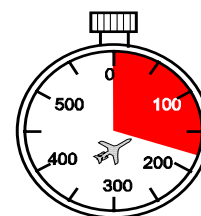
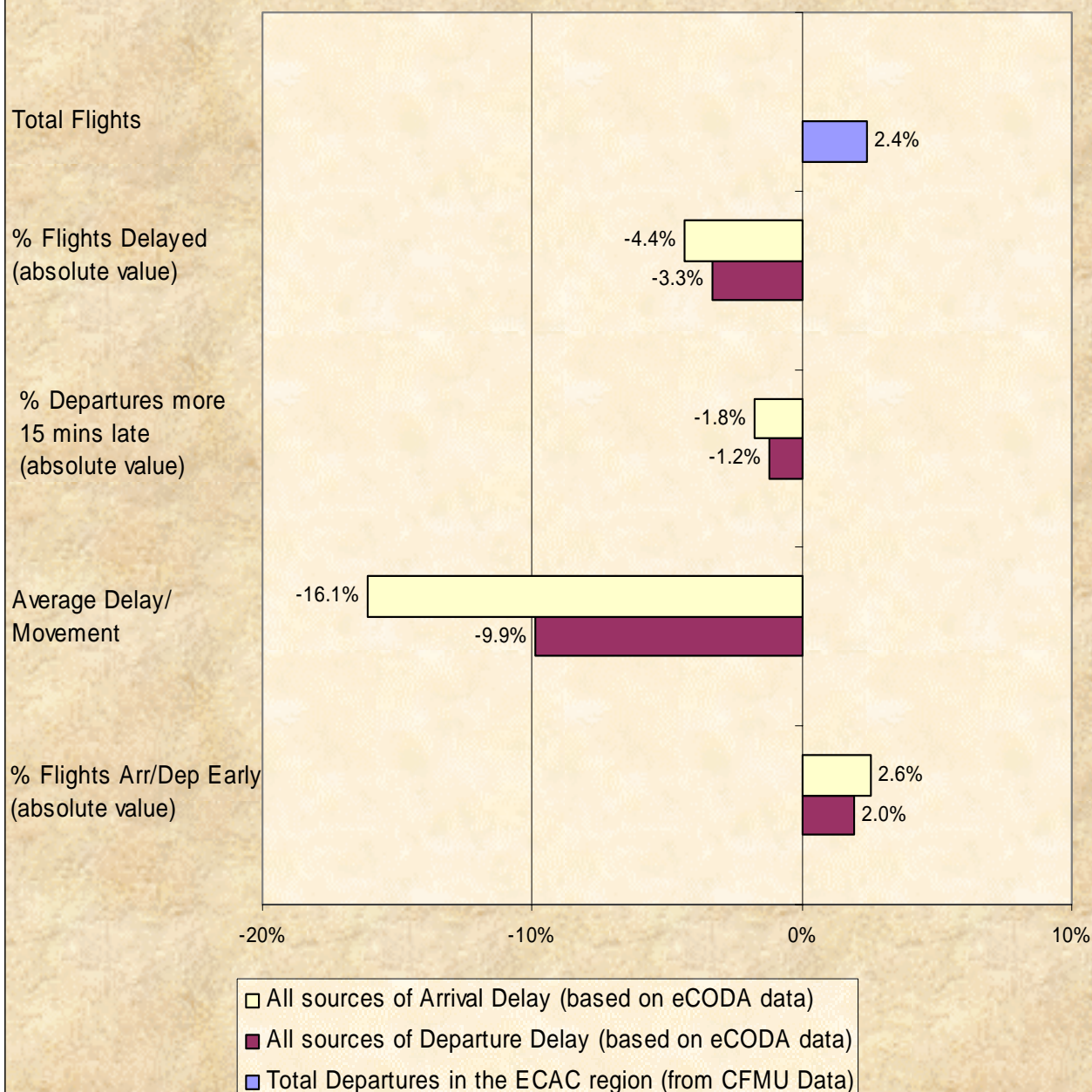


Delays to Air Transport in Europe November 2003



November 2003

**Comparison of Delay Indicators (all Causes)
between November 2003 and November 2002**



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FOREWORD

This report represents an overview of the delay situation in the European Civil Aviation Conference Area. It is based on delay data supplied by the CFMU and airline data from eCODA, and has been prepared by the Central Office for Delay Analysis (CODA), a service of the European Air Traffic Management Programme (EATMP).

The report consists of an overview of the reporting period, a summary of the main delay effects, and a series of charts and graphics, which illustrate the main characteristics of the reporting period. However, as a result of the current form of the database, *the graphics and charts refer only to departure delays*. A glossary of terms and abbreviations used throughout the report is given in Annex 2.

In this report the definition of the CFMU ATFM departure delay is based on the difference between the scheduled off-block time and the calculated off-block time, taking into account slot time and estimated taxi time. Airline data from eCODA is based on real recorded delays.

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1. SUMMARY OVERVIEW

Departures in November, in the ECAC region, increased by two and a half percent. Delays for all causes continued their downward trend but by at a smaller rate than that of the previous months. The Average Delay per Movement for departure traffic fell by ten percent to nine minutes and for arrivals by sixteen percent also to nine minutes. ATFM delay also continued to fall with a decrease in Average Delay per Movement, due solely to ATFM measures, of seventeen percent to just over one and a half minutes.

For the first eleven months of the year, traffic increased by three percent, with delayed flights due to all causes, falling by nine and a half percent for departures and ten percent for arrivals. The number of flights delayed by more than fifteen minutes fell by twelve percent for departures and eleven percent for arrivals. On the positive side, twelve percent of the departures left early and thirty four percent landed early. Turning to the delays, the Average Delay per Movement was nine minutes for departure and ten and a half minutes for arrivals. Total ATFM delay fell by twenty percent, with the Average Delay per Movement falling by twenty two percent to one and three quarter minutes.

TRAFFIC SITUATION FOR NOVEMBER 2003¹

Departures in the ECAC region increased by two and a half percent when compared with November 2002. Domestic traffic stayed the same as last year whereas International traffic increased by just under four percent.

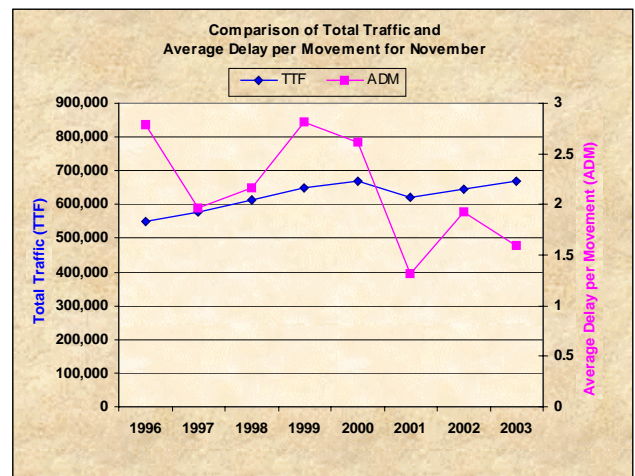
More than two thirds of the busier airports (those with more than two thousand five hundred flights per month) had rises in traffic levels, with the largest real increases at Madrid, Rome, Manchester and Vienna. At the other end of the scale, there were large decreases at Zurich and Basle/Mulhouse. Basle/Mulhouse also had the largest percentage (thirty four percent) decrease.

Just over fifty percent of the busier city pairs had an increase in flights, with around a quarter having an increase of ten percent or more. Rome-Catania had the largest real increases, whereas Stavanger-Oslo, Göteborg-Stockholm and Malmö-Stockholm had the largest real decreases.

¹ The analysis was based on the CFMU database which contains details on all IFR flights in the ECAC region.

ATFM DELAY SITUATION FOR NOVEMBER 2003

Delays due solely to ATFM measures decreased by fifteen percent when compared with November last year. This was a continuation of the improvements seen throughout the summer. The Average Delay per Movement also had a significant decrease, falling by seventeen percent to a little over one and a half minutes. Almost half of all ATFM delay was due to weather, with ATC capacity responsible for another twenty two percent.



Delayed flights fell by nineteen percent, with the percentage of flights delayed falling by two percentage points to just over seven and a half percent. Flights delayed by more than fifteen minutes decreased by thirteen percent, with flights delayed by more than one hour falling by twenty two percent.

Not all ATFM delay was due to ATC; almost two thirds of all ATFM delay in November was caused by regulations put in place to protect airports because of lack of capacity, parking problems, low visibility, etc. Compared with last year, this was an increase of twenty percent. Nearly three quarters of the delay was due to weather, with a further fifteen percent due to airport capacity.

Based on the locations of the most penalising regulations, traffic (including overflights) using the airspace of France, Germany and the United Kingdom had the largest share of ATFM delay. Between them, they accounted for almost sixty percent of total ATFM delay in the ECAC region. Compared with November last year, France and Germany had the largest real increases, whereas the United Kingdom had the largest decrease.

When the traffic handled is taken into account (again including overflights), only France, Switzerland and Germany had an Average Delay per Movement of more than one minute. Compared with the same month last year, no country had an increase in average delay of more than one minute, whereas at the other end of the scale, both Maastricht and the United Kingdom had a decrease of more than one minute.

eCODA DATA FOR NOVEMBER 2003

The Average Delay per Movement for departures, for all causes of delay, was a little under nine minutes; a decrease of ten percent on November last year. Thirty eight percent of flights were delayed on departure, with sixteen percent delayed by fifteen minutes or more. This was a reduction of three and a half percentage points in the delayed flights and a one percentage point in the percentage of flights delayed by more than fifteen minutes. On the other hand, almost twelve and a half percent of flights departed before their scheduled time.

Arrivals also had significant decreases, with the Average Delay per Movement, again for all causes of delay, falling by sixteen percent to nine minutes. Thirty seven percent of flights had an arrival delay, with seventeen percent having a delay of more than fifteen minutes; four and a half percentage points down for delayed flights and two percentage points down for delays of more than fifteen minutes. On the plus side, thirty four percent of flights arrived before their scheduled time.

Almost a quarter of the busier airports had an Average Delay per Movement of ten minutes or more, with Paris/Charles de Gaulle and Zurich having the largest average delay. Compared with November last year, nearly thirty percent of the busier airports had an increase in average delay of more than one minute, with the largest, at Munich, of almost five minutes. These increases were offset by large decreases (more than seven minutes) at both Amsterdam and Sevilla. In all, more than forty percent of the airports had a decrease in average delay of more than one minute. However, all of the airports had a proportion of their traffic departing before their scheduled time ranging from three percent at Munich to forty two percent at East Midlands.

Looking at the busier airports as destinations shows that traffic arriving at Torino had the largest Average Delay per Movement (fourteen minutes), followed by Paris/Charles de Gaulle with thirteen minutes. Compared with November last year, around thirty five percent of the busier airports had an increase in average delay, with the largest increases (more than three minutes) at Warsaw and Munich. At the other end of the scale, there was a large decrease at Prague, going down by nearly fifteen minutes, and at Valencia going down by ten minutes. More than forty five percent of the airports had a decrease of more than one minute. As with departures, all the airports had a proportion of their flights arriving early, with more than fifty percent of flights at Malaga arriving before their scheduled time.

The most affected city pairs², due to all causes of delay, were Rome-Paris/Charles de Gaulle and Paris/Charles de Gaulle-Prague, both with an Average Delay per Movement of almost twenty minutes. Compared with November last year, just over forty percent of the city pairs had an increase in average delay, with almost one third having an increase of more than one minute. The largest increase was between Munich-Vienna, with nine minutes, followed by Geneva-Frankfurt and Rome-Paris/Charles de Gaulle, both with a rise of six minutes. At the other end of the scale, just over fifty percent of the pairs had a decrease of more than one minute, with a third of them having a fall of more than three minutes. The largest decreases (more than fifteen minutes) were between Madrid-Bilbao, Madrid-Alicante and Bilbao-Madrid.

² Only pairs with two hundred flights or more were used in the analysis.

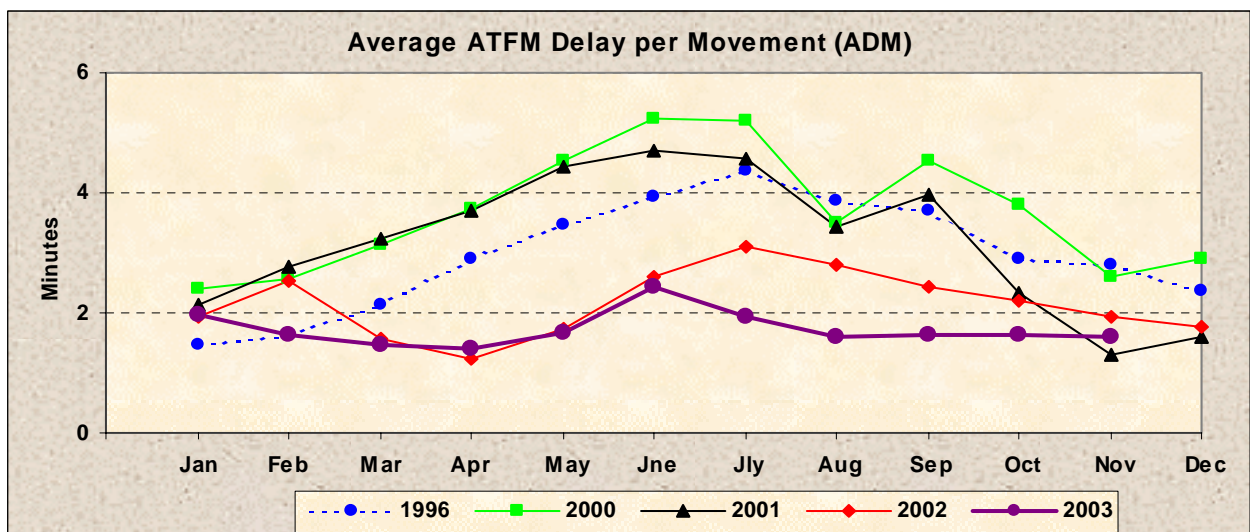
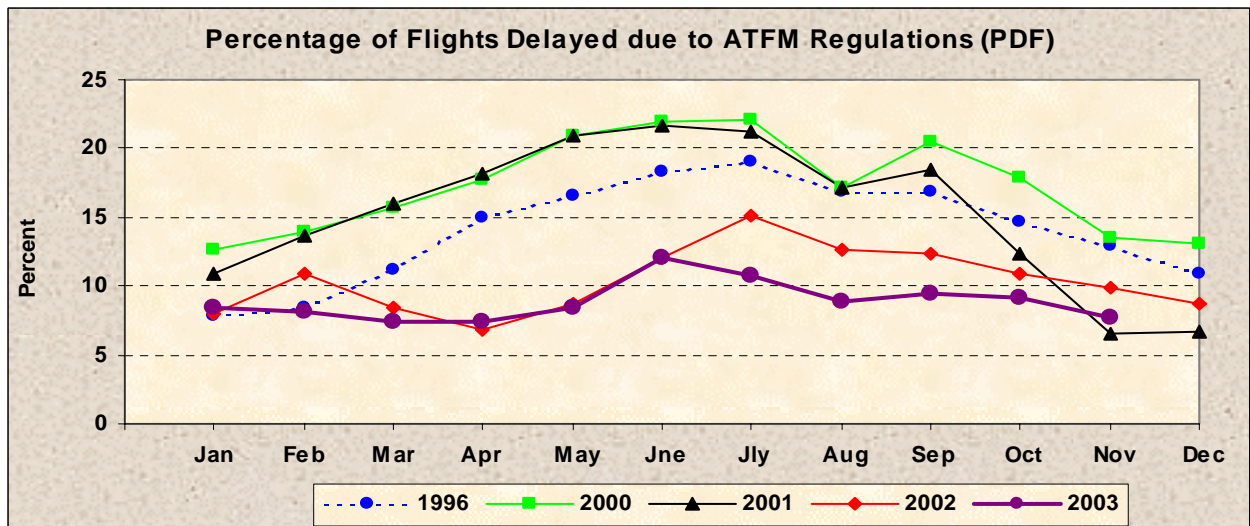
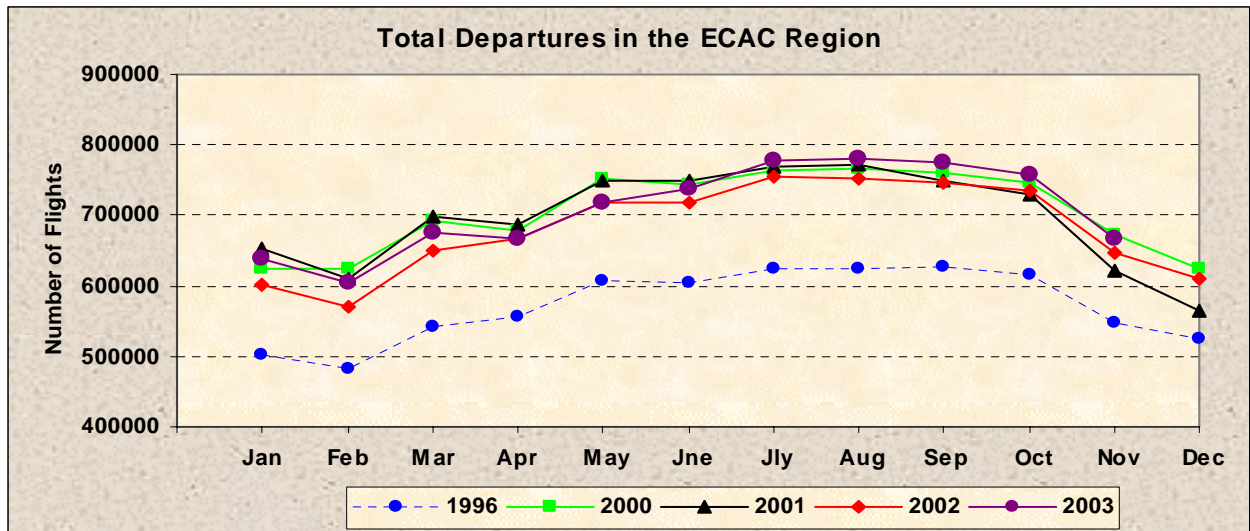
An analysis of the delay causes and categories, grouped by IATA codes, shows that more than a third of them had an increase in delay share, with the largest rises in the Restrictions at Departure Airport and ATFM Weather at Destination categories. To offset these increases, there were decreases in the ATFM En-Route Demand/Capacity, Weather and Damage to Aircraft & EDP Automated Equipment categories (taking only those categories with more than one percent of the delay).

Restrictions at Departure Airport was the most penalising direct delay category, with eleven percent, followed by Technical & Aircraft Equipment with nine percent and ATFM Weather at Destination with eight percent.

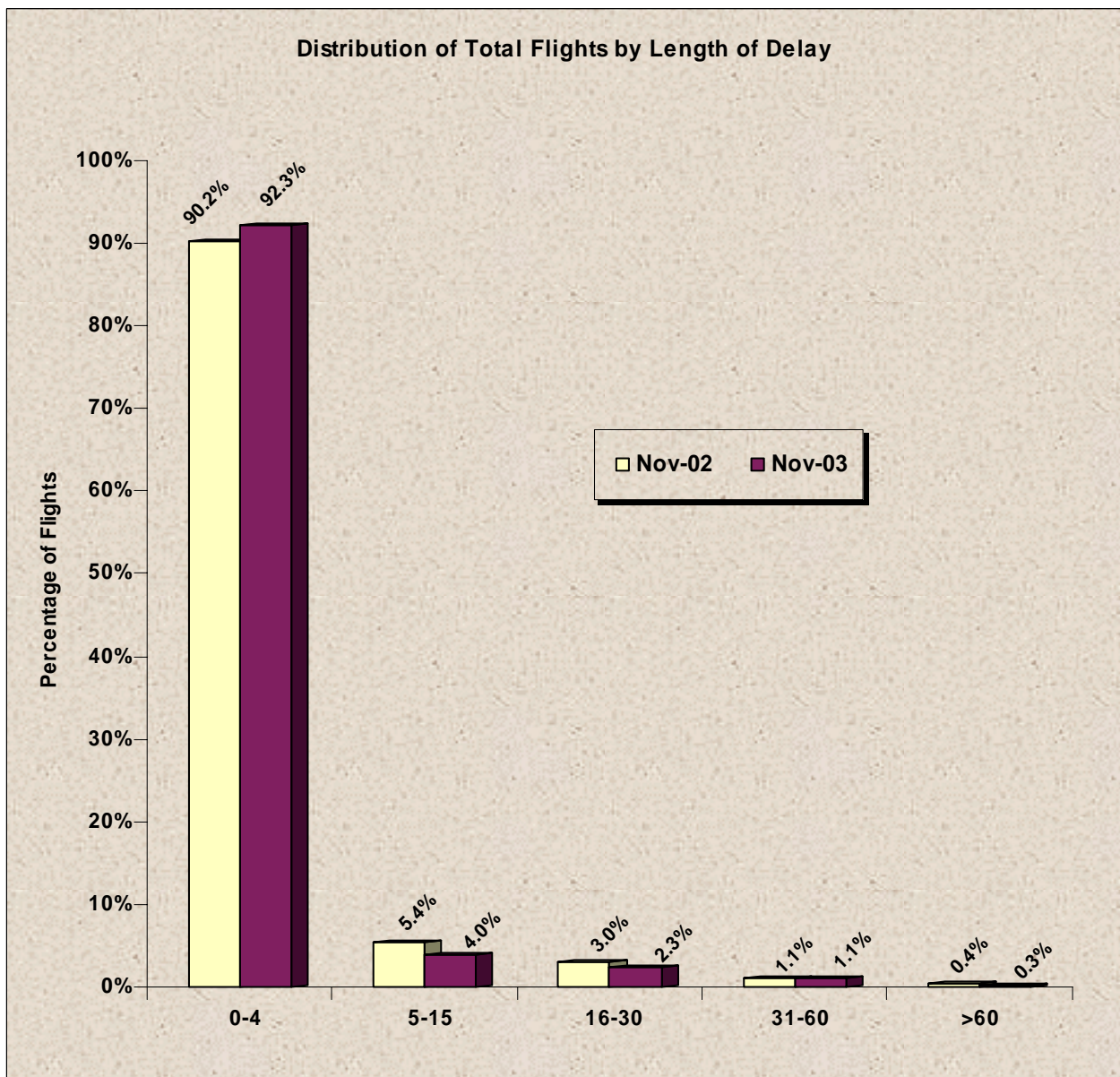
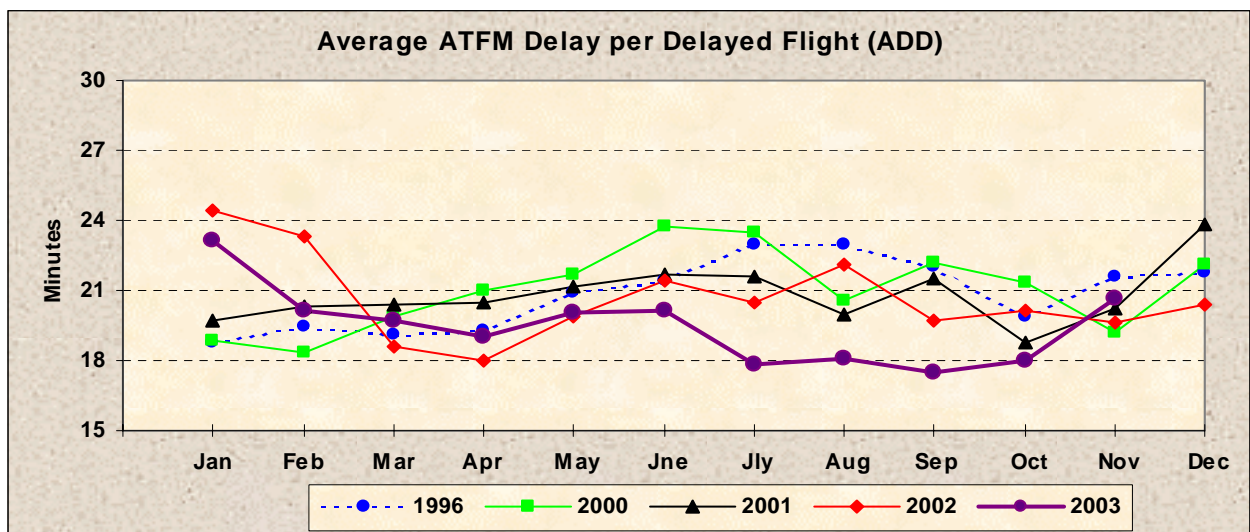
SUMMARY OF SIGNIFICANT EVENTS

- ✈ Severe weather conditions including low visibility, high winds, thunderstorms and fog closing some airports for short periods.
- ✈ Technical problems including ILS failure/maintenance at Milan/Malpensa, Vienna and Paris Le Bourget; SSR failure at Edinburgh, radar maintenance at Lyon, London and Naples; radar problems at Venice and Zurich.
- ✈ WIP at Calabria and Catania, closing the airport overnight, and at Barcelona.
- ✈ Industrial action by civil aviation personnel at Athens FIR; by technical maintenance personnel in Italy and ground staff at Milan (both Malpensa and Linate).
- ✈ Military firing exercise in Marseille ACC; Rome/Ciampino closed due to military activities and military activities affecting Sion, Yugoslavia, Ankara and Shanwick.
- ✈ Staff issues at Paris and Dusseldorf ACCs.
- ✈ Rome/Ciampino closed for security reasons.
- ✈ Other items included implementation of the NEON project (restructuring of the airspace southwest of the Nottenheim beacon); start of the transition to optimise use of the new runway in Amsterdam; Bordeaux transfer to new facilities; environmental issues at Zurich; delays at London/Heathrow due to the Lord Mayor's fly-past and Venice airport closed for a fire fighting exercise.

2. Year on Year Trends in Main Indicators

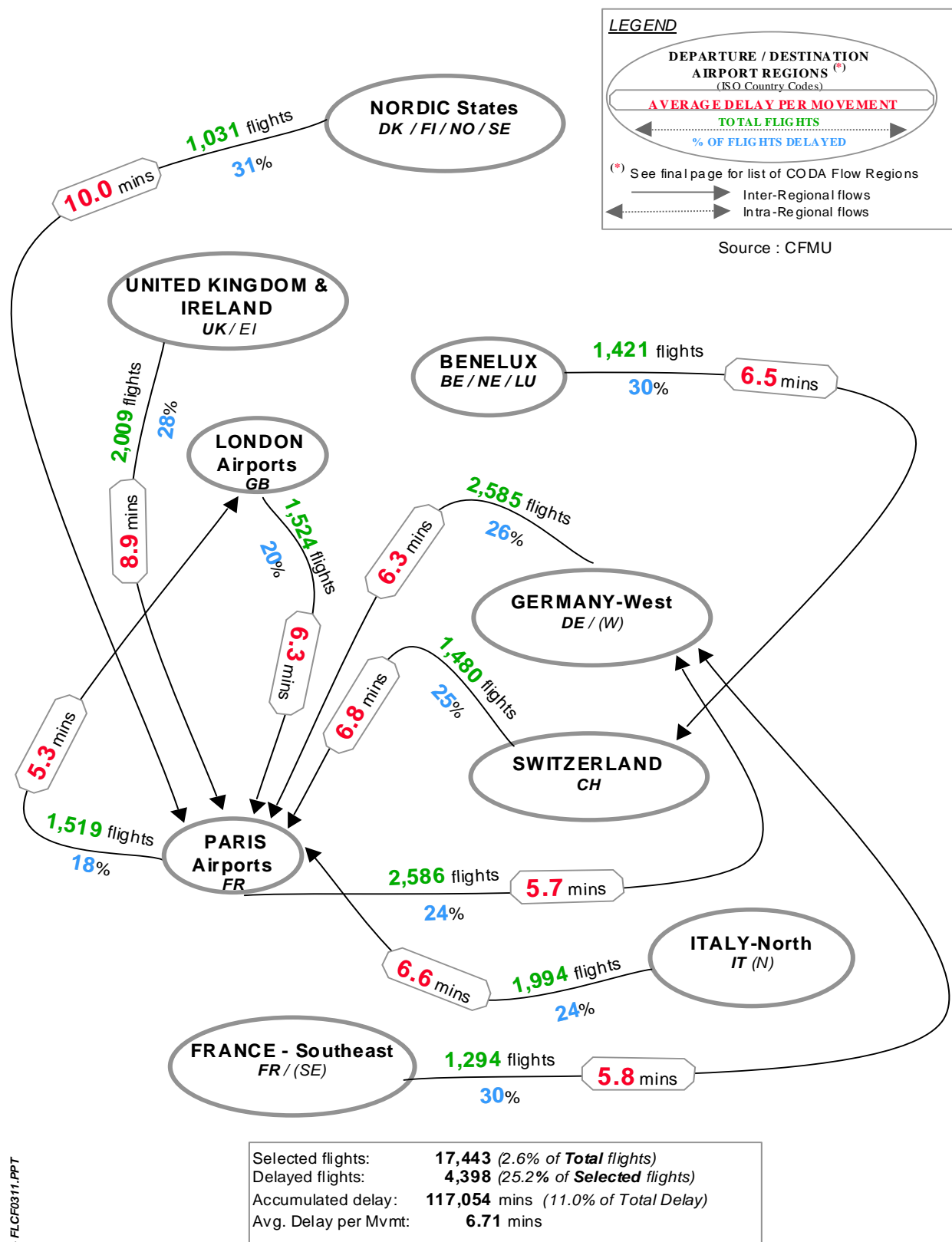


Source : CFMU ATFM Data



Source : CFMU ATFM Data

3. Most Affected Traffic Flows by CODA Regions



05/12/03 - FLCF0311.PPT

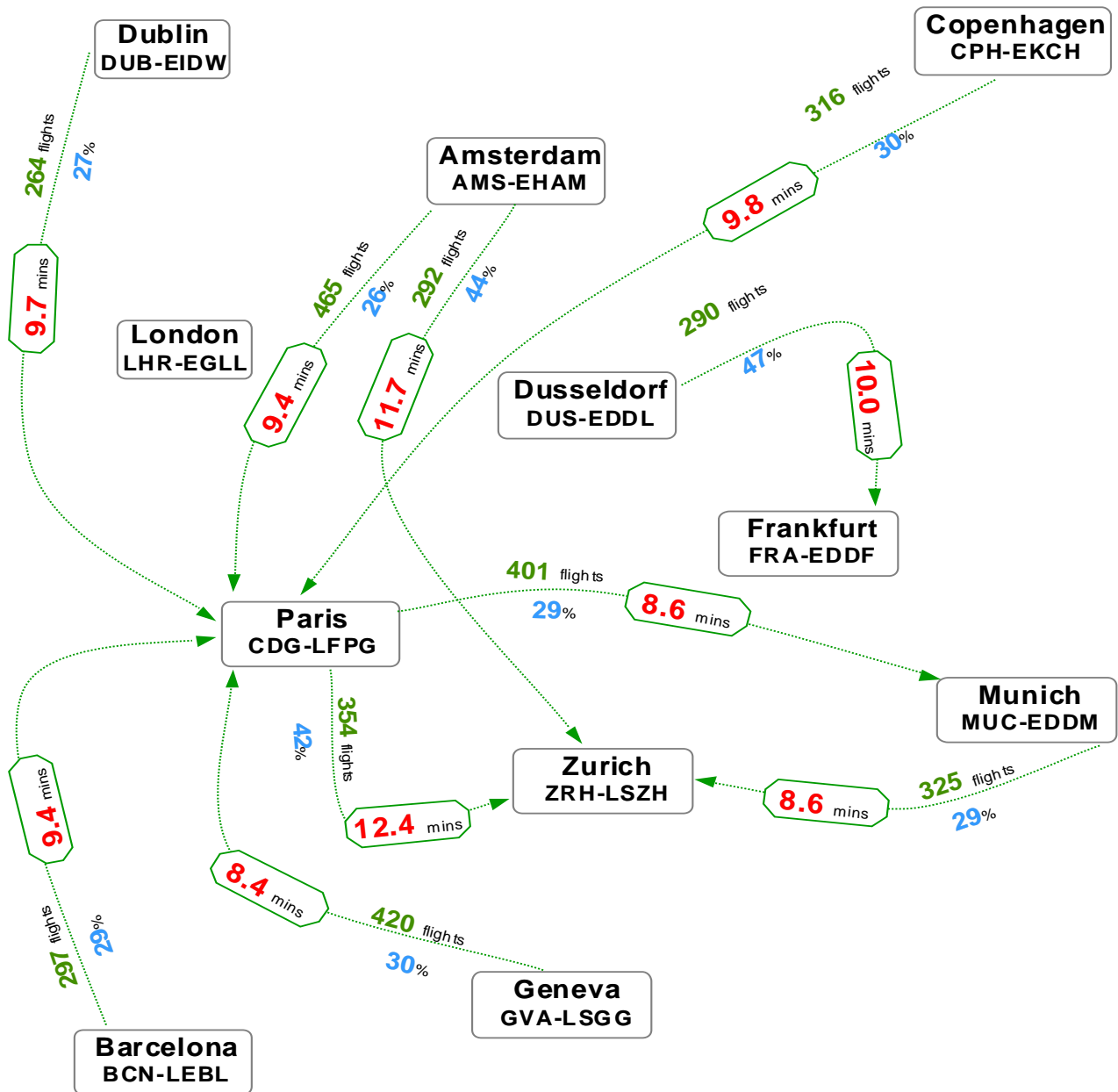
ATFM Delay Situation on 10 Regional CODA Traffic Flows (>1,000 flights) in November 2003

4. Most Affected City Pairs

AVERAGE DELAY PER MOVEMENT

Source : CFMU

Total Number of Flights & % of Flights Delayed



Selected flights: 3,424 (0.51% of Total flights)
 Delayed flights: 1,122 (33% of Selected flights)
 Accumulated delay: 33,329 mins (3.1% of Total Delay)
 Avg. Delay per Mvmt.: 9.7 mins

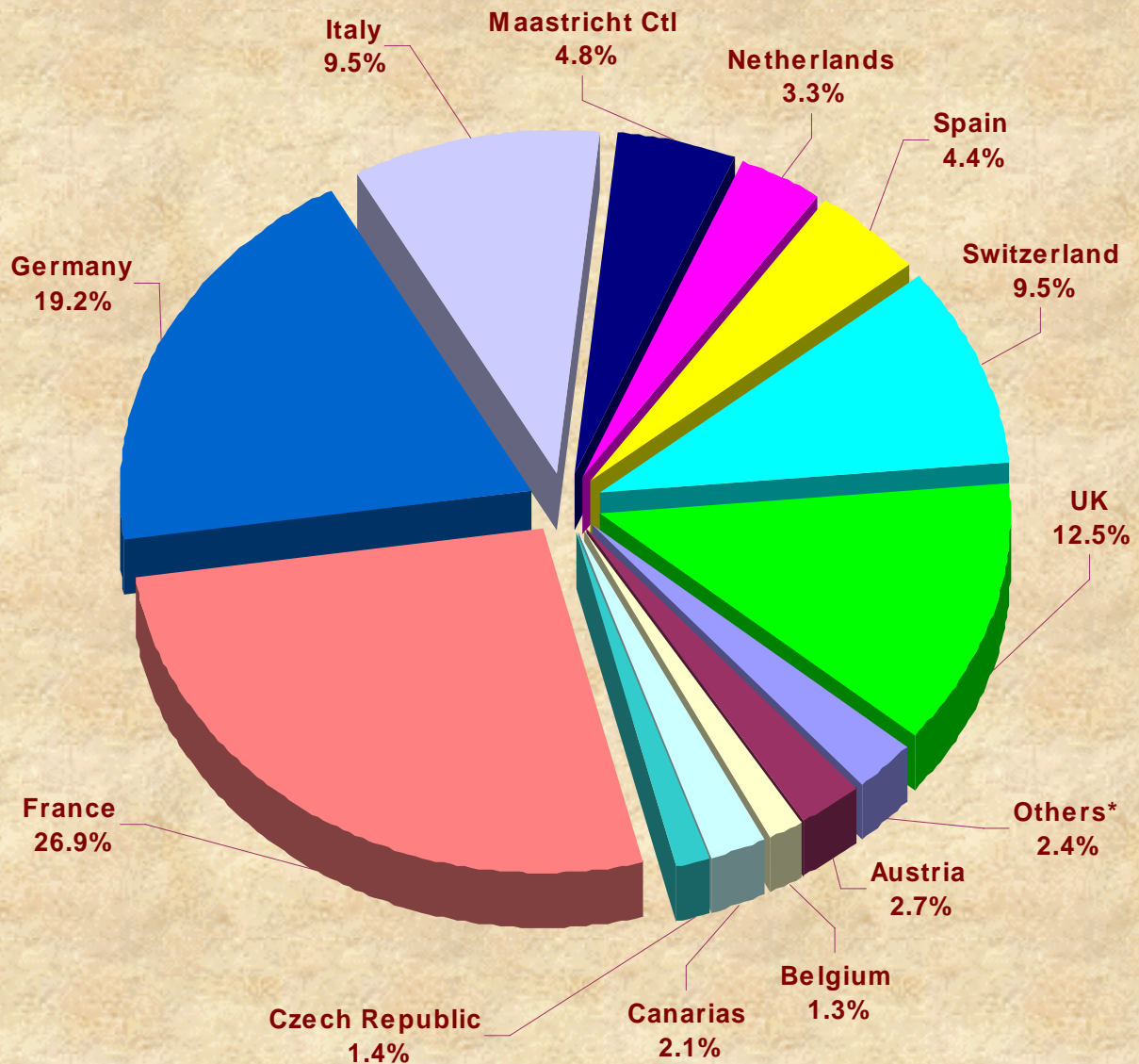
ATFM Delay Situation on 10 City Pairs (>250 flights) in November 2003

08/12/03 - CPO30311.PPT

5. Delay Share by Country

ATFM Delay Share as Imposed by Country based on the most penalising regulation

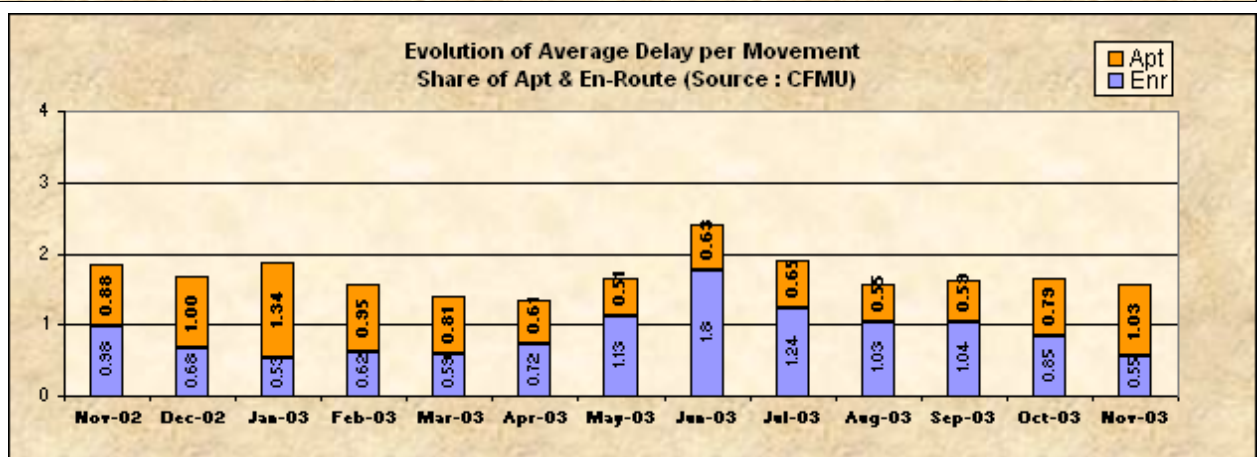
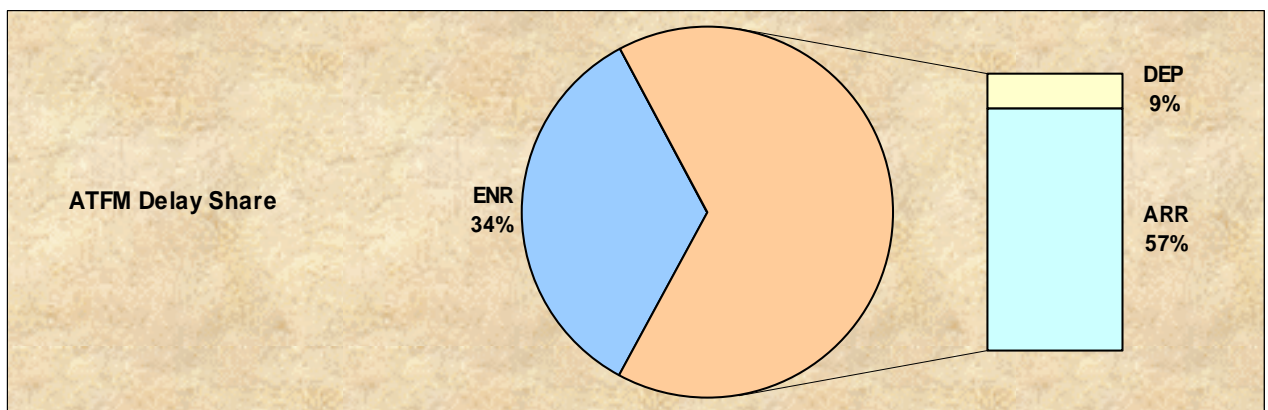
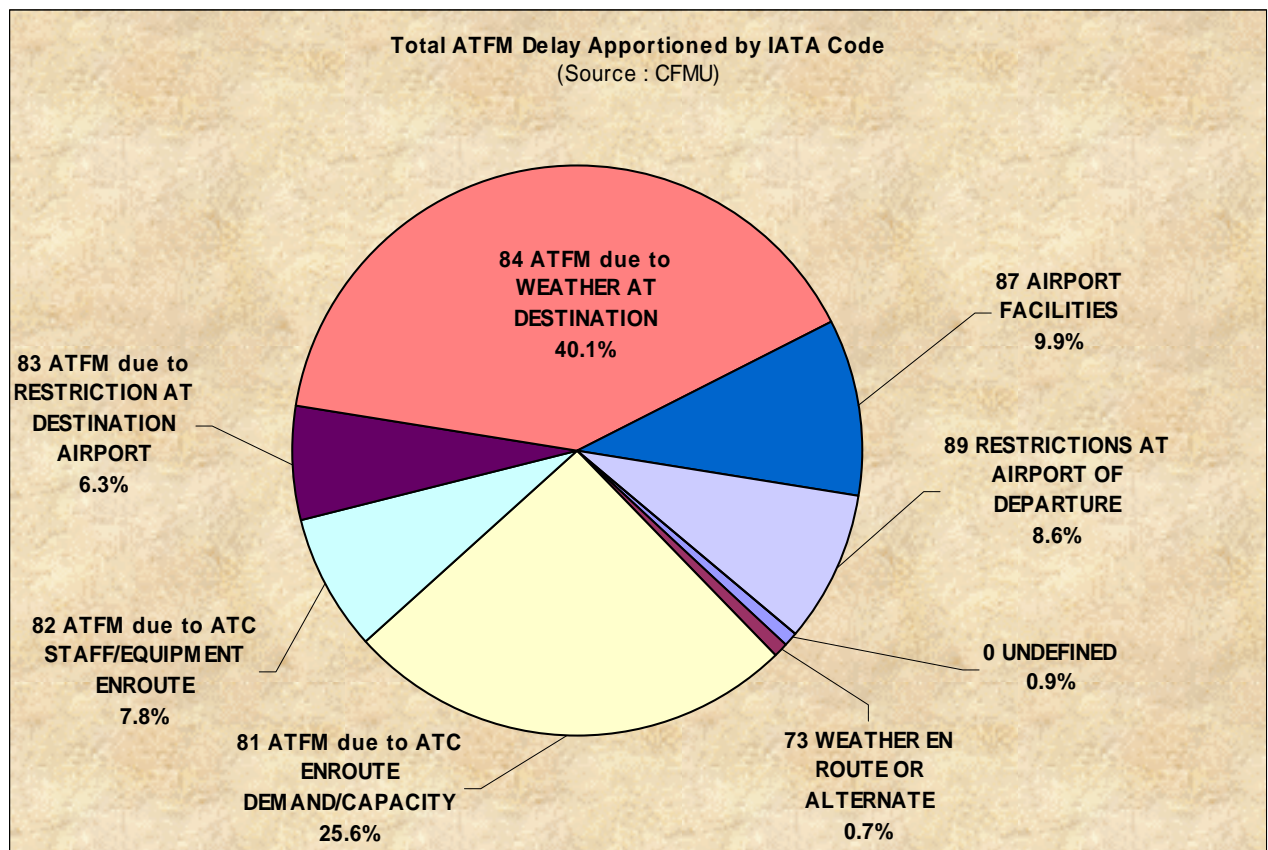
(Source : CFMU)



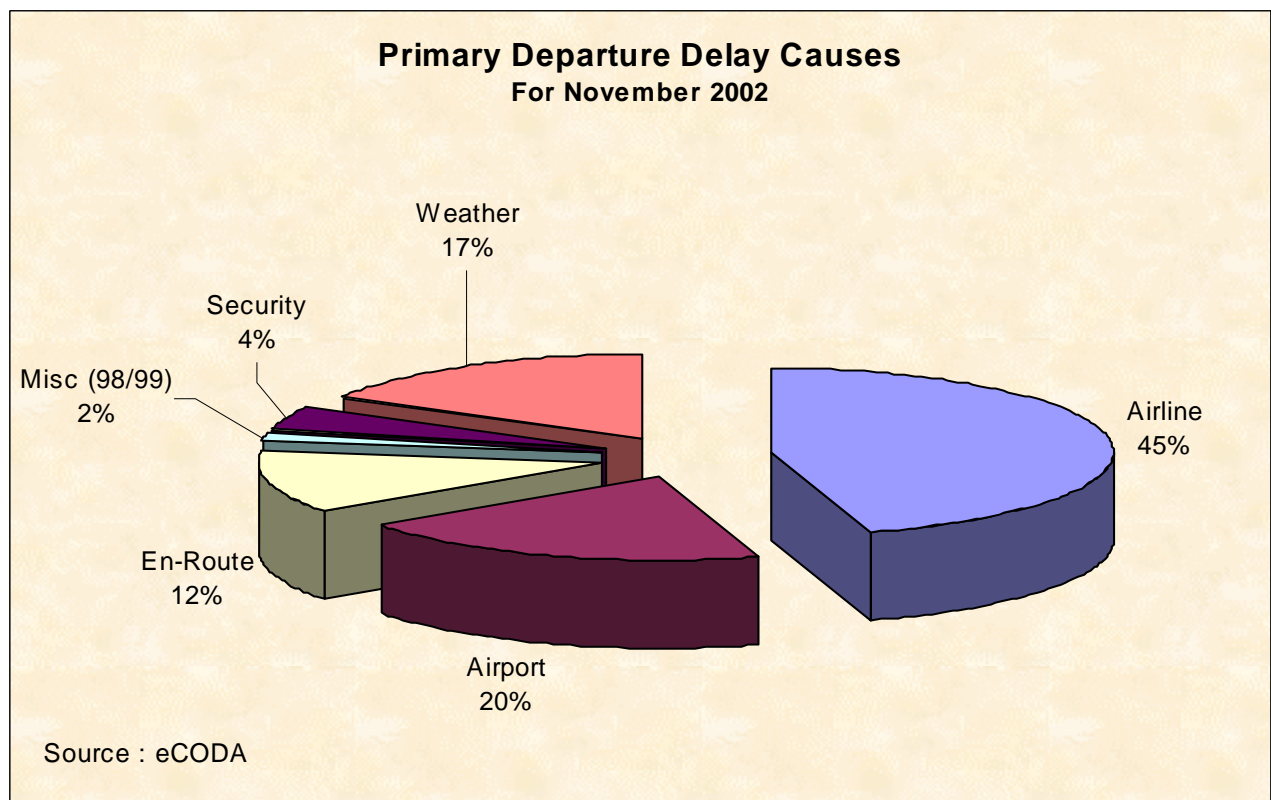
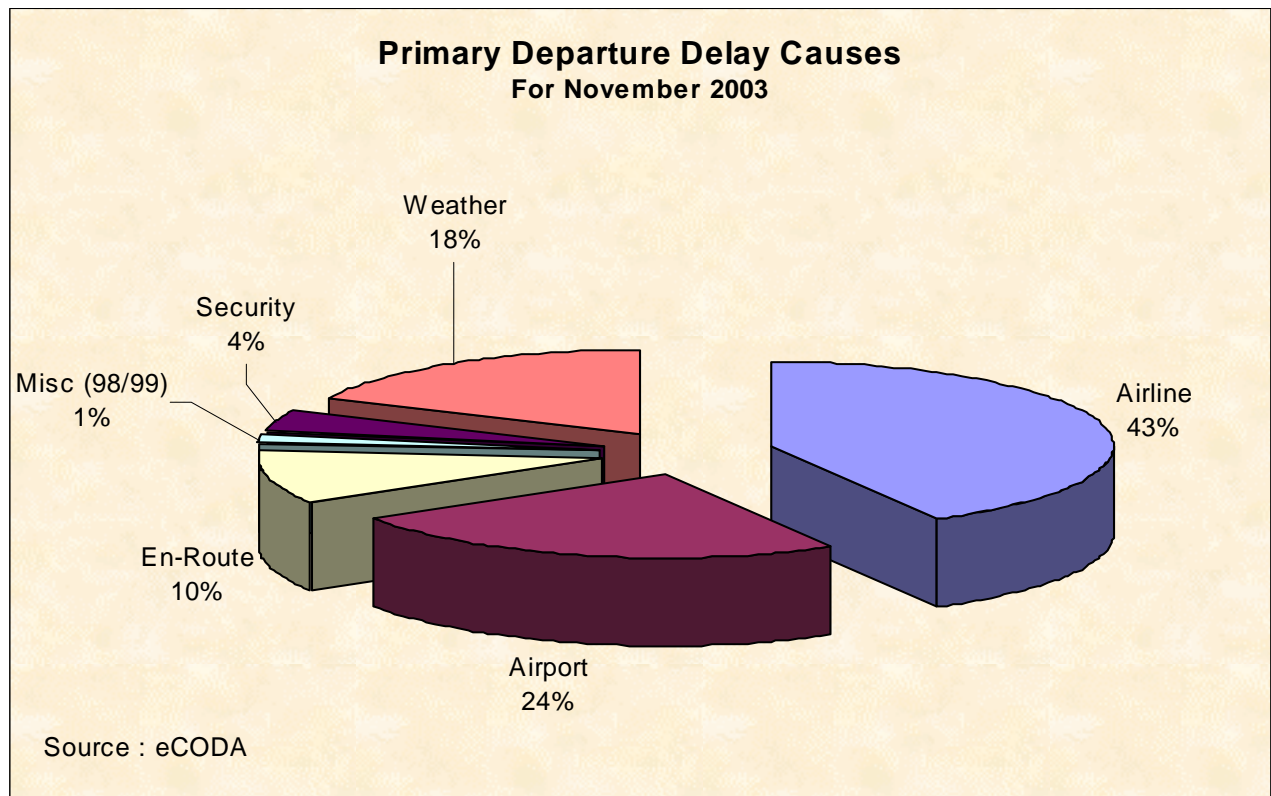
*Others = Belgium, Denmark, Egypt, Finland, Greece, Ireland, Morocco, Norway, Poland, Portugal, Slovakia, Slovenia, Sweden & Turkey
(The remaining countries did not cause delay)

Nov 2003

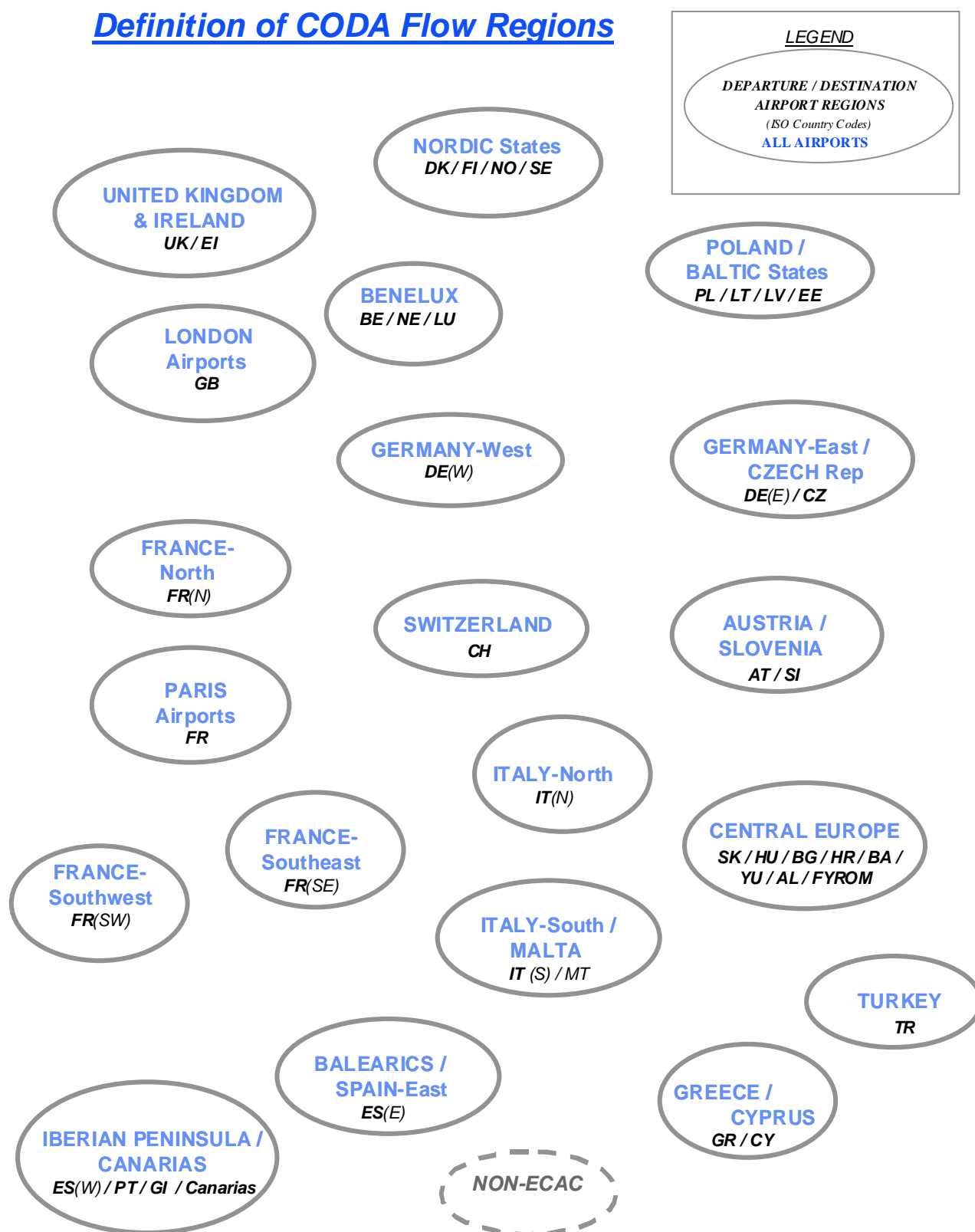
6. Reasons for ATFM Delay



7. Primary Departure Delay Causes



Definition of CODA Flow Regions (Annex 1)

Definition of CODA Flow Regions

Glossary of Terms and Abbreviations (Annex 2)

Delay Parameter Abbreviations

TTF	Total Flights
TRF	Total Regulated Flights
TDF	Total Delayed Flights
PRF	Percentage of Regulated Flights
PDF	Percentage of Delayed Flights
TDM	Total Delay in Minutes
ADM	Average Delay per Movement
ADR	Average Delay per Regulated Flight
ADD	Average Delay per Delayed Flight

Glossary of Terms

AEA	Association of European Airlines
ATFM	Air Traffic Flow Management
ATS	Air Traffic Services
CFMU	Central Flow Management Unit
CODA	Central Office for Delay Analysis
EATMP	European Air Traffic Management Program
ECAC	European Civil Aviation Conference
EDAS	European Delay Analysis System
ERA	European Regions Airline Association
EURACA	European Air Carrier Assembly
IACA	International Air Carrier Association
IATA	International Air Transport Association

Standard IATA Delay Codes (Annex 3)

Others

00-05	AIRLINE INTERNAL CODES
06 (OA)	NO GATE/STAND AVAILABILITY DUE TO OWN AIRLINE ACTIVITY
09 (SG)	SCHEDULED GROUND TIME LESS THAN DECLARED MINIMUM GROUND TIME

Passenger and Baggage

11 (PD)	LATE CHECK-IN, acceptance after deadline
12 (PL)	LATE CHECK-IN, congestions in check-in area
13 (PE)	CHECK-IN ERROR, passenger and baggage
14 (PO)	OVERSALES, booking errors
15 (PH)	BOARDING, discrepancies and paging, missing checked-in passenger
16 (PS)	COMMERCIAL PUBLICITY/PASSENGER CONVENIENCE, VIP, press, ground meals and missing personal items
17 (PC)	CATERING ORDER, late or incorrect order given to supplier
18 (PB)	BAGGAGE PROCESSING, sorting etc.

Cargo and Mail

21 (CD)	DOCUMENTATION, errors etc.
22 (CP)	LATE POSITIONING
23 (CC)	LATE ACCEPTANCE
24 (CI)	INADEQUATE PACKING
25 (CO)	OVERSALES, booking errors
26 (CU)	LATE PREPARATION IN WAREHOUSE
27 (CE)	DOCUMENTATION, PACKING etc (<i>Mail Only</i>)
28 (CL)	LATE POSITIONING (<i>Mail Only</i>)
29 (CA)	LATE ACCEPTANCE (<i>Mail Only</i>)

Aircraft and Ramp Handling

31 (GD)	AIRCRAFT DOCUMENTATION LATE/INACCURATE, weight and balance, general declaration, pax manifest, etc.
32 (GL)	LOADING/UNLOADING, bulky, special load, cabin load, lack of loading staff
33 (GE)	LOADING EQUIPMENT, lack of or breakdown, e.g. container pallet loader, lack of staff
34 (GS)	SERVICING EQUIPMENT, lack of or breakdown, lack of staff, e.g. steps
35 (GC)	AIRCRAFT CLEANING
36 (GF)	FUELLING/DEFUELLING, fuel supplier
37 (GB)	CATERING, late delivery or loading
38 (GU)	ULD, lack of or serviceability
39 (GT)	TECHNICAL EQUIPMENT, lack of or breakdown, lack of staff, e.g. pushback

Technical and Aircraft Equipment

41 (TD)	AIRCRAFT DEFECTS.
42 (TM)	SCHEDULED MAINTENANCE, late release.
43 (TN)	NON-SCHEDULED MAINTENANCE, special checks and/or additional works beyond normal maintenance schedule.
44 (TS)	SPARES AND MAINTENANCE EQUIPMENT, lack of or breakdown.
45 (TA)	AOG SPARES, to be carried to another station.
46 (TC)	AIRCRAFT CHANGE, for technical reasons.
47 (TL)	STAND-BY AIRCRAFT, lack of planned stand-by aircraft for technical reasons.
48 (TV)	SCHEDULED CABIN CONFIGURATION/VERSION ADJUSTMENTS.

Damage to Aircraft & EDP/Automated Equipment Failure

51 (DF)	DAMAGE DURING FLIGHT OPERATIONS, bird or lightning strike, turbulence, heavy or overweight landing, collision during taxiing
52 (DG)	DAMAGE DURING GROUND OPERATIONS, collisions (other than during taxiing), loading/off-loading damage, contamination, towing, extreme weather conditions
55 (ED)	DEPARTURE CONTROL
56 (EC)	CARGO PREPARATION/DOCUMENTATION
57 (EF)	FLIGHT PLANS

Flight Operations and Crewing

- 61 (FP) FLIGHT PLAN, late completion or change of, flight documentation
- 62 (FF) OPERATIONAL REQUIREMENTS, fuel, load alteration
- 63 (FT) LATE CREW BOARDING OR DEPARTURE PROCEDURES, other than connection and standby (flight deck or entire crew)
- 64 (FS) FLIGHT DECK CREW SHORTAGE, sickness, awaiting standby, flight time limitations, crew meals, valid visa, health documents, etc.
- 65 (FR) FLIGHT DECK CREW SPECIAL REQUEST, not within operational requirements
- 66 (FL) LATE CABIN CREW BOARDING OR DEPARTURE PROCEDURES, other than connection and standby
- 67 (FC) CABIN CREW SHORTAGE, sickness, awaiting standby, flight time limitations, crew meals, valid visa, health documents, etc.
- 68 (FA) CABIN CREW ERROR OR SPECIAL REQUEST, not within operational requirements
- 69 (FB) CAPTAIN REQUEST FOR SECURITY CHECK, extraordinary

Weather

- 71 (WO) DEPARTURE STATION
- 72 (WT) DESTINATION STATION
- 73 (WR) EN ROUTE OR ALTERNATE
- 75 (WI) DE-ICING OF AIRCRAFT, removal of ice and/or snow, frost prevention excluding unserviceability of equipment
- 76 (WS) REMOVAL OF SNOW, ICE, WATER AND SAND FROM AIRPORT
- 77 (WG) GROUND HANDLING IMPAIRED BY ADVERSE WEATHER CONDITIONS

ATFM + AIRPORT + GOVERNMENTAL AUTHORITIES**AIR TRAFFIC FLOW MANAGEMENT RESTRICTIONS**

- 81 (AT) ATFM due to ATC EN-ROUTE DEMAND/CAPACITY, standard demand/capacity problems
- 82 (AX) ATFM due to ATC STAFF/EQUIPMENT EN-ROUTE, reduced capacity caused by industrial action or staff shortage, equipment failure, military exercise or extraordinary demand due to capacity reduction in neighbouring area
- 83 (AE) ATFM due to RESTRICTION AT DESTINATION AIRPORT, airport and/or runway closed due to obstruction, industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights
- 84 (AW) ATFM due to WEATHER AT DESTINATION

AIRPORT AND GOVERNMENTAL AUTHORITIES

- 85 (AS) MANDATORY SECURITY
- 86 (AG) IMMIGRATION, CUSTOMS, HEALTH
- 87 (AF) AIRPORT FACILITIES, parking stands, ramp congestion, lighting, buildings, gate limitations, etc.
- 88 (AD) RESTRICTIONS AT AIRPORT OF DESTINATION, airport and/or runway closed due to obstruction, industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights
- 89 (AM) RESTRICTIONS AT AIRPORT OF DEPARTURE WITH OR WITHOUT ATFM RESTRICTIONS, including Air Traffic Services, start-up and pushback, airport and/or runway closed due to obstruction or weather³, industrial action, staff shortage, political unrest, noise abatement, night curfew, special flights

Reactionary

- 91 (RL) LOAD CONNECTION, awaiting load from another flight
- 92 (RT) THROUGH CHECK-IN ERROR, passenger and baggage
- 93 (RA) AIRCRAFT ROTATION, late arrival of aircraft from another flight or previous sector
- 94 (RS) CABIN CREW ROTATION, awaiting cabin crew from another flight
- 95 (RC) CREW ROTATION, awaiting crew from another flight (flight deck or entire crew)
- 96 (RO) OPERATIONS CONTROL, re-routing, diversion, consolidation, aircraft change for reasons other than technical

Miscellaneous

- 97 (MI) INDUSTRIAL ACTION WITH OWN AIRLINE
- 98 (MO) INDUSTRIAL ACTION OUTSIDE OWN AIRLINE, excluding ATS
- 99 (MX) OTHER REASON, not matching any code above

SOURCE: Provisional list composed by IATA

³ Restriction due to weather in case of ATFM regulation only, else refer to code 71 (WO)

Correlation between IATA Delay Codes and the CFMU Reasons for Regulation (Annex 4)

CORRELATION BETWEEN IATA DELAY CODES AND THE CFMU REASONS FOR REGULATION					IATA	
REASON FOR REGULATION	CODE	REGULATION LOCATION	EXAMPLE	CFMU	CODE	DELAY CAUSE
ATC Capacity	C	D	Demand exceeds the capacity		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E			81	ATFM due to ATC ENROUTE DEMAND/CAPACITY
		A			83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
ATC Ind Action	I	D	Controllers' strike		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E			82	ATFM due to ATC STAFF/EQUIPMENT ENROUTE
		A			83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
ATC Routeings	R	E	Phasing in of new procedures		81	ATFM due to ATC ENROUTE DEMAND/CAPACITY
ATC Staffing	S	D	Illness; traffic delays on the highway		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E			82	ATFM due to ATC STAFF/EQUIPMENT ENROUTE
		A			83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
ATC Equipment	T	D	Radar failure; RTF failure		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E			82	ATFM due to ATC STAFF/EQUIPMENT ENROUTE
		A			83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
Accident/Incident	A	D	RWY23 closed due accident		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
Aerodrome Capacity	G	D	Lack of parking; taxiway closure; areas closed for maintenance; demand exceeds the declared airport capacity		87	AIRPORT FACILITIES
		A			87	AIRPORT FACILITIES
		D			89	RESTRICTIONS AT AIRPORT OF DEPARTURE
De-icing	D	D	De-icing		87	AIRPORT FACILITIES
Equipment non-ATC	E	D	Runway or taxiway lighting failure		87	AIRPORT FACILITIES
Ind Action non-ATC	N	D	Firemen's strike		98	INDUSTRIAL ACTION OUTSIDE OWN AIRLINE
		A			98	INDUSTRIAL ACTION OUTSIDE OWN AIRLINE
		D			89	RESTRICTIONS AT AIRPORT OF DEPARTURE
Military Activity	M	D	Brilliant Invader; ODAX		82	ATFM due to ATC STAFF/EQUIPMENT ENROUTE
		E			83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
		A			89	RESTRICTIONS AT AIRPORT OF DEPARTURE
Special Event	P	D	European football cup; Heads of Government meetings		83	ATFM due to RESTRICTION AT DESTINATION AIRPORT
Weather	W	D	Thunderstorm; low visibility; X winds		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E			73	WEATHER EN ROUTE OR ALTERNATE
		A			84	ATFM due to WEATHER AT DESTINATION
Other	O	D	Security alert		89	RESTRICTIONS AT AIRPORT OF DEPARTURE
		E			81	ATFM due to ATC ENROUTE DEMAND/CAPACITY
		A			83	ATFM due to RESTRICTION AT DESTINATION AIRPORT