

# Rio de Janeiro's Transportation Clearing House Case Study

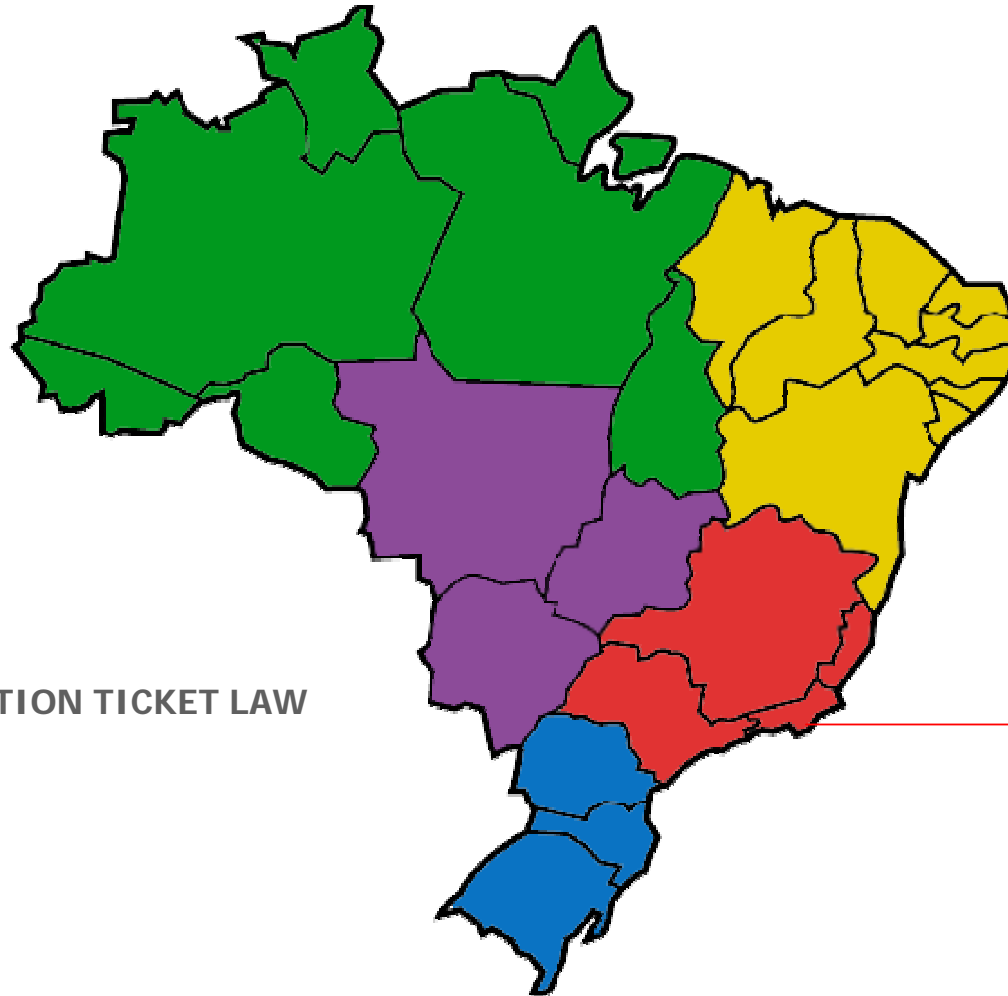
## Presentation Overview

- **Company Information**
- **Rio de Janeiro's Transportation Network**
- **Montreal's Clearing House solution**
- **Why IBM Mainframe platform**
- **Benefits**
- **System Statistics**

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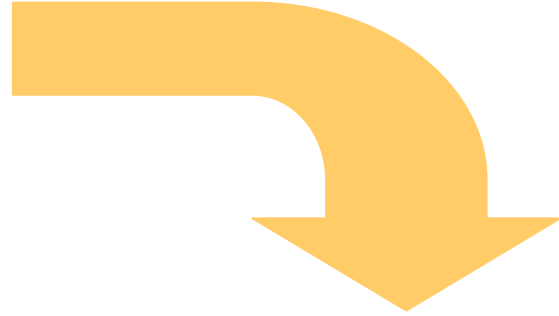
- Since 1987
- 1,800 employees
- HQ in Rio de Janeiro
- Branches in 7 capitals
- US\$ 62,756 millions (Earnings - 2005)



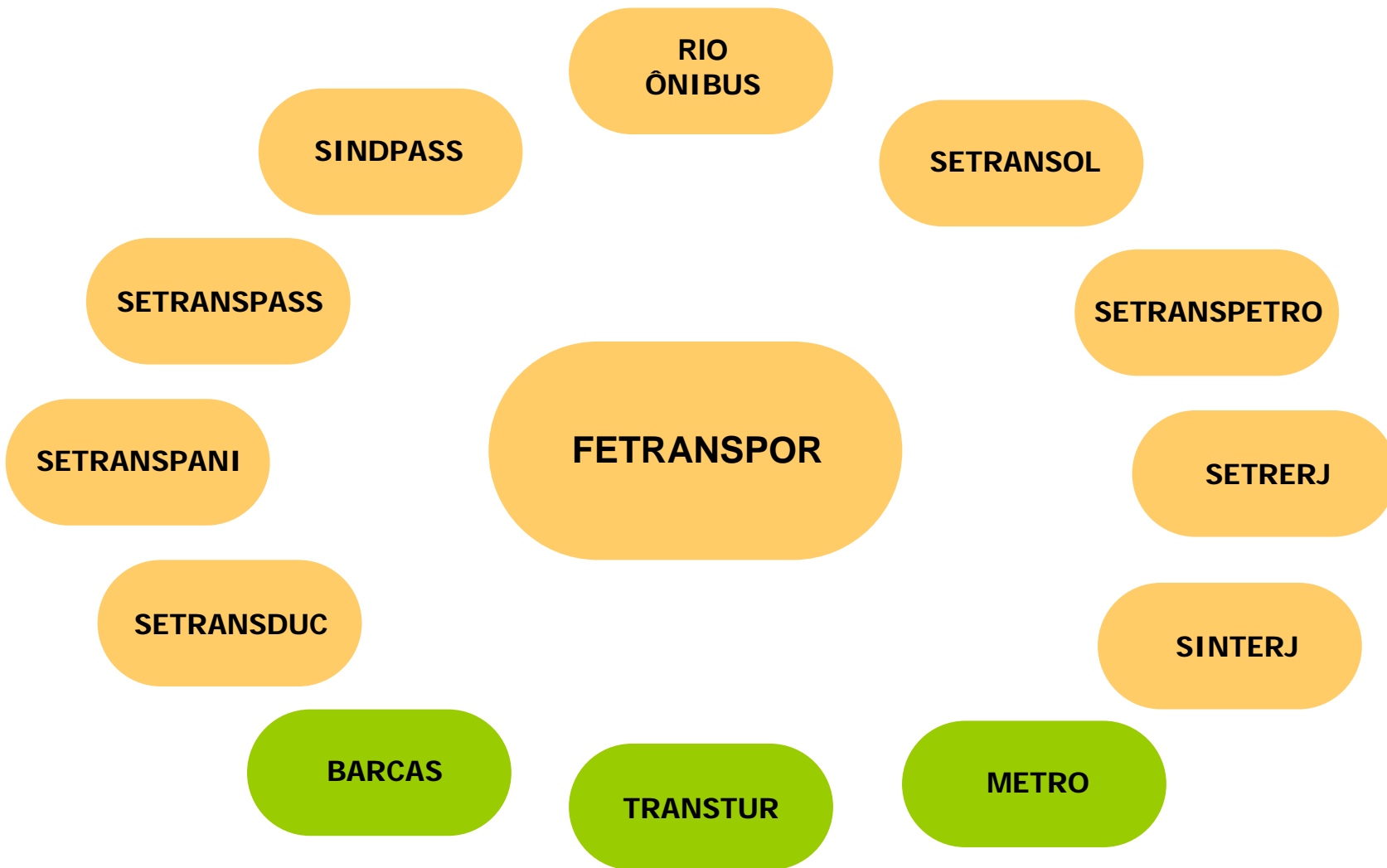
1985  
EMPLOYEE TRANSPORTATION TICKET LAW



# Rio de Janeiro State



# Organization

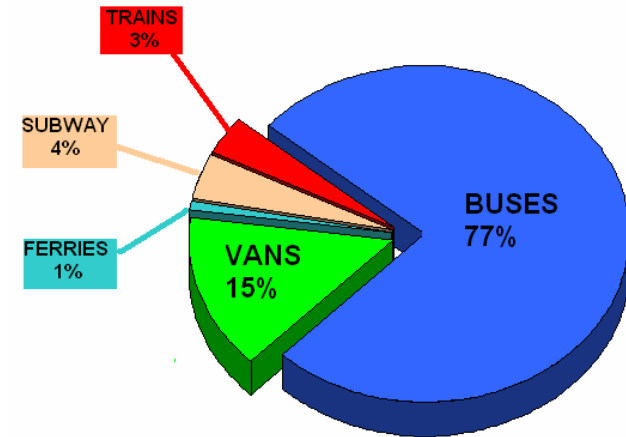


# Transportation Network

Transportation Companies	
Rio de Janeiro City	47
Metropolitan Area	136
Other Cities	56
<b>Total</b>	<b>239</b>

Buses	Ridership	
Metropolitan Area	5,796,000	3,815,000
Other	551,000	362,000
<b>Total (17793)</b>	<b>6,347,000</b>	<b>4,177,000</b>
		<b>10,524,000</b>

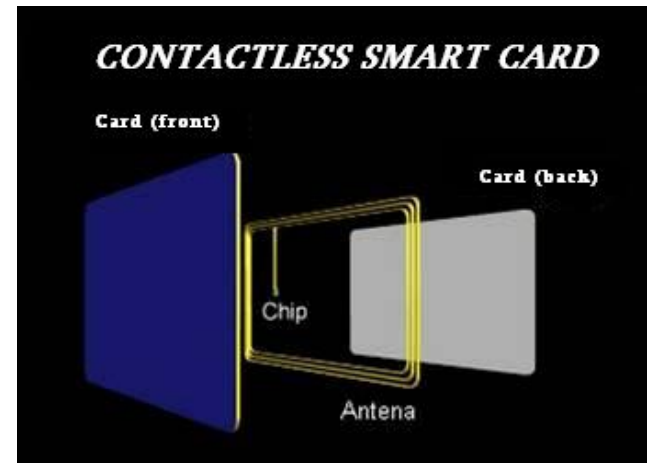
	Stations	Ridership
Trains	96	400.000
Subway	32	500.000
Ferries	8	80.000
<b>Total</b>	<b>136</b>	<b>980.000</b>



# History and Chronology



1985



2004

# Cards & Readers





## Montreal's Clearing House Solution

- Enrollment and Money Orders
- Cards
- Use
- Clearing House

# Enrollment and Money Orders

[www.riocard.fetranspor.com.br/riocard](http://www.riocard.fetranspor.com.br/riocard)



85.000 Users

65,237 Orders

683,456 Money Adds

# Cards

Initialization



Registration

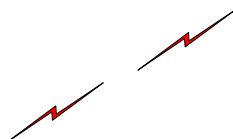
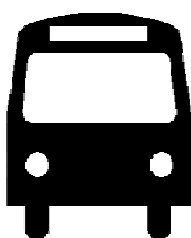
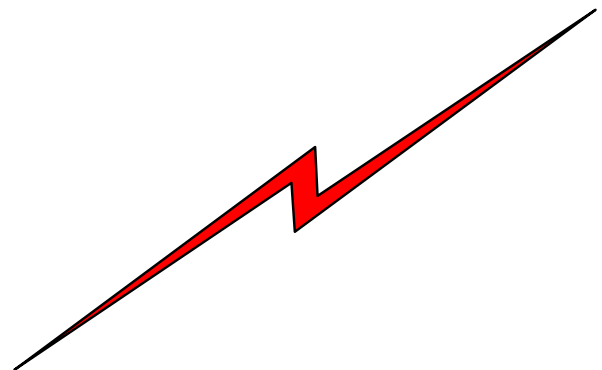


z890

# Use



# Use



- 18.000 log files per day
- 1,450,000 trips
- All files received until 7:30 A.M.
- All payments made until 01:00 P.M. same day

Hardware	Software
<ul style="list-style-type: none"><li>▪ z890 – 230</li><li>▪ 8 GB</li><li>▪ ZAAP</li><li>▪ CRYPTO</li><li>▪ 1 TB Storage</li></ul>	<ul style="list-style-type: none"><li>▪ Z/OS 1.6</li><li>▪ WebSphere 5.1</li><li>▪ WSAM</li><li>▪ JAVA</li><li>▪ COBOL</li><li>▪ VB</li><li>▪ DB2 for z/OS V8</li><li>▪ DB2 Utilities Suite</li><li>▪ DB2 TOOLS</li></ul>

- **RELIABILITY**
- **SCALABILITY**
- **SUPPORT**
- **SECURITY**
- **TOOLS**
  - **DB2 SQL Performance Analyzer**
  - **DB2 SQL Performance Expert**
  - **DB2 Administration Tool**



Distinct Buyers	80,000/100,000
Cards	1,000,000 / 1,500,000
Trips (Daily)	1,450,000 / 2,000,000
Logs (Daily)	18,000 / 30,000
Orders (Jan/2006)	65,237
Money Adds (Jan/2006)	683,456
New Cards (Jan/2006)	51,182
<b>US\$ (Monthly)</b>	<b>34,000,000 / 54,000,000</b>

- **Payment on the same day**
- **Fewer frauds**
- **Less money aboard buses**
- **Less time for payment / Fewer lines**

- **15% utilization increase**
- **1,5 % Cost Reduction (Ticket x Card)  
approximately US\$ 510K/month**
- **Buyers cost reduction: 20 to 30%**
- **New markets – credit cards, stores ...**

- **Users, Buyers and Transportation Companies are very satisfied with the system solution**
- **Fetranspor is confident with the solution and intends to expand it for other markets**
- **Montreal will continue to use this platform for new system releases**



