, SNET, MTAPW, SSRC

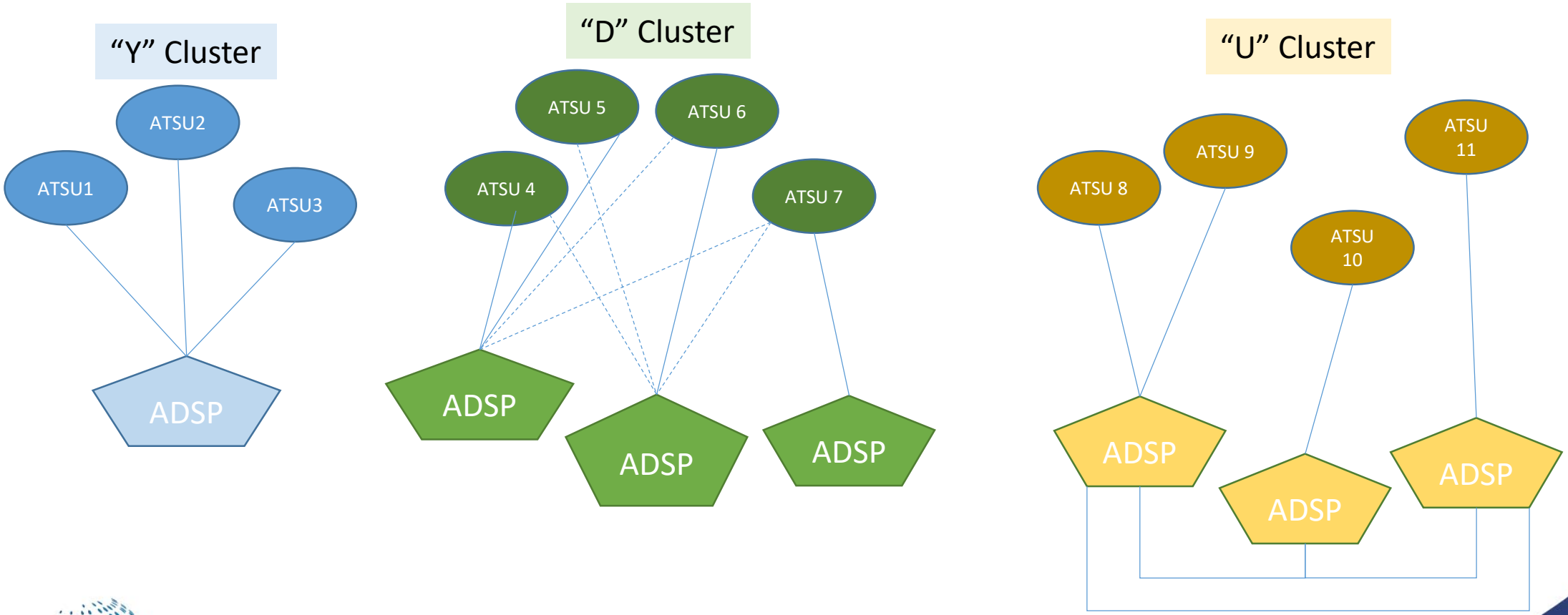
◣ : ADSP contingency through a common ADSP backup

- Study of update mechanism of the backup

Different architecture solutions not interoperable

- Different ATM vendors have focused either on “U” or “D” models
- This means VC architectures to be implemented within vendor clusters
- Either “Y” and “D”
- Or “Y” and “U”

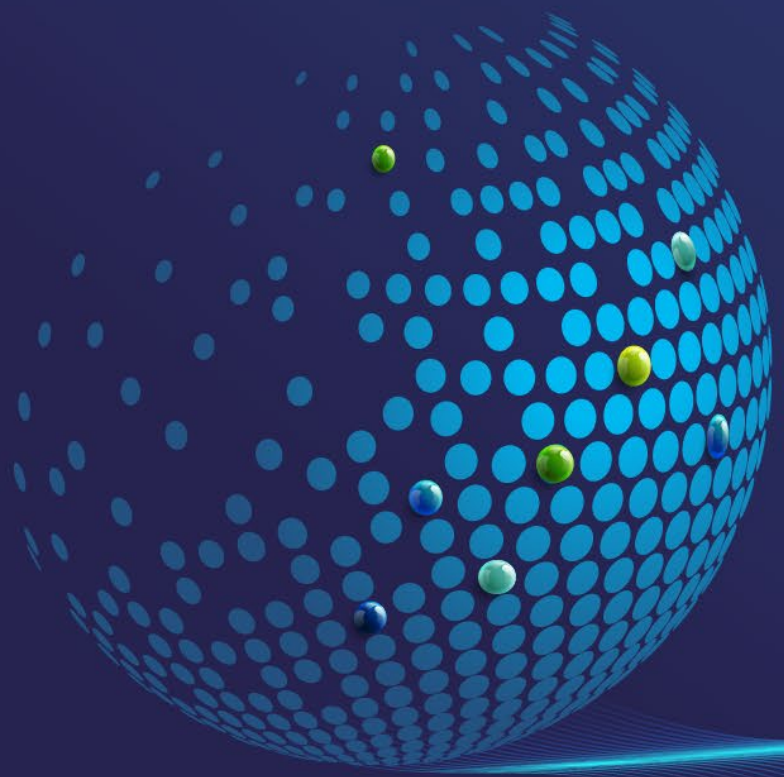
Implementation in clusters



Need for Inter-ADSP IOP to enable EU wide concept

Conclusion

- A lot of effort spent defining services that may not be useful to deploy Virtual Centre, since “Y” or “U” architecture do not require them.
- Operational gains are still elusive and mostly depend on “soft” aspects eg licencing , training, regulation, little studied.
- SESAR 3 to focus on remaining gaps to VC deployment and quick wins to foster buy-in. (See VITACY and DSD1b projects)



Thank you

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