SITA

Specialists in air transport communications and IT solutions

ENVIRONMENT KNOW-HOW

Typical data flow and risk assessment for TK and emissions monitoring

How smart IT helps monitoring, reporting and verification

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Agenda

- Introduction to SITA
- SITA and EU-ETS
- Are AOs* ready for EU-ETS**?
- How SITA can help the ATI***…

*Aircraft Operators
**European Union's Emission Trading Scheme
**Air Transport Industry

ENVIRONMENT KNOW-HOW

Who is SITA?

- SITA* was created in 1949 to serve the airline industry (telecommunication network operation, development of IT solutions and software applications)
- We serve nearly 600 members worldwide, 3200 customers in more than 220 countries and territories
- Membership represents **over 90% of total worldwide airline business**. Nearly no single flight takes place without at least one of our service
- Our members are airlines, airports, aerospace companies, air freight organizations and governments
- We operate the biggest private network for ATI and provide software solutions

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*Société International de Telecommunications Aéronautiques (www.sita.aero)
More information at http://www.sita.aero/content/facts-and-figures

SITA and ETS – Our position

- At the last SITA board meeting, airlines asked SITA to help them address Environmental issues
- SITA's position regarding the EU ETS is NEUTRALITY:

> Since the new regulation has been approved, SITA will do all it can to help airlines prepare for it

BUT

- SITA believes that most airlines are not yet prepared for the new regulation.

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SITA and ETS – Our projects

- SITA has created the WORKING GROUP for Environmental Regulation Implementation.
  Our goals:
  - Explain the EU-ETS regulation to airlines
  - Develop best practices
  - Exchange knowledge
  - Share development cost
  - Work on other ETS worldwide

- SITA has started the development of a prototype to automate the generation of reports for airlines. If successful, a service will be launched.
  -> Verifiers will be given the access to verify airline reports with other sources of information

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ATI and the ETS verification process

- The ATI community has got fairly similar IT* systems.
- These IT systems are specific to the industry and relies on messaging standards (ACARS, Type B), joint processes (DCS**), Safety rules (JAR***), Flight Plans, ATM(4) etc
- Proper verification will require specific knowledge of the ATI to ensure “credibility” of the verifiers and coherency along verification in all MS(5).
- SITA recommends the set-up of ATI verification practices and is willing to contribute to their definition

*Information Technology
**Departure Control System
***Joint Aviation Requirements
(4) Air Traffic Management
(5) Member States

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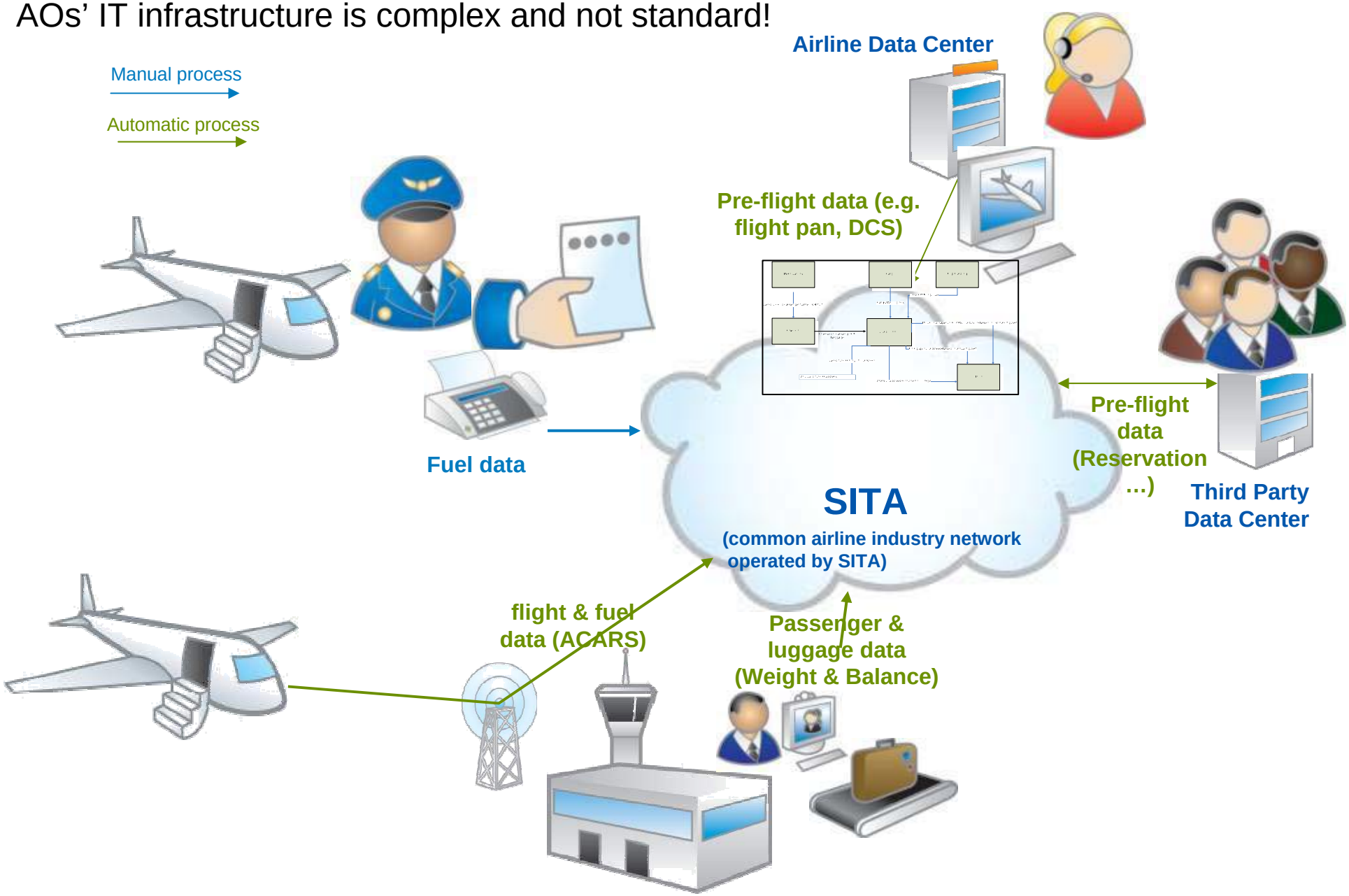
Why is it a challenge for AOs?
And what are the issues they must handle?

AOs' IT infrastructure is complex and not standard!



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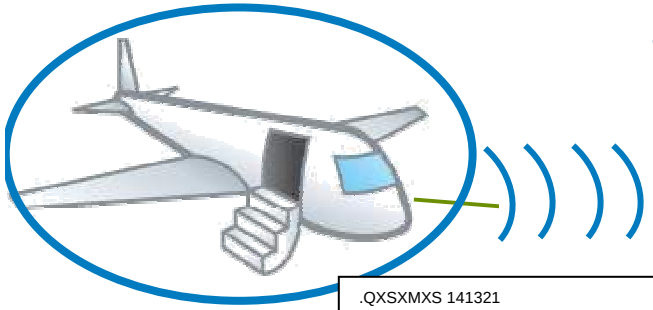
Facts:
-Airlines have heterogeneous fleets- Not all aircraft have the same equipments and same communication access -> airlines may decide to install ACARS in all their aircraft OR adopt the lowest common denominator (manual reporting by pilots/fuel bill reporting)
-Fuel gauges on board have a 97% accuracy rate and vary with the quantity of fuel loaded. Verifiers shall ensure that the gauge accuracy is stable over time



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.DEP
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DT QXS CDGM 141321 M17A
- VER/041/B747/A
SCH/XS0332/LFPG/KBOS/14JUL/1140
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Facts:
-There is a risk of error when the data is manually reported by pilots at the end of their flights.
-Verifiers shall be able to verify the data using aircraft & engine performance databases OR by comparing with other airlines' performances

Fuel data

Facts:
-Fuel supply data can be sent by the numerous fuel suppliers located at airports flown by airlines. Verifiers shall be aware that fuel data are not always a good source of data when tankering is used and when some segments are outside of EU-ETS
-Problem of data accuracy and reporting since there are many different fuel suppliers worldwide


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SITA AIRLINES

L O A D S H E E T          CHECKED BY          APPROVED     EDNO
ALL WEIGHTS IN KG

FROM/TO FLIGHT       A/C REG VERSION       CREW     DATE    TIME
ATL JFK XS0090/30    GAJKL   J24Y161       2/7      30JUN08 1634
                    WEIGHT          DISTRIBUTION
LOAD IN COMPARTMENTS      4711 1/1297 2/0 3/2452 4/952 5/10 0/0
PASSENGER/CABIN BAG     14098 167/2/2        TTL 171 CAB 0
                         PAX 9/160
TOTAL TRAFFIC LOAD      18809 BLKD 3/0
DRY OPERATING WEIGHT    84149
ZERO FUEL WEIGHT ACTUAL 102958 MAX 114758  L   ADJ
-----------------------------
TAKE OFF FUEL           51500
TAKE OFF WEIGHT  ACTUAL 154458 MAX 175540      ADJ
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TRIP FUEL               43100
LANDING WEIGHT   ACTUAL 111358 MAX 126098      ADJ
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BALANCE AND SEATING CONDITIONS       LAST MINUTE CHANGES
DOI     49.99                DEST  SPEC    CL/CPT + - WEIGHT
LIZFW    58.59 MACZFW     26.68
LITOW    60.13 MACTOW     26.60
LILAW    55.71 MACLAW     25.31

STAB TO  03.5 UP
FLAP SETTING: TO FLAP 5/15
SEATING
0A/9 0B/32 0C/70 0D/58

UNDERLOAD BEFORE LMC     11800           LMC TOTAL + -

LOADMESSAGE AND CAPTAINS INFORMATION BEFORE LMC

  NOTOC - NIL                                          -
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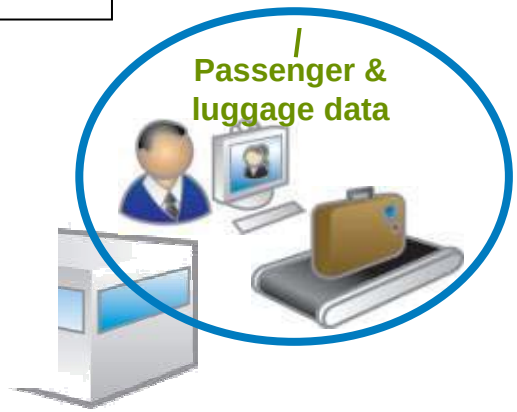
Facts:
-Loadsheets don't follow the same format.
-Information on weight may not have the required level of accuracy and are not displayed with the same unit
-Verifiers can check the data accuracy against external data sources (e.g. airport databases) or against industry standard values



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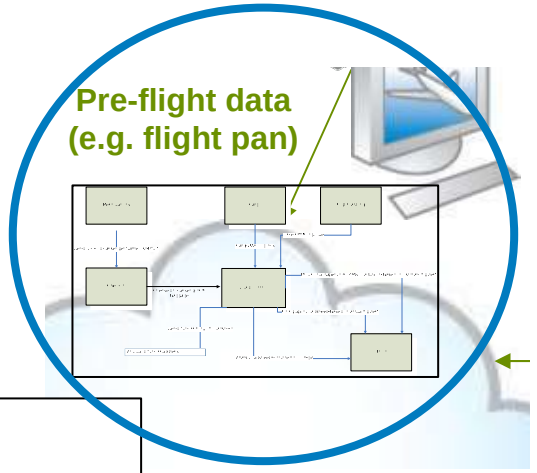
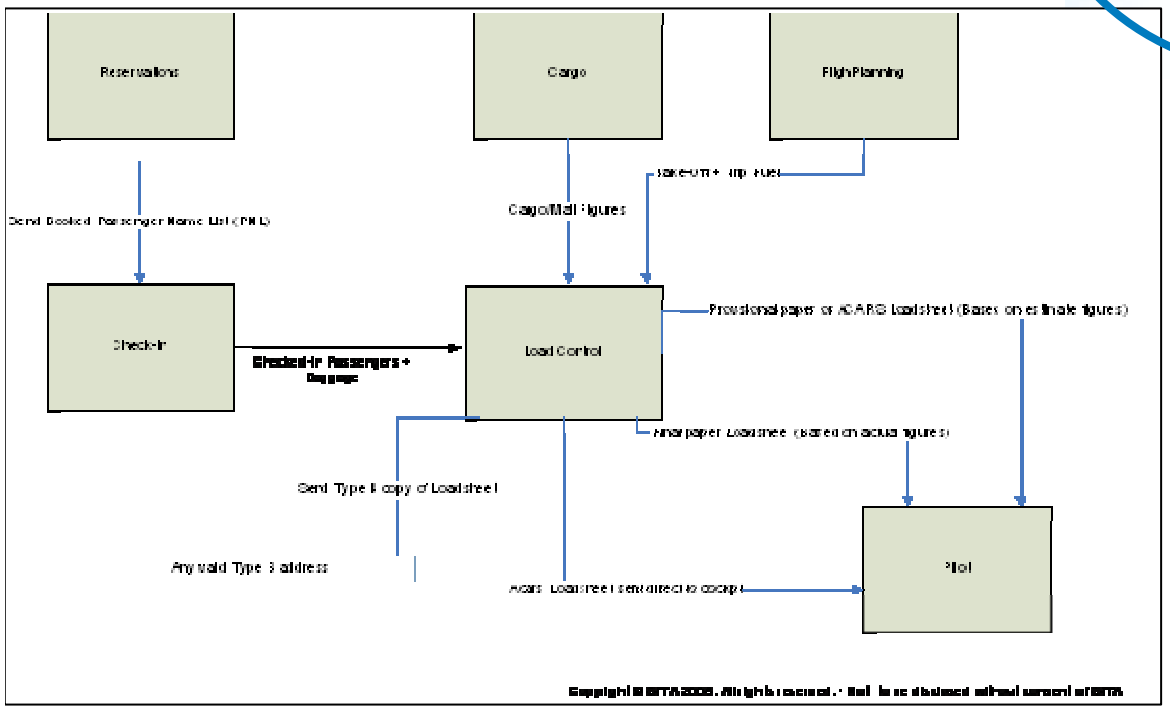
  SITA

Facts:
-IT systems are different between airlines
-10 years data archiving can be a great burden
-Verifiers shall be trained on a variety of IT systems prior to perform their tests





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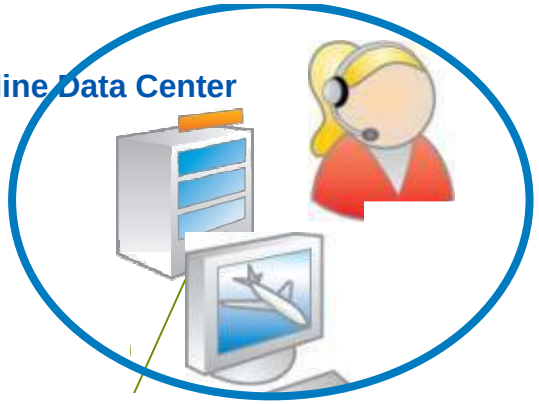
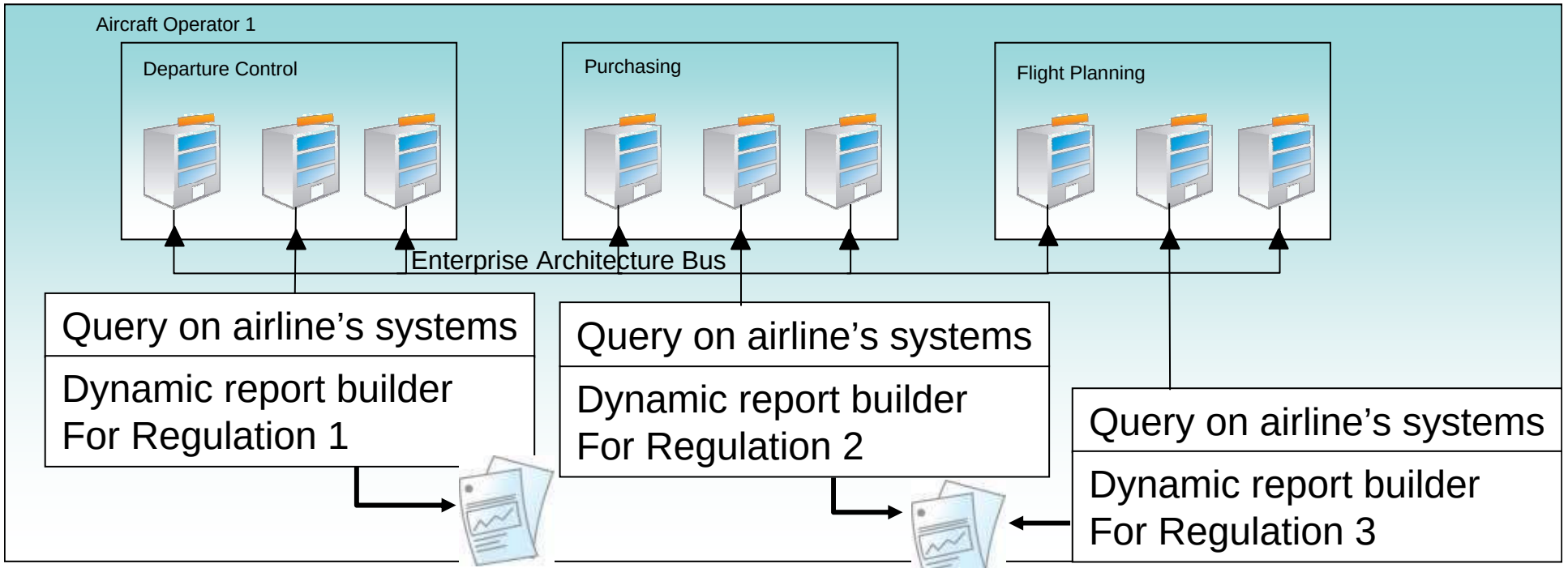
Facts:
-TK calculation is critical for airlines and therefore will require a high level of accuracy
-TK reported by airlines shall be verified using external sources of data (e.g. Eurocontrol's Pagoda)



ENVIRONMENT KNOW-HOW

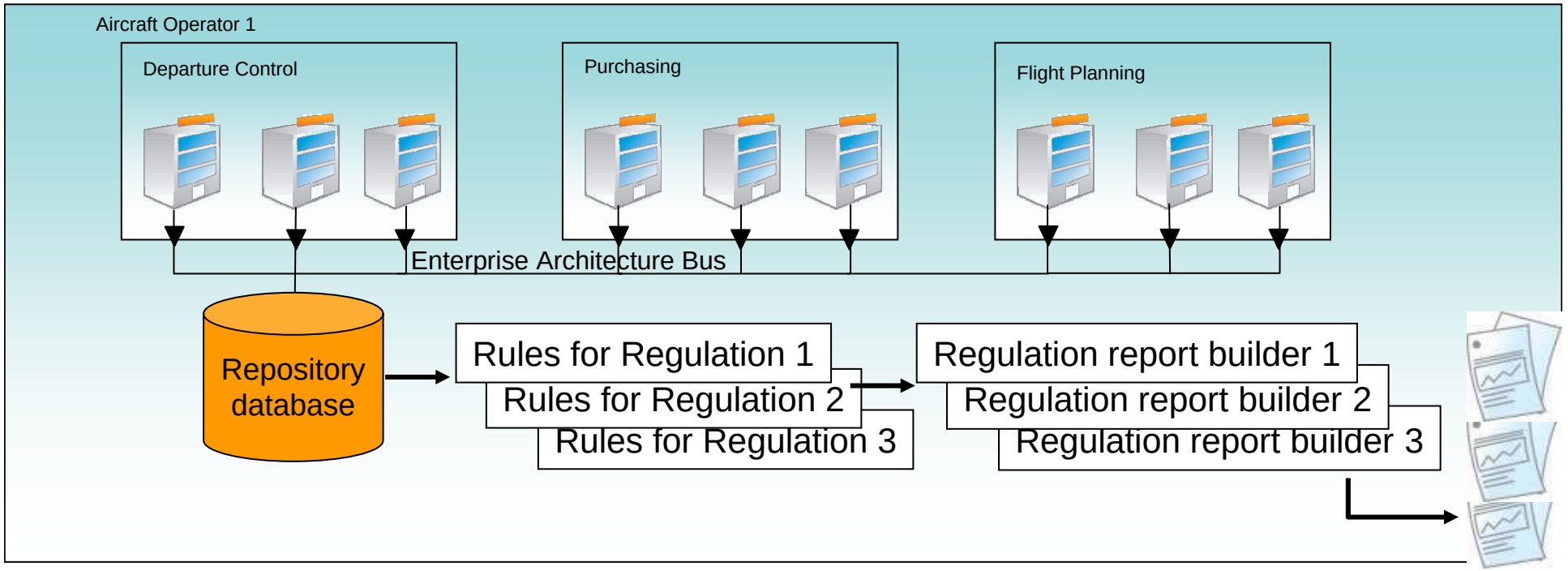
Strategies to adapt airline's IT to the regulation

- Option 1:
  - Development inhouse
  - Query airline's systems
  - Produce reports for different regulations



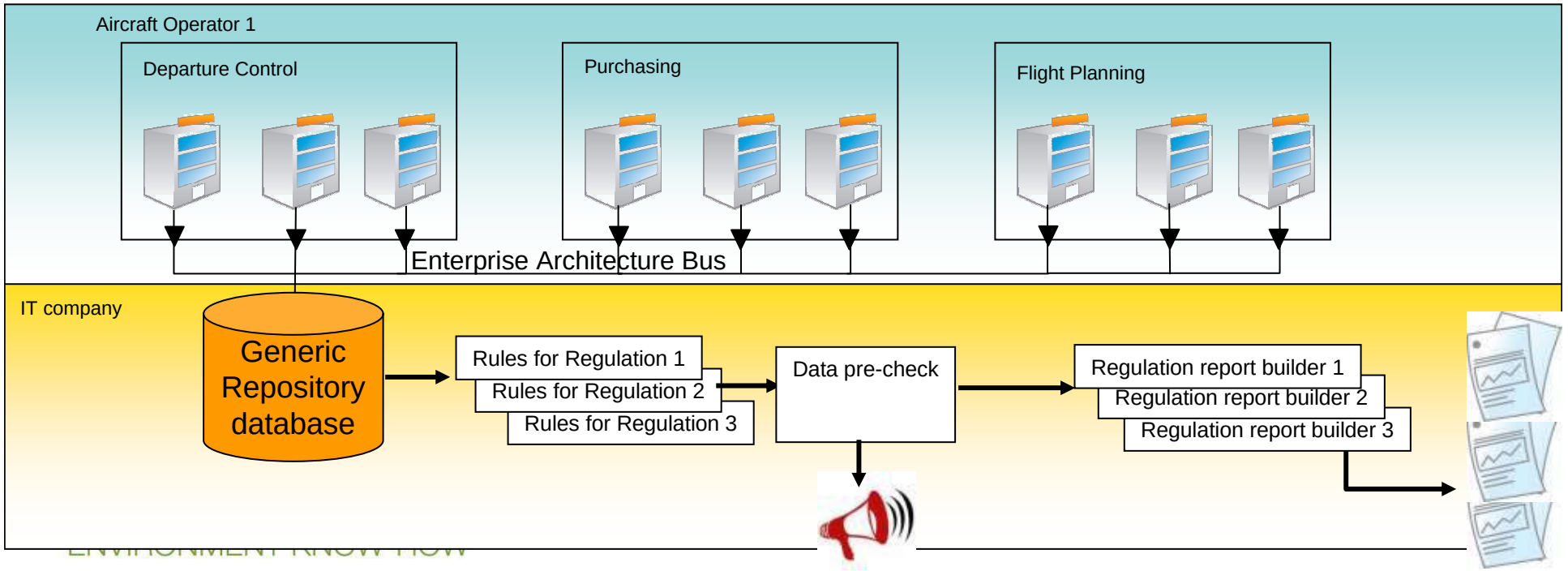
Strategies to adapt airline's IT to the regulation

- Option 2:
  - Development inhouse
  - Push data to a "Regulatory" database
  - Produce reports for different regulations



Strategies to adapt airline's IT to the regulation

- Option 3:
  - Outsourcing of data processing to a Third Party
  - Push data to a generic "Repository" database
  - Pre-check the data prior the verification process (using external sources of information)
  - Produce reports for different regulations



Option analysis

	Pros	Cons
Option 1	*Confidential information stays with AOs *AOs are fully responsible to implement the regulation *Queries are customised to AOs' IT systems	*AOs must invest in the development of a reporting system *Verifiers must check different reporting systems
Option 2	*Confidential information stays with AOs *It's easier to implement and maintain than Option 1	*AOs must invest in the development of a reporting system *Verifiers must check different reporting systems
Option 3	<u>For airlines:</u> *Share the cost amongst AOs *Simpler solution than a Query-based one *The best cost-efficient solution *Share the responsibility of implementing the regulation between AOs and Third Parties *No change on AOs if the format of reports change <u>For verifiers:</u> *One system to verify (Vs many) Reduce the verification duration (and cost)	*send confidential data to third party *No control on the software evolution

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Questions & answers?

Thank you

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