



FDP Institutional Issues

FDP Service Provision Issues

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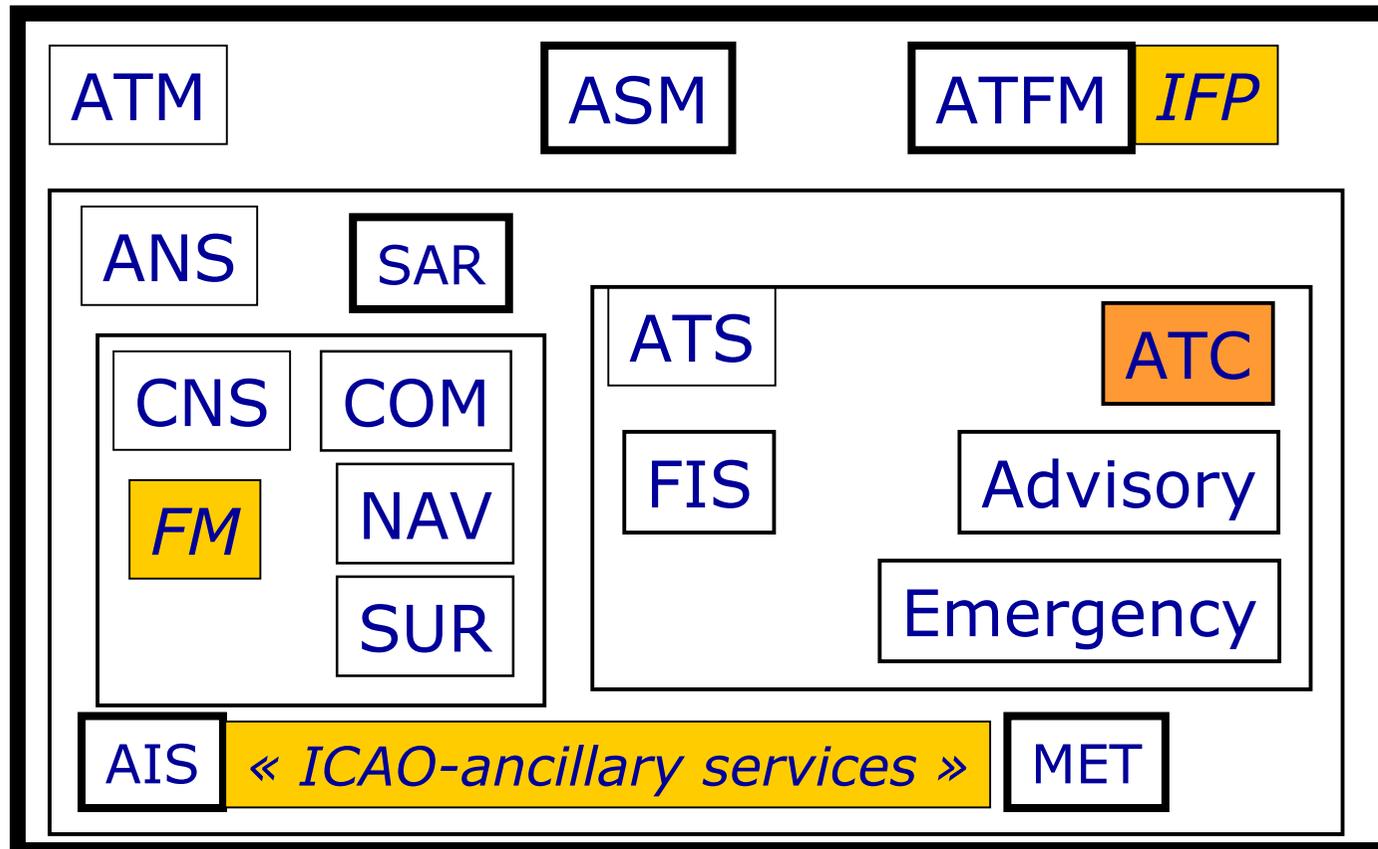
FDP Service Provision Issues

- ✓ **Status/evolution of FDP Services and Responsibilities**
- **New Operational Needs**
- **National Security issues**
- **Liability issues**
- **Flight Data Access Control issues**
- **Economic regulation issues**

Status of FDP Services and Responsibilities (1)

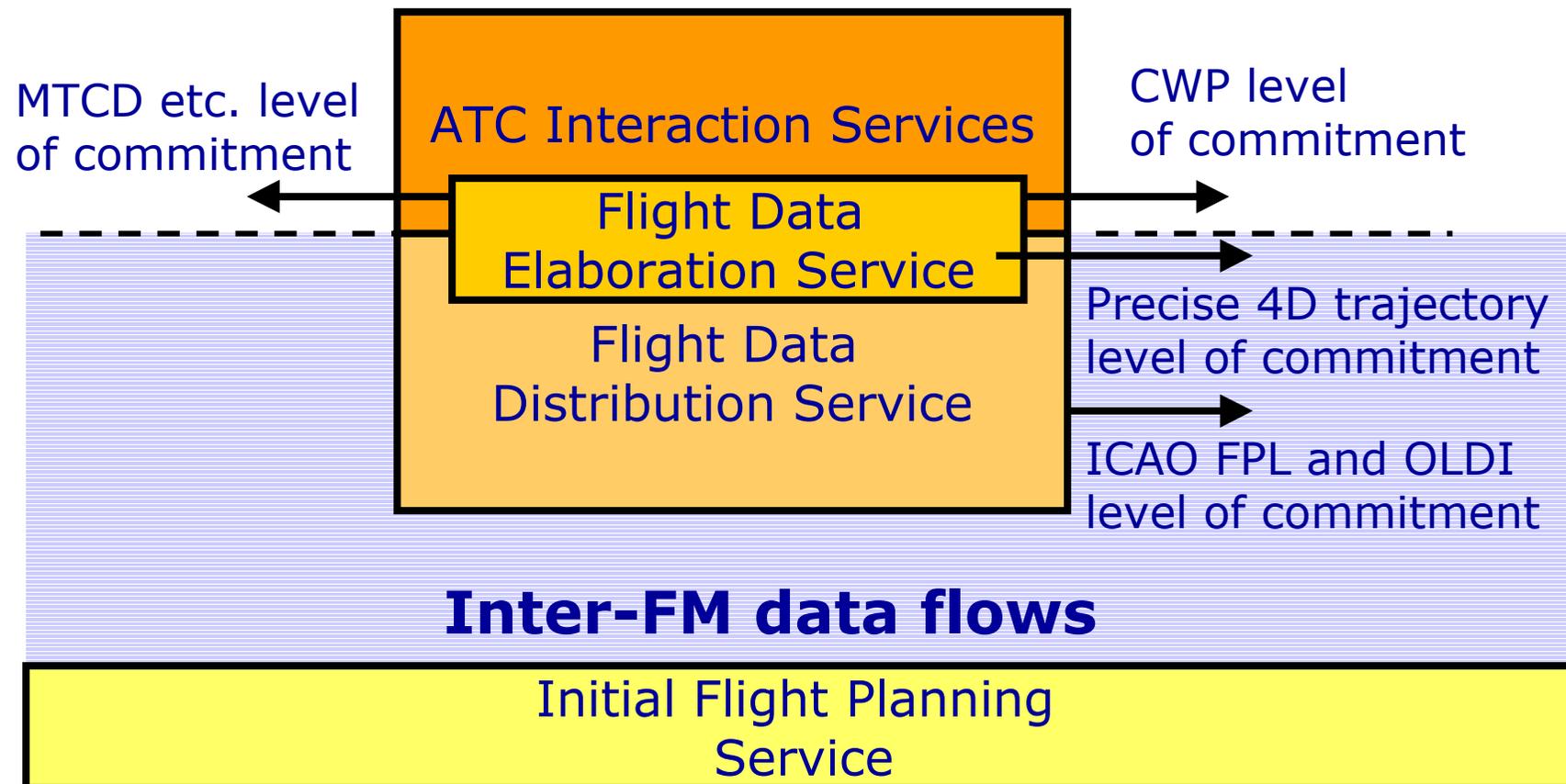
- Initial Flight Plan Processing is closely linked to ATFM
- In-flight FDP is closely linked with ATC
- FM-to-FM data distribution could be seen as an infrastructure service similar to CNS or to other ICAO-ancillary services such as AIS
- The future FM service implies a more precise Trajectory Modelling Service than the current FPL model

Status of FDP Services and Responsibilities (2)

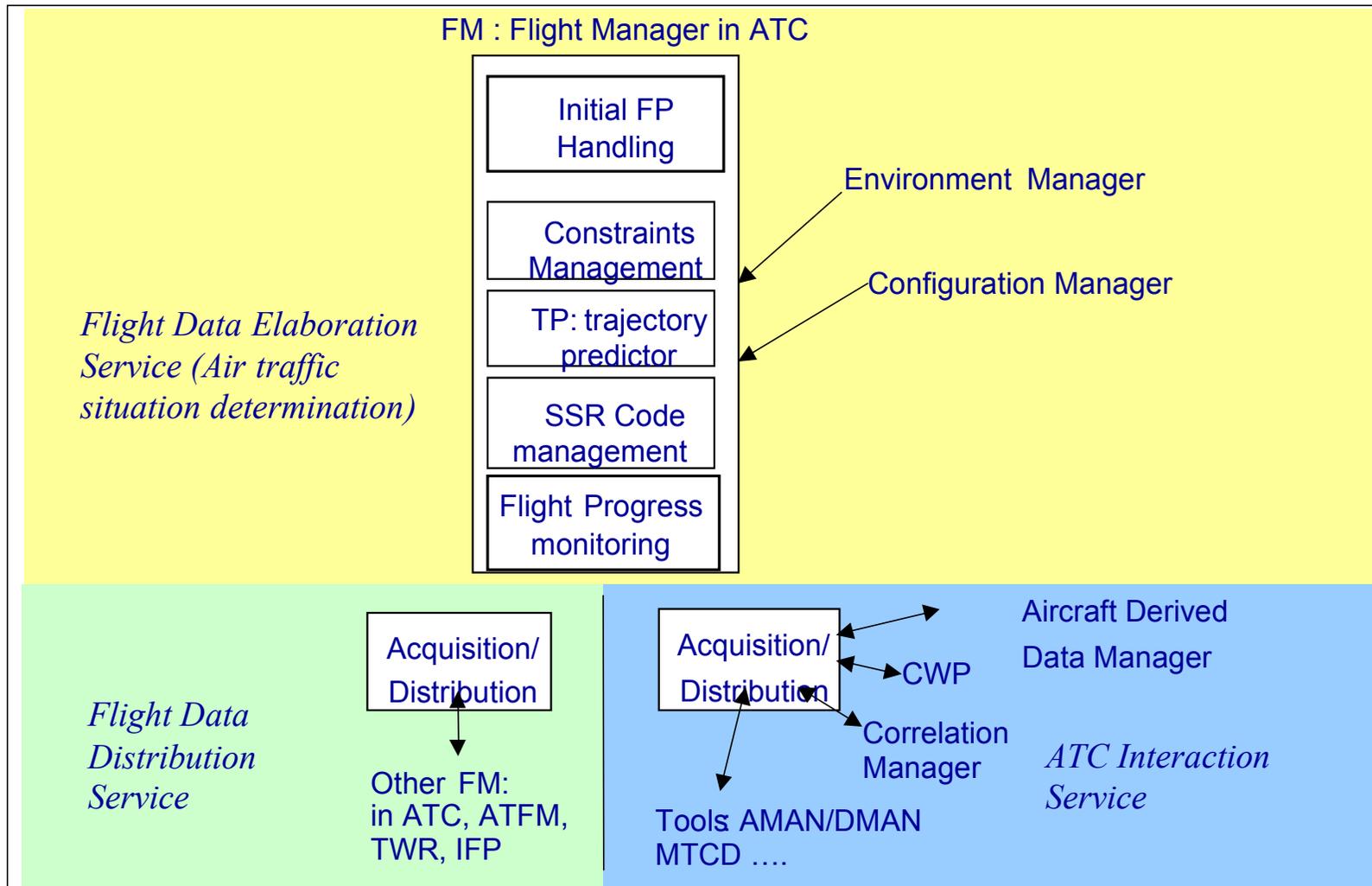


Status of FDP Services and Responsibilities (3)

FM-to-non-FM data flows



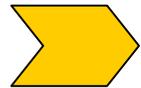
Status of FDP Services and Responsibilities (4)



Status of FDP Services and Responsibilities (5)

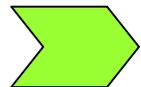
- Existing ICAO documents do not identify FDP as a service potentially separable from ATC
- The NATS En Route Licence does not include the FDP services in the list of « Specified Services » (implying by omission that it is considered as being part of the « Core Service » of ATC)
- No other corporatised ATSP in the world has so far envisaged an unbundling of FDP service

Evolution of FDP Services and Responsibilities (1)



unbundling of Flight Data Elaboration:

= externalisation of the main part of the FM including Trajectory Prediction, Flight Progress Monitoring, etc. functions
not agreed by the stakeholders, higher level of commitments,
beyond guaranteeing TP harmonisation
could be a new sort of EU-ancillary service but only in the longer term



unbundling of external Flight Data Distribution:

= externalisation of the data exchange with other FDP
the strong coupling with ATC interactions is a difficulty
it is more feasible for distributing data to other users (e.g. airlines)
which could be considered as an EU-ancillary service



unbundling of internal Flight Data Distribution:

= externalisation of the entire storing and dispatching of flight data
the criticality of CWP-FDP interactions is a difficulty
ATC interactions are really part of the Core Service and
cannot be regulated as an EU-ancillary service

Evolution of FDP Services and Responsibilities (2)

- ATS Providers are responsible for the adequacy of any modifications made to Flight Data within their area of responsibility (correctness of data gathered into the FDP through the ATC Interaction service)
- The external Flight Data Distribution service could be associated with a Service Level Agreement (SLA) on the availability, reliability and responsiveness of the service and the integrity of the transmission
- In case of FDD unbundling (especially for providing FD to the non-ATM users) errors, failures or delays caused by the IFPS, other systems or by ATC interactions would remain out of the scope of the FDD SLA

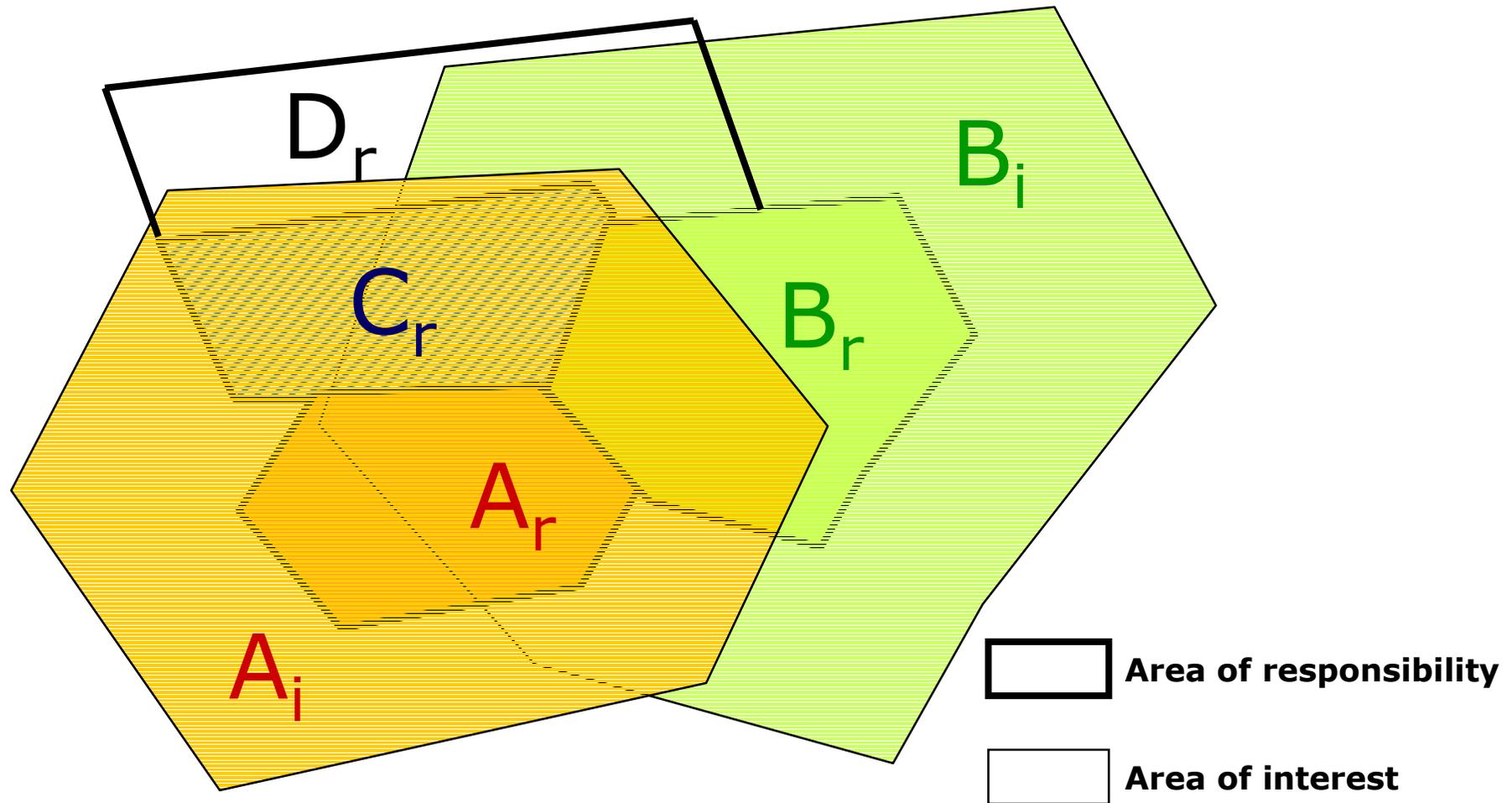
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New Operational Needs (1)

- ANSP need an access to Flight Data far beyond their area of responsibility
- the seamlessness of Flight Data distribution has to be improved
- the data access security policy has to be revised

New Operational Needs (2)



New Operational Needs (3)

- Every ATS Provider should be granted unconditional access to any flight data in its area of interest
- Every ATS Provider should be responsible/liable for flight data originating from its area of responsibility
- Areas of interest and areas of responsibility should be formally defined and they should be referred to in SLAs, in order to support the enforcement of new data access control policies

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National Security Issues

- **Dependability of ATC on FDP service**

*National back-up capability to process Flight Data ?
(cf. back-up capabilities IFPS and AIS)*

- **Joint Civ-Mil Operations**

*National security clearance for personnel dealing
with military Flight Data ?*

- **Status of State Aircraft**

*Restrictions on the distribution of Flight Data ?
(not a problem for the adjacent areas of interest
as State Aircraft crossing national borders have
to receive a diplomatic clearance anyway)*

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Liability issues (1)

- Contractual liability is explicitly capped and may be insured against on the market ; the applicable law is defined in the contract

- For non-contractual liability the potentially applicable laws are the law of the States where:
 - an accident took place,
 - and/or the aircraft is registered,
 - and/or the carrier is incorporated,
 - and/or the service is provided

Liability issues (2)

- Public Service agreements are based on mutual best effort commitments without explicit liability clauses and States are self-insured
- State liability in ATM can be invoked only under that State's law (there is not an international Convention for ATM liability including a waiver of sovereign immunity)
- Eurocontrol and similar agencies may be insured and the liability of the Member States may also be invoked (States-Agency conflicts are treated by the International Court of Arbitration in the Eurocontrol Convention)

Liability issues (3)

- Air Carriers are insured against hull losses and related consequential damages to persons or property (such insurance is a pre-requisite to getting a commercial aircraft operator license)
- Privatised ATS Providers receive a licence under the condition they acquire an adequate liability insurance coverage
- Most large ATS providers operate under a State liability regime (even corporatised ones)
- Non-core ANS services have a lesser potential exposure to liability than ATC and can also be covered by an insurance contract or state liability

Liability issues (4)

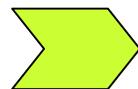
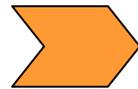
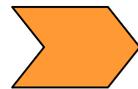
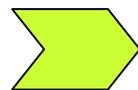
- The same Contractual Chain model as defined for the transnational provision of GNSS service could be used for dealing with the evolution of other progressively unbundled ATS services
- The level of adequate assurance coverage for the exposure to liability is to be appreciated by the national regulators of the operators
- The only aspect to be monitored at the EU level is to ensure that divergences of appreciation on liability exposure do not install artificial barriers

FDP Service Provision Issues

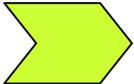
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Flight Data Access Control issues (1)

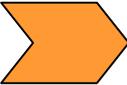
The problem is to achieve a good balance between 4 principles:

-  affirmation of the duty to co-operate to the safety and expeditiousness of Air Traffic by exchanging timely and accurate information
-  protection and enhancement of security
-  protection of the right to individual privacy and commercial confidentiality
-  preventing innovative approaches of being hindered by over-regulation

Flight Data Access Control issues (2)

-  The operational distribution of flight data stems from ICAO principles of safety, expeditiousness and co-operation: **data ownership is irrelevant**
-  All ATM actors should be recognised a **right to obtain any flight data of relevance to their operations** (flights/areas of interest)
-  **State flight data** may be submitted to a specific access policy (e.g. **national security restrictions**)

Flight Data Access Control issues (3)

-  For security reasons, **real-time access to flight data should be limited** to those parties able to justify an operational need for them (this would include all the participants into CDM platforms)
-  **“Dead” flight data fall out of the scope of ICAO principles** regarding the distribution of real-time data: any public or private entity having gained access to flight data because of its involvement in ATM operations may become a provider of off-line services to non-operational third parties
-  However, appropriate measures should be taken by the providers of such data to **respect the confidentiality of private/corporate information**

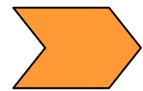
Flight Data Access Control issues (4)

- Access to operational (living”) flight data should be organised on the basis of defined areas of responsibility and areas of interest for all the involved parties
- Access to non-operational (“dead”) flight data should not be regulated beyond ensuring that off-line service providers respect existing laws (e.g. on the protection of personal data)

FDP Service Provision Issues

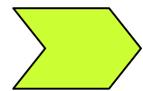
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Economic regulation: flight data provision



Operational flight data are not for sale:

what can be charged for is not the data “per se” but only the cost of creating, updating, storing, cross-checking and distributing them



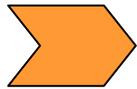
The market for post-operational flight data does not exist yet, and so as not to hinder innovative initiatives, the commercialisation of “dead” flight data should not be regulated: all ATM actors should be left free to propose any value-added services they can develop from those data

Economic regulation: service optimisation

- There is a lack of data on the overall cost of FDP development, procurement, maintenance and evolution, for several reasons:
 - by contrast with AIS or CNS, FDP costs cannot be singled out from CRCO data (merged with ATS)
 - cost structures are known “operator-wise” but not broken down “ACC-wise”

- The level of detail currently available is not sufficient to construct an economical justification of a specific FDP service provision model: a better accounting scheme is a pre-requisite to further work in the area

FDP Service Provision Scenarios (1)



ATS-cum-FDP Service Provider

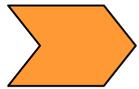
advantages:

- familiarity, acceptance by current providers
- integrated maintenance of systems
- customisation and local evolution
- homogeneity of Quality Assurance

drawbacks:

- service provision fragmentation is maintained
- no strong incentive for rapid improvement
- no guarantee to reach the level of data consistency
- needed for supporting the Single Sky

FDP Service Provision Scenarios (2)



Inter-ATSP Agency

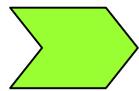
advantages:

- compatible with the Eurocontrol structure
- potentially significant savings by joint procurement of a shared system

drawbacks:

- an Agency structure lacks institutional and organisational flexibility
- cost-effectiveness possibly limited by organisational overheads and the rigidity of decision processes

FDP Service Provision Scenarios (3)



ATSP-Industry Joint Venture

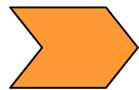
advantages:

- greater organisational flexibility
- significant potential savings in both procurement and operation

drawbacks:

- risk of favouring the emergence of an industry monopoly if the Industry side is an FDP manufacturer

FDP Service Provision Scenarios (4)



Independent FDP Service Company

advantages:

- fully autonomous structure solely dedicated to the wide scale provision of unbundled FDP services (maximising the potential for both intensive and extensive cost-effectiveness)

drawbacks:

- lack of credibility in relation to ATS operations
- complexity of liability arrangements (as ATSP are still responsible for tactical evolutions of flight data)
- incompatibility with existing regimes of operation (NATS En Route License) or new foreseen ones (ATSP authorisation regime in the Draft Single Sky Regulations)