



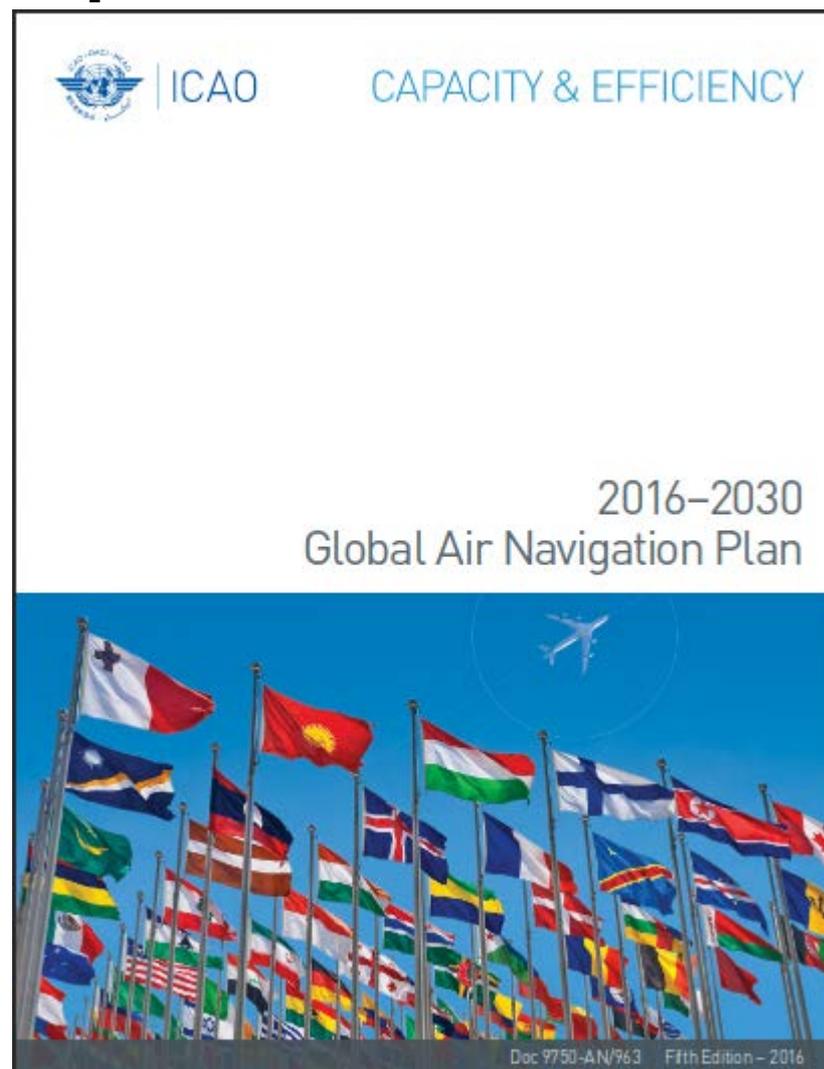
Benefits of AIDC Implementation

**AIDC Task Force Meeting
Tegucigalpa, Honduras
October 30 – November 3, 2017**

**Presented by
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AIDC Task Force Rapporteur**

Why is AIDC important?

- “AIDC is the necessary **first step** for all improvements in **FF-ICE**, **ATFM** and **collaborative decision-making** and the baseline of future advanced information management processes”



AIDC and FF-ICE

- B0-FICE: Increased interoperability, efficiency and capacity through ground-ground integration

Performance Improvement Area 2: Globally interoperable systems and data

B0-FICE

Increased interoperability, efficiency and capacity through ground-ground integration

To improve coordination between air traffic service units (ATSUs) by using ATS interfacility data communication (AIDC) defined by ICAO's *Manual of Air Traffic Services Data Link Applications* (Doc 9694). An additional benefit is the improved efficiency of the transfer of communication in a data link environment.

Applicability

Applicable to at least two area control centres (ACCs) dealing with en-route and/or terminal control area (TMA) airspace. A greater number of consecutive participating ACCs will increase the benefits.

AIDC and FF-ICE

Performance Improvement Area 2: Globally interoperable systems and data

B1-FICE

Increased interoperability, efficiency and capacity through FF-ICE, Step-1 application before departure

To introduce FF-ICE, Step 1 providing ground-ground exchanges before departure using a common flight information reference model (FIXM) and extensible markup language (XML) standard formats. FIXM, pre-requisite to trajectory-based operations, will allow richer content exchange with the goal to better support user needs.

Applicability

Performance Improvement Area 2: Globally interoperable systems and data

B2-FICE

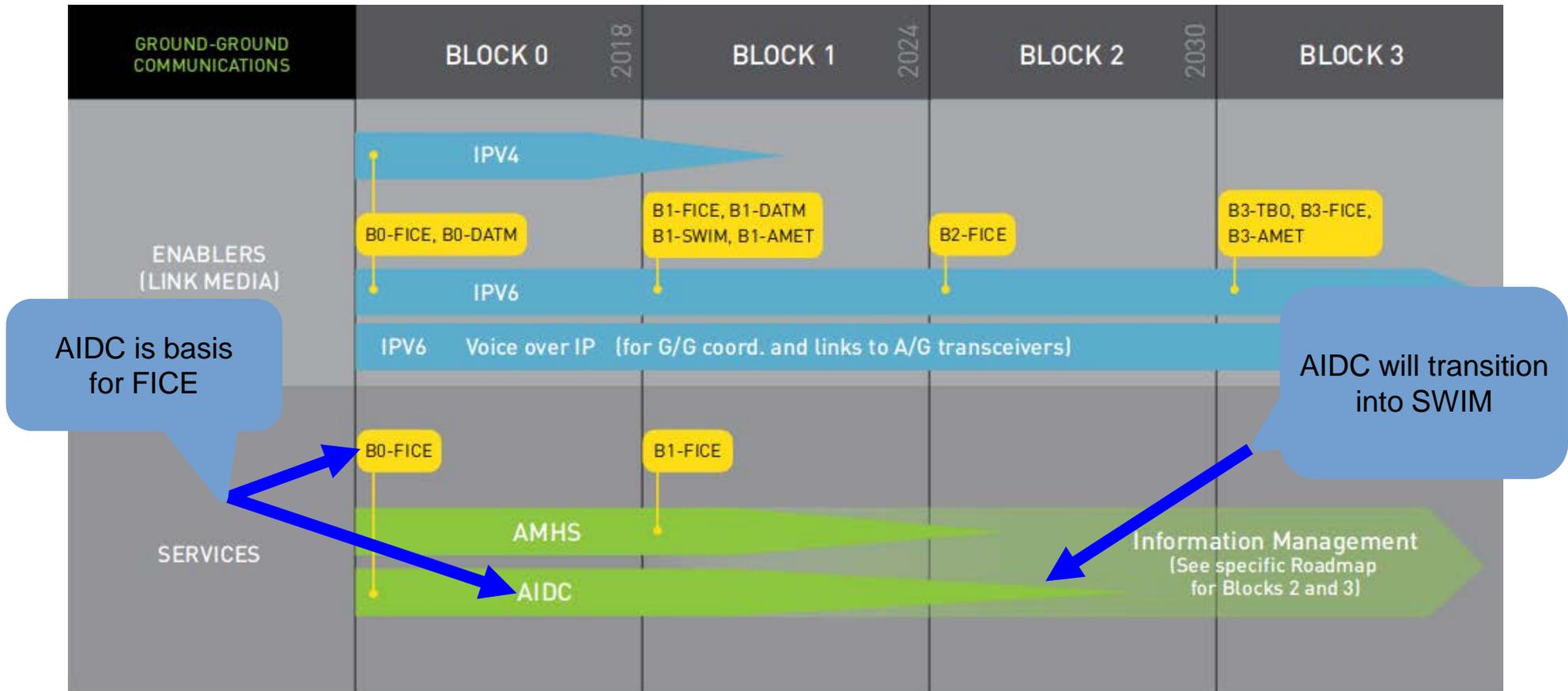
Improved coordination through multi-centre ground-ground integration (FF ICE, Step 1 and flight object, SWIM) including execution phase

FF-ICE supporting trajectory-based operations through exchange and distribution of information including execution phase for multi-centre operations using flight object implementation and interoperability (IOP) standards. Extension of use of FF-ICE after departure, supporting trajectory-based operations. New system interoperability SARPs to support the sharing of ATM services involving more than two air traffic service units (ATSUs).

Applicability

Applicable to all ground stakeholders (ATS, airports, airspace users) in homogeneous areas, potentially global.

AIDC and FF-ICE



Expected benefits

Performance Improvement Area 2: Globally interoperable systems and data

B0-FICE Increased interoperability, efficiency and capacity through ground-ground integration

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Benefits

Capacity

Reduced controller workload and increased data integrity supporting reduced separations translating directly to cross sector or boundary capacity flow increases.

Efficiency

The reduced separation can also be used to more frequently offer aircraft flight levels closer to the flight optimum; in certain cases, this also translates into reduced en-route holding.

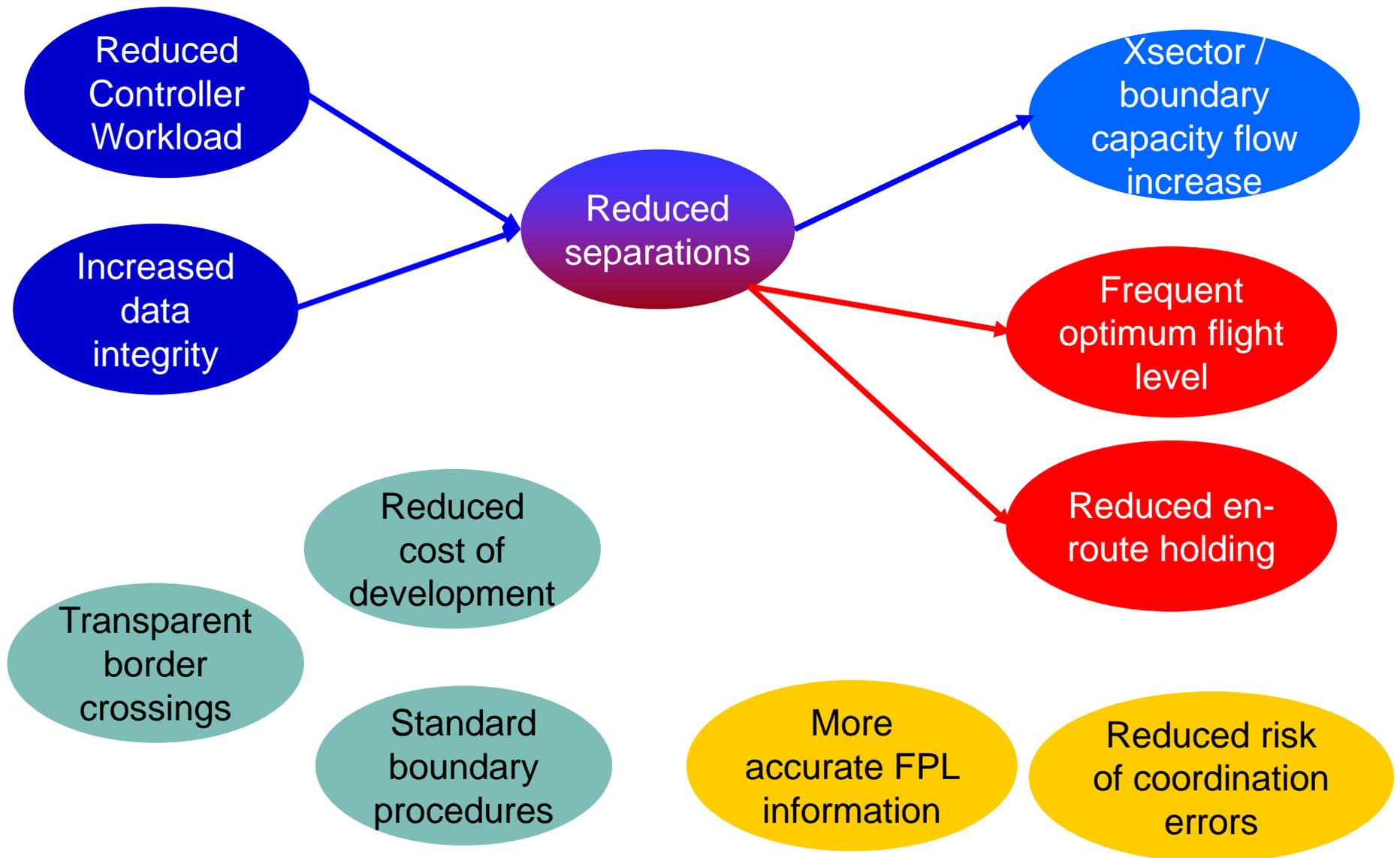
Interoperability

Seamlessness: the use of standardized interfaces reduces the cost of development, allows air traffic controllers to apply the same procedures at the boundaries of all participating centres and border crossing becomes more transparent to flights.

Safety

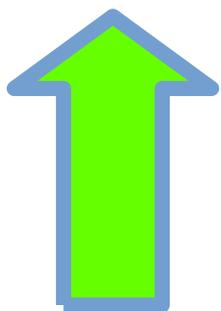
Better knowledge of more accurate flight plan information for receiving ATS units and reduced risk of coordination errors.

Expected benefits



Cost – Benefit Analysis

- “Increase of throughput at ATS unit boundary and reduced ATC workload will outweigh the cost of ground system software changes. The business case remains dependent on the environment.”



+throughput = +capacity
 $\Delta \text{flights} \times \text{charges} = \text{benefit}$



-workload = -personnel
 $\Delta \text{personnel} \times \text{op costs} = \text{benefit}$

$$\textit{personnel necessary} = \frac{\textit{airspace capacity}}{\textit{individual capacity}}$$

AIDC in RPNIPB

- RPO 4. IMPROVE SITUATIONAL AWARENESS
 - Efficiency
 - Improved collaborative decision-making through electronic aeronautical data sharing
 - Reduced workload for both pilots and controllers
 - Improved operational efficiency

Task Description	Start-End	Responsible	Status
i) Implement data link surveillance technologies and applications as required: ADS, CPDLC, AIDC	2014- 2018	States, Territories, Int. Orgs	Valid

AIDC in RPANIPB

- RPO 6. OPTIMIZATION AND MODERNIZATION OF COMMUNICATION INFRASTRUCTURE
 - Efficiency
 - Improved ATS coordination
 - Communication misunderstandings avoided
 - Continuity
 - Improved airspace interoperability and seamlessness

Task Description	Start-End	Responsible	Status
d) Coordinate and test ATN G-G application implementation aspects (AMHS, AIDC, etc.)	2013-2018	States, Territories	Valid

Suggested actions

- The meeting is invited to:
 - Consider the benefits expected from AIDC implementation as expressed in the global and regional air navigation plans;
 - Evaluate the factors involved in obtaining these benefits by each FIR;
 - Consider the cost/benefit analysis and how it is applicable to each State; and
 - Agree on any other action as deemed necessary.

Thank you!



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