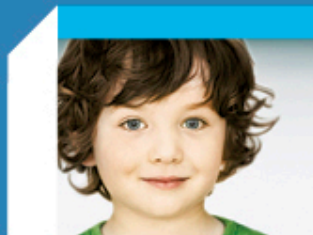


REVENU  
QUÉBEC



# Zap the Zapper: FTA Technology Conference and Exhibition

---

August 13th, 2012

---



---

# Agenda

---

- **Zappers**
- **Solution and Sales Recording Module (SRM)**
- **Transaction processing and Inspection process**
- **Implementation of the solution and results**
- **Questions**



---

# Zappers

---



---

## Historical View of Skimming

---

**Many cash businesses have always engaged in some form of cheating (skimming) from the receipts of the business – typical strategies included:**

- Not entering all the transactions into their cash register or point of sale system
- Not recording all the transactions in their accounting system (two sets of books)
- Entering all the transactions into both systems, but simply filing false reports with the tax authorities



---

## Times Have Changed

---

- As technology has evolved, so have the methods used by businesses to hide sales information
- This enables businesses to hide cash transactions more easily and it makes it difficult to be found by State Tax Auditors with traditional means
- In the mid 1990's, software became available that would “zap” sales transactions from electronic cash registers (ECR) or point of sale (POS) systems
- In 1996, Revenu Québec (RQ) found the first zapper. Since then RQ has discovered 41 zappers in 23 different systems. This led to the realization of more than 250 criminal investigations.

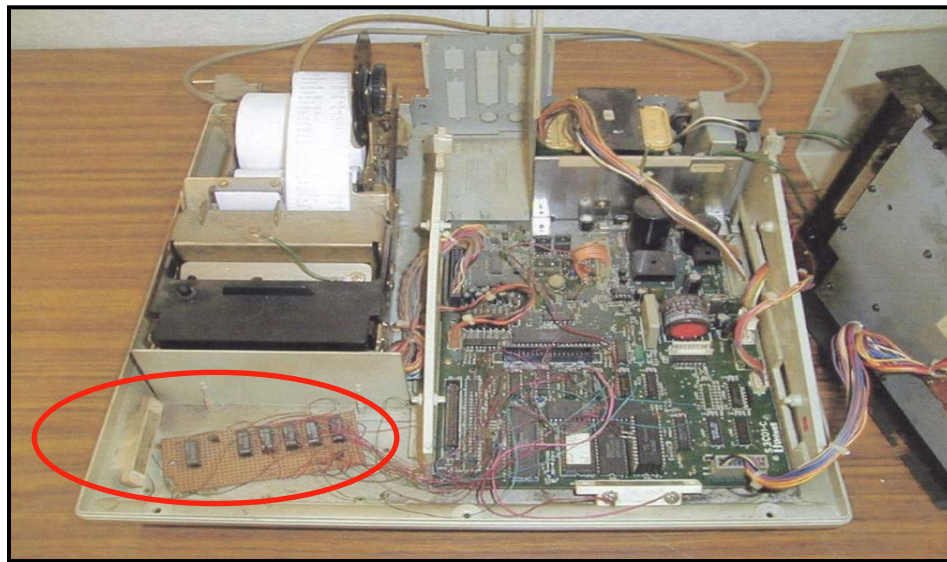
---

## What is a Zapper?

---

A computer function or electronic component that facilitates tax evasion by altering or erasing sales transactions in electronic cash registers or point of sale systems, as well as the bills generated.

### Example of Hard Wired Zapper



---

## Zappers: example of operating logic

---

### For example, one of the zappers :

- completely removes cash bills only
- considers excluded categories (ex: alcoholic beverages)
- renumbers remaining bills
- generates a new control number for each transaction

### Extreme care to prevent traces :

- the original data is copied to a separate directory for modification
- following this treatment, the original data files are deleted and then replaced with the modified files



---

## What we've learned

---

- Zapper software can be loaded onto memory sticks, removable CDs, USB Keys or even accessed through a link on the internet
- Owner avoids sales taxes on the deleted receipts or items, while keeping these taxes collected from consumers and also avoids income tax
- Even very well-trained auditors may not detect tax evasion
  - Sales records are completely rewritten
  - Accounting ratios (purchases, sales) remain coherent because purchases are made under the table



---

## Erosion of the Tax Base in Quebec

---

### According to a study by RQ for 2002:

- Percentage of restaurant operators who hide income: 48.4%
- Percentage of hidden income relative to declared income: 51.9% (for those who hide income)

### According to Revenu Québec's estimates for 2008-2009:

- Tax losses (Quebec laws only): \$419 Million:
  - **\$136 Million of QST charged by restaurant operators but not remitted to the government.**

---

## RQ's response to tax evasion in the restaurant sector

---

An original approach in terms of tax audit :

**SRM combined with an inspection process**

**Will generate additional revenues of over \$2 billion for the  
Quebec government by 2018-2019**



---

# Solution and Sales Recording Module

---

---

# Solution Requirements

---

## Revenu Québec determined that the solution:

- Needed to be independent of Point-of-Sale (POS) system developers and Electronic Cash Register (ECR) manufacturers, as they are usually involved in the design and distribution of zapper software
- Needed to implement effective corrective measures with consistent and lasting results:
  - Counter zappers; and
  - Thwart most other tax evasion strategies being used—otherwise, the problem will simply resurface
- Must increase the restaurant owners awareness of the risk of being caught

# Solution to Under-Reporting in the Restaurant Industry

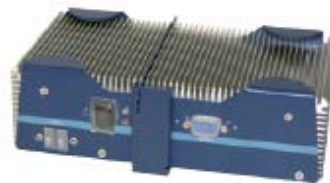
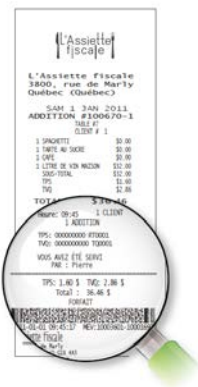
Chosen solution : 4 additional measures essential to the effectiveness

Requirement to submit an invoice to the customer

Requirement to produce the invoice from a sales recording module (SRM)

Dedicated Inspection team

Public awareness on the importance of leaving with the invoice



---

# Sales Recording Module

---

## What is a sales recording module (SRM)?

- It's a microcomputer;
- When connected to an electronic cash register or POS system, the SRM receives transaction data (customer checks, cash register receipts, credit notes), retrieves relevant information such as sales and tax amounts, and saves it in a secure memory;
- Once it has saved the data, the SRM generates a digital signature, which it sends to the printer, along with the information required to print a customer check/invoice.

# Flow of Data



---

# Sales Recording Module

---

## SRM features:

- The machine is owned by restaurant operators;
- It is not connected to the systems of Revenu Québec;
- It can save recorded data for seven years;
- It produces a digital signature, which differs from one module to another. This signature, printed inside a bar code on each customer invoice, will facilitate inspection;
- Restaurant operators will be able to consult and copy saved data, but will not be able to modify it;
- Revenu Québec personnel will also be able to consult and copy saved data, resulting in more efficient interventions;
- Restaurant operators can print periodic sales summaries to be sent to Revenu Québec each month.



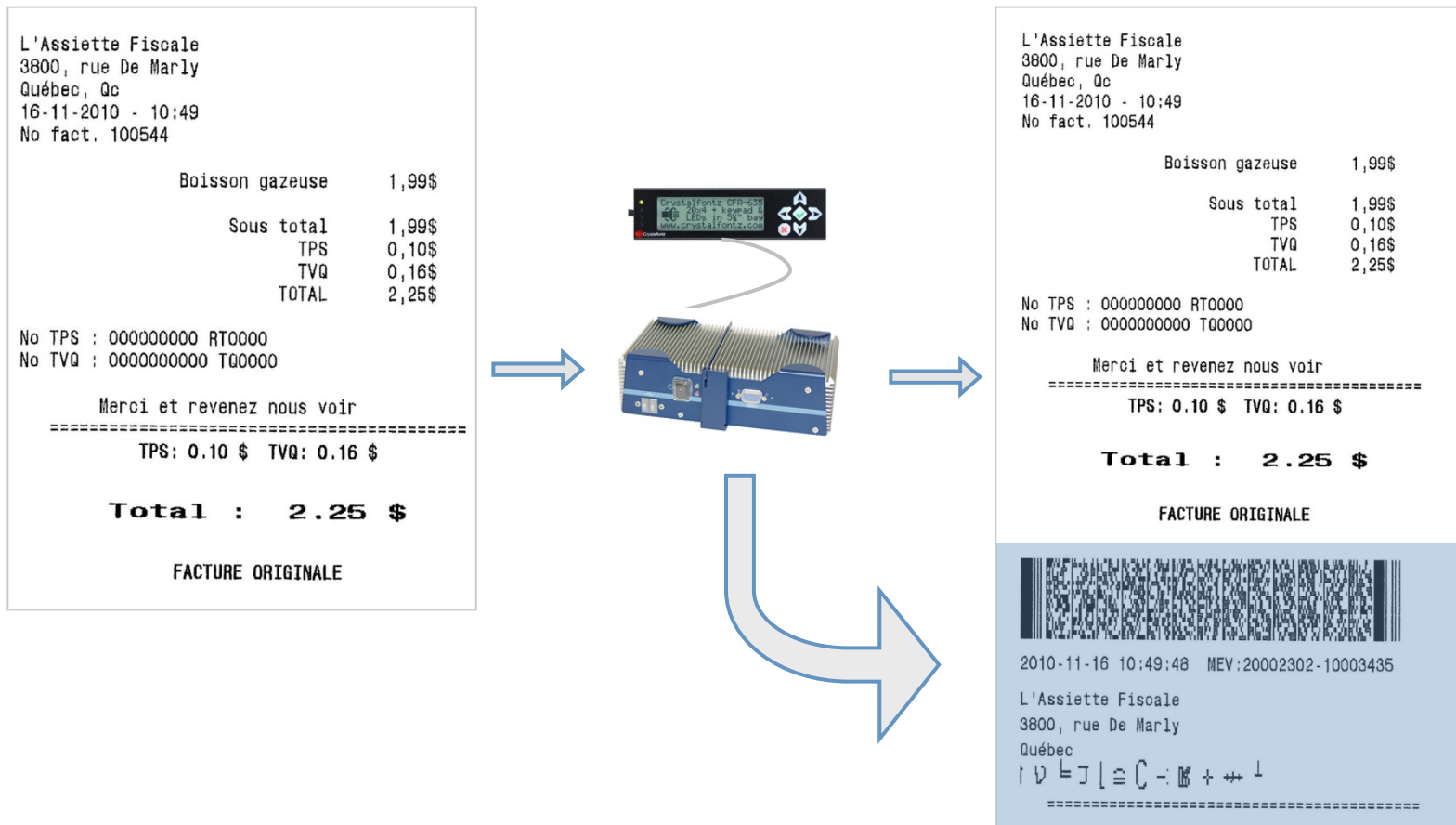


---

# Transaction processing and inspection process

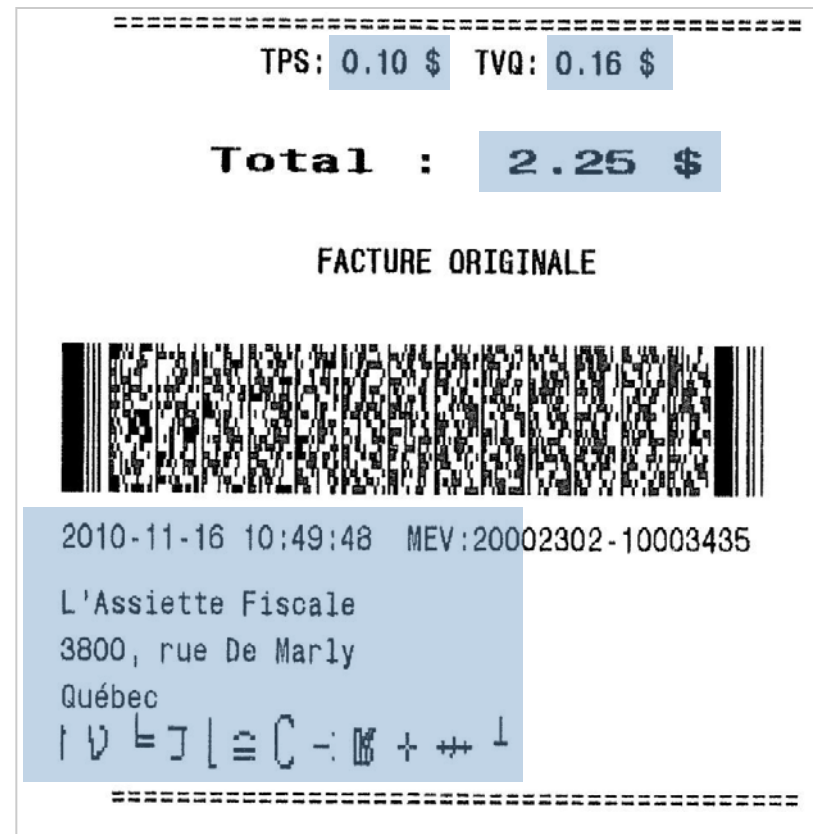
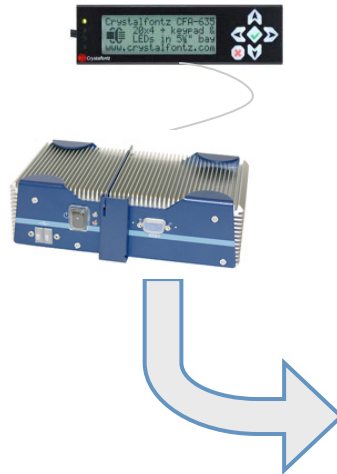
---

# How It Works



## Additional Elements

The SRM adds certain elements to the invoice, allowing Revenu Québec personnel to validate the integrity of the transaction and the fact that it was recorded in the secure memory.



# Management features

## Copy of data

It is possible to extract all data from the SRM in electronic format:

- transaction details;
- an event log (connections, disconnections, etc.);
- for a period or a range of transactions.



# Periodic Sales Summary

Once a restaurant's SRM is activated, Revenu Québec receives periodic sales summaries for each module on the premises:

- generated from every SRM;
- on a monthly basis;
- on paper or electronically.

The periodic sales summary contains:

- a summary of sales;
- transaction analysis (statistics on the various transactions);
- an event log;
- general information.

**SOMMAIRE PÉRIODIQUE  
DES VENTES**

De : ADMIN (ADMINISTRATEUR)  
L'Assiette Fiscale  
3800, rue De Marly  
Québec


No REV : 20002302

Produit le : 2010-11-16 à 11:13:21

Periode  
2010-10

Nombre	:	0
Total avant taxes	:	0.00 \$
TPS	:	0.00 \$
TVG	:	0.00 \$

Identification du SPV  
20002302-3201010



Note : Veuillez transmettre ce SPV  
à Revenu Québec

Signature : \_\_\_\_\_

# Inspections

- The validity of each invoice will be verifiable by the employees of Revenu Québec;
- The machine validates the digital signature and the integrity of the invoice;
- The content of the barcode is recorded in RQ's databases for subsequent validation of the SRM data;
- The software checks that all invoices in RQ's systems are in the SRM and that they have not been altered;
- Verify the integrity of the SRM software and its proper operation (integrity tests on programs and data, tamper-proof seal examination);
- The representative will declare transactions that are recorded in a known register:
  - Revenu Québec has an inventory of SRM;
  - Revenu Québec will receive periodic sales summary every month.



Barcode



Handheld computer with optical drive



---

# Implementation of the solution and results

---

---

## Implementation of the solution

---

### Relationship of trust with restaurant's owners:

- Creation of a committee involving various restaurant associations in Québec.

### Business model based on the expertise of actors in the restaurant sector

- Suppliers, developers and manufacturers of sales recording systems, installers

### SRM

- Deployment of 31,000 SRMs in 18,000 restaurants in less than 14 months;
- The SRM is working as intended.

### Subsidy Program



---

# Results

---

## Data from the SRM

- Over 400,000 periodic sales summaries received and processed;
- Data collected by the SRM are compared with those of the data warehouse of Revenu Québec;
- Restaurant owners who fail to declare part of their income are more easily detected.

## Inspections

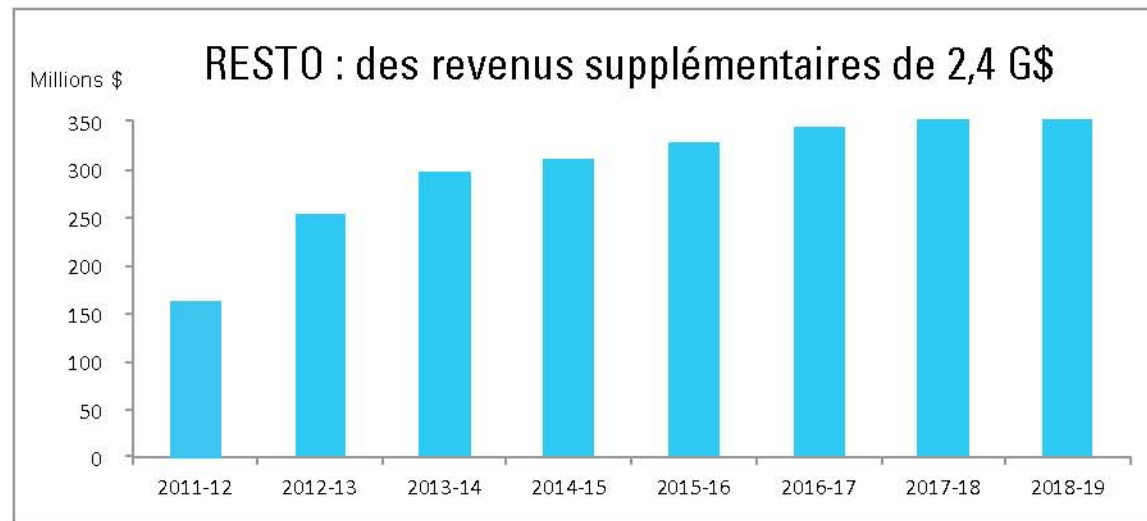
- From September 1, 2010 to March 31, 2012:
  - Number of inspections: 8,518
  - Number of statement of offence: 2,568
- Nearly 2,000 denunciations from the public

## Significant additional revenue

**In 2011-2012, the project has generated over \$160 million in additional revenue**

- That's \$60 million more than was expected;
- This ensures that, in the first year, the profitability of the project which involved implementation costs of \$34.4 million and costs related to subsidy of \$60 million.

**By 2018-2019, the organization will recover \$2.4 billion in taxes and taxation previously unpaid by restaurants.**





---

## A way forward...

---

**This solution was designed to be applicable in other sectors such as business services and retail.**

**Already, several new projects are being studied to further increase the return on investment.**

---

# Are Zappers Being Used in the US?

---

## Examples of zapper cases detected in the US:

- Connecticut - \$17 million by a grocery store (1994 – Stew Leonard’s Dairy)
  - Uncovered by IRS during Income Tax audit
- Michigan - \$20 million over four years by a restaurant chain (2007 – LaShish)
  - 13 restaurants
  - CIA uncovered due to information from sister-in-law
- Ohio – \$3 million by restaurant chain (IHOP)
  - Uncovered by FBI and Joint Terrorism Task Force
- State of New York – undercover sting (according to NY Post article)
  - 70% of ECR/POS salespeople tried selling zapper software along with ECR/POS system



---

# Questions

---





---

## Claire Martin

Head of Electronic Research  
Solutions Service

### Revenu Québec

418 652-5658 extension 6527894

Claire.martin@revenuquebec.ca

[http://www.revenuquebec.ca/en/a-propos/  
evasion\\_fiscale/restauration/secteur.aspx](http://www.revenuquebec.ca/en/a-propos/evasion_fiscale/restauration/secteur.aspx)

## Bryce Berg

Senior Consultant  
Tax, Revenue and Collection

### CGI

(515) 306-7483

bryce.berg@cgi.com

[www.cgi.com/tax](http://www.cgi.com/tax)

---