

Inter-American Center of Tax Administrations – CIAT

CIAT TECHNICAL CONFERENCE



**“IMPROVEMENT OF THE EFFECTIVENESS OF THE TAX ADMINISTRATION
THROUGH NEW ORGANIZATIONAL MODELS”**

Topic 3.2

**THE INFORMATION SYSTEMS AND THE NEW ORGANIZATION
HOW FAR SHOULD INTEGRATION GO?**

Canada Revenue Agency

**Paris, France
18 - 21 October 2010**

Topic 3.2

THE INFORMATION SYSTEMS AND THE NEW ORGANIZATION HOW FAR SHOULD INTEGRATION GO?

Peter Poulin

Assistant Commissioner and Chief Information Office
Canada Revenue Agency

Contents: Executive summary.-1. Introduction.- 2. It application integration between tax types.- 3. Conclusion

EXECUTIVE SUMMARY

This paper discusses the cost savings and cost avoidance of sharing Information Technology (IT) Infrastructure between Canada Revenue Agency (CRA) and Canada Border Services Agency (CBSA) and the integration of CRA tax applications between different tax types. It presents two perspectives on the value to be gained from information and communications technology integration.

Part 1 of this report addresses the advantages, challenges, lessons learned, risks and areas of further potential on the subject of infrastructure integration from the Canadian experience where two departments merged in 1994, integrated their infrastructure and some applications, and then separated in 2003 but still share IT infrastructure.

It highlights the difference between tax and customs business in terms of infrastructure needs, for example CRA's requirement to process large volumes of transactions and CBSA's need for recoverable services 7days a week and 24 hours a day (7X24). It also discusses areas where operational efficiencies can be gained by partnering on joint IT investments.

Sharing a centralized internal IT service provider gives the two agencies many advantages in the areas of quality of service, staff specialization, security, and network cost. At the same time, there are challenges, such as changing business, in organizations, managing risks and expectations, avoiding overlap in roles and responsibilities, and alignment of technology and decision making. Also, there are many lessons to be learned from the merger/separation of two agencies and sharing the infrastructure; for example business should be physically separated but logically

connected, and well-defined Service Level Agreements (SLAs) and Memoranda of Understanding (MOUs) are key to evolving governance.

The CRA-CBSA shared IT Infrastructure services relationship has matured over the years and we continue to strengthen and build upon the partnership. Integration is cost effective and provides efficiencies and economies of scale for both agencies. The shared services are considered by both agencies to be a success.

Part 2 of this report discusses the benefits, challenges, lessons learned and next steps of internal integration of tax applications within the Canada Revenue Agency.

Over the years, the CRA has integrated many tax and social benefit applications working within legislative and privacy constraints for cost avoidance and operational efficiencies and it continues to do so.

- In 1978, the Payment Processing System was created as baseline for future integration and today CRA manages over 90% of all payments made to the Government of Canada through the one application.
- In 1988, the Collection Case System was extended to all revenue types (Corporate Tax, VAT, Excise) from just the individual direct tax type.
- The Individual Identification System was extended to support both individual tax and social benefit (income redistribution or social welfare) programs.
- The Individual Credit Determination System that issues social benefit payments was created to support three federal benefit programs and was later expanded to support an additional 96 programs that service the federal, provincial and territorial governments.
- Other systems that were integrated are Business Number (BN), Corporate Income Tax, Client portals (MyAccount, MyBusiness Account), core functions of the Goods and Services Tax (GST), Harmonization of Corporate Tax between the Government of Canada and Ontario and, most recently, the integration of the Provincial Sales Tax of two provinces (Ontario and British Columbia) into the national Harmonized Sales Tax (HST).

Internal IT integration of tax applications brings many advantages, such as shared cost for improvements to applications and technologies, increased coherence in the administration of multiple taxes, resource sharing, data sharing with other government partners, business process alignment, reduced overlap and duplication of effort, standardized processes, common look and feel web presence and publications, and standards developed for public facing (self-service) applications for ease of online navigation. Integration requires buy-in from all stakeholders, and changes require longer lead times and more planning communication, and coordination. Our experience has demonstrated that to integrate applications successfully, it is necessary to use a structured and realistic approach to examine the organization and environment, understand the differences between the organizations, reuse existing measures or create composite measures as required, involve all stakeholders and consult experts for advice and support.

Integration of tax services and applications has many benefits both to the tax organization and taxpayers. Key factors for successful integration of tax services or modifications to existing application services include early stakeholder engagement,

strong leadership, an architected approach to application and infrastructure development, and a solid understanding of technology and the tax business.

Local legislative and privacy constraints may impose limits on the level of benefit to be gained by data sharing facilitated by integration.

1. INTRODUCTION

The purpose of this paper is to share the Canadian experience of integration of Information Technology (IT) at the Canada Revenue Agency (CRA) for tax and customs administration.

The discussion approaches the subject from two perspectives:

- 1) the value to be gained from information and communications technology **infrastructure integration** between the CRA and the CBSA, and
- 2) the opportunities to be leveraged by integrating various tax functions or services (**application integration**) in support of multiple taxation types as opposed to having stand-alone application solution for each.

IT integration can bring value to tax and customs administrations both in the form of IT cost reductions or cost avoidance, and through improved compliance and enforcement activities due to access to a broader pool of higher quality data.

In both infrastructure and application integration, the added complexity of serving multiple needs or users can pose challenges and risks that will require attention if the agility needed by tax and customs administrations is to be sustained.

In the case of Canada, tax legislation does not permit the use of tax data by the customs administration as an additional source of risk profiling information in compliance and enforcement activities. However, for tax administration compliance and enforcement activities, all sources of tax information are considered in risk profiling with application integration as a foundation piece that facilitates data matching and the feeding of many types of tax data to the data warehouse for use in compliance and enforcement analysis. In doing so, significant attention is paid to ensuring all legislative restrictions regarding the use of tax information are respected.

Infrastructure Integration, Tax and Customs

1.1 Background

Canada Revenue Agency (CRA)

The Canada Revenue Agency administers and collects taxes and provides social benefits to Canadians on behalf of the Government of Canada and the provinces and territories. It has approximately 44,000 employees during peak periods and 50 Tax Services Offices and Tax Centres across the country. CRA provides online services to file taxes (e.g. Netfile), to find information about personal accounts (My Account) and corporations/businesses (My Business Account), along with many other online services.

CRA collects roughly \$350 billion in tax revenues across several tax types from a taxpayer base of 26 million and distributes social benefits of roughly \$16 billion to 11 million entitled individuals and families.

Canada Border Services Agency (CBSA)

The Canada Border Services Agency ensures the security and prosperity of Canada by facilitating the access of people and goods to and from Canada. It has approximately 15,000 employees and 1,200 service points across Canada, as well as 39 locations abroad. The main business enablers from a technology perspective are advance traveler and cargo information transmission through Electronic Data Interchange (EDI) and web channels, document readers (passport, driver's licenses, and license plates), biometrics (fingerprint and iris) and radiation detection.

CBSA processes 266,000 travelers and more than 75,000 courier shipments daily. It also processes more than 18,000 trucks that enter Canada each day from the United States of America.

Organizational Changes 1994 to 2004

In 1994, Revenue Canada Taxation and Revenue Canada, Customs and Excise were merged into one department; Revenue Canada. In November 1999, Revenue Canada became the Canada Customs and Revenue Agency (CCRA).

In December 2003, the Canada Border Service Agency (CBSA) was created from functions merged from Citizenship and Immigration Canada (CIC), Canada Food Inspection Agency (CFIA) and the CCRA. In April 2004, after spending 10 years integrating the tax and customs IT infrastructure, we were faced with separating the two. In view of the savings gained by merging the infrastructure and the large cost and risk that would have been incurred if we were to sever the CBSA portion, the decision was taken to continue using a shared infrastructure foundation under an IT infrastructure shared service cluster — moving only the customs applications and their supporting staff to the new CBSA organization. In addition to the shared IT infrastructure, we also share a common Corporate Administrative Services application (CAS) for all human resource and financial management systems under a single SAP solution.

This IT shared service relationship was reviewed in 2009 and it was agreed that the CRA would continue to provide shared IT Infrastructure and Corporate Administrative Systems (CAS) services to the CBSA for the foreseeable future.

IT holdings of both Agencies Before and After

In 2003, before the agencies split apart, CBSA contributed about 27% of the total IT infrastructure cost. As of 2010, the customs share of the CRA IT infrastructure cost has risen to 50% due to the higher application availability needs (7X24) for customs services and a significant increase in the use of advanced notification systems and risk profiling for both cargo and travelers to facilitate enhanced border security and access.

Current CRA and CBSA Technology Infrastructure



1.3 Difference and Similarities - IT Infrastructure Needs

CRA:

Canada Revenue Agency requires:

- the capacity to effectively process large volumes of tax and benefit transactions and execute large-scale batch and online processing with infrastructure that scales to meet multiple peak processing periods (month ends / year ends),
- easy to use, secure, and scalable electronic service delivery channels to facilitate self-service and compliance by tax filers, and
- extensive data storage, management, and access facilities to support ongoing compliance and enforcement analysis and operational risk profiling needs.

CBSA:

CBSA requires highly available (7X24) and recoverable services in support of 15,000 employees performing critical border and immigration services.

- Individual travelers - multiple unique technologies connected to the network (e.g. License Plate Readers, Smartcards, specialized printers, cameras, Livescan biometric kiosks, Nexus kiosks) resulting in higher distributed environment support costs,
- Trade facilitation of air, marine, truck, and rail cargo - robust and secure electronic data interchange infrastructure services and growing e-Manifest portal needs, and
- Extensive data storage, management, and access facilities to support ongoing compliance and enforcement analysis and operational risk profiling needs.

Thus, while there are differences, there are also many infrastructure need similarities with regard to the need for a reliable and secure network, a large and secure data centre (and backup facility), strength in data management, and the capacity to manage large volumes of data processing and storage. The key differences are the higher availability needs for customs processing to keep the borders open and cargo moving versus the tax processing need for scalability to manage peak periods of processing. The second difference is the added complexity of the customs distributed environment.

1.4 Benefits Realized from Shared Infrastructure Services

Sharing a centralized internal service provider gives the two agencies many advantages. Overall, a shared IT infrastructure services arrangement can offer better quality infrastructure and infrastructure services at a lower cost than individual business units can afford to make for themselves provided that governance processes ensure that stakeholder needs are listened to and met.

Specific benefits are:

Sharing of infrastructure support expertise

Instead of each Agency hiring technical staff, we share highly skilled and unique resources (e.g. technology platform architects). In addition, resources can be deployed more effectively for the resolution of IT incidents. When we looked at separating the infrastructure of the two organizations, the cost assessment indicated we would need an additional 33% more resources to support separate infrastructure foundations.

Economies of scale

We achieve better balancing of workloads taking advantage of when one business unit's peak load may occur at a time when other business units are slow. Thus, total demand is less than the sum of each other's peaks. (CRA – March through April, CBSA – July and August).

Procurement buying power

Some software product licenses can be shared at a lower unit cost as enterprise licenses apply to a platform not an agency. A larger IT service provider can drive a better deal with hardware and software vendors. As well, right sizing capacity for a large organization is less expensive and more economical than right sizing for two smaller ones.

Eliminate redundancies

A shared-services organization can eliminate duplicate training, product research and development, architecture mapping and governance, policy formulation, procurement processes, and IT support functions such as operations, desktop services, help desk, and incident management.

Improved quality of service

A larger shared service organization can support a broader, more diverse infrastructure with platforms for different business service needs supported by more robust incident, problem, change, and release management processes.

Staff specialization

A larger infrastructure organization can support greater technical specialization with economies of scale allowing for more cost effective training and talent development. Depth of technical expertise leads to infrastructure performance improvements in speed, cost, and quality as well as better support for innovation.

Security

Increased scale of the infrastructure organization can support a shared Security Operations Centre for improved monitoring as well as greater investment in standards and security software to protect the integrity of the network and data holdings.

Real Property

Efficiencies and financial economies are gained through reduced real property requirements of the IT infrastructure (staffing, utilities, physical security etc.).

Network Costs

Economies are gained from band width volume discounts, shared cost of network upgrades, and shared usage at points of common presence.

Data Centre Recovery

Both agencies have recovery capability at either of the two Data Centres eliminating the need for each to have their own back up data centre.

1.5 Impact on CRA, CBSA and Government of Canada

- The CRA's data centres are the two largest in the Government of Canada, representing more than 60% of its mainframe computing capacity.
- Represents significant cost avoidance for the Government of Canada.
- Allows both agencies to leverage and benefit from each others needs for highly available and mature IT infrastructure services and resources.
 - Requires maintaining a high level of system performance and national network availability (7X24), within established service level objectives.
 - Supports significant change agendas for both agencies.
- Ongoing partnering on joint IT investments has provided opportunities for operational efficiencies for both Agencies in the areas of
 - Data Centre Facility Improvements
 - IT Security Modernization
 - Network Services Modernization
 - Distributed Computing Environment Improvements
 - Corporate Administrative System (CAS)
- Allows CBSA to focus on areas of core service delivery applications and new solution development using advanced border technologies.

1.6 Lessons Learned

Within the shared infrastructure, it is best to physically isolate individual infrastructure components between agencies to reduce the risk of infrastructure change activities in support of one agency affecting the other, but to logically connect them for shared management and procurement.

- A comprehensive Memorandum of Understanding to cover the service agreement and arrangement is essential and needs to be backed up by realistic and well defined Service Level Agreements with a clear understanding of what the cost drivers for infrastructure services are.
- Increased costs are incurred when you separate infrastructure support responsibilities to be unique to each organization.
- For a shared IT infrastructure arrangement to work well and deliver quality service at reduced cost, it requires a significant time investment by senior management to ensure the relationship is and remains responsive to stakeholder needs.
- The management and support overhead required to manage a shared relationship well will be greater than anticipated for both organizations. This comes from the discovery process of just how much monitoring and reporting is required, in the form of ongoing operations, incident management, billing and accounting, asset management, and performance measurement to ensure there is sufficient transparency in the relationship to sustain trust and collaboration.
- Organizational awareness that you are in a shared services relationship is key at all levels, as being a shared service provider brings additional accountabilities and challenges.

1.7 Challenges

- Keeping pace with the changing business directions and needs of two agencies is more difficult than keeping up with those of one. This is especially true if both have fairly aggressive development agendas to both sustain and enhance their services, which has a direct impact on IT infrastructure services.
- Balancing the need for IT operational efficiencies and risk management with the need for more responsiveness, flexibility and rapid change is challenging as infrastructure change generates risk which is managed by bundling changes into releases that are implemented through a limited number of maintenance windows.
- Managing senior management service expectations and response to infrastructure failures.
- Balancing the need for discipline and standardization in the management of IT infrastructure through adherence to rigorous change and release management processes with the need for the agility and flexibility to accommodate stakeholder needs.
- Overlap or confusion in regard to roles and responsibilities.
- Alignment of Technology Architecture standards.
- Detailed cost accounting for annual service payment processing regarding additional capacity added as well as accounting for the broader cost allocation formulas that drive service costs.
- IT Asset Ownership and Licensing.
- Agency level decision-making cycles are not aligned to ensure both agencies have

approved funds for projects before they are launched and costs are incurred to improve infrastructure assets or services. This leaves the host agency at risk of failure to pay by the service consuming agency.

1.8 How we Make it All Work

For IT infrastructure integration, it is necessary to understand each others business and build trust as the foundation of the partnership. We have a Service Level Agreement to manage the provisions and availability of the key services to provide best possible service to the Canadians and use a governance framework to document the mechanics of the relationship. We utilize standardized technology architecture and best practices as applicable.

Our experience has demonstrated that open, regular and focused communication is the key to making the relationship a success; therefore, we have created steering committees and focus groups at all levels (executive and operational by platform) to share information, discuss challenges/issues, find solutions, and celebrate success.

The CRA and CBSA hold quarterly bilateral meetings with senior executives, bi-monthly operational meetings, and other monthly steering committee meetings (Distributed Computing, Mainframe, Electronic Commerce, Financial Management, etc.) to stay engaged, share information, provide updates, discuss challenges, and together find ways for continuous improvements.

Recognizing that the Government of Canada is pursuing a broader shared IT services strategy that will see new examples such as the CRA-CBSA model, we continue to build and strengthen our partnership in recognition that shared IT infrastructure services can be cost effective and provide efficiencies and economies of scale for both agencies while respecting service levels and business needs.

2. IT APPLICATION INTEGRATION BETWEEN TAX TYPES

This chapter of internal integration of tax applications and services covers the evolution of integration of tax applications and our current approach to tax services integration. It also discusses the benefits, constraints, lessons learned, and challenges of application integration.

2.1 The Evolution of the Integration of Tax applications at CRA

Canada Revenue Agency has successfully integrated many tax applications for cost avoidance and efficiencies as well as for service improvements and compliance simplification. For example:

- **Payment Processing** – This service was created in 1978 as a baseline for future integration. CRA now manages over 90% of all payments made to the Government of Canada. All payments are processed by this single application which then provides update transactions to the receiving accounting systems.

- **Collections Case System** – This workflow management system was created in 1988 as a baseline for future integration. It supports the collection (for all tax revenue types) of more than \$20 billion by CRA collections staff.
- **Refund Setoff Program (RSO)** - The RSO Program is a CRA initiative under which the tax refunds of individuals are applied against unrecoverable Crown debts from other departments or jurisdictions. It was created in 1992 as a baseline for future integration with 3 federal programs being implemented in this first phase. It was expanded in 1998 to include provincial/territorial debts. RSO now supports 209 programs and services for federal, provincial and territorial governments. In 2009, over \$328 million was recovered from set-offs, bringing the total recovered over \$2 billion since 1992.
- **Individual Identification** - Service expanded in 1993 to support both individual tax and benefits programs. The CRA operates with only one identity data base for individual citizens.
- **Benefits and Credit Delivery** - Service created in 1996 managing benefits and credits for three federal programs and now supports 96 programs and services for federal, provincial and territorial governments. (90.9 million payments totaling more than \$16 billion on time to 11 million individuals and families in 2008-2009).
- **Collections and Compliance** - Automated risk scoring process determining optimal collection or compliance strategy to apply created in 1997. Initial release covered the collections of debt related to the individual income tax. This service now supports most programs at CRA.
- **Business Number (BN)** - Integration of business client identification and registration of Corporate Tax, Goods and Services Tax, Payroll Tax and Excise Tax. The BN database is the second identity database at the CRA managing non-individual identities on behalf of all tax types.
- **Corporate Income Tax** - Creation of horizontal services supporting core business functions (Accounting, Compliance, Disbursements, Collections, Client Communication, etc.) relating to Corporate Income Tax for both federal and provincial corporate direct tax processing (one return, multiple jurisdictions).
- **Revenue Ledger** - All of CRA's systems handling financial transactions are required to report to the Revenue Ledger application. CRA's single Revenue Ledger interfaces with the Canada Receiver General – General Ledger for deposit reconciliation, disbursement reconciliation and monthly financial reporting. Until 2009, the CBSA also used this Revenue Ledger application.
- **Client Portals** - My Account (individual tax) was launched in 2003, My Business Account (corporate tax) in 2006, and Represent a Client in 2008. These portals provide clients or their authorized representatives with an easy to use Internet-based service that allows them to manage their tax affairs online by viewing their tax and benefit information and by transacting online with CRA.
- **Goods and Services Tax Harmonization (GST/HST)** – In 2007, integration of core business functions relating to Goods and Services Tax prepared the foundation for harmonization of provincial sales taxes with the federal value added tax in the provinces of Ontario and British Columbia.

2.2 Common System Architecture

Conceptually the business functions of the revenue administration are the same regardless of revenue type as illustrated in the next diagram which represents CRA's Enterprise Application Architecture. This architectural view effectively guides decision making on major reengineering initiatives with regard to which tax application services each tax type will use from the shared services pool and which ones will be entirely custom made for that tax.

This architectural view also indicates where you can expect to get strong versus weak integration and functionality from commercial tax applications that try and serve multiple tax types.

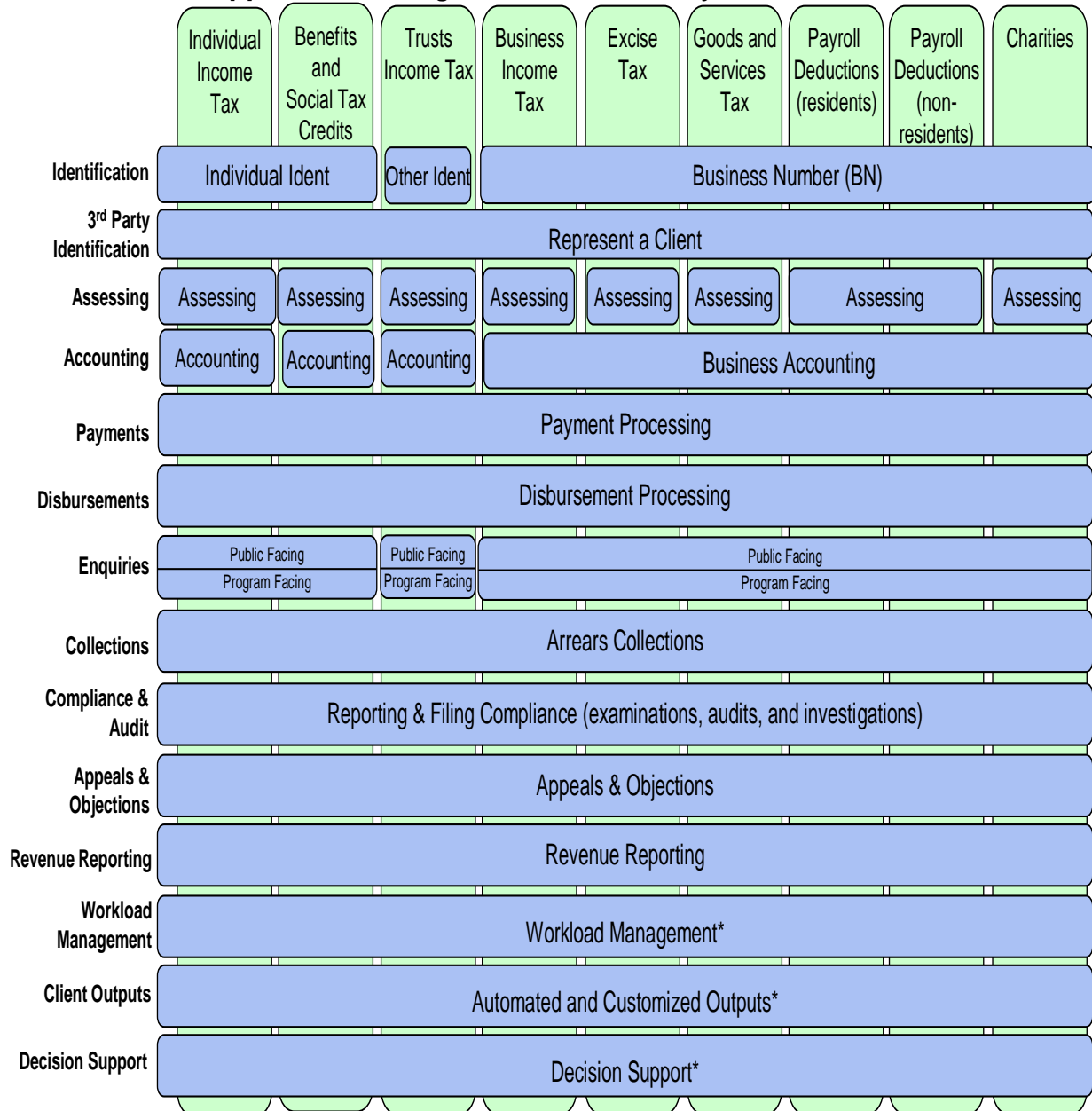
The strategy began as far back as 1978 with the creation of the Financial Input Processing system. In 1997, the strategy was formalized for the business suite of applications.

This resulted in two strategic investments:

- 1) Business Number (BN), which provides a unique business client identifier linking operational accounts; and
- 2) Standardized Accounting (SA), which provides for the integration of business programs into one accounting system with standardized business rules (e.g. consolidated statement of account, offset of debits in one program with credits from another).

2.3 Tax Application Integration – Common System Architecture

Tax Applications Integration : Common System Architecture



* Some functions are shared

2.4 Growth of Benefit Programs and Data Interfaces

Perhaps the CRA's most successful investment in a services approach to serving multiple business lines from a shared solution has been in the social benefit income redistribution application. This diagram demonstrates the growth of benefit programs and data interfaces at Canada Revenue Agency from 1995, when the Individual Credit Determination was completed under a service based architecture to support multiple benefit types, to 2011.

One key aspect to the success of this solution is actually outside of the IT realm but consistent with the common services or service component architecture. That is that the business rules for jurisdictions wishing to issue benefits to citizens using this application must align to key business rules with regard to identity management and accounting.

2.5 CRA Current Approach to Tax Services Integration:

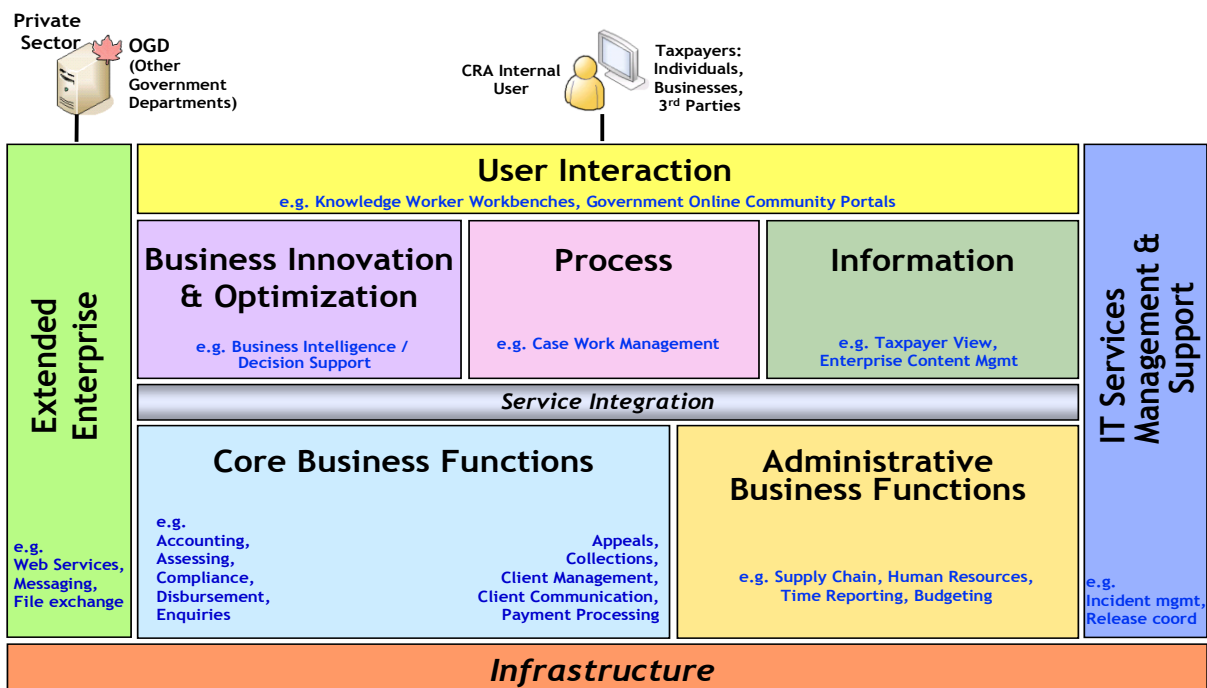
2.5.1 What is an IT Services Reference Model?

- An application architecture model based on the Service Oriented Architecture (SOA) principles of interoperability, modularity and reusability.
- Offers a classification scheme and definitions for IT Services. Generally services are the building blocks of applications although in some cases they are entire applications that offer a service such as the CRA payment processing application for use by all tax types.
- Includes both program-facing services providing tax administration functionality such as workflow management or external portals for use by taxpayers, and foundation-facing services that provide IT infrastructure (such as security and user authentication) and data (such as data access) perspectives.
- The purpose of this architecture model is to:
 - Provide a common, simplified and business-centric vocabulary to facilitate communication and understanding between the tax program administration officers and IT analysts and architects.
 - Facilitate the development of business requirements through alignment of IT services to known business needs early in the development life cycle, by providing business stakeholders with a solid foundation to segment the gathering and documentation of requirements. Fewer specifications will be required where the business functionality aligns to an existing service that can be reused rather than a new or custom service.
 - Facilitate the alignment of IT strategies and solutions to business needs, including opportunities to leverage commercial off-the-shelf

products where appropriate and to focus development investment on the most commonly needed services.

- Provide a frame of reference to help identify redundancies (multiple services or applications providing the same functionality) and gaps in IT services where early investment for a service that could be shared now will pay significant dividends in the future.

IT Services Reference Model



2.5.2 What are the Benefits of Tax Services Integration?

- Shared application service development and maintenance costs (including future improvement to applications and technologies).
- Increased coherence in the administration of multiple taxes including the potential to administer taxes and benefits across jurisdictions or levels of government, resulting in fewer interactions and overhead for business and individuals.
- Integration facilitates data sharing with other government partners (across domains) and across revenue types, improves risk profiling for compliance and enforcement, allows third party matching and financial setoffs, and improves data quality.
- Corporate and common services sharing allows for business process alignment and rules harmonization for all tax and revenue types:

- use of a common identifier reduces the overall compliance burden for Businesses and Individuals and provides the ability to provide a single enquiry point of contact to make enquiries easier,
 - consolidated and standardized client communications and self-service options,
 - common collection and compliance activities and audit capabilities of multiple revenue lines at once,
 - common workflow management system, and
 - one common Revenue Ledger function used by all systems.
- Other benefits include:
 - Facilitates ongoing increases in productivity, transparency, and agility to the extent that business rules and processes can be aligned.
 - Makes system development more complex, but there are fewer systems to change.
 - Reduces overlap and duplication with respect to development or enhancement activities, communications, and system development and maintenance workload management.
 - Standardizes release, communication, issue, risk and change management processes.
 - Standards developed for public-facing applications allow for common look and feel and makes it easier for citizens to navigate, find information, make payments, etc.

2.6 Constraints

There are certain constraints that limit the opportunities of integration, for example for assessing, accounting, enquiries, and audit, where functions may only partially be merged due to:

- the complexity of tax law,
- the uniqueness of the process, or
- the differences in identity management.

This applies to either solution that is bought or, built by the organization. For example, business accounting can be integrated across revenue types; however individual accounting cannot be included in that integration.

2.6.1 Legislative and Privacy Constraints

Canada, like many countries, has in force a *Privacy Act* that establishes limitations on the amount of data organizations like the CRA can gather from citizens and business and, to oversee that the sharing of that data is consistent with our mandate and legislative authorities. Thus, when establishing business requirements for application integration, these constraints must be addressed in the early phases.

The lack of harmonization between tax statutes also makes integration more complex; examples include filing and payment due dates, mandatory bank remitting, penalty rules, and non-interest bearing arrears.

Canada's *Income Tax Act* (ITA) specifically authorizes the situations for which usage and exchange of taxpayer information is permitted between the Agency and other departments. Tax information cannot be used for any other purposes than the administration or enforcement of the ITA.

Example situation:

In the process of setting off against any sum of money (liability) that may be due or payable by Her Majesty in right of Canada requires use of the account number. An account number (Individual or Business) may be communicated outside of the tax administration only if authorized by the ITA.

2.7 Lessons Learned

During the process of integration of internal applications, CRA has learned many lessons. For example:

- Situate your strategy.
 - Strategies do not exist in isolation.
 - Ensure alignment with corporate strategies, the Corporate Business Plan and other enterprise documents.
- Focus on the change agenda (follow a roadmap for change).
 - Where are we now? Where do we want to be? How are we going to get there?
- Be inclusive
 - Involve rather than impose projects on people.
 - Inclusion leads to strengthened sense of engagement and support among all stakeholders.
- Use a structured, realistic approach to examine the organization and its environment to ensure business needs have been captured accurately.
- Consult experts for advice and support.

In addition, governance of shared application services or shared applications requires leadership and process maturity in the organization to be able to manage system development and maintenance horizontally across different tax types with regards to change request priority setting and managing the timing of enhancement upgrades to meet the business needs of all stakeholders. The governance model must also deal with the funding model both for development and ongoing maintenance from the outset.

2.8 Key Architecture and High Level Design Considerations for Success

- Strong engagement between the IT developers and the tax administration staff responsible for the oversight and operation of tax administration is essential to ensure the business value of application integration has been correctly identified and business requirements are clearly identified.
- Manage the scope of change through phased implementation.
- Integrate less complex functions first (consolidated collections and compliance workflows, single tax identification number, workflow case management system, and other less complex functions).
- Harmonization of legislation/business rules is key to maximizing benefits.
- Early engagement of system architects is required to ensure proper business and IT alignment.
- Develop standard interfaces to expose services (to react to events such as new account creates, new debts, call centre referrals, and so forth) to minimize the amount of custom code.

3. CONCLUSION

Infrastructure Integration

From a return on investment perspective, the IT infrastructure shared service arrangement will present a more immediate and achievable cost reduction and cost avoidance saving than application integration will. This is because the level of research and analysis to define detailed business requirements and priorities across multiple business lines is largely not necessary thus the degree of collaboration and the need for horizontal business change is reduced. In the case of infrastructure, if done well, the changes to consolidate to application hosting and security and network services can largely be designed to minimize the impact on applications and tax administration service delivery staff.

The key is the “done well” aspect, because if the department or company that is to provide the infrastructure services is not a mature IT infrastructure service provider with sound practices in incident, change, release, and asset management, then the outcome of integration will be service delivery disruptions and poor relations between the serving organization and the service receiver (in our case, the CRA and the CBSA). The service provider also needs adequate depth of expertise and human resources to be able to effectively engineer platform needs that meet or exceed program needs. Consideration should be given to having an external benchmark done on the organization being considered as the infrastructure service provider.

Regardless of whether an internal (government department) or external (private sector) IT infrastructure service provider is to be used, the keys to success mentioned regarding having a clear contract (MOU), service level agreements, open communications, sound infrastructure processes and best practices, and a good governance model at several levels apply to achieve the savings and cost avoidance potential. In the case of smaller tax and customs administrations, and government departments in general, attracting and retaining skilled IT human resources can be a significant challenge to sustained service delivery. Therefore the model of consolidating the IT infrastructure of two or more departments can be a cost effective way to build the critical mass necessary to compete for these resources on a global scale.

Application Integration

Application integration in providing tax services has many benefits both to the taxpayers in the form of more seamless and integrated interactions regarding tax transactions and to the tax administration. It also brings some challenges including legislative constraints that impose limits on integration and, the need to overcome the natural resistance to change that will be encountered from business lines in moving from an individual solution responsive to program needs to include some collective service solutions for some of the more common horizontal business needs across tax programs.

Being successful in adopting and following this strategy demands collaboration between the IT group and those responsible for the administration of taxes to ensure that the priorities identified reflect real business value for the administration and, to ensure the IT development group gets it right based on sound detailed business requirements.

If an administration is unable to pursue an integration strategy due to such challenges as organizational maturity, systems capability and capacity, human resources, or politics, an alternative is to approach it only from a data perspective, with an aggressive business intelligence and decision support capability program. This in itself would involve building a data warehouse environment based on a detailed analysis of data needs for risk profiling and tax behaviour analysis. It would require significant collaboration and investment of business and IT resources to ensure the data is valid and understood, as well as an IT environment to extract data from operational data bases, load the data warehouse, and feed the data marts that will be accessed by tax compliance analysts using analytic tools. What this approach lacks is the cost savings and avoidance application integration can deliver as well as the simplification of compliance with tax laws through harmonization of rules and integration of processes. It also includes a risk that data quality will suffer over time if inter-administration collaboration is not sustained.

In the case of the CRA, we have implemented a rich business intelligence and decision support environment in addition to application integration as integration by itself does not deliver the business intelligence environment needed to have an effective risk profiling and tax analysis regime aimed at improved tax compliance.