THALES

Impact of new ICAO FPL 2012

ICAO APAC Workshop

Thales Australia

Air Operations Division

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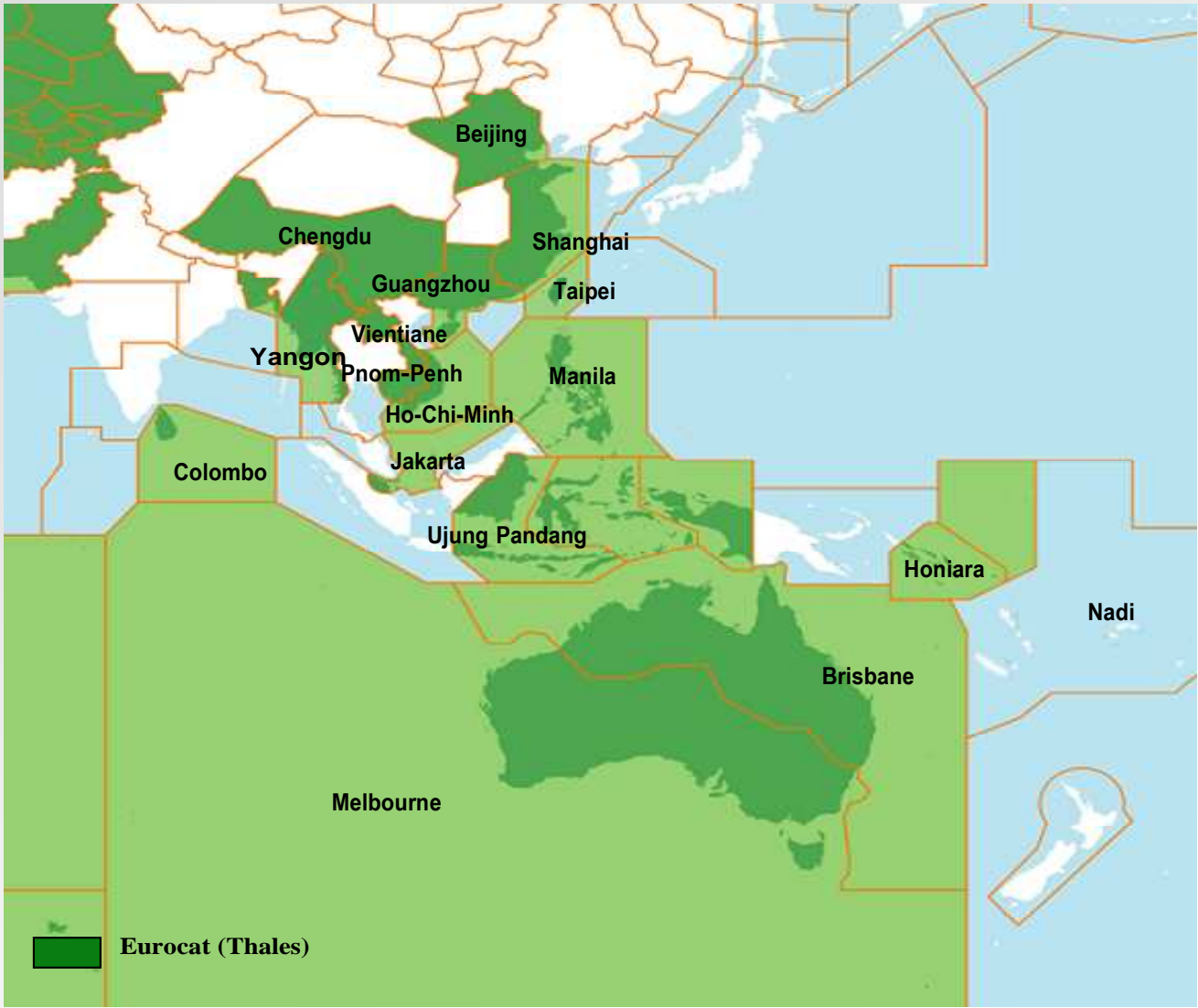
Example of programs launched in AsiaPac Region

Country	Status
Australia	Engineering on ATM system in progress
Cambodia	SAT accepted for Phnom Penh ATM system
Lao	Upgrade of the Vientiane ATM system started AFTN/AMHS terminals deployed compliant with FPL2012
Myanmar	AFTN/AMHS terminals deployed compliant with FPL2012
Philippines	Project in progress covering ATM system / AIS / AMHS
Singapore	Project in progress covering ATM system
South Korea	Upgrade of the Incheon APP ATM system started
Tahiti	ATM system upgrade will start soon
Taiwan	Upgrade of the Taiwan ATM system / AIS system started

■ Discussion in progress with several other AsiaPac customers

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Field 10 – Equipment and Capabilities

- **Addition of numerics and letters**
- **New meanings**
- **Specific system processing if required: R + PBN/**

Field 18 – Other Information

- **New Indicators**
- **Specific system processing: STS/**
- **Sequence**
- **DOF (5 days in advance)**

New requirements on some ICAO messages

- **Field 18 in CHG, DLA, CNL, DEP etc**

10

(FPL-QFA49-IS
-B744/H-SE3FJ2J5LORVWY/EB2V2D1
-YMML0200
-N0497F330 ML H164 LEC A461
    TAALA
-RPLL0821
-STS/HAZMAT PBN/A1
    EET/YBBB0221 REG/VHOEK
    SEL/APLS DOF/110930

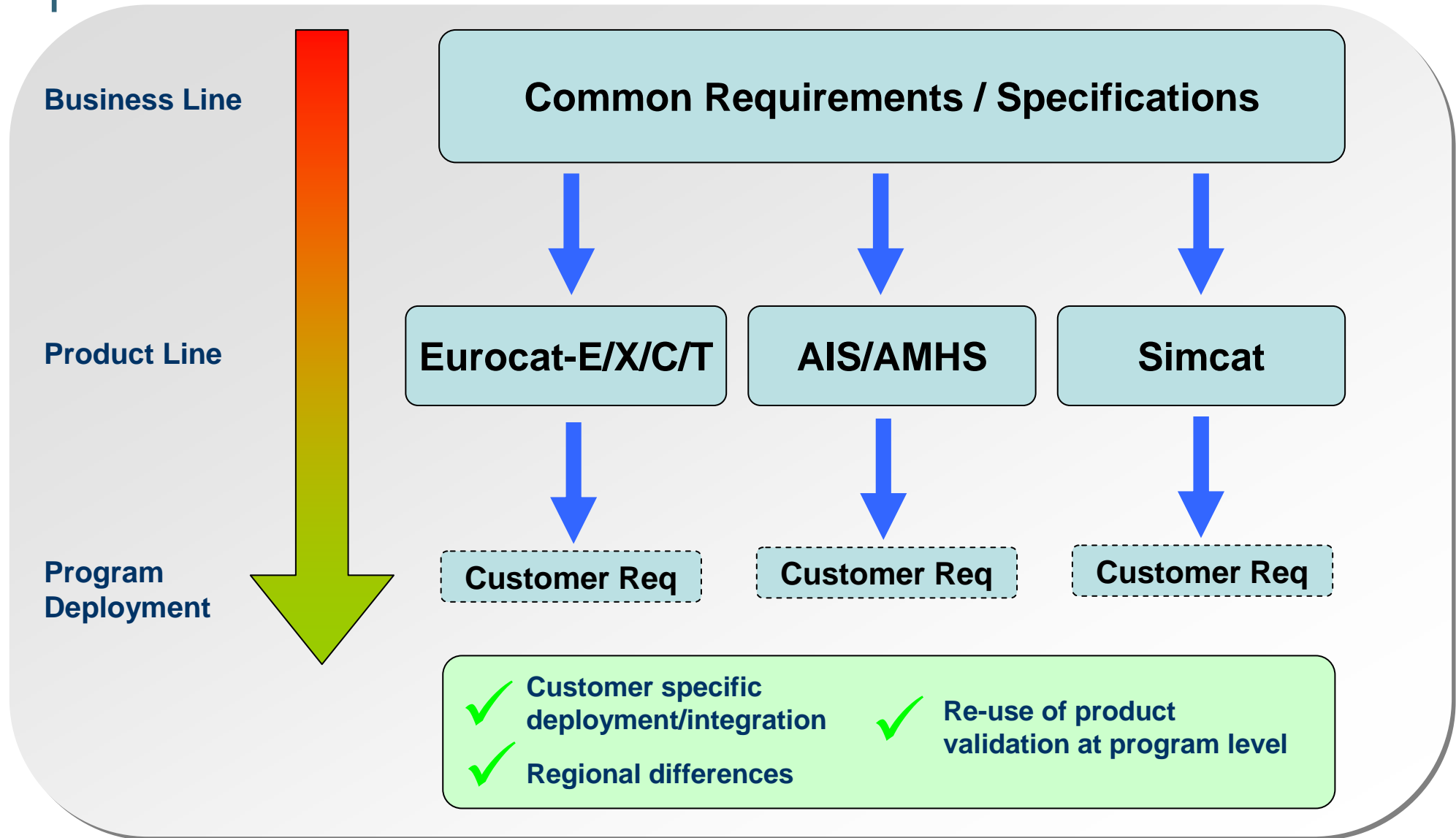**18**

CHG-AMX2513
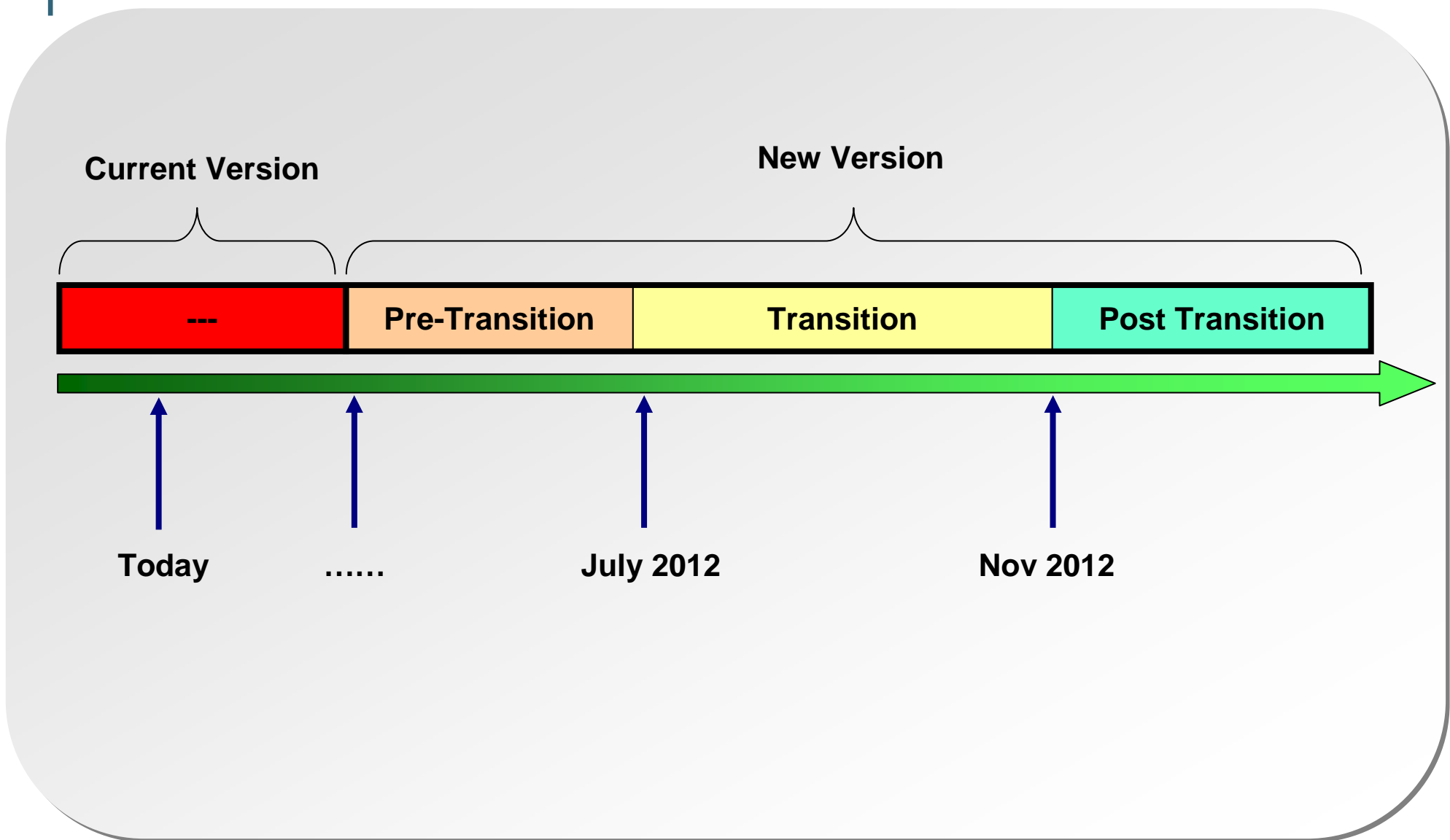-MMMZ-MMMX-DOF/110930-10/SJ2/C

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Many Impacted Systems:

- Flight Planning Systems – ANSPs / Airlines, BOFs
- FDPs of ATC centres , Military centres, Tower systems, SMGCS and Airport systems
- Aeronautical Information Systems and associated internet modules
- AFTN terminals / AMHS terminal
- Simulator and training systems
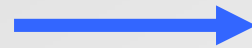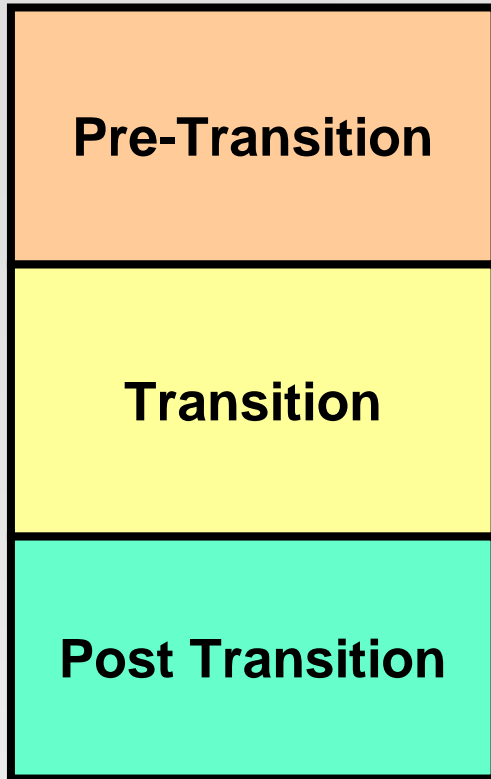- Traffic Charging systems

Human factors:

- Operating procedures
- Training requirements
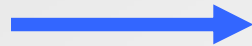- Extra workload processing non-compliant messages
- ATM software

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Business Line

Common Requirements / Specifications

Product Line

Eurocat-E/X/C/T | **AIS/AMHS** | **Simcat**

Program Deployment

Customer Req | Customer Req | Customer Req

✓ **Customer specific deployment/integration**

✓ **Re-use of product validation at program level**

✓ **Regional differences**

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Current Version

New Version

| --- | Pre-Transition | Transition | Post Transition |

Today   **……**   **July 2012**   **Nov 2012**

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Pre-Transition	→	**Same as today – no change**
Transition	→	**Both Preset and New format messages supported**
Post Transition	→	**New Format messages only**
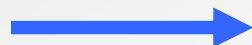
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Eurocat

Compliant FIR

Non-Compliant FIR

Present
FPL

Present
FPL

Present or
New Format

New
FPL

New
FPL

Translator

Present
Format

External Unit

FPL

Eurocat

FIR 2012?
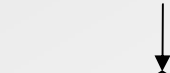
N

Y
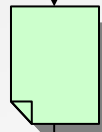
Present

New

✓ **If the FIR is unknown, or if the FPL is ambiguous, Eurocat looks for clues as to the type of FPL**

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Transmit FPL

FPL
CPL

Eurocat

Y   **FIR 2012?**   **N**   Translator
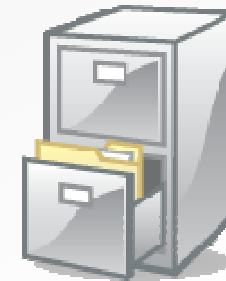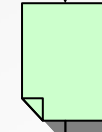
New Format

Present Format

AFTN etc..

THALES
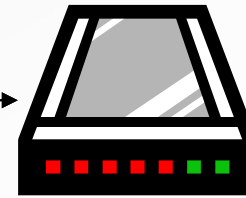
New Format

(FPL-QFA49-IS
-B744/H-SE3FHJ2J5LORVWY/EB2V2D1
-YMML0800
-N0497F330 ML H164 LEC A461 TAALA
-RPLL0821
-EET/YBBB0221 REG/VHOEK)

Present Format

(FPL-QFA49-IS
-B744/H-SFHJLORVWY/SD
-YMML0800
-N0497F330 ML H164 LEC A461 TAALA
-RPLL0821
-EET/YBBB0221 REG/VHOEK
COM/PDC ACARS E3 J2 J5 E B2 V2
DAT/H)

✓ **Refer to conversion tables at the end of this presentation**

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- Both PRESENT and NEW formats are processed simultaneously

- Semantic and syntactic checks on all incoming messages

- Field 10 & 18 consistency checks

- DOF checks

- Offline readiness testing between agencies prior to transition

- Ability for ANSPs to switch to NEW format prior to 15 Nov 2012

- Change between modes without software modification

- Operational support as requested

Thales solution complies with ICAO transition recommandation

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Operator

External FIR

External FIR

Eurocat

New Format

Present Format

THALES

Operator

Non Compliant FIR

Eurocat

Compliant FIR

Compliant FIR

➜ New Format

➜ Present Format

THALES

Operator

Compliant FIR

Compliant FIR

Eurocat

Compliant FIR

New Format

Present Format
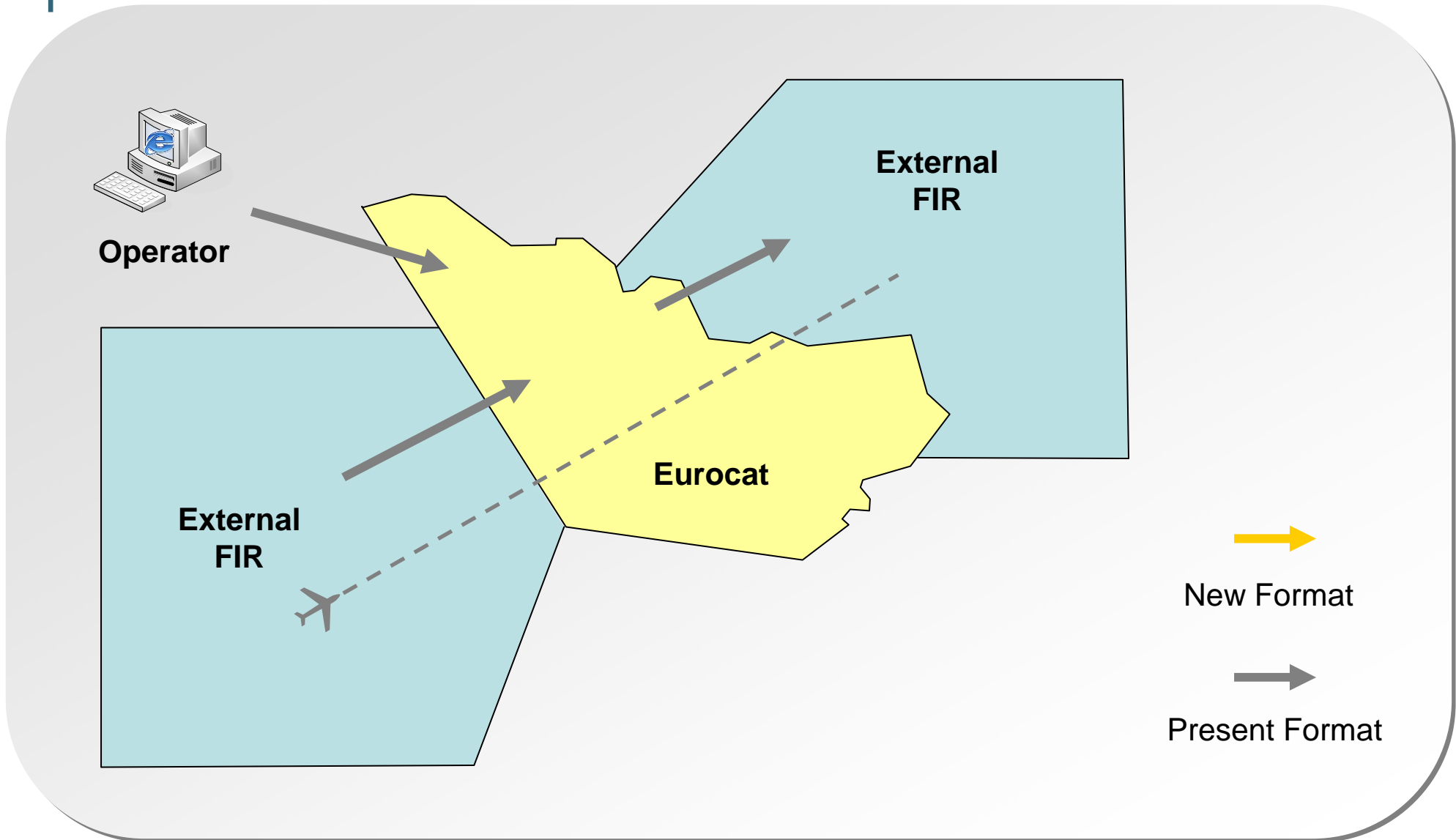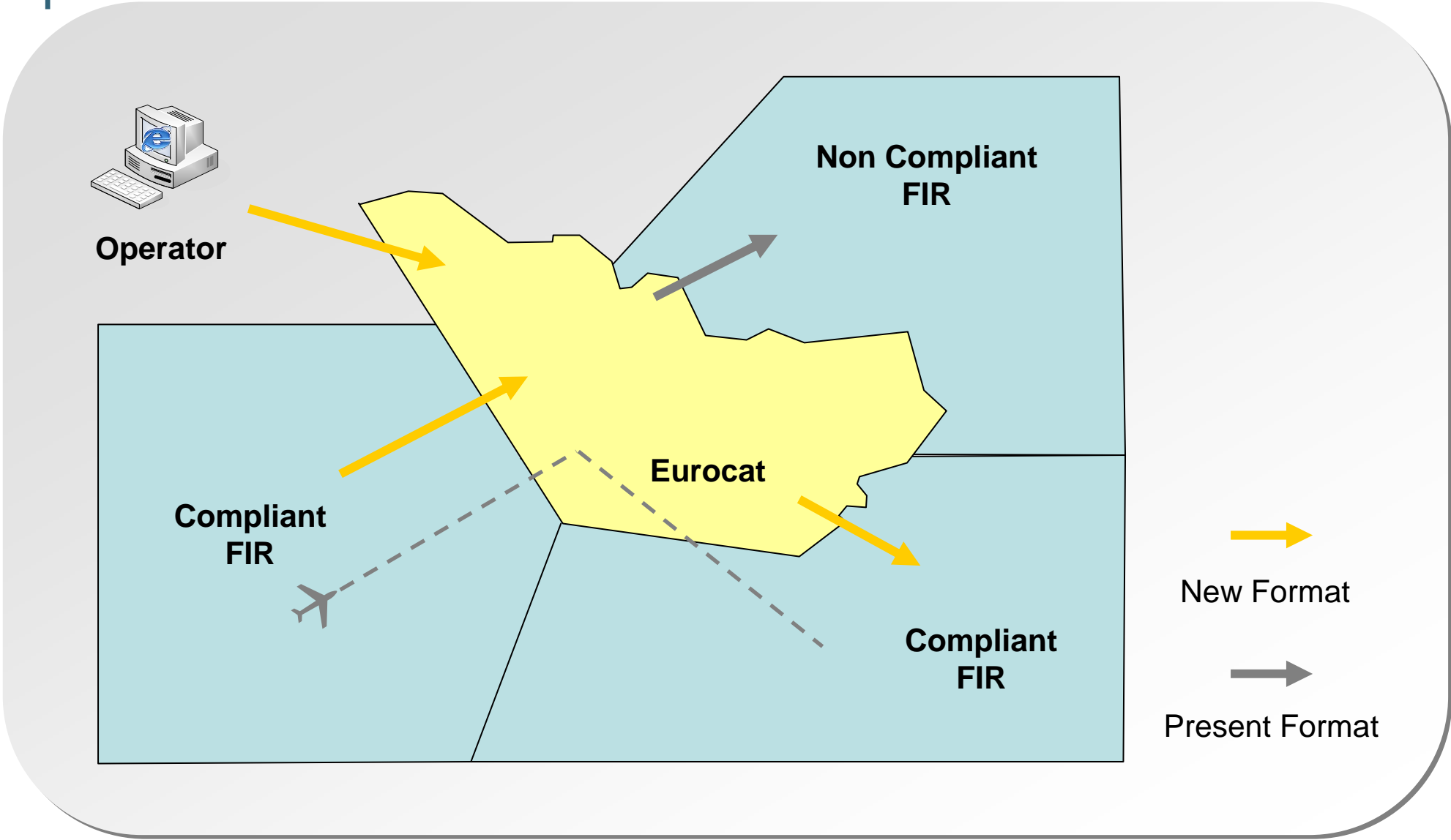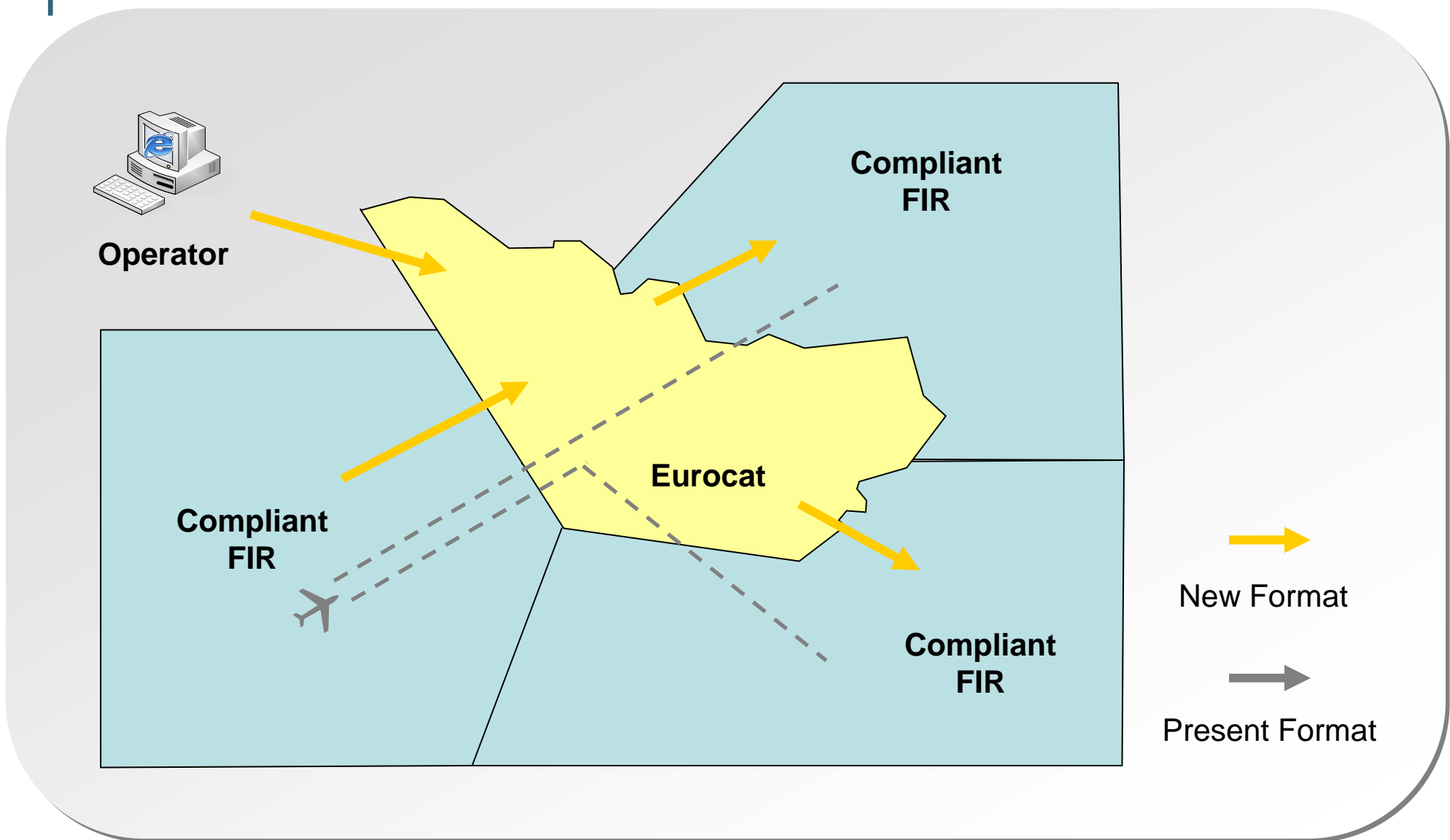
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- Industry or Region is not ready to start transition in **July 2012**
- Industry or Region is not ready to finish transition in **November 2012**
  - ✓ Thales is working to update all product to be compliant.
  - ✓ Transition between modes is controlled by the ANSP.

Pre-Transition	Transition	Post Transition

July 2012　　　　　　　　**Nov 2012**
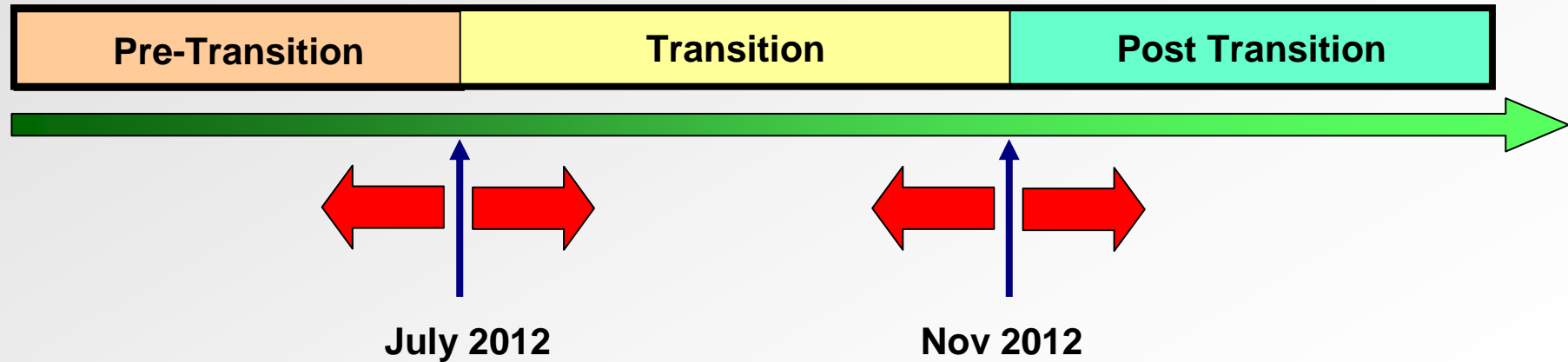
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- **Thales solution ensures compliance with the ICAO amendment**

- **Maintain same level of information even when downgrading FPLs**

- **Fully integrated and redundant <u>long term solution</u>**

- **Ability for ANSPs to begin testing early**

- **Customer able to modify system modes as required**

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- **Economical – one cost to implement changes, converter not required**

- **Benefits of new FPL format delivered immediately (ie PBN or RVSM alerting) = Better service to the end user**

- **Minimize risk of corrupt, missing or changed FPL data being used or transmitted downstream**

- **Single training cost**

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Thank You

Translation Rules – Field 10a

New Format

Field 10a	Field 10b	Field 10	Field 18
A		Z	NAV/GBAS
B		Z	NAV/LPV
E1		Z	COM/FMC WPR ACARS E1
E2		Z	COM/DFIS ACARS E2
E3		Z	COM/PDC ACARS E3
J1		J	DAT/V COM/J1
J2		J	DAT/H COM/J2
J3		J	DAT/V COM/J3
J4		J	DAT/V COM/J4
J5		J	DAT/S COM/J5
J6		J	DAT/S COM/J6
J7		J	DAT/S COM/J7
M1		Z	COM/INMARSAT M1
M2		Z	COM/MTSAT M2

Present Format

THALES

New Format

Present Format

Field 10a	Field 10b	Field 10	Field 18
M3		Z	COM/IRIDIUM M3
P1-P9		-	-
R	PBN/A1	RZ	NAV/RNAV10 RNP10 A1
R	PBN/B1	RZ	NAV/RNAV5 B1
R	PBN/B2	RZ	NAV/RNAV5 B2
R	PBN/B3	RZ	NAV/RNAV5 B3
R	PBN/B4	RZ	NAV/RNAV5 B4
R	PBN/B5	RZ	NAV/RNAV5 B5
R	PBN/B6	RZ	NAV/RNAV5 B6
R	PBN/C1	RZ	NAV/RNAV2 C1
R	PBN/C2	RZ	NAV/RNAV2 C2
R	PBN/C3	RZ	NAV/RNAV2 C3
R	PBN/C4	RZ	NAV/RNAV2 C4
R	PBN/D1	PRZ	NAV/RNAV1 D1
R	PBN/D2	PRZ	NAV/RNAV1 D2
R	PBN/D3	PRZ	NAV/RNAV1 D3
R	PBN/D4	PRZ	NAV/RNAV1 D4
R	PBN/L1	RZ	NAV/RNP4 L1

THALES

New Format

Present Format

Field 10a	Field 10b	Field 10	Field 18
R	PBN/O1	PRZ	NAV/RNP1 O1
R	PBN/O2	PRZ	NAV/RNP1 O2
R	PBN/O3	PRZ	NAV/RNP1 O3
R	PBN/O4	PRZ	NAV/RNP1 O4
R	PBN/S1	RZ	NAV/RNP APCH S1
R	PBN/S2	RZ	NAV/RNP APCH BARO VNAV S2
R	PBN/T1	RZ	NAV/RNP AR APCH RF T1
R	PBN/T2	RZ	NAV/RNP AR APCH T2
Z	COM/…	Z	COM/…
Z	NAV/…	Z	NAV/…
Z	DAT/…	Z	DAT/…

TD/AOS

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- Translation Rules – Field 10b

New Format

Present Format

Field 10b	Field 18	Field 10b	Field 18
E		SD	COM/E
H		S	COM/H
L		SD	COM/L
B1		D	COM/B1
B2		D	COM/B2
U1		D	COM/U1
U2		D	COM/U2
V1		D	COM/V1
V2		D	COM/V2
D1		D	COM/D1
G1		D	COM/G1

THALES

- Translation Rules – Field 18

New Format

Field 18	Field 18
STS/…	STS/…
SUR/…	SUR/ …
DOF/…	DOF/… (if possible, otherwise remove)
DAT/	COM/
DLE/…	RMK/DLE …
ORGN/…	RMK/ORGN …
TALT/…	RMK/TALT…

Present Format

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