

**NON-CONFIDENTIAL VERSION**

**OF THE**

**AFFIDAVIT OF DR. WILLIAM J. DUFFY**

*d. January 25, 1993*

FILE NO.: CT-88/1

**COMPETITION TRIBUNAL/TRIBUNAL DE LA CONCURRENCE**

**IN THE MATTER OF** an application by the Director of Investigation and Research under subsection 64(1) of the *Competition Act*, R.S.C. 1970, c. C-23, as amended;

**AND IN THE MATTER OF** a Limited Partnership formed to combine the operations of the Reservec and Pegasus computer reservation systems;

**AND IN THE MATTER OF** The Gemini Group Automated Distribution Systems Inc.;

**AND IN THE MATTER OF** an application by the Director of Investigation and Research under section 106 of the *Competition Act*, R.S. 1985, c. C-34, as amended, to vary the Consent Order of the Tribunal dated July 7, 1989.

**BETWEEN:**

The Director of Investigation and Research

Applicant

- and -

Air Canada  
PWA Corporation  
Canadian Airlines International Ltd.  
The Gemini Group Limited Partnership  
The Gemini Group Automated Distribution Systems Inc.  
Covia Canada Corp.  
Covia Canada Partnership Corp.

Respondents

- and -

-2-

Consumers' Association of Canada  
American Airlines, Inc.  
Attorney General of Manitoba  
Alliance of Canadian Travel Associations  
IBM Canada Ltd.  
VIA Rail Canada Inc.  
Unisys Canada Inc.  
Council of Canadian Airlines Employees

Intervenors

**AFFIDAVIT**

I, WILLIAM J. DUFFY, of the City of Wellesley, in the State of  
Massachusetts, MAKE OATH AND SAY AS FOLLOWS:

1. I am Vice-Chairman of Simat, Hellieson & Eichner, Inc. ("SH&E"), a management consulting firm specializing in aviation worldwide. I have studied and have had extensive practical experience in the Computer Reservations and airline business over the last thirteen years. My qualifications and curriculum vitae are set out in Exhibit "A" to my affidavit.
  
2. I have been asked by The Gemini Group Automated Distribution Systems Inc. ("Gemini") to analyze:

- 3 -

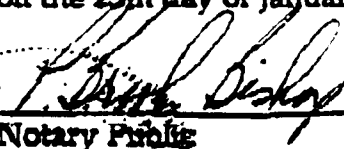
- (1) the effect of an early termination by Canadian Airlines International ("CAI") of its hosting contract with Gemint in the computer reservation system and airline industries;
- (2) whether there are alternatives to the American Airlines ("AMR")/CAI transaction containing this condition;
- (3) and to comment on other expert evidence filed in these proceedings.

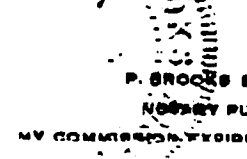
3. I do not own stock in any U.S. or Canadian airline or CRS, nor do I have any financial interest in the outcome of this proceeding.

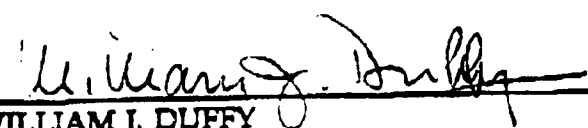
4. The contents of the reports attached as Exhibits "A" and "B" to my affidavit and the opinions expressed therein are true to the best of my knowledge, information and belief. Exhibit "A" is my main report dealing with the issues enumerated in paragraph 2 herein. Exhibit "B" is my response to the expert evidence filed by Michael W. Tretheway.

5. I make this affidavit pursuant to Rule 42(1) of the Competition Tribunal Rules.

SWORN BEFORE ME at the  
City of Waltham, in the  
Province of Massachusetts  
on the 25th day of January, 1993.

  
\_\_\_\_\_  
Notary Public

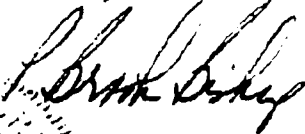
  
P. BROOKS BISHOP  
NOTARY PUBLIC  
MY COMMISSION EXPIRES AUG. 30, 1995

  
\_\_\_\_\_  
WILLIAM J. DUFFY

01-25-93 04:24PM FROM S H L E  
JAN 25 '93 15:31 FROM CH-H

00 101020302067

This is Exhibit "A" referred to in the Affidavit  
of William J. Duffy dated this 25th day of  
January 1993.



Notary Public

F. BROOKS BISHOP  
NOTARY PUBLIC

MY COMMISSION EXPIRES AUG. 30, 1998

# OUTLINE

---

- 1 **QUALIFICATIONS**
- 2 **SUMMARY**
- 3 **THE CANADIAN CRS MARKET**
  - 3.1 **Overview**
  - 3.2 **CRS & Internal Reservations Services**
    - Internal Reservations Systems**
    - Computerized Reservation Systems**
    - Overall Airline Automation**
  - 3.3 **The Canadian CRS Market**
  - 3.4 **Effect on Gemini of CAI Alternatives**
    - Non-AMR Affiliation for CAI**
    - Premature Termination under AMR/CAI Affiliation**
    - CAI Failure**
  - 3.5 **Effect of Gemini Failure on Canadian CRS Market**
    - Sabre Monopoly**
    - US CRSs**
- 4 **THE CANADIAN AIRLINE MARKET**
  - 4.1 **Overview**
  - 4.2 **Alternative Airline Affiliations with CAI**
  - 4.3 **CAI/Air Canada Consolidation**
  - 4.4 **Regional Canadian Carriers/US Carriers**

**ATTACHMENTS:**

- A **PROFESSIONAL RESUME**
- B **ANALYSIS OF GEMINI'S PROFIT PERFORMANCE**

# 1 QUALIFICATIONS

---

I am Vice-Chairman of SH&E, Inc., a management consulting firm specialized in aviation. SH&E was formed 30 years ago, and currently employs over 65 full time professionals with offices in Boston, New York, London, and Miami. SH&E is the largest management consulting firm specialized in aviation worldwide.

SH&E's clientele includes over 80 airlines, virtually all major aircraft and equipment manufacturers, airport authorities, governments, and the financial community. We have provided consulting assistance to Air Canada, de Havilland, Bombardier, the cities of Edmonton and Moncton, Purolator Canada, Wardair, Gemini, PWA Corp, and other Canadian clients, and are familiar with aviation in Canada.

During my 13 year tenure at SH&E, I have had extensive practical experience in computerized reservations systems and airline distribution, revenue management and other areas of airline automation, aviation policy, and strategic airline planning.

Prior to joining SH&E, I served as Chief of the Economic Research Division and Senior Economist of the US Department of Transportation's Volpe National Transportation Systems Center. In that capacity, I was responsible for the conduct of over 75 major studies of various aspects of transportation policy and government investment.

I have also served on the economics faculty of Boston College, with graduate and undergraduate teaching responsibility in applied microeconomics and quantitative research. I have published a text book and numerous articles and professional papers. My professional resume is presented in Attachment A to this testimony.



## 2 SUMMARY

---

The airline industry and the upstream travel agency automation (i.e., CRS) markets, although separate and distinct, are related and are governed by very complex economic forces. Both the airline and CRS markets in Canada have matured to the point where they can continue to evolve in response to underlying industry forces, without regulation. In particular, Gemini is one of the world's most advanced CRSs in terms of both its business strategy and technical structure.

The premature termination of PWA Corp and Canadian Airlines International Ltd (CAI) hosting contracts with Gemini will cause Gemini to fail, with the likely result of the monopolization of the Canadian CRS market by American Airline's Sabre system. That sacrifice cannot be justified by its impact on the airline market, since there is neither precedent nor operational basis for AMR's requirement of the premature termination of CAI's hosting contract. The AMR/CAI affiliation is only one, and not necessarily the best, restructuring of the Canadian airline industry.<sup>1</sup>

### THE CRS MARKET

The current structure of the Canadian CRS market is superior to that in other matured air travel markets worldwide:

- o despite the relatively small size of the market, it is highly competitive, served by two well-established and viable state-of-the-art CRS systems,

---

<sup>1</sup>This report was prepared without having received all available evidence, in particular, evidence given on disclosure. Following the receipt of such evidence, I may revise this report as necessary.

- o since Gemini is controlled by the Canadian carriers, its CRS services are customized to the unique requirements of the Canadian market,
- o joint CRS ownership is the ultimate safeguard against airline abuse of CRS power in the airline distribution system, and Gemini is owned by Air Canada, CAI, and the 7 airline owners of Covia.

Gemini was able to accomplish this structure through a business strategy which involved:

- o the consolidation of the Air Canada (Reservec) and CAI (Pegasus) CRSs to achieve the economies of scale necessary to be cost-competitive,
- o the "Canadianization" of the Apollo CRS to produce "Apollo by Gemini" (ApG) to replace the outmoded Reservec and Pegasus CRSs, rather than the more costly development of a de novo CRS, and
- o the subcontracting or "outsourcing" to Gemini, over a 10 year period, of the operation of the Air Canada and CAI proprietary internal reservations systems. This was to assure a stable stream of Gemini operating profits and to balance the CRS operating losses over the prolonged period required to develop ApG, to replace the Reservec and Pegasus CRS service by ApG, and to realize the economies of scope in the joint provision of CRS and internal reservations services.

This ambitious CRS strategy is similar to that adopted by leading airlines worldwide, and has been succeeding. Over the past four years, Gemini has developed and installed its ApG service, and its CRS services should achieve stand-alone profitability by 1995.

The potential AMR/CAI affiliation, with AMR's requirement of termination of the Gemini/CAI hosting contract, will result in:

- o the loss of currently essential "cost plus" profits and cost economies, and
- o the fatal weakening of Gemini's competitive position in and share of the Canadian CRS market due to the affiliation of CAI with AMR and its Sabre CRS, thereby aborting Gemini's current progress toward "break even" CRS operations.

The effect of this loss of both hosting and CRS revenues and profits will result in the failure of Gemini.

Of all of the potential airline investments in CAI, the potential AMR/CAI affiliation is unique in this effect on Gemini. AMR's requirement for premature termination is not essential to the realization of the stated objectives of the AMR/CAI affiliation, is unprecedented, and would not be a requirement of any other airline partner to CAI. Since AMR is the sole owner of Sabre, any other airline partner to CAI would encourage CAI's continued support of Gemini vs Sabre.

The failure of Gemini would result in:

- o the uncontested monopolization of the Canadian CRS market by Sabre, or
- o the provision of CRS services by both Sabre and Apollo, which would both be oriented to the requirements of the US CRS market.

## THE AIRLINE MARKET

The airline industry is moving toward "globalization," which involves the ability of all carriers, regardless of "flag" nationality, to compete in all (domestic as well as international) markets. The matured air travel markets are at the forefront of this trend, with the European Community integration and the prospects of eventual "open skies" between Canada and the US.

An integral part of that regime is the industry consolidation to form "mega carriers," or otherwise realize the advantages of size.<sup>2</sup> Again, that consolidation has progressed most rapidly in the US, Canada, and Europe.

Even the world's largest airlines are seeking flexible alliances, often involving inter-carrier

---

<sup>2</sup>Smaller, regionally specialized carriers often realize these advantages of size through mutually beneficial alliances with larger carriers.

investment, which offer the advantages of size while preserving their independence and ability to establish further inter-carrier agreements. All of this is evolving in a complex environment, and in a depressed airline market worldwide which has financially weakened most carriers.

Because of CAI's current situation, the Canadian airline industry is faced with the need for continued restructuring. The alternatives include:

- o the consolidation of CAI and Air Canada, forming a major Canadian carrier able to compete with its larger US competitors in North American and other international markets,
- o a strategic alliance between CAI and a non-Canadian airline,
- o the failure of CAI, and the expansion of Air Canada and smaller Canadian carriers, most likely in partnership with major US airline investors.

All of these are viable alternatives which, given the importance and -- for some alternatives, irreversibility -- of the decision, require thorough evaluation. There is no reason to believe that the best solution would not be determined by the normal working of the market mechanism.

The provision for premature termination of CAI's hosting by Gemini is intended to facilitate only one out of many restructuring alternatives -- an alliance between AMR and CAI. Although that alternative offers advantages, which could be realized even without the premature termination of CAI's hosting contract, it also bears important disadvantages:

- o as noted above, it alone would destroy Gemini's current competitive position in the Canadian CRS market,
- o although the proposed AMR/CAI "strategic alliance" would only afford AMR a 25% voting interest in CAI, the comprehensive transfer of CAI's commercial and operating functions to American Airlines under a 20 year services contract would give American de facto control over CAI, and deprive CAI of the flexibility to establish other airline alliances in the future.

## 3 THE CRS MARKET

---

### 3.1 OVERVIEW

To understand the current relationship between Gemini, Air Canada, and CAI, and to compare that with the proposed AMR-CAI agreement, it is necessary to distinguish between the various services (and computerized systems) involved, and their interrelationships (Section 3.2). It is also necessary to understand the evolving nature of the Canadian CRS market, and the current competitive situation (Section 3.3).

Within that perspective, the impact on Gemini of alternative restructurings of the Canadian airline industry is considered in Section 3.4. The impact of Gemini's failure under the AMR/CAI alternative on the Canadian CRS market is considered in Section 3.5.

### 3.2 INTERNAL RESERVATIONS & CRS SERVICES

#### INTERNAL RESERVATIONS SYSTEMS

CAI currently provides over 506,000 scheduled seat departures per week, or over 26 million seat departures on an annual basis. Advanced reservations will be made for about 2/3 of those individual seat departures, and CAI's seat inventory system must keep track of which seats have been reserved and by whom, as well as how many seats remain available on each flight departure for further reservation.

CAI also files a large number of individual fares at which those seats can be sold. When a passenger requests a flight itinerary, CAI must be able to determine the total ticket price of that

itinerary. An internal reservation system is a large-scale computer system which keeps track of seats available and seats sold, is capable of pricing requested itineraries, and performs other reservations-related functions.<sup>3</sup>

A significant part of these reservations/sales of an airline's transportation services is processed through the airline's own ticket offices and reservations centers, which will be referred to collectively as "airline ticketing offices" (ATOs).<sup>4</sup> When a passenger calls an ATO requesting a reservation, the airline's sales agent uses a terminal linked to the internal reservations system to determine if the seats are available, and the price of the total itinerary requested. Exhibit 3.1 presents a simple overview of the system which the airline must maintain, linking the ATOs through a communications network (both trunk line or "backbone" and local access) to the single reservation system which is maintained at a central site.

The scheduled airline industry worldwide involves about 560 airlines, although less than one-half of those carriers are large enough to have automated their seat inventory control. Since the provision of internal reservation system is subject to significant economies of scale, only the largest airlines have established their own proprietary internal reservation capabilities.<sup>5</sup> Both CAI and Air Canada rank among the world's largest carriers (Exhibit 3.2), and are part of this relatively elite group. About 70 major carriers worldwide operate their own proprietary internal reservation systems, and the other "automated carriers" contract for hosting services with other airlines or "third party" hosting services like SITA's Gabriel II.

Exhibit 3.3 presents the reservations hosting relationship. A small carrier without a proprietary

---

<sup>3</sup>For example, when a seat is reserved, the system should be able to capture the passengers' frequent traveler number as part of the reservations record.

<sup>4</sup>Over 50% of airline seats were sold through ATOs in the mid-1970s, although that share has declined to under 20% currently with growing reliance on travel agencies.

<sup>5</sup>Like Air Canada and CAI, some of these airlines have outsourced the operation of their proprietary inventory control systems.

reservations system will contract with a larger carrier for the provision of reservation services, and the hosted carrier will establish a communications network linking its ATOs with the host's system. The functionality of the system is designed to meet the requirements of the host, not the hosted, carrier's requirements.

In an increasingly competitive environment, airlines are constantly seeking opportunities to improve the efficiency of their operations and to reduce their operating costs. One of the more successful strategies involves outsourcing, or the creation of a separate subsidiary company to provide certain functions (e.g., information services, catering) more efficiently than the parent airline(s). Many of the major carriers who own proprietary reservation systems have outsourced their reservations function, including Northwest & TWA (joint), Qantas, Mexicana & Aeromexico (joint), Continental & Eastern (joint), and others. As part of the formation of Gemini, Air Canada and CAI outsourced to Gemini the operation of their proprietary reservations systems Pegasus and Reservec II. Under this strategy, Air Canada and CAI still retain control<sup>6</sup>, but realize added operating efficiencies due to a shared communications network, shared administrative and central site operating costs, etc. (Exhibit 3.4).

Under the proposed AMR/CAI affiliation, CAI would abandon its own internal reservations capability which is currently outsourced to Gemini, and join the community of hosted carriers who are dependent on larger airlines for these services. That retrogression is unprecedented. It has not been accepted in strategic affiliations between major airlines, including the KLM investment in Northwest, the proposed British Air investment in USAir, the planned Air Canada investment in Continental, etc.<sup>7</sup>

---

<sup>6</sup>This includes determining the future enhancements to their systems. Air Canada has contracted with Gemini to replace its Reservec II system with a new system (Reservec III), which was purchased from British Airways and is being adapted to Air Canada's operating requirements. Pegasus was significantly enhanced, with Gemini's support, in 1989.

<sup>7</sup>At the same time, it is common for a major airline to host a small carrier which it has acquired if the smaller carrier is already hosted. For example, when Iberia acquired the Venezuelan carrier Viasa, which had been hosted by KLM, it shifted Viasa to Iberia's internal

This change in status from outsourcing (to Gemini) to hosting (on AMR) will not significantly benefit CAI. Gemini's hosting charges to CAI currently represent 1% of CAI's total operating expenses,<sup>1</sup> and no reasonable projection of cost savings could significantly affect CAI's overall financial position. No evidence has been produced regarding the actual cost to CAI of the proposed AMR hosting services, or any comparative evaluation by CAI of the relative costs and levels of service of the Gemini vs AMR alternatives. There is no evidence or reason to believe that the proposed AMR hosting arrangement will result in either reduced cost or improved service.

### COMPUTERIZED RESERVATIONS SYSTEMS

As late as the early 1970s, travel agencies had to telephone the ATOs in order to arrange reservations for their travel clients. Starting in the mid-1970s, the major airlines who operated their own proprietary reservations systems or "computerized reservation systems" (CRSs) began to extend their internal reservations systems network into the major travel agencies (Exhibit 3.5). By allowing the travel agency personnel to access their internal reservation systems directly, the airlines were able to significantly reduce their reservations and sales costs. More important, since their internal systems were biased in the display of schedules and fares information in favor of the airline, they were able to bias the travel agencies' sales in their favor.

In the matured air travel markets, this agency automation has evolved dramatically over the past 15 years. Virtually all travel agencies are currently automated (i.e., use CRSs) and, in part due to improved travel agency productivity, over 80% of all airline reservations/sales are processed through travel agencies (vs ATOs). But the travel agencies had different (from the ATOs) functional requirements, including unbiased displays of carrier information<sup>2</sup>, access to other

---

reservation system.

<sup>1</sup>CAI hosting payments to Gemini were \$13.9M for the first one-half of 1992. CAI's total operating expenses for the same period were \$1454.9M.

<sup>2</sup>The airlines have been forced by regulation to "neutralize" their agency automation service.



travel vendor (e.g., hotel, car rental) automated inventory systems, more user-friendly procedures, etc. As a result, the airlines have developed separate (from their internal inventory systems) CRSs (Exhibit 3.6), although many national markets are still served by so-called "national CRS systems" which are still the less functional adaptations of the carrier's internal reservation system.

As part of that CRS evolution, and given the CRS domination of the airlines' travel agency distribution system, it has been suggested that the only way to assure CRS neutrality is to force the airlines to divest their CRS operations into "arms-length" companies. The US CRS-owning airlines have resisted this, although all other major CRSs worldwide are operated as arms-length companies. Exhibit 3.7 presents an overview of the major CRSs and their ownership structure.<sup>10</sup>

The joint-ownership of CRSs, preferably as stand-alone companies, has been universally adopted as the ultimate safeguard against CRS abuse. Of the major CRSs, only Sabre has always been owned and operated by a single airline. In addition, to further assure neutrality and to provide better worldwide service under the globalization of airline markets, the more advanced CRSs have even established global partnerships. Abacus is linked to Worldspan in the same way that Gemini is linked to Covia.

An added advantage of CRS joint-ownership is the freedom it affords to the owning carriers to establish strategic relationships that are independent of the pattern of CRS ownership. For example, KLM has established an intimate ownership relationship with Northwest, even though KLM is an owner of Covia, which competes in the US market with Worldspan, of which Northwest is a major owner.

---

<sup>10</sup>Agency automation is also provided in some individual national markets as adaptations of the flag carriers' reservation systems -- Fantasia (Qantas), Access (JAL), etc. In addition, SITA offers its GETS agency automation service to those carriers who are hosted on the SITA reservations system.

Because of the size of the US market, the US CRSs evolved most rapidly, and have been the technical standard for the CRS industry. The US CRSs were all established by 1985, and the other major or "second generation" CRSs shown in Exhibit 3.7 have been established more recently. Like Gemini, all non-US CRSs were based on US CRS technology -- Galileo, Gemini, AACO on Covia/Apollo, Amadeus on System One, Abacus on Worldspan (PARS). All of Gemini's modern contemporaries provide an identical CRS service in all of the various national markets of their owning carriers. Gemini is unique in that its CRS service, Apollo by Gemini, is uniquely tailored to the requirements of a single national market.

Overall, Gemini's technical and commercial strategy is more advanced than other CRSs, including Sabre:

- o technically, it is firmly based in the state-of-the-art technology of Covia's Apollo CRS, which is also the technical platform of Galileo in Europe. Unlike Sabre, which is isolated from other CRSs, the Apollo/Galileo/Gemini/AACO CRS systems are being integrated to offer worldwide support to travelers booked through any of these CRSs.
- o it is the only major non-US CRS which is tailored to the unique agency and traveler requirements of a single national market.
- o unlike Sabre, it is jointly-owned and operated at arms length from its owning carriers, providing the assurance of neutrality in the airline agency distribution system.
- o Gemini has preserved an important degree of autonomy from Covia -- it contracts directly with both agency subscribers and the airlines and other travel vendors whose services are sold via the CRS.
- o unlike Sabre, it has led the way in consolidating CRS and internal reservation services for its owning carriers in a separate and efficient organization. The Amadeus carriers are also moving in that same direction.<sup>11</sup>

---

<sup>11</sup>The eventual consolidation of internal inventory functions through the CRS was envisioned by the Association of European Airline's Global Distribution System Feasibility Study (March 1987). "Once the Core System data management reliability is proven, airlines may choose to rely on it exclusively for some industry-wide data ..., eliminating the need to maintain their own

## OVERALL AIRLINE AUTOMATION

The scheduled airline industry has always been at the forefront of the application and, in important areas, development of information technology (IT). An airline's IT resources have increasingly come to play a major role in its ability to compete. Not surprisingly, the world's largest and most successful airlines have led in the automation of major operating and commercial functions.

Exhibit 3.8 presents the major airline IT application areas. Broadly, they can be classified as:

**commercial** involving planning, pricing, marketing, and other decisions which directly affect inter-carrier competition, and information which is "commercially sensitive"  
**operating** involving the management and direction of day-to-day operations.

There is no technological reason why these various systems should all reside on a single centralized processor or processing site. These application areas often reside on different processors within the airline,<sup>12</sup> often at different locations, and data is communicated between these subsystems where necessary. Indeed, the thrust of technology is toward smaller, faster, and less costly processors linked by advanced communications, and the resulting "decentralization" of IT into the commercial and operating areas.

An airline's "management information system" (MIS) is often a separate automated system -- focused on flight and system profit/loss and drawing most heavily on revenue accounting --

---

internal system." (p3.12) As a transitional step in this direction, the Amadeus owning carriers have switched their own airline ATOs from their internal reservation systems to the Amadeus CRS.

<sup>12</sup>In most cases, the reservations system is maintained on a dedicated mainframe processor, often (e.g., Sabre) with its own distinct "TPF" vs MVS operating system.

within the commercial area. Internal reservations is but one of many operating systems which contribute but are not essential to the MIS:

- o reservation systems contain vast amounts of data (passenger name records) but little information,
- o that data requires extensive processing outside of the reservation system<sup>13</sup>, since most reservations are subsequently changed or cancelled, and 1/8 to 1/5 of advanced reservations never result in boarded passengers (i.e., are "no-shows").

Both hosted and hosting carriers transfer snapshots of these advanced reservations to other commercial systems for processing into the MIS.

Outsourcing (or hosting) of reservations services involve an operating function which is not commercially sensitive<sup>14</sup> -- most airlines with automated inventory do not maintain their own inventory system. While outsourcing the operation of their Pegasus and Reservac operational systems to the jointly-owned Gemini, Air Canada and CAI retained operation and control of all of the commercial systems which must be linked to the reservations system, most notably:

- o revenue management, whereby Air Canada and CAI (not Gemini) determine the number of seats which are made available for reservation under different booking classes/fares
- o passenger revenue accounting, where the airlines reconcile the audit coupons submitted by the travel agencies and flight coupons lifted from the boarded passengers.<sup>15</sup>

It is important to note that CAI has only outsourced the operation of its reservations system, and

---

<sup>13</sup>Systems like Sabre and Pegasus reside on dedicated processors with their own unique transactions oriented operating systems, and those operating systems are not well-suited for data analysis.

<sup>14</sup>At the same time, the airline must be assured of the confidentiality of the information (like the names of their reserved passengers) contained in these systems.

<sup>15</sup>When the ticket is issued through Gemini, Gemini passes a copy of that record to the Air Canada and CAI revenue accounting systems, avoiding the need to re-enter the data from the coupons.

that the necessary linkages between Pegasus and CAI's other systems are in place. In particular, the management of CAI's seat inventory is currently performed by CAI -- not Gemini -- using a very good proprietary system (PROS).

Under the proposed AMR/CAI agreement, CAI would relinquish this capability and delegate the operation of major commercial and operational functions to American Airlines under a highly profitable (to AMR) 20 year contract. It would be a relatively simple matter to allow the outsourcing contract for Pegasus to run to term, and to allow Gemini to re-link Pegasus to the appropriate AA systems.

In fact, it would probably be more efficient to exclude reservations services from the proposed AMR service contract. Under that contract, American Airlines and CAI would embark on an ambitious program involving transfer of responsibilities, personnel and organizational changes, support systems, policies and procedures across a wide range of operating functions, including scheduling and pricing, which are far more important to CAI's profit performance than reservations services. This would be attempted at a time when both airlines are experiencing unprecedented losses, conflicting claims on internal resources, and little margin for error. The addition of reservation services to this agenda adds needlessly to an already staggering challenge.

In summary, AMR's requirement that CAI be hosted by AMR is unprecedented in strategic affiliations between major international airlines, and is not essential to the realization of whatever gains might accrue to CAI under this agreement.

### **3.3 THE CANADIAN CRS MARKET**

Prior to the formation of Gemini in 1987, both Air Canada and CAI provided CRS automation to the Canadian travel agencies through their "national" Reservec and Pegasus internal reservation systems. These were extensions of the carriers' internal reservation systems and, although they had many features unique among CRSs to the requirements of the Canadian travel agencies, they did not offer the full functionality of the major US CRSs.

Starting in 1985, American Airlines began marketing its Sabre CRS in the Canadian market. Air Canada and CAI realized that the unique features of their CRS offerings could not withstand competition from the functionally superior US CRS, and agreed to provide a modern CRS service through the Gemini joint venture.

CRS technology is extremely large-scale in the sense that the minimum long-run average cost of providing this type of service is only achieved at very high levels of output. In 1986, the total US market at that time involved over 306 million segments, or about ten times the size of the Canadian CRS market currently,<sup>16</sup> and was served by only 5 CRSs. As in the case of other "second generation" CRSs, Gemini chose not to develop a de novo CRS, but to enter into a partnership with Covia to modify Covia's Apollo CRS for use by Gemini in the Canadian market.<sup>17</sup> The resulting "Apollo by Gemini" (ApG) is a Canadianized version of the US CRS product, and the Gemini structure allows the Canadian carriers jointly to retain majority control of the CRS service provided in their vital airline distribution market.

As indicated in the discussion in Section 2.2 above, there are also significant economies of scope in providing CRS services and internal airline reservation services jointly. To realize those added cost savings, Air Canada and CAI further agreed to contract with Gemini for the operation of their internal reservation services.

The Competition Tribunal approved the formation of Gemini, subject to certain conditions which had the intent and effect of enabling foreign CRSs to compete more effectively in Canada with Gemini. For example, Air Canada and CAI were required to extend last-seat-availability to all

---

<sup>16</sup>US DOT Study.

<sup>17</sup>The adaptation of US CRSs to other national markets has been the standard approach in Europe (Galileo/Apollo, Amadeus/SystemOne), in Asia/Pacific (Abacus/PARS), and the Middle East (AACO/Galileo). AMR's Sabre system has not been involved in this process.

CRSs.<sup>18</sup> Sabre alone was in a position to quickly seize those opportunities.

This "leveling of the CRS playing field" had the effect of increasing Sabre's share of the Canadian CRS market. Although Sabre was able to implement the enhancements made possible by the Tribunal's Consent Order within six months, Gemini required over two years to create the modified ApG and use it to replace Reservec and Pegasus. Sabre's share of the Canadian CRS market (segments booked) has risen from ██████ in 1988 to almost ██████ currently (Exhibit 3.9). That advance over a "transitional period" has been associated with the enhancement of Sabre through direct access to Air Canada's and CAI's seat inventory, aggressive discounting of subscribing agency fees by Sabre, and the normal difficulties in actually migrating the Gemini agencies to the ApG service (starting in late 1990).

### 3.4 EFFECT ON GEMINI OF CAI ALTERNATIVES

From the outset, Gemini's hosting and CRS services were both essential to the success of the business venture. The fundamental logic of the Gemini venture involved the increased efficiency resulting from the consolidation of:

- o Air Canada and CAI agency automation services, i.e., the replacement of Pegasus and Reservec with ApG,
- o the internal reservation services, i.e., the hosting contracts,
- o both CRS agency automation and internal reservation services.

It has been a delicately balanced business venture, relying on both CRS and hosting services. The normal pattern of every major CRS venture -- including Gemini -- involves heavy initial operating losses during the initial and prolonged development and market establishment phase. Exhibit 3.10 presents the net cash flow from Sabre and Apollo during their initial

---

<sup>18</sup>In fact, the Consent Order singled out Sabre, directing that Air Canada and CAI should provide direct access to requesting CRSs "on a 'first come first served' basis providing that the CRS presently operating in Canada known as 'Sabre' is first in line." (p7)

development/implementation periods. Unlike Sabre and Apollo, the ApG service was not a de novo CRS system, and required a lower total investment and somewhat shorter implementation period.

The successful launch of a CRS service also requires the continued support of its founding carriers over that initial period. In the case of Gemini, the stable 10 years' "cost plus" profits from its hosting contracts are a vital part of the capitalization necessary to sustain the initial CRS operating losses.

Gemini's business strategy is relatively robust against reasonable business risks, including the current need to restructure CAI and the Canadian airline industry. Alternative solutions to CAI's problem will be considered in Section 4 below. In evaluating their possible impact on the Canadian CRS industry, they can be classified as:

- o CAI refinancing or merger/affiliation with Air Canada or other (than AMR) major airlines,
- o a possible AMR/CAI strategic affiliation, or
- o failure of CAI, resulting in other airlines expanding to assume CAI's role in the Canadian airline industry.

Under all possible restructurings of the Canadian airline industry except the AMR/CAI alternative, Gemini's strategy will succeed. Premature termination of Gemini's hosting contracts to facilitate an AMR/CAI affiliation will cause Gemini to fail. Of all the potential airline investments in CAI, the AMR/CAI strategic affiliation is unique in that it would again shift the competitive balance in the Canadian CRS market overwhelmingly in Sabre's favor.

#### NON-AMR AFFILIATION FOR CAI

Any potential airline or non-airline investor in CAI, other than AMR, would fully endorse CAI's continued support to Gemini. Major airlines -- other than American -- have promoted the joint ownership of CRSs as stand-alone business enterprises, and would support Gemini's attempt to



prevent Sabre from monopolizing the Canadian CRS market.

Exhibit 3.11 presents Gemini's historical profit/loss performance and my projections of Gemini's profit/loss for the 1993-1995 period assuming that CAI's current relationship to Gemini continues. The supporting analysis for the 1993-1995 projections is presented in Attachment B.

That analysis clearly indicates both the logic and eventual success of the Gemini initiative. Over the 1989-1992 period, Gemini's hosting revenues have represented over [REDACTED] of its total revenues, and an added [REDACTED] of Gemini's revenues have come from "development" projects on behalf of Air Canada and CAI. The "cost plus" hosting profits have partly offset the development/establishment costs of its ApG CRS. Under the status quo, Gemini would achieve overall profitability by 1993, and will begin to generate the operating profits necessary to justify the business and sustain it in competition with Sabre. As important, Gemini's ApG CRS activities will achieve stand-alone profitability by 1995.

CAI's hosting revenues are estimated to represent [REDACTED] of total Gemini revenue currently, but only [REDACTED] of Gemini revenue by 1995 (Attachment B). By the time CAI's hosting contracts will be due for renewal in June 1999, Gemini would be able to sustain profitable operations of each of its CRS and Air Canada hosting lines of business alone, without CAI hosting if necessary.

#### PREMATURE TERMINATION UNDER AMR/CAI AFFILIATION

The termination of Gemini's hosting contracts with CAI to facilitate the proposed AMR/CAI affiliation will affect Gemini in two important ways. First, Gemini will lose the CAI hosting revenues and profits currently protected by long-term contract, and which are required to sustain Gemini's financial improvement. Second, the proposed AMR/CAI strategic affiliation would upset the competitive positions of Gemini and Sabre, depressing Gemini's market share and CRS output below the level required for profitable operations. The combined effect of both the hosting and CRS losses would result in the failure of Gemini.

As in most healthy markets, the competitive balance between Gemini and Sabre in the Canadian CRS market is determined by many factors including the quality of the product itself, pricing, the quality of installation and support services, and the stability and support of the CRS-owning carriers. Prior to the Consent Order in 1989, the overall functionality of the Reservec and Pegasus services which Gemini inherited was inferior to that of Sabre, but Reservec and Pegasus had certain offsetting advantages, including preferential access to Air Canada and CAI seat inventory (last seat availability) and certain functions unique to the Canadian travel agency environment (e.g., the ability to reserve VIA Rail).

That CRS market was altered by the Consent Order which, among other things, required Air Canada and CAI to offer full access to their information to Sabre. In 1990, Gemini began replacing Reservec and Pegasus with the functionally competitive ApG service, but has lost almost [REDACTED] of the Canadian CRS market since 1988.

Gemini's current share of the market is about [REDACTED]%, and both Gemini and Sabre enjoy certain competitive strengths and weaknesses. An important part of Gemini's remaining competitive advantage is the real or perceived support of the two major Canadian airlines. This "reverse halo effect"<sup>19</sup> derives from the expectation that Gemini will set the standard for access to the Canadian carriers' services, the natural preference for Canadian (vs. imported) goods and services, the long-term security that Gemini derives from its owners, and other factors.

The proposed "strategic affiliation" of AMR/CAI will surely involve a shift of CAI's support from Gemini to Sabre. This would quickly result in another decline in Gemini's CRS market share,<sup>20</sup> and eliminate any hope of Gemini's CRS service ever reaching even a break-even level

---

<sup>19</sup>The "halo effect" refers to the tendency of travel agencies to select the airline services of the carriers who own the CRS which the agency uses. The "reverse halo effect" refers to the tendency of the travel agencies to select the CRS owned by the airlines whose services are most important to the travel agency's travel clients.

<sup>20</sup>Indeed, the current adverse publicity surrounding the possible AMR/CAI affiliation has already caused some travel agencies to shift from Gemini to Sabre.

of operations. It is my estimate that, under that scenario, Gemini's share of the Canadian CRS market would decline to about [REDACTED] as early as 1995 (Attachment B).

Exhibit 3.12 presents the resulting impact of the loss of CAI hosting revenues and support to Gemini under the proposed AMR/CAI affiliation. Rather than improving as would be the case with the status quo or alternative restructurings of CAI, Gemini's CRS and overall profitability would deteriorate steadily.

### CAI FAILURE

As indicated in Section 4 below, one possible solution to the restructuring of the Canadian airline industry is to allow CAI to fail. That would have two effects on Gemini. First, the loss of CAI hosting revenues would be largely offset by the associated increase in Air Canada hosting revenues, as well as the hosting requirements and revenues of other Canadian carriers (e.g., Nationair, Canada 3000) that would expand under this scenario.<sup>21</sup> Second, Air Canada's expanded role in the Canadian market would enable Gemini to realize modest gains in the CRS market.

Exhibit 3.13 presents my evaluation of the resulting changes in Gemini's profit/loss over the 1993-1995 period under this alternative. Although Gemini's profit improvement would be less rapid than that under the status quo, it would remain as a successful and viable competitor to Sabre in the Canadian CRS market.

### **3.5 EFFECT OF GEMINI FAILURE ON CANADIAN CRS MARKET**

The failure of Gemini under the proposed AMR/CAI alternative (alone) would result in:

---

<sup>21</sup>The financial analysis in Attachment B is conservative in that it only includes increased hosting revenues from carriers like Air Canada and Nationair which are currently contracted with Gemini.

- o the monopolization of the Canadian CRS market by AMR's Sabre. or
- o the provision of Canadian CRS services by Sabre and Apollo, which would be inferior to the "Canadianized" services currently being offered as a result of Gemini's presence in the market.

### **SABRE MONOPOLY**

As a practical matter, potential competition in the Canadian CRS market is limited to Gemini and the US CRSs. If Gemini is made to fail, that competition would be limited to Sabre and Apollo, and it is certainly possible that Apollo would choose not to contest Sabre's continued absorption of the Canadian CRS market.

In 1986, the US CRS industry was comprised of:

Apollo	United Airlines
DATAS II	Delta Airlines
PARS	TWA
Sabre	American Airlines
System One	Eastern Airlines

Apollo and Sabre dominated the industry, with over 74% of the market (Exhibit 3.14).<sup>22</sup>

Since that time, the US CRS industry has consolidated significantly with the merger of PARS and DATAS into Worldspan and the likely demise of Systemone. Realistically, Apollo is the only US CRS that would even be able to contest Sabre's monopolization of the Canadian CRS market.

### **Worldspan**

Northwest Airlines acquired part ownership in TWA, and TWA/Northwest and Delta merged

---

<sup>22</sup>1986 is the most recent year for which CRS market shares (segments) are available.

their PARS and DATAS CRSs to form Worldspan. Worldspan, or its predecessor systems, have never seriously attempted to enter the Canadian CRS market, and it is currently preoccupied by: (1) the financial distress of TWA (in Chapter 11 bankruptcy) and Northwest, (2) the ongoing challenge of consolidating PARS and DATAS into a single Worldspan system, and (3) the evolving technical and commercial relations between Worldspan and Abacus.

If AMR and CAI were to drive Gemini from the Canadian CRS market, there is absolutely no reason to believe that Worldspan would attempt to -- or if it attempted, would succeed -- in contesting the Canadian CRS market, and especially without the support of a major Canadian carrier.

#### **Systemone**

Texas Air Corporation (TAC), parent of Continental Airlines, acquired the ailing Eastern Airlines in 1986. That acquisition was in large part motivated by the potential marketing support for Continental from sharing in ownership of Systemone. As part of the ensuing reorganization of these assets, TAC outsourced the operation of Systemone as well as its internal reservations systems to EDS.

As noted above, a CRS's strategic competitive position is vitally dependent on the commercial importance of its owning carrier(s). Eastern Airlines ceased operations in January 1991, and Continental re-entered bankruptcy in November 1990 and is currently under reorganization. According to the Continental debtors' amended joint plan of reorganization filed with the Delaware Bankruptcy Court on November 11, 1992:

Without the market strength of Eastern and as a result of the consolidation of the CRS industry in the last few years, System One's ability to compete in the future may depend on its being able to affiliate with other airlines and/or other CRS vendors.

Systemone has unsuccessfully sought a merger with one of the three remaining US CRSs, and has been deprived of both the financial resources to remain functionally competitive and the marketing support of its owning carriers. It is doubtful that Systemone will survive and it is

certain that, even with Air Canada's support, it could not contest Sabre in the Canadian CRS market.

### **Apollo**

At the time Gemini was formed, the Canadian CRS market was divided between the Reservec and Pegasus "national systems" (80%) and Sabre (20%). Covia/Apollo had no significant presence or interest in the Canadian CRS market,<sup>23</sup> and joined the Gemini partnership with the expectation that Gemini would enjoy the full support of the major Canadian carriers.

If Gemini fails as a result of now being ordered to provide for premature termination of CAI's hosting contracts to facilitate an AMR/CAI alliance, there are important reasons why Covia may choose not to compete in the Canadian CRS market.

CRSs, like airlines or other businesses, are constantly re-evaluating their market opportunities, re-allocating scarce resources in response to changes in market potential, the regulatory environment, and changes in competitor's market position. The approval of the Director's application would significantly reduce the attractiveness of the Canadian CRS market to the Covia owners.

First, the forced termination of a perfectly legal agreement through this intervention would undoubtedly result in another surge in Sabre's share of the market, and it would be difficult to view the Canadian regulatory environment as being neutral toward Sabre (and CAI) vis a vis their competitors.

Second, the Covia airline owners are evaluating their opportunities in the US, Europe, Canada,

---

<sup>23</sup>Air Canada and CAI formed Gemini in June 1987, prior to selecting a US CRS partner, and had originally approached PARS. The Gemini partnership agreements were amended in June 1989 to admit Covia as a limited partner.

and the rest of the world. The Canadian CRS market is about 7% of the size of the US CRS market currently, and also much smaller than the European market. Covia is currently preoccupied with the technical and commercial problems of redefining both the technical and commercial relationships between Covia and Galileo, with grave implications for the competitive balance between Galileo and its CRS competitors in major European markets. The European owners of Covia -- British Air, KLM, Swissair -- would resist the diversion of Covia resources and management's attention to a longer-term and higher risk investment in the Canadian CRS market.

**Third.** Covia's competitive position in the Canadian market would be significantly weakened. Over the past four years, Covia -- in partnership with the major Canadian airlines -- has finally arrested the rate of decline in Gemini's market share. The forced dissolution of Gemini and the re-alignment of CAI with Sabre would clearly strengthen Sabre's competitive position.

**Fourth,** the replacement of Gemini by Apollo would be a major and prolonged undertaking in which any delay would further increase the probability of failure. Continuity of their CRS services is a major concern to travel agencies, and they would be faced with the choice between Sabre, which has had a steadily increasing presence in the market, and yet another conversion to an uncertain "post-Gemini" system.<sup>24</sup>

The dismantling of Gemini's hosting and CRS services, with CAI involvement, would require:

- o Air Canada to resolve the unanticipated problem of developing a new reservations arrangement in addition to the ongoing conversion from Reservec II to Reservec III.<sup>25</sup>
- o the disposition of all of Gemini's contracts with subscribing agencies, VIA Rail, airline participants in Gemini, suppliers, etc.

---

<sup>24</sup>Indeed, the current uncertainty about CAI's and Gemini's future has already had a significant impact on Gemini's competitive position.

<sup>25</sup>It would also come at a time when Air Canada was facing significant operating losses itself, as well as the challenge of managing its recent equity investment in Continental Airlines.

- o displacement/reassignment of Gemini's personnel, facilities, communications network, processing systems, etc.

This investment of management time and direct resources would be borne by carriers already experiencing heavy airline operating losses, and while Sabre was absorbing a dominant share of an already relatively small CRS market.

### US CRSs

Even if Covia chose to salvage whatever CRS business Apollo could attract in the Canadian market, it would involve the provision over time of the same basic CRS product that is designed for the US market. The replacement of ApG with Apollo would result in a significant deterioration of the CRS services currently being offered in the Canadian CRS market under Gemini's influence.

As noted in Section 2.3 above, Air Canada's Reservec and CAI's Pegasus systems had the important competitive advantage over Sabre in that they were tailored to the requirements of the Canadian market. Rather than simply replace these national systems with Apollo, the Gemini Partners chose to invest heavily in the "Canadianization" of Apollo to produce ApG. Sabre has been forced to imitate many of those enhancements.

Examples of these enhancements for the Canadian market include:

- o bilingual facilities, including the capability to issue French and bilingual itineraries and invoices, the option of French error messages from ApG, the expansion of the space allowed for dual language "remarks" to be associated with itineraries, the provision for bilingual displays in Gemini's MBA and MAC agency accounting systems,
- o enhancement of Apollo's itinerary pricing capability and fare database to facilitate the pricing of the types of travel itineraries most important to Canadian travelers,
- o improved agency access to Canadian travel services, including VIA Rail, Canadian



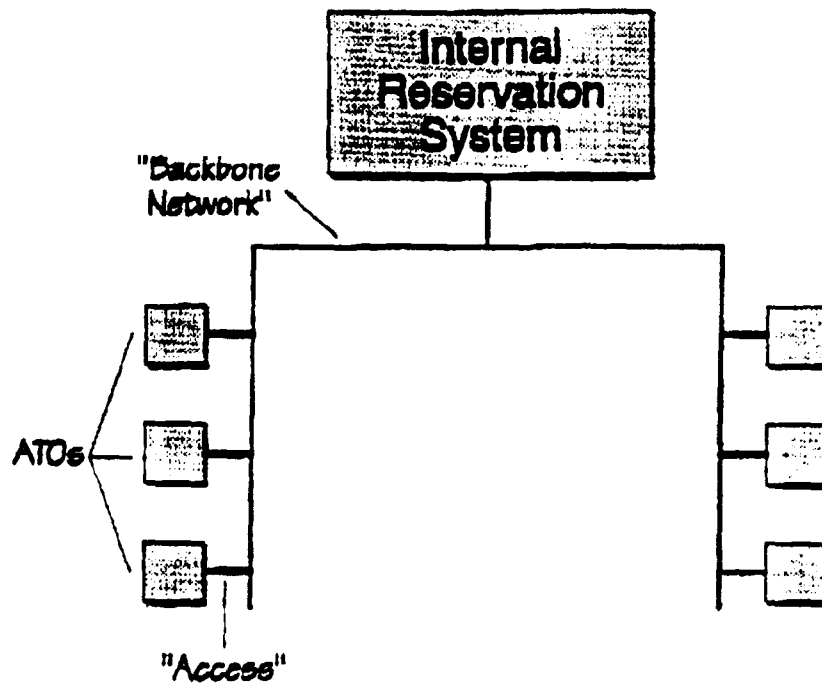
- tour/charter operators, smaller Canadian hotels, etc
- o the provision of electronic reference information on Canadian airports/cities, as well as the major foreign destinations of Canadian travelers
  - o the selective application of the Canadian Transport Tax to only those flights in the itinerary to which they apply
  - o the enhancement of the automatic credit card authorization capability to include the enRoute credit card
  - o automated travel insurance<sup>28</sup>
  - o modification of the minimum and maximum connect times at Canadian airports and the way in which they are applied to construct connection possibilities, to offer travelers a wider choice of possible connecting itineraries

A significant investment is required to simply maintain -- let alone extend -- this customization, and the Apollo business case would certainly not incorporate Gemini's current commitment. ApG would be simply replaced over time by Apollo, and the Canadian market would be dominated by Sabre and Apollo. Without the impetus provided by Gemini, it is doubtful that AMR and Covia would continue to customize their Canadian CRS services to the Canadian market. As a result, the Canadian travel agencies would eventually be dependent upon imported CRS services designed for the US market.

---

<sup>28</sup>Unlike the US market, Canadian air travelers make extensive use of travel insurance.

Exhibit 3.1



**Exhibit 3.2**  
**Major Airlines Worldwide**  
*Based on Weekly Nonstop Departures*

<b>Dept. Rank</b>	<b>Airline</b>
1	Delta
2	American
3	United
4	USAir
5	Northwest
6	Continental
7	Aeroflot
8	Southwest
9	Lufthansa
10	All Nippon Airways
11	British Airways
12	Trans World
13	Japan Air Lines
14	SAS
15	Air Canada
16	Air France
17	America West
18	Canadian Airlines
19	Air Inter
20	Iberia
21	Alitalia
22	Korean Air
23	Japan Air System
24	Alaska
25	Malaysian Airlines

*Source: ABC World Airways Guide, January 1993.*

Exhibit 3.3

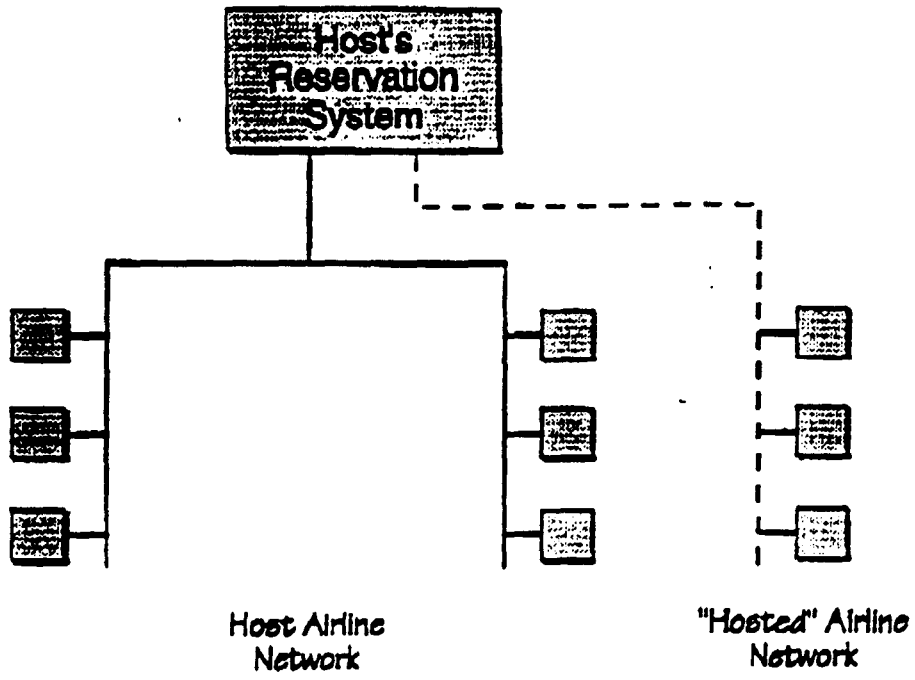


Exhibit 3.4

### Gemini Arrangement

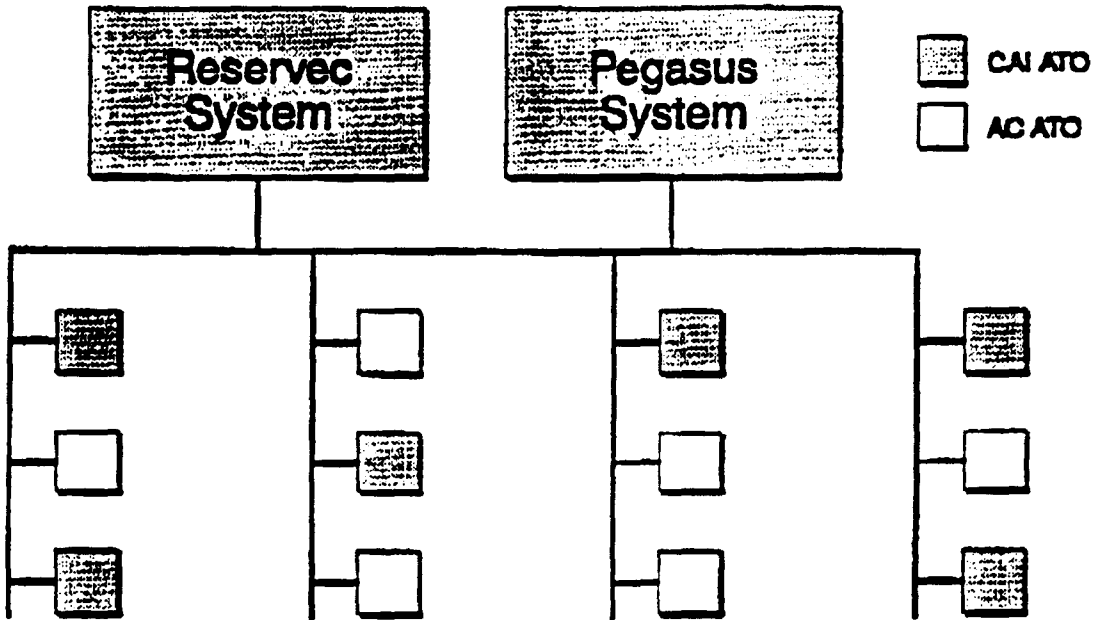
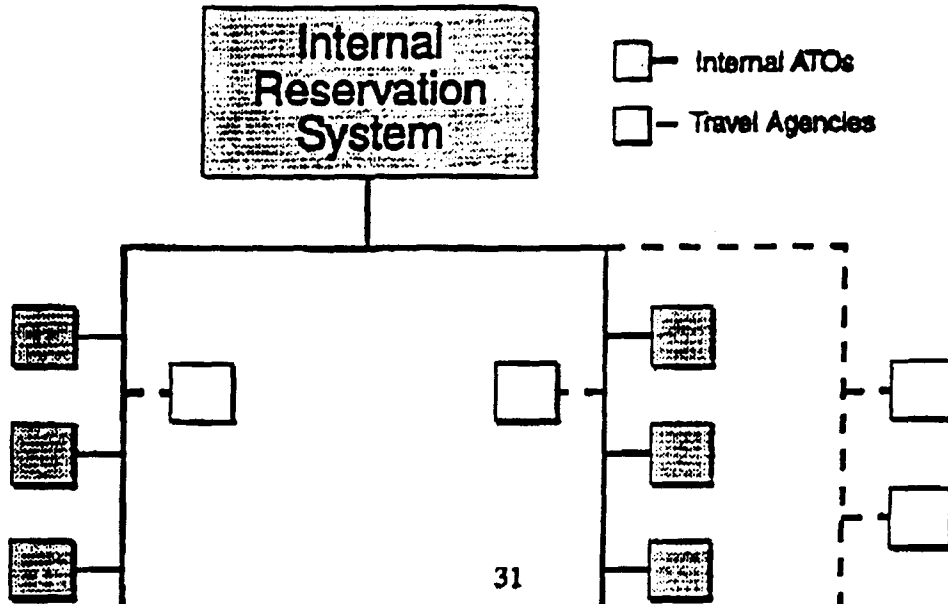
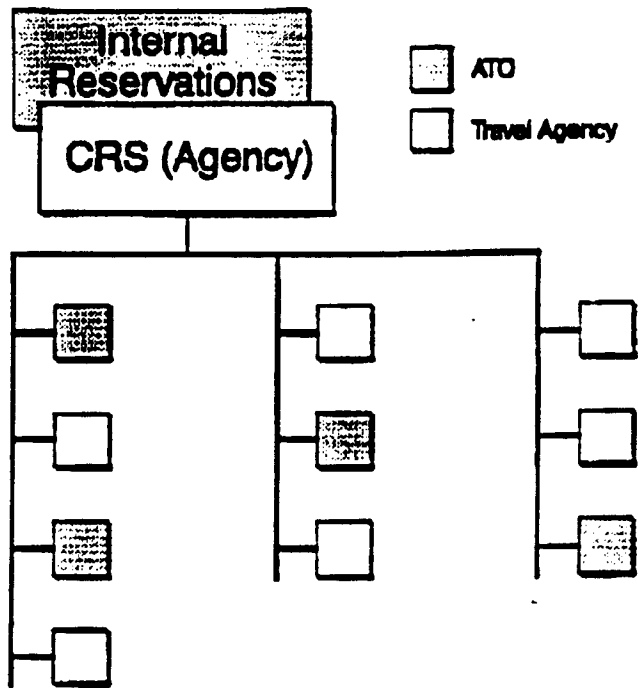


Exhibit 3.5

### Agency CRS Automation



**Exhibit 3.6**



### Exhibit 3.7 Major CRSs

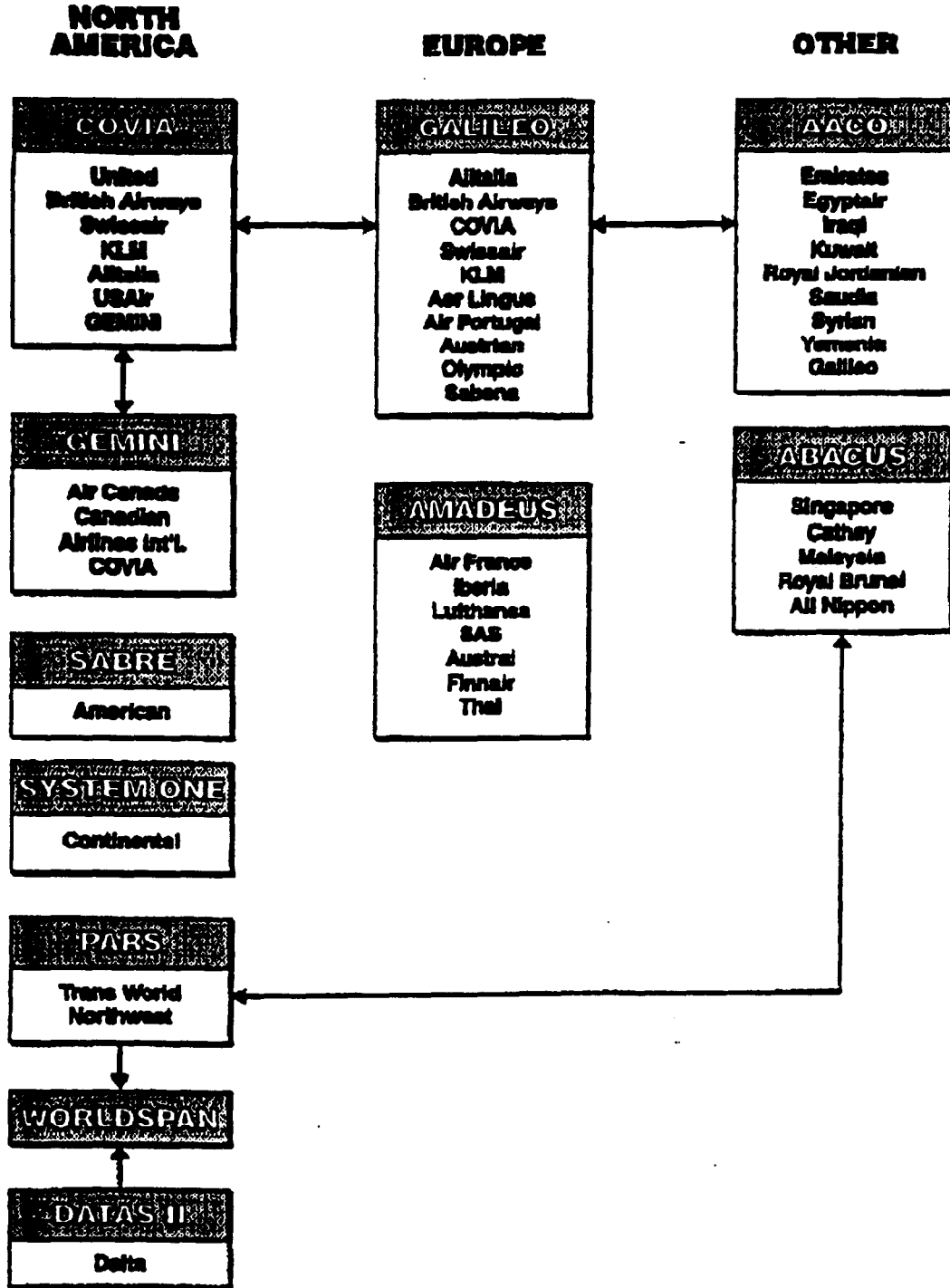
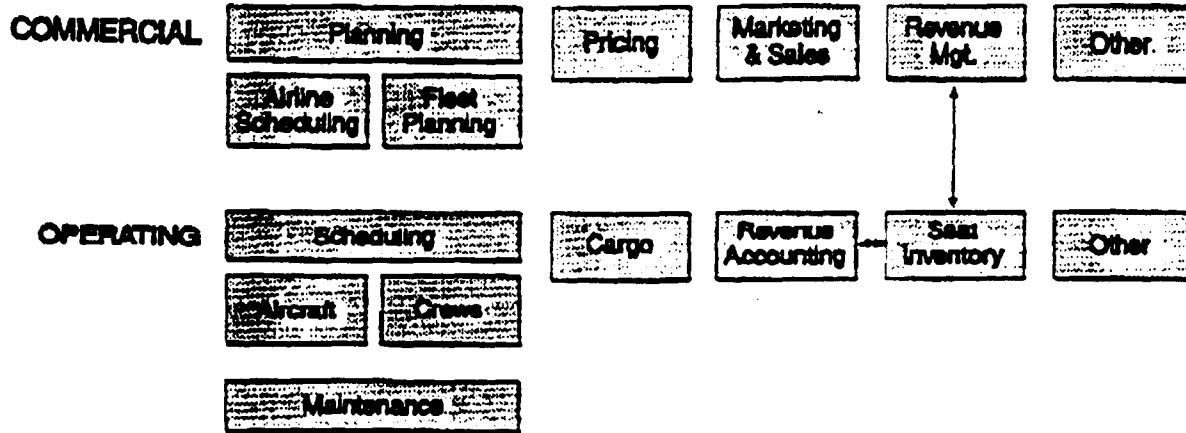


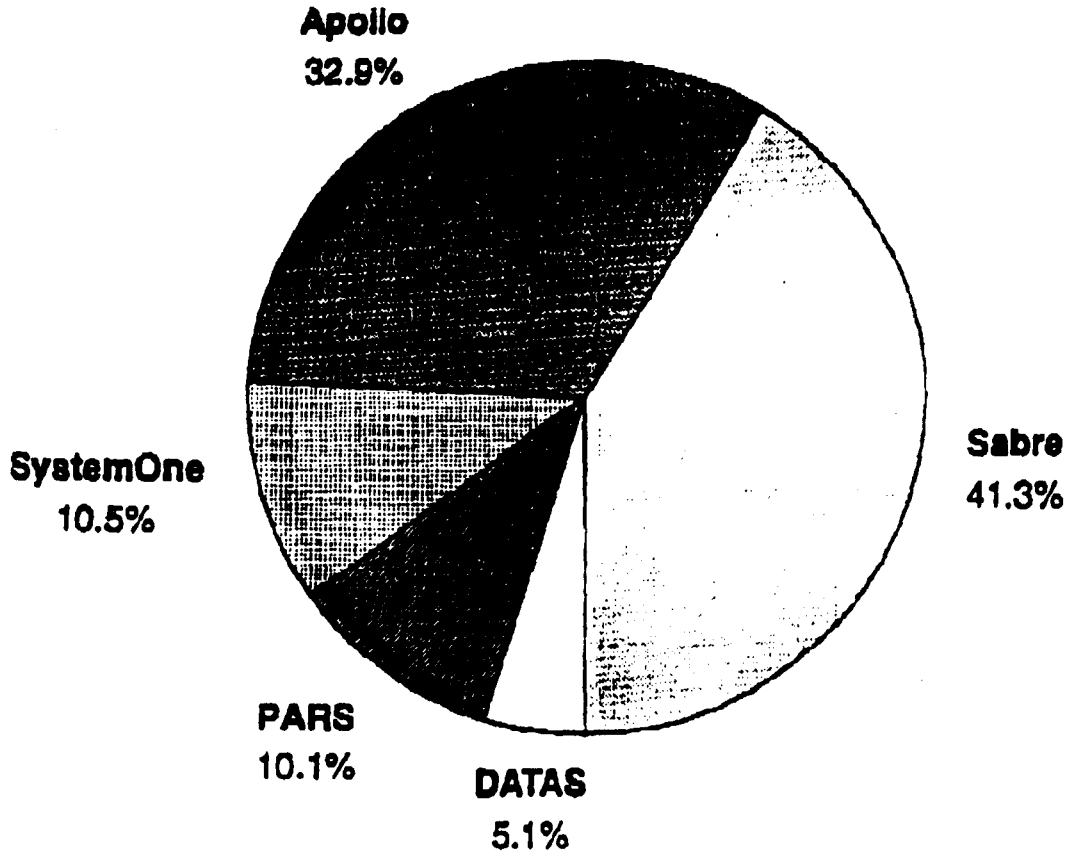
Exhibit 3.8

### Major Airline IT Application Areas





**Exhibit 3.14**  
**U.S. CRS Market Shares**  
**1986**



## **4 THE CANADIAN AIRLINE MARKET**

---

### **4.1 OVERVIEW**

Canada currently enjoys a relatively competitive airline industry structure, involving competition from two major Level I carriers and the prospects of vigorous competition from the gradual "open skies" integration of the Canadian and US markets and airline industries.

It is likely that CAI cannot survive without restructuring/refinancing. This condition has not resulted from the actions of Gemini or its Partners, anti-competitive airline behavior or any structural weakness in the competitive environment, but is due to business decisions taken freely by CAI's management at about the time of the Competition Tribunal's Consent Order.

The provision for premature termination of CAI's hosting contracts with Gemini is motivated by the desire to facilitate a potential AMR investment in CAI. However, the potential of an AMR/CAI strategic affiliation is certainly not the only alternative nor, necessarily, the most pro-competitive. As noted above, it is uniquely anti-competitive in the upstream Canadian CRS market.

There are several viable solutions to CAI's recovery or, in the alternative, the restructuring of the Canadian industry. They include:

- o refinancing/restructuring of CAI in conjunction with investment by major airlines other than AMR,
- o the dissolution of CAI, and the emergence of a new airline formed of its assets and skilled labor force, or the expansion of other Canadian carriers to absorb its share of the Canadian air travel market,

- o the consolidation of Air Canada and CAI.

In addition, AMR should be willing to proceed with its investment in CAI, including a comprehensive service support program, while allowing CAI to honor its current hosting contracts with Gemini.

Given its decisive impact on the future of the Canadian aviation industry, the choice between all of these viable alternatives must be evaluated thoroughly and carefully in the context of an evolving industry environment worldwide. No evidence has been produced as part of these proceedings to suggest that a diligent evaluation of these alternatives has been conducted, or that the resolution of this issue should not be left to the normal working of the market mechanism.

#### 4.2 ALTERNATIVE AIRLINE AFFILIATIONS WITH CAI

The airline industry worldwide is moving rapidly toward globalization, often involving consolidation through privatization and inter-carrier strategic investments. As Exhibit 4.1 indicates, in the past several years alone:

- o ownership in 30 airlines worldwide has been acquired by other airlines
- o 17 major airlines have acquired ownership in other airlines
- o in some cases (Delta, Northwest, Continental), the airlines whose stock was acquired were significantly larger than CAI.

CAI and its parent PWA Corp are currently experiencing serious financial problems resulting from a combination of business decisions which have depleted its cash reserves and available financing and a downturn in the aviation industry which has imposed significant operating losses on most carriers. But fundamentally, CAI is an attractive investment from the perspective of major international airlines:

- o Investment in CAI would provide better access to the Canadian airline market, which ranks 9th among national markets.<sup>27</sup> As important, under a Canadian-US open skies

---

<sup>27</sup>In terms of scheduled airline passengers carried (ICAO Statistical Yearbook).

regime, an affiliation with CAI offers major European and Asian carriers access to the entire North American market.

- o CAI is well established in its major markets, providing an average of 50% of the capacity in its most important city-pair markets.
- o CAI has valuable international operating rights, and currently operates to 28 major foreign destinations from the 7 largest points in Canada. It has a strong market position in the highly sought after trans-Pacific and North Atlantic routes, and code-sharing agreements with nine carriers, including three major carriers (Air France, Lufthansa, Qantas) that have acquired equity interest in other airlines.
- o As a result of investment decisions made since 1989, CAI has a relatively modern fleet, and its employees have already expressed a willingness to consider labor cost reductions as part of an overall revitalization plan for the airline.

The Director has stated that "PWA has been looking for an airline investor... [only] two airlines, Air Canada and AMR ... have expressed interest to date."<sup>28</sup> Based on the limited information that has been made available, the first systematic search for alternative investors did not occur until October 1992, when CAI had already executed a pre-merger agreement with Air Canada.<sup>29</sup> As important, during disclosure, Kevin Jenkins, President and CEO of CAI, admitted that CAI did not solicit potential airline investors under the same terms as those offered to AMR, including the restructuring of \$3.2B of CAI's debt, \$120M in government loan guarantees, and significant labor concessions.

In the present airline environment, and given CAI's strategic position in the North American market, a careful and objective search under terms similar to those offered to AMR would produce alternative investors.

---

<sup>28</sup>Page 8, Director's filing.

<sup>29</sup>According to the "will say statement" of Robert Fung, representatives of Gordon Capital, PWA, and Wood Gundy Inc met on October 16, 1992 to identify prospective purchasers of CAI.

#### 4.3 OTHER CANADIAN COMPETITION

In 1991, CAI and its affiliates carried 38.5% of Canadian scheduled air passengers (Exhibit 4.2). If CAI should fail, at least two of its affiliates (Time Air and Air Atlantic) as well as other Canadian carriers (Canada 3000, Nationair, Air Transat) would be well positioned to compete with Air Canada in domestic Canadian markets:

- o Two of CAI's regional affiliates, Time Air and Air Atlantic, currently control significant feed traffic to major Canadian points, accounting for almost 3/4 of regional system revenues,
- o both of those (and other Canadian carriers) currently operate jet equipment,
- o in combination, or individually in partnership with major US carriers, they would have the resources to provide sustained competition to Air Canada in domestic markets.<sup>30</sup>

#### 4.4 CAI/AC CONSOLIDATION

The Director has pre-determined that the preservation of two independent Level I carriers is both possible and essential for competition in Canadian domestic markets: Without pre-judging a complex issue, it is at least possible -- if not likely -- that the continued consolidation of the Canadian airline industry will be found to best serve Canada's interests.

In fact, most airlines -- and government regulators -- worldwide have accepted the fact that, in the long term, liberalized competition between national "mega-carriers" is the only competitive solution that is consistent with the modern realities of the market.

To date, the evolution of the Canadian market has been consistent with this worldwide pattern. In 1985, there were 7 Level I carriers, including AC (52% of scheduled passengers) and CAI

---

<sup>30</sup>Canada's top 10 domestic origin-destination markets account for 1/3 of total traffic, and only involve 8 cities.

(25% of scheduled passengers). By 1991, 6 former Level I carriers were merged into CAI, with the result that AC and its affiliates accounted for 55% of scheduled passengers, and CAI and its affiliates accounted for 39% of passengers (Exhibit 4.2).

It is likely that ongoing bilateral negotiations between the US and Canada will lead eventually to the consolidation of the North American markets and airline industries, similar to developments in the European Community. Under that regime, a consolidated AC and CAI would be less than 1/3 the size (domestic seat departures) of the largest US competitor, and less than 2/3 the size of the smallest of the top five US competitors (Exhibit 4.3).

In summary, a careful and unhurried evaluation of the alternative futures for Canadian aviation should include:

- o the continued consolidation of the Canadian industry to form a single Canadian carrier to compete with its larger US competitors in a consolidated North American market,
- o the affiliation of CAI with other airline investors, which would preserve both competition in the Canadian CRS market and the independence of CAI, the 18th largest carrier in the world, and
- o the failure of CAI, and the expansion of regional Canadian carriers, in alliance with major foreign carriers, in Canada's domestic markets.

**Exhibit 4.1  
Partial Listing of Cross-Airline Equity Ownership**

<b>Airline:</b>	<b>ASMs as % of CP ASMs</b>	<b>Partial Owner:</b>	<b>Date</b>	<b>Share</b>	<b>Cost (US\$ MILL)</b>
<b>Aerolineas Argentina</b>	<b>30%</b>	<b>Iberia</b>		<b>30.0%</b>	
<b>Air Afrique</b>	<b>8%</b>	<b>Air France/UTA</b>		<b>15.8%</b>	
<b>Air Inter</b>	<b>34%</b>	<b>Air France</b>		<b>72.0%</b>	
<b>Air Madagascar</b>	<b>2%</b>	<b>Air France</b>		<b>3.5%</b>	
<b>Air Mauritius</b>	<b>10%</b>	<b>British Air</b>		<b>12.8%</b>	
		<b>Air France</b>		<b>12.8%</b>	
		<b>Air India</b>		<b>8.5%</b>	
<b>Air New Zealand</b>	<b>54%</b>	<b>Qantas</b>	<b>1989</b>	<b>20.0%</b>	<b>\$89</b>
		<b>JAL</b>	<b>1989</b>	<b>5.0%</b>	<b>\$22</b>
		<b>American</b>	<b>1989</b>	<b>5.0%</b>	<b>\$22</b>
<b>Air Russia</b>		<b>British Air</b>	<b>1992</b>	<b>31.0%</b>	
<b>America West</b>	<b>64%</b>	<b>Ansett</b>		<b>20.0%</b>	<b>\$50</b>
<b>Austrian Airlines</b>	<b>15%</b>	<b>Swissair</b>		<b>10.0%</b>	
		<b>All Nippon</b>	<b>1990</b>	<b>10.0%</b>	<b>\$85</b>
		<b>Air France</b>		<b>1.5%</b>	
<b>Aviaco</b>	<b>9%</b>	<b>Iberia</b>		<b>65.0%</b>	
<b>British Midland</b>	<b>7%</b>	<b>SAS</b>	<b>1992</b>	<b>40.0%</b>	
<b>CSA Czechoslovak</b>	<b>8%</b>	<b>Air France (Consortium)</b>	<b>1992</b>	<b>40.0%</b>	<b>\$60</b>
<b>Jetta</b>	<b>491%</b>	<b>Swissair</b>	<b>1989</b>	<b>5.0%</b>	<b>\$193</b>
		<b>Singapore</b>	<b>1989</b>	<b>5.0%</b>	<b>\$181</b>
<b>Deutsche BA</b>	<b>3%</b>	<b>British Air</b>		<b>49.0%</b>	
<b>Dragonair</b>	<b>3%</b>	<b>Cathay Pacific</b>		<b>35.0%</b>	
<b>Euro Berlin</b>		<b>Air France</b>		<b>51.0%</b>	
		<b>Lufthansa</b>		<b>49.0%</b>	
<b>Hawaiian</b>	<b>17%</b>	<b>JAL (Subsidiary)</b>	<b>1988</b>	<b>20.0%</b>	<b>\$20</b>
<b>Ladeco</b>	<b>6%</b>	<b>Iberia</b>	<b>1991</b>	<b>35.0%</b>	<b>\$11</b>
		<b>Ansett</b>		<b>20.0%</b>	
<b>Lan Chile</b>	<b>8%</b>	<b>SAS</b>	<b>1989</b>	<b>51.0%</b>	<b>\$40</b>

**Exhibit 4.1**  
**Partial Listing of Cross-Airline Equity Ownership**

<b>Airline:</b>	<b>ASMs as % of CP ASMs</b>	<b>Partial Owner:</b>	<b>Date</b>	<b>Share</b>	<b>Cost (US\$ MILL)</b>
Lauda Air	4%	Lufthansa	1992	25.5%	
Linjeflyg	7%	SAS		51.0%	++
Malev	5%	Alitalia	1992	30.0%	
MEA	7%	Air France		28.5%	
NWA Corp. (Northwest)	338%	KLM	1989	20.0%	\$400
Qantas	148%	British Air	1992	25.0%	
Royal Air Maroc	13%	Air France Iberia		4.0% 2.0%	
Sabena	25%	Air France	1992	37.5%	
Singapore	129%	Delta Swissair	1989 1989	2.8% 0.6%	\$181
Swissair	61%	Delta Singapore	1989	5.0% 2.7%	\$84
TAT	1%	British Air	Pending	49.9%	\$30
Texas Air Corp. (Continental)	257%	Air Canada et al SAS SAS	Pending 1988 1990	55.0% 9.9% 5.2%	\$140 \$55 \$32
JSAir	231%	British Air	Pending	25.0%	\$750
UTA	21%	Air France	1990	54.6%	\$885
Viasa	15%	Iberia	1991	45.0%	\$109



**Exhibit 4.2****Passenger Traffic of Canadian Air Carriers  
1985 and 1991**

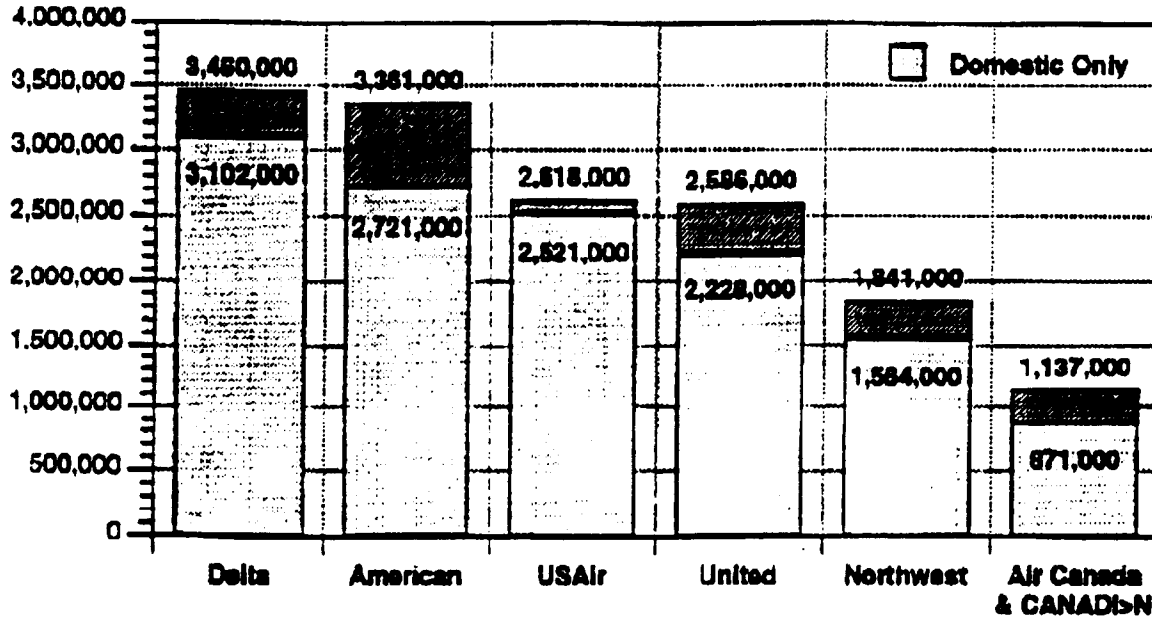
Carrier	1985			1991		
	Scheduled	Charter	Total	Scheduled	Charter	Total
<b>A. Passengers (000)</b>						
Air Canada 1./ Canadian 2./	12,979	344	13,323	14,554	587	15,141
	-	-	-	10,207	637	11,044
CP Air	3,571	310	3,881	-	-	-
PWA	2,670	441	3,111	-	-	-
Eastern Provincial	1,444	19	1,463	-	-	-
Nordair	956	435	1,391	-	-	-
Quebecair	643	286	929	-	-	-
Wardair	17	1,550	1,567	-	-	-
Total Level I	22,280	3,385	25,665	24,761	1,424	26,185
All Other	2,285	1,105	3,391	1,778	4,696	6,474
Total Levels I-IV	24,565	4,491	29,056	26,539	6,120	32,659
<b>B. Percent of Total</b>						
Air Canada 1./ Canadian 2./	52.8%	7.7%	45.9%	54.8%	9.6%	46.4%
	0.0%	0.0%	0.0%	38.5%	13.7%	33.8%
CP Air	14.5%	6.9%	13.4%	-	-	-
PWA	10.9%	9.8%	10.7%	-	-	-
Eastern Provincial	5.8%	0.4%	5.0%	-	-	-
Nordair	3.9%	9.7%	4.8%	-	-	-
Quebecair	2.8%	6.4%	3.2%	-	-	-
Wardair	0.1%	34.5%	5.4%	-	-	-
Total Level I	90.7%	75.4%	88.3%	93.3%	23.3%	80.2%
All Other	9.3%	24.6%	11.7%	6.7%	76.7%	19.8%
Total Levels I-IV	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

1./ Includes scheduled passengers of all Air Canada affiliated carriers for 1991.

2./ Includes scheduled passengers of all Canadian affiliated carriers for 1991.

Source: Statistics Canada, Catalogue 51-002 for periods shown.

**Exhibit 4.3**  
**Weekly Nonstop Seat Departures**  
*September, 1992*



Source: ABC Schedule Tape

**ATTACHMENT A****PROFESSIONAL RESUME, DR. WILLIAM J. DUFFY**

---

**1 SUMMARY****POSITIONS HELD**

1992- Vice-chairman, SH&E, Inc.  
1990-1992 President, CEO, SH&E, Inc.  
1982-1990 Executive Vice President, SH&E, Inc.  
1979-1982 Vice President, SH&E, Inc.  
1977-1979 Senior Economist, Office of Advanced Systems, Transportation Systems Center (TSC), U.S. Department of Transportation (DOT)  
1974-1977 Chief, Research Division, TSC  
1973-1974 Senior Analyst, TSC  
1967-1973 Assistant Professor, Department of Economics, Boston College

**2 CONSULTING EXPERIENCE**

Currently Vice-Chairman of SH&E, Inc., the largest management consulting firm specialized in aviation worldwide. Consulted to airlines, manufacturers, the financial community, and government agencies worldwide in all major commercial areas of operations and planning.

Dr. Duffy is a recognized expert in the areas of travel distribution systems, computerized

reservation systems (CRSs), revenue management and information systems, and strategic planning.

Experience in the areas of airline distribution/CRSs includes:

- preparation of expert testimony on behalf of the "Muse Group" carriers in the CAB's CRS investigation.
- preparation of expert testimony on the profitability of SABRE and APOLLO on behalf of the major non-CRS-owning U.S. carriers before the U.S. Congressional Subcommittee hearings on CRS dominance and pricing.
- for the NIBS group of 27 major carriers, the development of a methodology for estimating the halo effect, and the fair market value of PARS
- preparation and presentation of expert economic testimony on behalf of the USAir et al plaintiffs in the suit brought against American and United Airlines.
- Project Director for the AEA's Global Distribution System Feasibility Study, which developed the automated distribution system concepts currently being embodied by the AMADEUS and GALILEO groups of European carriers.
- assistance to individual carriers like ANA, Turkish Airlines, Mexicana, Lan Chile, and others throughout the world in determining their own long-term distribution system and reservation system strategies.
- for Reed Telepublishing, evaluation of long-term trends in the hotel distribution system and reservation/sales automation.
- for Greyhound Lines, the design and development of their new electronic sales

information system.

- expert testimony presented to the Canadian Competition Tribunal on behalf of Air Canada and Canadian in support of their proposal to form Gemini, a jointly-owned CRS.
- for SITA, evaluation of market requirements/strategy for its GETS CRS
- for Singapore, Cathay Pacific, Thai Airlines, assistance in the development of the strategic business plan for the ABACUS CRS
- for Galileo, evaluation of strategic alternatives for marketing CRS services in major European markets
- for EDS, evaluation of the marketing requirements/potential for SystemOne's Global complex itinerary pricing system
- for the Mexican government, assistance in the privatization of Sertel, the government-owned venture providing reservations and agency automation services in Mexico
- Project Director for the Arab Air Carrier Organization (AACO) GDS Feasibility Study, which led to the formation of the AACO CRS in affiliation with Galileo
- for Amadeus, evaluation of overall CRS returns to the Amadeus-owning carriers

Representative experience in the areas of revenue management and airline management information systems includes:

- for UNISYS and in cooperation with Air France, the design and development of

**ARE 5.0, a comprehensive airline revenue management software system marketed to airlines worldwide**

- **design and development of the Strategy revenue management system, a joint SH&E/SITA venture**
- **assistance to international carriers (PanAm, Alitalia, ANA, Lan Chile, others) in the development of revenue management policies and systems**
- **for the Association of European Airlines, the development of a Strategic No-show Action Program**
- **for British Airlines, the development of business strategy for its Speedwing Technologies information technologies services company**
- **development of SH&E's Competitive Service Index (CSI) and market analysis system for estimating the level of traffic and competitive shares in city-pair markets.**
- **for Pan Am, the design and assistance in development of a completely new passenger revenue accounting system and related management & sales information systems.**
- **design of SITA's telecommunications marketing/pricing system**

**Dr. Duffy has participated in the evaluation of airline strategies and mergers/affiliations, including:**

- **for the Davis investors, valuation of United Airlines**
- **for the Checci/Wings group, valuation of Northwest Airlines**

- for Lazard Freres/Air France, evaluation of the benefits of a joint Air France/Air Canada investment in Continental
- evaluation of the business strategies of numerous US and international carriers (Braniff, PanAm, Viasa, other)
- for the US Department of Transportation, an evaluation of the "new entrant" experience under US deregulation
- for the governments of Venezuela, Chile, Jamaica, the development of an overall policy regarding the regulation and structure of their aviation industries.

### 3 GOVERNMENT RESEARCH EXPERIENCE

Prior to joining SH&E, Dr. Duffy served as Chief of the Research Division of the US Department of Transportation's Volpe National Transportation Systems Center. He formed and directed the Research Division, involving a professional staff comprised mostly of PhD-level economists and operations research analysts. The Research Division conducted over 70 studies sponsored by various elements of the DOT and other federal agencies, involving virtually all major transportation policy decisions:

- Cost benefit analysis of the elements of the Upgraded Third Generation (UG3) Air Traffic Control System
- For the Federal Railroad Administration (FRA) and U.S. Railway Administration (USRA), evaluation of alternatives for restructuring the intercity rail system in the Northeast
- Demand and financial projections for the Northeast Corridor High Speed Rail

**project**

- **Design and development of the Federal Aviation Administration's (FAA) aviation activity forecasting system**
- **For DOT and the Maritime Administration (MARAD), economic evaluation of the maritime construction and operating subsidy programs**
- **For DOT and Department of Energy (DOE), economic analysis of alternatives for increasing energy conservation in transportation**
- **Development of transportation demand forecasts used in the DOT's long-term transportation plan Transportation: Trends & Choices**

#### **4 ACADEMIC EXPERIENCE**

From 1967 to 1973 Dr. Duffy served on the graduate faculty in the Economics Department of Boston College. His teaching responsibilities included advanced quantitative techniques and applied microeconomic theory. He has published a textbook and numerous articles and professional papers. Dr. Duffy holds a PhD in economics from the University of Pittsburgh.



**This is Exhibit "B" referred to in the Affidavit  
of William J. Duffy dated this 25th day of  
January 1993.**



**Notary Public**

**P BROOKS BISHOP  
NOTARY PUBLIC  
MY COMMISSION EXPIRES AUG. 30, 1998**

## **OUTLINE**

---

**1 SUMMARY**

**2 AIRLINE INDUSTRY EVOLUTION**

**2.1 Summary**

**2.2 Globalization and Carrier Alliances**

**2.3 Basis of Inter-carrier Alliances**

**2.4 Internal Reservations vs CRS Services**

**2.5 Disadvantages of the AMR/CAI "Strong" Alliance**

**3 RESTRUCTURING ALTERNATIVES**

**3.1 Air Canada/CAI Merger**

**3.2 Other Airline Investors**

**3.3 Regional Canadian Carriers**

**3.4 Conclusion**

## 1 SUMMARY

---

This statement is in response to the opinions expressed by Michael W Tretheway in support of The application by the Director of Investigation & Research to vary the Gemini Consent Order issued in 1989 under Section 105 of the Competition Act. My comments on the opinions expressed by other experts were incorporated in my main report.

Both Tretheway and I agree that underlying economic forces are directing the airline industry toward consolidation of carriers and the globalization of air travel markets worldwide. It is also accepted that the historical consolidation/restructuring of the Canadian airline industry will continue.

The deterioration of CAI's financial position has prompted the need to choose between alternative futures. A variety of alternatives exist, and they must be evaluated in terms of their effect on the future competitive environment in both the airline and "upstream" CRS/airline distribution markets. Since most of the alternatives are irreversible, this complex decision requires careful and thorough evaluation.

It is Tretheway's position that:

- o "the hosting contract between CAI and Gemini prevents the pro-competitive alliance of CAI and American from taking place,"
- o "if CAI is prevented by the Gemini hosting contracts from pursuing this alliance, the result will be monopolization of the Canadian airline market,"

His statement does not consider the effect of the alternatives on the vital Canadian CRS/distribution market.

**It is my position that:**

- o **it is AMR's apparently non-negotiable requirement of premature termination that is the obstacle to the AMR/CAI alliance, not the hosting contract between CAI and Gemini. There is neither precedent nor logical basis for requiring the premature termination of that contract in order to realize whatever benefits might accrue to an AMR/CAI affiliation.**
- o **the premature termination of the hosting contract will cause Gemini to fail, probably resulting in the monopolization of the Canadian CRS market by AMR's Sabre. The proposed AMR/CAI affiliation is the only restructuring alternative to have this consequence.<sup>1</sup>**
- o **there are several viable restructuring alternatives which would preserve competition in Canada's domestic air markets, including an Air Canada/CAI affiliation, the affiliation of CAI with an alternative (to AMR or Air Canada) carrier/investor, and the emergence of incumbent Canadian carriers -- in alliance with major US carriers -- in the event of CAI's dissolution.**
- o **these viable alternatives have not been carefully evaluated, and there is no reason to believe that the selection of alternatives should not be left to the normal working of the market mechanism.**

---

<sup>1</sup>The basis for this conclusion is presented in my main report, and will not be repeated in this analysis.

## 2 AIRLINE INDUSTRY EVOLUTION

---

### 2.1 SUMMARY

Alternative restructurings of the Canadian airline industry must be evaluated in the context of the basic evolution of the industry worldwide. Either explicitly or implicitly, it is Tretheway's view that:

- o there are significant advantages of airline size that accrue to carriers larger than Air Canada and CAI combined,
- o this supports globalization, and the formation of global carriers through alliance,
- o the alliances which the world's airlines have and are forming are "weak" and ineffective,
- o only "strong" carrier alliances will ultimately succeed, involving the coordination of a "handful" of activities including seat inventory management,
- o the proposed AMR/CAI alliance is an example of such a strong carrier alliance.

Based on my first-hand experience in assisting airline managements in forming these alliances, it is my view that:

- o globalization is viewed more broadly as the gradual integration of both domestic and international markets,
- o in the dynamic airline industry, the patterns of competition and cooperation between carriers are constantly evolving. What Tretheway views as unsuccessful "weak" alliances are in fact highly successful "flexible" alliances,
- o there is nothing to prevent AMR and CAI from coordinating all activities which he cites as essential without premature termination of CAI's hosting contract with Gemini,
- o of all possible alternative airline affiliations for CAI, the proposed AMR/CAI

agreement, involving a comprehensive 20 year service contract, will deprive CAI of the flexibility it will require to negotiate future alliances in a dynamic industry.

## 2.2 GLOBALIZATION AND CARRIER ALLIANCES

Tretheway states that the "marketing advantages of largeness continue to accrue to carriers even much larger than the size of the two Canadian carriers combined." (p13) He further states that "Consolidation of carriers across borders has been kept in place by international regulation, but... the government attitudes which held international consolidation forces in check are now under review." (p13)

It is true that economies of scope and marketing advantages would accrue to a consolidated Air Canada and CAI,<sup>2</sup> and that the direction of government policy is toward liberalizing competition across national borders. As I stated in my main report, the recent evolution of both the US and Canadian airline industries has resulted in the formation of larger carriers through consolidation, and the move toward a liberalized "open skies" environment between Canada and the US<sup>3</sup> could leave a merged Air Canada/CAI in competition with at least five US carriers which are each significantly larger than the consolidated Canadian carrier.

Tretheway interprets those conditions as part of a long-term trend toward globalization of the airline industry. He implicitly defines this globalization in terms of carriers, and reserves the term "global carrier" for "an airline which can gather feed traffic from many points throughout the world, and channel that feed onto its long haul routes." (p18)

Most airline managements and policy makers adopt a broader and more basic view of globalization. From an economic perspective, globalization should be thought of as the

---

<sup>2</sup>Alternately, they can be gained by specialized regional carriers through alliance with larger carriers, as is the normal pattern in both the US and Canada.

<sup>3</sup>Similar to the integration of the European Community air markets.

integration of all domestic and international markets through gradual deregulation, eventually leading to the unhampered ability of all airlines, regardless of flag nationality, to compete in all (international and domestic) markets. The matured air travel markets in Europe and North America are leading this evolution.

Globalization, like perfect competition, is usually thought of as an idealized norm toward which the industry should gravitate. That progress has taken the form of various types of what Tretheway calls "weak carrier alliances," typically involving "various marketing agreements between carriers" of which there are "hundreds of examples."

In fact, carriers routinely form thousands of agreements and alliances involving different partners in both marketing and other areas, including:

- o pooling and block space agreements where competitors pool capacity and revenues on common routes,
- o coordinated scheduling to build interline connections, and preferred marketing of those connections under code sharing agreements,
- o joint cargo, maintenance, catering, or other operating ventures,<sup>4</sup>
- o joint CRS ventures,<sup>5</sup>
- o agreements to provide handling and other services for each other at common points,
- o agreements on the sharing of revenues from interlined passengers.

It is Tretheway's judgement that "since carriers view these marketing agreements as short lived, they are reluctant to invest the time, effort and resources to develop the full potential of the alliance." (p22) In my opinion, Tretheway has misunderstood the nature and effectiveness of this process.

---

<sup>4</sup>Including the consolidation and outsourcing of their internal seat management, as in the case of Gemini.

<sup>5</sup>All major CRSs -- except Sabre and SystemOne -- are jointly owned by airlines.

These agreements between pairs or small groups of carriers are formed in a dynamic market environment, are generally successful, but are often subject to change. For example:

- o British Air and United Airlines entered into a joint marketing agreement in 1986<sup>6</sup> that was displaced when United acquired PanAm's North Atlantic routes in 1991,
- o SAS and Continental entered into an alliance (involving SAS investment in Continental) to promote their interlining of North Atlantic traffic over Newark, although the actual benefits of that alliance and investment to SAS were subsequently reduced due to Continental's decline and bankruptcy,
- o Air Canada and United recently established joint marketing alliances which must be re-evaluated in light of Air Canada's acquisition of a minority interest in Continental.
- o American Airlines has individual marketing agreements with Qantas, Singapore, and Cathay Pacific, even though each of those Asian carriers is in direct competition with each other.
- o Swissair has entered into an equity alliance with Delta and Singapore, and also formed a separate alliance with SAS and Austrian Airlines.
- o KLM has an intimate marketing arrangement and equity investment in Northwest Airlines, even though KLM and Northwest are each part owners of rival CRSs (Apollo and Worldspan, respectively).

These examples demonstrate the clear need, especially of large carriers like Air Canada and CAI (ranking 15th and 18th worldwide in terms of seat departures), of the essential freedom to realign themselves opportunistically in a complex and dynamic industry. What Tretheway terms "weak" are in reality effective "flexible" alliances.

In this context, it is important to note that the proposed AMR/CAI agreement, with the comprehensive services agreement, involves an unprecedented dependence on American Airlines,

---

<sup>6</sup>British Airways and United are also linked through their joint ownership of the Apollo and Galileo CRSs.



and would irreversibly deprive CAI of the flexibility over the next 20 years to continue to form new or different alliances (Section 2.5, below).

### 2.3 BASIS OF INTER-CARRIER ALLIANCES

Tretheway implies that only "strong" carrier alliances are permanent, "typically by requiring one carrier to invest in the other, or to have mutual equity investments in each other." (p22) Presumably, these alliances are structured around those activities which afford a competitive advantage to the alliance. Tretheway cites (p25-26) fourteen activities "which can give a carrier an edge over its rivals," including "management of the inventory of airline seats."

It is important to note that CAI currently retains all of those activities, without exception, and CAI and AMR could coordinate every activity without premature termination of CAI's hosting agreement with Gemini. In particular, although Gemini operates CAI's Pegasus reservation system, CAI uses a very sophisticated system (PROS, which has been adopted by 24 airlines, including Lufthansa and Cathay Pacific) to actually manage the seat inventory.

In his view of what a "strong" carrier alliance would involve, Tretheway claims that there are a "handful of activities which would need to be handled on a global basis in order to build a globally integrated organization. These include ... common management of the inventory of airline seats, and common hosting of seat inventory." (p23)

The integration of two or more major carriers (e.g., KLM/Northwest, the proposed British Air/USAir and Air Canada/Continental affiliations, etc.) involves many more, and more important,<sup>7</sup> activities than the six which Tretheway cites, and the common hosting of seat inventory has never been considered essential or attempted. There is neither precedent nor a

---

<sup>7</sup>For example, the most important potential cost savings involve consolidation/reduction of labor and labor agreements.

logical basis<sup>4</sup> for the view that a hypothetical "strong" airline alliance would involve consolidating internal seat inventory (e.g., the Gemini hosting service provided to CAI).

In considering the role of information technology (IT) in airlines and airline alliances, Tretheway asserts that the "core of the information system in a modern airline is the 'hosted' real time inventory of the carriers seats on flights." (p27) This is incorrect. As I explained in my main report, the seat inventory system (e.g., Pegasus) is an operating -- rather than commercial -- system which contains vast amounts of data but little management information. Whatever useful data that is contained in the Pegasus system is routinely extracted by CAI and processed into its MIS. Alternately, neither American Airlines -- nor other hosting carriers -- provide the MIS services to the carriers whom they currently host.

Tretheway further speculates that "Both Air Canada and CAI are likely to replace their current hosting software." (p27) Air Canada is actually in the process of moving from a UNISYS-based to an IBM-based reservations system (similar to CAI's). CAI evaluated the options of being hosted by American Airlines vs enhancing its own Pegasus system back in 1986, and elected the Pegasus option. Since then, CAI (with Gemini's assistance) has developed many enhancements to Pegasus, and has recently purchased major enhancements from other airlines.<sup>9</sup> CAI has maintained Pegasus as a functionally competitive system, well able to support CAI's operating requirements in the competitive airline environment.

## 2.4 INTERNAL RESERVATIONS VS CRS SERVICES

In a section entitled "CRS as an entry barrier and other competition issues," (p35), Tretheway makes several assertions which are clearly incorrect. That misunderstanding could result from the failure to distinguish between CRS services, internal reservations/seat inventory, and the

---

<sup>4</sup>I considered this issue in my direct testimony.

<sup>9</sup>The British Air DCS system, Swissair development tools, etc.

management of that seat inventory.

As noted in my main report:

- o Air Canada and CAI have outsourced to Gemini the operation of their internal seat inventory systems (Reservec, Pegasus), and continue to enhance those systems with Gemini's support. These are the contracted "hosting" services.
- o Air Canada and CAI have retained the proprietary systems and functions by which they manage their seat inventory. In the case of CAI, this involves CAI's own use of its PROS revenue management system, which is fed by the Pegasus system operated by Gemini.
- o Gemini also operates a single CRS service, "Apollo by Gemini." (ApG) for the Canadian travel agency market, through which all airline seats can be sold, and which has replaced the agency automation systems which used to be offered by Air Canada and CAI to the Canadian travel agencies.

Tretheway observes that "An important element of CRSs is that they are an input into the airline industry." (p36) This is true, regardless of whether he is referring to internal reservations or CRS services. He further states that "vertical integration can be used to raise rivals costs or to prevent them from considering alternative services. The Gemini hosting contract being considered in these proceedings is an example of this type of effect." (p36) This is incorrect.

He certainly is not referring to Gemini's ApG CRS services. CAI currently purchases CRS distribution services from all major CRSs worldwide and simultaneously, CAI's hosting and ApG CRS participant agreements are completely separate, and CAI -- along with Air Canada and the 7 airline owners of Covia -- jointly owns the ApG CRS business.

Nor does his assertion apply to the Gemini hosting services. Air Canada and CAI's internal reservations services have not been integrated into Gemini. Both carriers contracted freely for a fixed (10 year) period to have Gemini operate their internal reservation services. CAI entered into that contract in 1987 after evaluating all alternatives, including hosting by American

**Airlines. Both Air Canada and CAI have continued to invest separately in the enhancement of their Reservec and Pegasus systems, and both are free to reclaim -- or replace -- these systems upon normal termination of their contracts with Gemini.**

**Tretheway continues by claiming that:**

**[CAI's] hosting CRS services from Gemini are based on CAI's original hosting system Pegasus... As CAI lacks the financial resources needed to undertake the type of system development needed to stay competitive in the 1990s, it must look elsewhere for CRS services. However, its existing hosting contract with Gemini prevents it from pursuing the option of purchasing state of the art services from American at relatively low cost. (p37)**

**Apparently, the "hosting CRS services" to which he refers is the management of internal seat inventory which has been outsourced to Gemini. As noted above, CAI reviewed the alternatives of enhancing Pegasus vs becoming hosted by American Airlines, and chose the Pegasus solution. Over the past five years it has already invested in enhancing Pegasus, and there is no reason to believe that the Pegasus system doesn't meet CAI's current requirements, or that significant investment will be required to maintain its functional adequacy through the life of the current hosting contract.**

**Nor does Tretheway present any basis for his judgement that those services could be acquired from American at "relatively low cost." Under request for disclosure, CAI has not been able to produce any evaluation of the relative cost or quality of service between the AMR vs Gemini arrangements, or even information on the exact cost of the AMR hosting service. However:**

- o when CAI freely evaluated these alternatives in 1986, without the duress of its current financial position, it elected to enhance its Pegasus system rather than be hosted by Sabre,**
- o Gemini's profits on reservation services to CAI are limited by a "cost plus" formula, currently 7.5% of cost,**
- o CAI, as a Gemini Partner, shares in any Gemini profits from CAI and Air Canada.**
- o AMR's profit margin on the proposed CAI service contract has been reported as**

"substantially higher" than its normal 17.5%.<sup>10</sup>

- o AMR's charges to CAI for hosting services will involve a 15% markup [twice the Gemini markup] on direct costs, plus an undisclosed service fee.

Documents produced under discovery indicate that both the profit-laden 20 year services contract and the increased profitability of Sabre in Canada are an important part of AMR's return on its investment in CAI. Without questioning the logic of AMR's bargaining position, it is inconsistent to claim, at the same time, that CAI will save money through that service contract. In my opinion, under the AMR proposal, CAI would end up paying more for essentially the same quality of reservations service.

## 2.5 DISADVANTAGES OF THE AMR/CAI "STRONG" ALLIANCE

Tretheway cites various advantages of the proposed AMR/CAI alliance, including "linking Canadian's future to that of the largest and most innovative airline in the world." (p61) That may be a reasonable position for an "American Eagle" feeder carrier, but he does not consider the possible disadvantages of this alternative to a major carrier like CAI.

Under the proposed AMR/CAI strategic affiliation, AMR will acquire 25% of the voting interest and 33% of the equity interest in CAI. In addition, AMR will hold two of eight seats on CAI's Board, and AMR's approval would be required for:

- o "adoption or amendment of the annual [CAI] Business Plan for any year for which Company projects a net loss ...
- o adoption or amendment of the annual [CAI] Capital and Financing Plan.<sup>11</sup>

---

<sup>10</sup>According to the Wall Street Journal, "the company [AMR] is willing to invest in expanding its service business for good reason; its profit margins in that sector are normally 17.5%, and the airline told analysts that it's projecting substantially higher margins on the Canadian contract."

<sup>11</sup>Shareholder Agreement between Canadian Airlines International Ltd., PWA Corporation, and Aurora Investments, Inc., undated.

Further, through the comprehensive 20 year service agreement,<sup>12</sup> AMR will gain effective control over important CAI commercial and operating functions. For example:

- o AA Pricing and Yield Management (PYM) will provide services for CDN in the areas of yield management, pricing operations and strategy, product distribution and display [emphasis added],
- o "PYM will be responsible for monitoring, analyzing, developing, and implementing [emphasis added] fare strategies for all CDN flights.

As noted above, the major air carriers require flexibility in the agreements which they form with other airlines in an uncertain environment. Any minority equity investment by one airline like AMR in another airline like CAI is something of a "poison pill" in the sense that it reduces the attractiveness of future airline affiliations with and/or investors in CAI. The proposed AMR/CAI alliance, with the comprehensive 20 year service contract, is unprecedented in the degree to which CAI would be limited in future alliances with other carriers.

In addition to that sacrifice of CAI control, the AMR/CAI affiliation which Tretheway endorses over all restructuring alternatives also bears important risks. First, there is no assurance that the proposed AMR/CAI alliance will actually be executed. Both carriers are experiencing heavy operating losses -- AMR Corp. reported a US\$935M net loss in 1992, "easily making 1992 the worst year in AMR's history."<sup>13</sup> In addition, the sweeping changes that would be involved in the transfer of operating functions from CAI to American Airlines and the attendant reduction in CAI personnel will most likely aggravate CAI's current operating problems, at least in the near-term. Finally, the assumption of those responsibilities by American Airlines during the

---

<sup>12</sup>Services Agreement, Pricing and Yield Management Attachment, pp 1-5, Draft of December 29,1992.

<sup>13</sup>Aviation Daily, January 21,1993.

**detailed implementation of the broad terms of the services agreement is subject to risk.<sup>14</sup>**

**Although American Airlines is and will remain one of the leaders in the airline industry, it would be irresponsible to ignore the disadvantages and risks of the AMR/CAI alternative.**

---

**<sup>14</sup>In 1986, PanAm entered into an agreement involving, among other things, becoming hosted by American Airlines. PanAm terminated that agreement as of September 30, 1987. "Pan Am officials told the DAILY that American missed several implementation dates for a variety of automation services... Reason for the missed deadlines most likely was miscalculation by American of the complexity of the work that [AA] had agreed to offer." Aviation Daily, August 18, 1987.**

### 3 RESTRUCTURING ALTERNATIVES

---

#### 3.1 SUMMARY

Trethewey considered some alternatives for restructuring the Canadian airline industry in response to CAI's financial position, and concluded that:

- o the "only meaningful alternative [airline] purchaser [of CAI] is American Airlines, at least prior to a financial failure of CAI," (p46)
- o a merged Air Canada/CAI would not be viable, and would in any event result in a virtual monopoly of the Canadian domestic markets,
- o in the event of a failure of CAI, there is no possibility of entry of new carriers into domestic Canadian markets.

It is my view that there are several viable restructuring alternatives to the proposed AMR/CAI affiliation, including:

- o the likelihood of alternative (to Air Canada and AMR) airline investors in CAI
- o the formation of a strong Canadian carrier out of Air Canada and CAI to face competition from the major US carriers in an integrated US-Canada air market
- o the emergence of regional Canadian carriers, in alliance with major US carriers, to compete against Air Canada in the domestic Canadian markets.

Given the importance of this decision to the future of the Canadian air travel industry, the choice between these viable alternatives will require much more careful evaluation than has so far been produced.

#### 3.2 OTHER AIRLINE INVESTORS



In considering alternative (to Air Canada and AMR) investors in CAI, Tretheway notes that "During the period in the Fall of 1992, when CAI and Air Canada proposed merging, CAI was instructed by the Director of Investigation and Research to look for alternative purchasers for CAI." (p46) Since that search did not produce alternative proposals, Tretheway concludes that "there are no alternative purchasers of CAI." (p46) It is not surprising that CAI has yet to find an alternative investor, although I believe that, in today's industry environment, CAI would be an attractive investment opportunity to many carriers.

Since the fall of 1991, CAI has been in almost continuous (and highly visible) negotiations with either/both Air Canada and AMR. The search to which Tretheway refers was conducted at a time when CAI had an executed pre-merger agreement with Air Canada. Having participated first-hand in airline merger/acquisition evaluations, I can attest to the fact that it involves a significant investment in senior management attention and direct resources. No sensible airline management would make that commitment to CAI simply to strengthen CAI's bargaining position vis a vis a preferred airline partner, let alone one with which it had already established a pre-merger agreement.

Would a careful and objective search for an alternative airline investor succeed? The proposed AMR/CAI agreement is conditional upon:

- o the conversion of \$724.9M in debt to equity,
- o \$200M in wage concessions
- o the ability to cancel CAI's new aircraft orders
- o \$120M in government loans and loan guarantees.<sup>15</sup>

Under discovery, The CEO of CAI acknowledges that only AMR was approached with this offer.

As noted in my direct testimony, CAI is an attractive strategic airline investment, especially in the current environment of inter-carrier consolidation on a global basis. Alternatively, there is

---

<sup>15</sup>These were only authorized in December 1992.

no rational basis to believe that AMR alone -- of all US and non-North American carriers -- would find CAI an attractive strategic partner under the same terms offered to AMR.

Tretheway concedes that, with an alternative airline investor, "hypothetically CAI could be maintained as a significant competitor." (p55) But he claims that the benefits of another US carrier investor to CAI is "exactly what CAI and American are proposing to do. They are being prevented from pursuing this course by the Gemini hosting contract." (p56) This is incorrect. An obstacle to the agreement is AMR's current requirement that CAI terminate its hosting contract with Gemini prematurely and, as I noted in my direct testimony, no other airline investor would impose that requirement.

### 3.3 AIR CANADA/CAI MERGER

In evaluating this alternative, Tretheway begins by noting that between July and September 1992 the two carriers prepared and executed a pre-merger agreement. Air Canada's financial advisors "were unable to render a positive fairness opinion, indicating that Air Canada's shareholders would not be well served by the merger" (p38), under the conditions of that ~~hastily-prepared~~ pre-merger agreement. "This leads [Tretheway] to the first major consequence of hypothetical merger of AC and CAI: mergeco would not be a viable economic entity." (p39)

Apart from the logical flaw in that argument, it is my view that the consolidation of the two major Canadian airlines into a single viable entity is certainly within the realm of possibility.

Tretheway then concludes that "Mergeco would dominate the Canadian airline industry, and ... must be considered as a near monopoly." (p39) This conclusion is based on his opinion that the cumulative height of entry barriers into the Canadian market would prove insurmountable to new competitors. In my view, the merger of Air Canada and CAI to form a strong Canadian airline is a logical step in the industrywide evolution that will lead to open skies between the US and Canada, and I find it naive to think that the US carriers, including American Airlines, would find barriers to Canadian domestic markets prohibitive.

In his earlier argument, Tretheway argued for globalization, and stated that "the government attitudes which held international consolidation forces in check are now under review." (p13) That line of reasoning toward globalization, along with the recognition of the fact that there are advantages of size that accrue to carriers larger than a consolidated Air Canada and CAI, strongly recommends a policy alternative in which a consolidated Air Canada/CAI is exposed to competition in domestic Canadian markets from major US carriers. As Exhibit 3.1 indicates, major US carriers already serve the major Canadian markets/gateways, and could easily expand service into the domestic Canadian market.

In an evaluation of restructuring alternatives, Oum, Taylor, and Zhang<sup>16</sup> at the University of British Columbia considered two alternatives:

"outcome A: Air Canada and PWA each become controlled by a US mega carrier

outcome B: Air Canada and PWA merge and form a strong alliance with USAir."(piii)

In their view, "Outcome A" would be the result of the "proposed AMR/PWA transaction," and "outcome B" was their choice (of several) alliances for the consolidated Canadian carrier. Their analysis concluded that:

The AC+PWA and USAir outcome is clearly better in terms of (a) positioning the Canadian carrier in preparation for globalization of the industry and the eventual North American open skies regime; (b) Canada's economic output; (c) employment in Canada; and (d) the increased availability to Canadian consumers of non-stop and direct flights to more international destinations. (pvi)

### 3.3 REGIONAL CANADIAN CARRIERS

Tretheway considers various advantages of large incumbent airlines and concludes that the collective effect or "height" of those barriers in the Canadian market is such that "it is out of the question that a new carrier could launch a nationwide service." (p34) Although that unsupported judgement may or may not be true in the case of a de novo carrier, it would certainly be possible for smaller incumbent carriers like Time Air, Air Alliance, Canada 3000 -

---

<sup>16</sup>Canadian Aviation at the Crossroads: Policy choices for the New Global Environment, T.H. Oum, A.J. Taylor, A. Zhang, University of British Columbia, May 10, 1992.

- in alliance with powerful US partners -- to provide vigorous competition in domestic Canadian markets.

All parties agree that there is ample competition in Canada's international air markets, and that the concern in evaluating a restructuring of the Canadian industry is focused on the domestic markets. Trethewey considers the alternative of CAI's downsizing by selling off its regional carriers. It is not clear to him that there would be potential investors for these carriers, but he asserts that "Eventually the regionals would have to realign themselves with CAI in order to be viable." (p57) He also claims that the only way that downsizing CAI "can be viewed as being successful is if it is done in conjunction with forming a strong alliance with a US or other international carrier." (p58)

Throughout his analysis of policy alternatives, he failed to consider the realistic and highly pro-competitive alternative of regional Canadian carriers, like Time Air or Air Atlantic,<sup>17</sup> entering into competition with Air Canada in the domestic markets in conjunction with a strong alliance with US carriers, in the event of CAI's failure.

Time Air and Air Atlantic alone currently account for 75% of CAI's regional system revenues. Together, they account for over 26% of total CAI and affiliates seat departures in the domestic market (Exhibit 3.2). Both carriers already operate jet equipment, and Time Air had an operating profit of \$15.3M in 1991. More important, they already control traffic feed into Canada's major East-West and transborder cities/gateways.

All of the major US carriers, including American Airlines, have long realized the strategic importance of this type of regional feed affiliate (Exhibit 3.3). Time Air and Air Atlantic would be strategically important entrees into the Canadian markets, and are the size (available seat miles or ASMs) of the larger feeder carriers for the US majors. With the support of a major US partner, these Canadian carriers would be encouraged to use their feed control in Canada

---

<sup>17</sup>Also Canada 3000.

to expand into "trunk like" domestic markets.

It is important to note that, like most European vs US national markets, these regional carriers would not have to expand into a large number of markets to provide the restraint of competition to Air Canada or a consolidated Air Canada/CAI. As Exhibit 3.4 indicates, only 8 cities are involved in the top 10 Canadian domestic origin-destination markets, which account for over 40% of total domestic traffic in Canada.

### **3.4 CONCLUSION**

Tretheway's opinions, as well as the merits of the Director's application, must be evaluated in the proper context. As in other matured air travel markets, the Canadian airline industry has been moving toward globalization through privatization, deregulation, and carrier consolidation.

The Canadian carriers, among the largest in the world, are experiencing the same financial difficulties that have beset the industry worldwide. This has catalyzed the need for further restructuring, in Canada and elsewhere, and there are several viable alternatives, each with advantages and disadvantages.

The resolution of this issue will have a lasting and irreversible impact on the Canadian industry, and deserves thorough and objective evaluation. No convincing evidence has been presented, by Tretheway or others, that satisfies that requirement, or indicates that this complex decision cannot be resolved by the market mechanism.

**Exhibit 3.1  
Detail of U.S.-Flag Airline Weekly Seat Departures at Major Canadian Cities  
July 1992**

1992 Rank	City	Total U.S.-Flag	American	Alaska	Continental	Delta	Northwest	United	USAir	Other 1/
1	Toronto	69,166	21,065	1,890	0	12,102	7,196	10,238	16,675	0
2	Vancouver	24,836	2,982	3,665	2,640	5,148	0	10,401	0	0
3	Montreal	31,525	6,062	0	0	13,378	4,474	0	7,811	0
4	Calgary	17,442	3,976	919	0	9,380	0	3,067	0	0
5	Edmonton	6,475	994	0	0	3,381	2,100	0	0	0
6	Ottawa	4,226	0	0	0	1,188	0	0	3,038	0
8	Winnipeg	4,004	0	0	0	0	4,004	0	0	0
9	Quebec	594	0	0	0	0	594	0	0	0
11	Victoria	2,054	0	1,541	0	0	0	0	0	513
16	Fredericton	342	0	0	0	0	342	0	0	0
17	Saint John	468	0	0	0	0	468	0	0	0
19	Moncton	756	0	0	0	0	756	0	0	0
23	London	1,263	0	0	0	0	669	0	594	0
25	Charlottetown	378	0	0	0	0	378	0	0	0
37	Nanaimo	147	0	0	0	0	0	0	0	147
	<b>Top 50 Cities Total</b>	<b>163,676</b>	<b>35,079</b>	<b>8,095</b>	<b>2,640</b>	<b>44,577</b>	<b>20,981</b>	<b>23,726</b>	<b>27,918</b>	<b>660</b>
	<b>All Other</b>	<b>1,374</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>513</b>	<b>0</b>	<b>576</b>	<b>285</b>
	<b>Total Canada</b>	<b>165,050</b>	<b>35,079</b>	<b>8,095</b>	<b>2,640</b>	<b>44,577</b>	<b>21,494</b>	<b>23,726</b>	<b>28,494</b>	<b>945</b>
	<b>Share of U.S.-Flag</b>	<b>100.0%</b>	<b>21.3%</b>	<b>4.9%</b>	<b>1.6%</b>	<b>27.0%</b>	<b>13.0%</b>	<b>14.4%</b>	<b>17.3%</b>	<b>0.6%</b>

1/ Kenmore Air and Lake Union Air Service

Source: ABC Schedule Tapes Processed by SH&E

21

**Exhibit 3.2**  
**Canadian International Nonstop Service By Division**  
**August 1992**

Division/Carrier	Weekly			Percent of Total System		
	Departures	Seats	ASM's	Departures	Seats	ASM's
<b><u>Domestic</u></b>						
Canadian Int'l	2,107	257,890	195,014,019	29.5%	50.7%	42.0%
Time Air	1,478	74,733	16,535,424	20.7%	14.7%	3.8%
Air Atlantic	798	38,742	8,782,938	11.2%	7.6%	1.8%
Inter Canadian	732	28,518	5,443,682	10.3%	5.6%	1.2%
Ontario Express	984	22,766	4,765,421	13.8%	4.6%	1.0%
Calm Air	234	7,362	1,357,892	3.3%	1.4%	0.3%
Air St. Pierre	20	920	350,796	0.3%	0.2%	0.1%
Air Alma	78	1,326	248,404	1.1%	0.3%	0.1%
Subtotal	6,431	432,257	232,498,570	90.1%	85.1%	50.1%
<b><u>Transborder</u></b>						
Canadian Int'l	126	18,206	30,767,756	1.8%	3.6%	6.6%
Ontario Express	293	5,274	1,370,142	4.1%	1.0%	0.3%
Time Air	88	4,260	1,067,724	1.2%	0.8%	0.2%
Air Atlantic	28	1,036	329,448	0.4%	0.2%	0.1%
Subtotal	533	28,766	33,535,070	7.5%	5.7%	7.2%
<b><u>Atlantic</u></b>						
Canadian Int'l	92	21,544	84,568,688	1.3%	4.2%	18.2%
<b><u>Pacific</u></b>						
Canadian Int'l	69	22,770	103,478,650	1.0%	4.5%	22.3%
<b><u>Latin American</u></b>						
Canadian Int'l	12	2,856	9,992,016	0.2%	0.6%	2.2%
<b>Total CP System</b>	<b>7,137</b>	<b>508,193</b>	<b>484,072,994</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: ABC World Airways Guide, August 1992.

**Exhibit 3.3**  
**Regional Air Carrier Code-Sharing Services**  
**For Major Canada and U.S. Airlines**  
**August 1992**

Reporting Airline	Code-Sharing Airline	Weekly		
		Aircraft Departures	Seat Departures	ASMs (000)
AC Air Canada	ZX Air BC	2,100	81,703	16,210
	QK Air Nova	591	44,583	12,394
	GX Gill Aviation	1,039	39,443	9,003
	SJ Air Alliance	811	30,007	6,667
	<b>Total</b>	<b>4,841</b>	<b>194,736</b>	<b>43,264</b>
CP Canadian Airlines International	IG Time Air	1,564	78,983	17,603
	9A Air Atlantic	628	39,778	9,112
	9X Ontario Express	1,277	26,040	6,136
	ND Intair	732	28,518	5,444
	MO Calm Air International	234	7,362	1,358
	PJ Air St. Pierre	20	920	351
	4L Air Alms Inc.	78	1,326	248
<b>Total</b>	<b>4,731</b>	<b>184,927</b>	<b>40,252</b>	
AS Alaska	QX Horizon Air	4,003	111,710	18,969
	7H Era Aviation	700	20,108	2,791
	RV Reeve Aleutian Airways	14	896	707
	KS Penair	140	2,142	677
	8E Bering Air	285	2,280	189
	JF L.A.B. Flying Service	383	3,064	126
	<b>Total</b>	<b>5,525</b>	<b>140,200</b>	<b>23,459</b>
AA American	A1 Flagship Airlines	4,637	140,622	29,665
	MQ Simmons Airlines	2,083	104,796	15,677
	FY Metroflight Airlines	1,878	53,420	11,838
	RM Wings West Airlines	2,303	48,354	6,342
	NA Executive Air Charter	864	33,352	4,843
	<b>Total</b>	<b>11,765</b>	<b>380,444</b>	<b>68,864</b>
CO Continental	RU Britt Airways	3,558	131,604	20,843
	JO Rocky Mountain Airways	1,428	44,830	8,389
	<b>Total</b>	<b>4,986</b>	<b>176,434</b>	<b>29,232</b>
DL Delta	HQ Business Express	3,686	122,029	24,809
	OH Comair	3,663	106,102	23,940
	EY Atlantic Southeast Airlines	3,403	85,892	21,811
	OO Sky West Airlines	3,455	76,458	13,007
	<b>Total</b>	<b>14,107</b>	<b>390,281</b>	<b>83,366</b>
NW Northwest	9E Express Airlines I	3,155	83,385	18,553

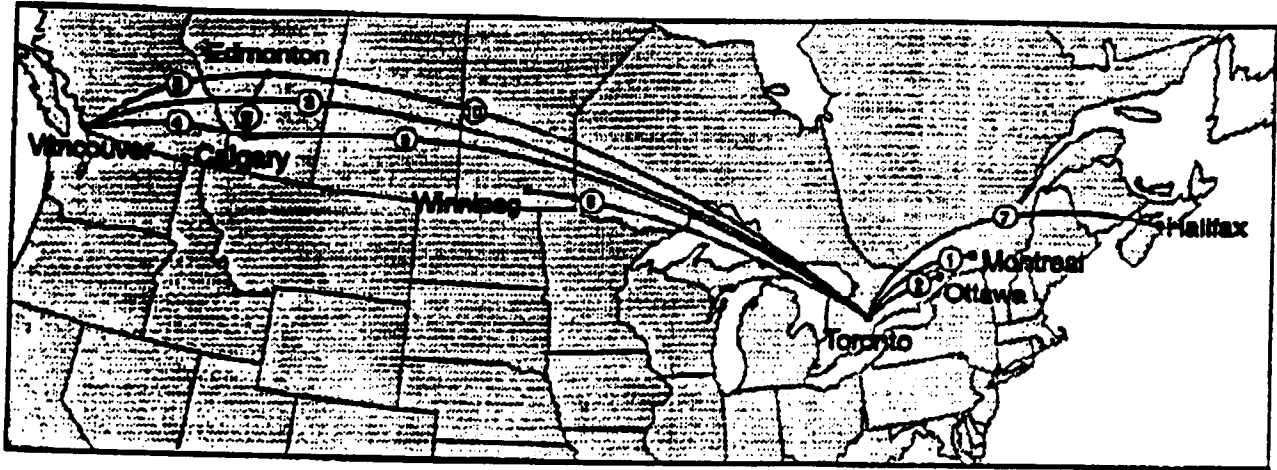


**Exhibit 3.3**  
**Regional Air Carrier Code-Sharing Services**  
**For Major Canada and U.S. Airlines**  
**August 1992**

Reporting Airline	Code-Sharing Airline	Weekly		
		Aircraft Departures	Seat Departures	ASMs (000)
	QX Horizon Air	3,185	89,728	14,624
	XJ Mesaba	1,851	57,925	11,317
	ZV Northeast Express	959	18,826	3,477
	RP Precision Airlines	986	17,730	2,081
	YW Stateswest Airlines	682	12,866	1,635
	<b>Total</b>	<b>10,817</b>	<b>277,792</b>	<b>51,586</b>
TW Trans World	9N Transstates Airlines	1,968	56,796	12,083
	T8 Trans World Express	1,172	44,853	8,321
	<b>Total</b>	<b>3,140</b>	<b>101,649</b>	<b>20,385</b>
UA United	ZW Air Wisconsin	2,080	128,040	21,088
	OE Westair	3,277	79,270	18,887
	N1 Atlantic Coast	1,719	38,922	9,622
	YV Mesa Airlines	1,413	30,191	6,136
	ZK Great Lakes Aviation	1,782	34,048	5,652
	<b>Total</b>	<b>10,281</b>	<b>308,471</b>	<b>59,196</b>
US USAir	P1 Henson	2,553	98,322	19,061
	U2 Allegheny Commuter	3,085	100,322	14,866
	TF Jetstream International	1,523	31,494	6,283
	ED CC Air	1,449	40,855	6,043
	U4 Chautauqua	992	23,196	3,362
	U9 Commutair	1,348	25,612	3,270
	ZV Air Midwest	1,081	20,539	3,233
	U1 Florida Gulf Airlines	983	18,677	2,922
	YW Stateswest Airlines	899	16,333	2,151
	U5 Crown	697	18,272	1,444
	J1 Jet Express	352	6,336	846
	<b>Total</b>	<b>14,958</b>	<b>399,958</b>	<b>63,671</b>
<b>Grand Total</b>		<b>85,151</b>	<b>2,563,992</b>	<b>482,696</b>

**Exhibit 3.4**

**The Top 10 True O&D Markets in Canada Account for Over 40% of Canada's Total Domestic Traffic**



Rank	City Pair	Passengers	% of Total	Cumulative %
1.	Montreal-Toronto	1,122,000	9.87%	9.87%
2.	Ottawa-Toronto	659,500	5.80%	15.67%
3.	Toronto-Vancouver	639,800	5.63%	21.30%
4.	Calgary-Vancouver	399,800	3.52%	24.82%
5.	Calgary-Toronto	375,200	3.30%	28.12%
6.	Toronto-Winnipeg	317,200	2.79%	30.91%
7.	Halifax-Toronto	298,900	2.63%	33.54%
8.	Edmonton-Vancouver	293,600	2.58%	36.12%
9.	Calgary-Edmonton	259,800	2.28%	38.40%
10.	Edmonton-Toronto	245,400	2.16%	40.56%
<b>Total Passengers</b>		<b>4,611,200</b>		
<b>Total Canada</b>		<b>11,370,000</b>	<b>100.00%</b>	