Enabling Civil Military Cooperation

ICAO Trans-Regional Civil-Military Cooperation Workshop

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Background

- Reference ICAO Circular 330 and Document 10088
- Airspace is a common resource and shall be considered one continuum
- Cooperation between the two entities shall continue through:
  - Strategic phase – by equitable airspace design where competing needs are balanced, with supporting laws, regulations and policies,
  - Pre-tactical phase – seamless reservation steps where performance based utilization is ensured,
  - Tactical phase – effective ATC coordination as well as accurate and up to date sharing of data.

STRATEGIC

PRE-TACTICAL

TACTICAL

POST OPERATIONS
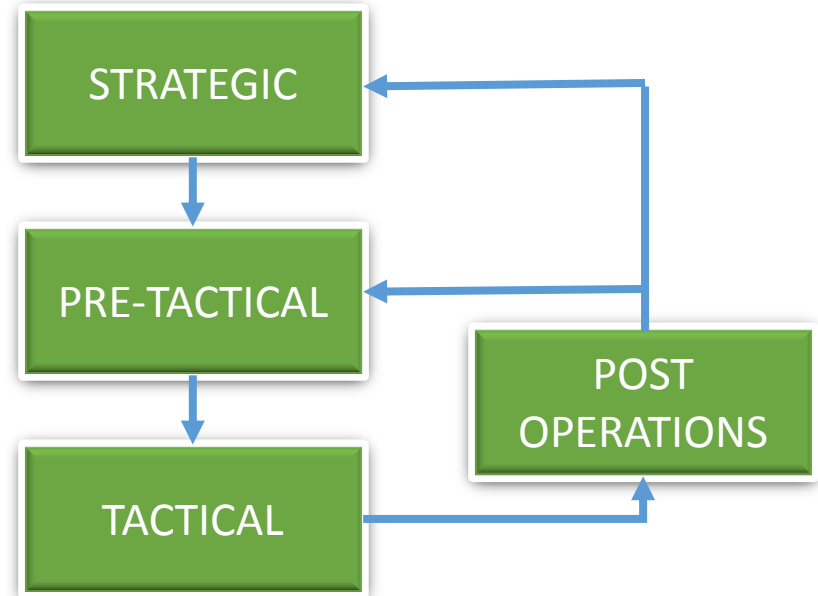
UAE Perspective

|	**AWY through an OMR**	**CDR through an OMR**	**Change of OMR for AWY**
CURRENT			
FURTHER COOPERATION	**Flexible Use of Airspace**	**Reservation System**	**UTM Integration**

UAE Perspective - summary

- Civil and Military authorities demonstrate good cooperation
  - Airways through restricted areas for civil use
  - Sharing of training areas
  - Timely coordination by Military authorities to use Civil airspace
  - Well established procedures for national security
  - Permanent military liaison officer at Sheikh Zayed Centre ACC
- Potential for Further Improvements:
  - Airspace design without or minimal segregation
  - Flexible Use of Airspace
  - Airspace reservation system
  - Integration of UTM

UAE Network Operation Centre (NOC)
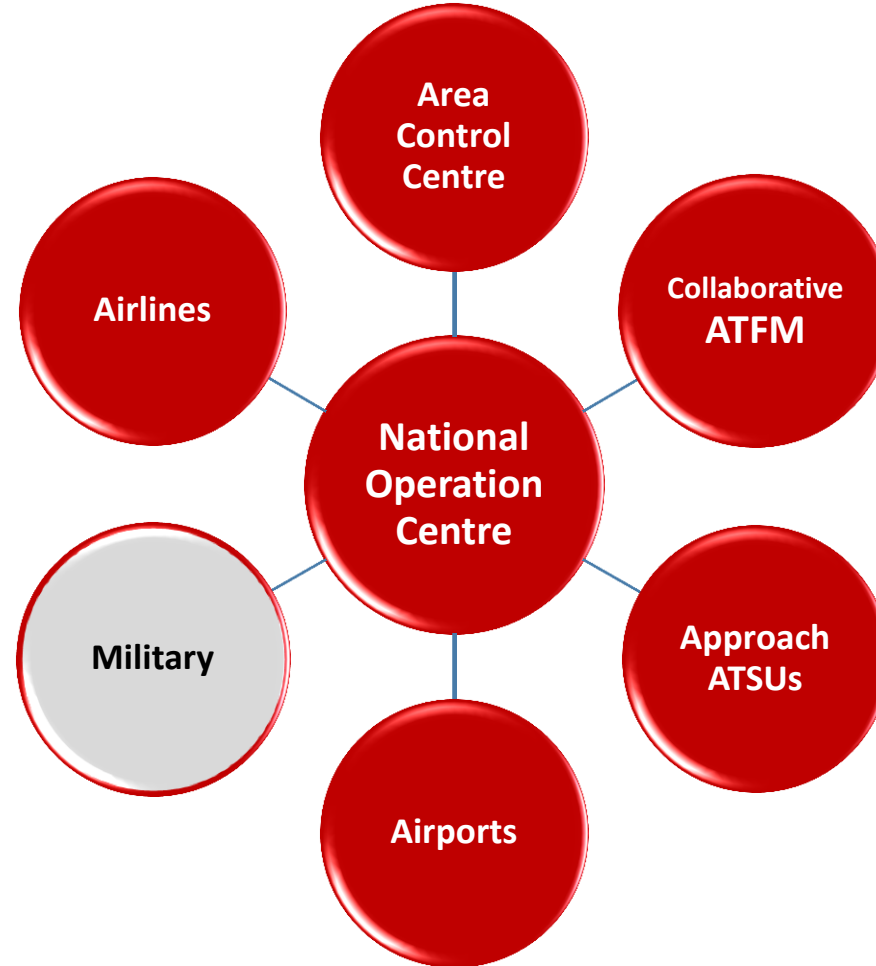
UAE NOC Vision

- A governance unit centralizing information about airspace requirements of all users and facilitate dialogues for the best use of available resources, by providing:
    - Collaborative Decision making
    - What-if scenarios
    - Transparent and distributed approval authority based on the jurisdiction/ownership of resources.
- Participation of all stakeholders with competing interests
- Equitable for all users
- Flexible use of airspace

SWIM Technology

- Part of the UAE national CNS/ATM framework derived from GANP

- Performance Improvement Area 2 (PIA2) – Globally interoperable systems and data – FF-ICE

  - Implementation standards – EUROCONTROL Yellow profile
    - Data security embedded into the design
  - Accurate and up to date data
    - Flight information including UTM
    - Data collected from multiple, authoritative sources
    - Provision to exchange diplomatic clearances and special STATUS of flights
  - Accessible everywhere, including mobile devices

Transition to a SWIM Enabled Civil Military Coordination
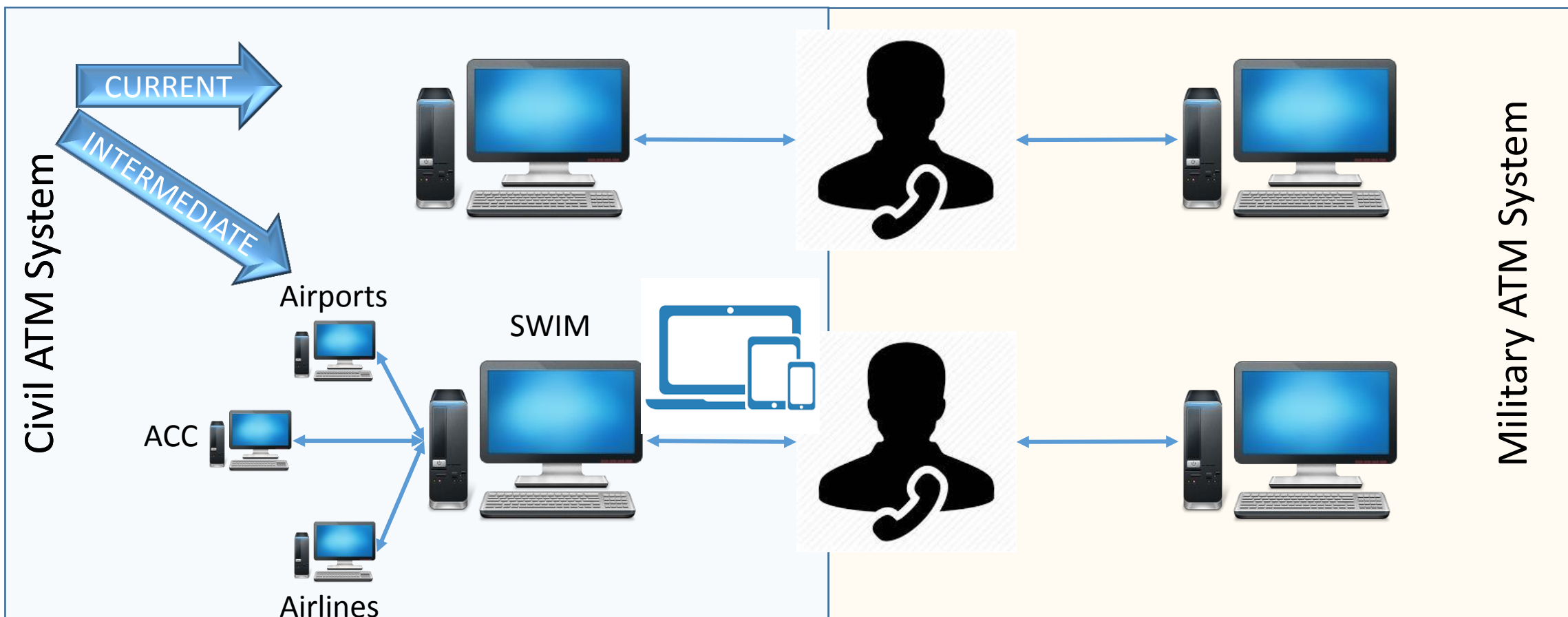
Transition to a SWIM Enabled Civil Military Coordination (cont'd)
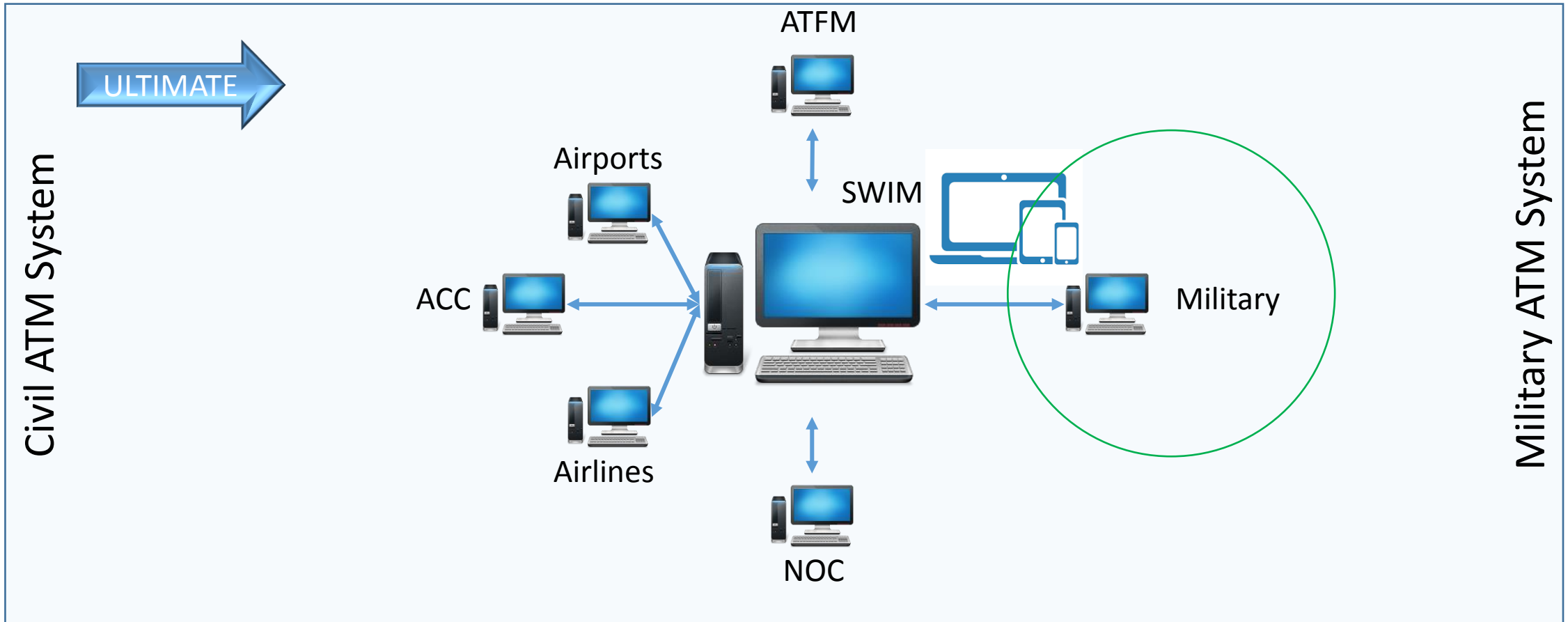
Sample Data – Flight Progression

Flight Plan Based Time	ATC Coordination Based Times	Surveillance Based Times

Flight Plan Based Time

```
−fdps
  +sfpl
  −fPath
    −waypoints
      −0
          name NALPO
          timeOver 2019-12-02T07:19:00Z
          timeOverType STO
      +1
      +2
      +3
      +4
      −5
          name VUTEB
          timeOver 2019-12-02T07:28:41Z
          timeOverType STO
```

ATC Coordination Based Times

```
+aman
−fdps
  +sfpl
  −fPath
    −waypoints
      −0
          name NALPO
          timeOver 2019-12-02T07:51:00Z
          timeOverType ETO
      +1
      +2
      +3
      +4
      +5
      −6
          name VUTEB
          timeOver 2019-12-02T08:00:40Z
          timeOverType ETO
```

Surveillance Based Times

```
+aman
−fdps
  +sfpl
  −fPath
    −waypoints
      −0
          name NALPO
          timeOver 2019-12-02T07:51:02Z
          timeOverType ATO
      +1
      +2
      +3
      +4
      +5
      −6
          name VUTEB
          timeOver 2019-12-02T08:02:28Z
          timeOverType ATO
```

**All such information is continuously shared with authorized and secured users**

Post Operations Analysis

- In a performance managed approach respective quantified indicators will be required
  - Reservation statistics
  - Statistics of Scheduled activities
  - Statistics of Estimated activities
  - Statistics of Actual activities
  - Comparison of scheduled, estimated and actual activities
  - Comparison of reservation against the actual usage
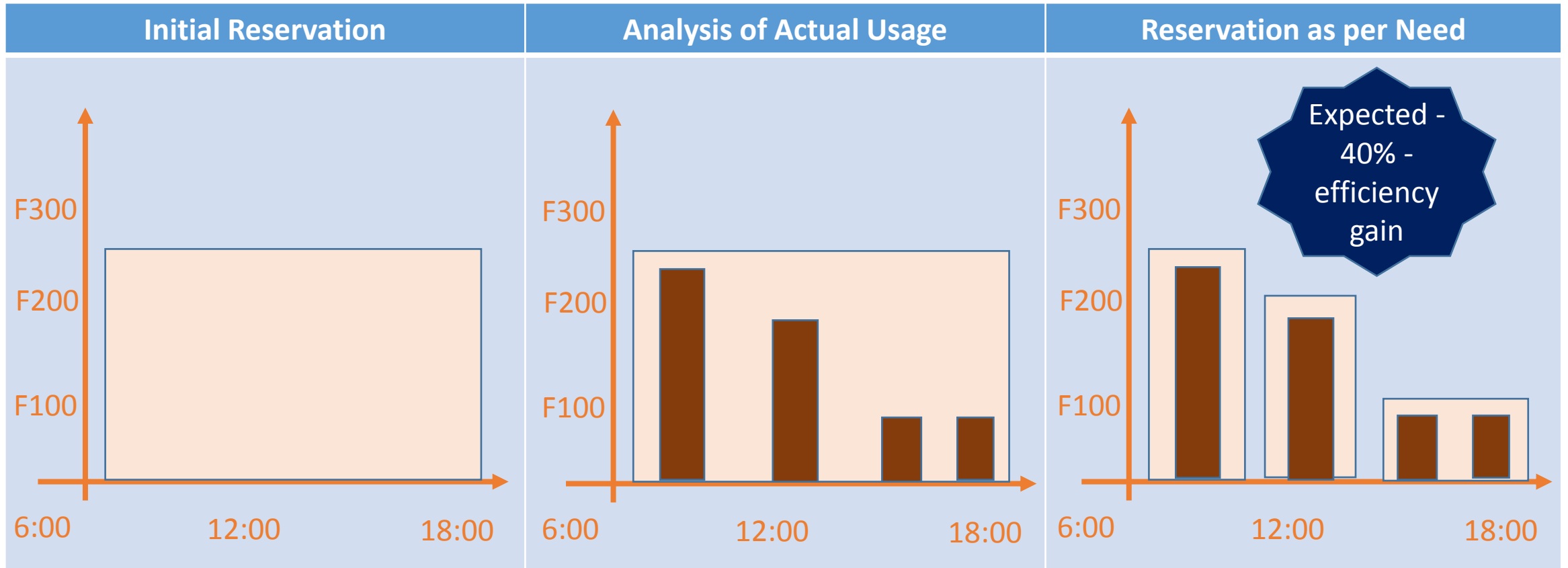
Summary

– Success lies in:

- Commitment at all levels during all the phases of activity,
- Secure, Transparent, Equitable, Coordinated and Collaborative systems and procedures.

**Through cooperation →
more airspace per airspace**

Thank you &

Time for questions